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# INFLUENCE OF INFORMATION SHARING ON SUPPLY CHAIN PERFORMANCE IN THE TOURISM INDUSTRY IN THE COUNTY GOVERNMENT OF KAKAMEGA, KENYA

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***ABSTRACT***

*This study sought to examine the influence of information sharing on supply chain performance of tourism industry in Kakamega County. The study was guided in determining the influence of collaboration and networking on supply chain performance of tourism industry in Western Region. An explanatory survey design was used. The target population comprised of 459 employees working in 4 licensed tour companies and 5 licensed hotels in Kakamega County (Tourism Regulatory Authority, Western Region, 2016). Questionnaire was used as research instrument. The researcher found out that collaboration influences supply chain performance. It was contented that networking influences supply chain performance. The study concluded that information sharing influences supply chain performance of tourism industry in Kakamega County. The research recommended that the supply chain department needs to adopt effective networking programs in order to enhance customer satisfaction and supply chain efficiency hence increasing access of information about the suppliers and the management of the hotels and tour companies should provide different collaboration programs in order to increase suppliers to collaborating with other suppliers so as to provide information for the hotels and tour companies about their customers.*

***Key Words:*** *information sharing, supply chain performance of tourism industry, collaboration, networking*

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## INTRODUCTION

Supply chain performance has become an important focus of competitive advantage for business organization. Effective supply chain performance is important to build and sustain competitive advantage in product and services of the firms (Gunasekaran & McGaughey, 2014). According to Sufian (2010), to achieve a competitive advantage and better performance, supply chain management strategy needs to be linked with supply chain linkages. Information sharing, if managed effectively, can give rise to visibility of customers' and suppliers' operational activities (Aviv, 2012 & Barratt, 2011).

Supply chain performance covers the complete supply chain, hence the term ultimate supply chain reflects best the complex functions involving multiple parties faced in supply chain management. Supply chain performance evolved from the field of logistics, when companies began to see potential in collaborating with their suppliers, especially due to total quality management. In practice, supply chain performance can be joint product development, delivery scheduling and process optimization, with the goal to benefit all parties involved. Information sharing and collaboration allows the entire supply chain to work in a synchronized manner, as it was just one company (Tarn, Michael, Yen & Marcus, 2013).

Supply chain performance assumes customer orientation and collaboration from all members of a supply chain. It also requires dedication and long-lasting partnerships from the members of the supply chain, since supply chain performance is a long process, extending beyond the cost perspective. Thus it's not uncommon that supply chain partners form strategic alliances. Information sharing is an important part of supply chain performance, and is seen as one of its seven activities. Systems used in supply chain performance attempt to generate benefits from four functional areas: materials management, collaborative fulfillment and supply chain event management (Koskela, 2016). Despite the intuitive importance of effective information sharing(IS) for team decision making (Fawcett & Magnan, 2012), past research has shown teams often deviate from the optimal utilization of information when making decisions; discussion often serves to strengthen individual pre-discussion preferences rather than as a venue to share new information.

Information sharing are important in the companies in order to ensure effective purchasing of goods (Weele, 2017). Information sharing in the tourism companies have a lot of impact in ensuring the supply chain efficiency and effectiveness are followed in order to enhance supply decision are made. Information sharing refers to the sharing of technological, marketing, production and inventory information across suppliers and customers. It means suppliers act as marketers o f the company when they supply firm products to its customers. The suppliers get information on what the customers need in terms of the products they consume (Weele, 2017). Information sharing in tourism companies are generally concerned with improved understanding of market trends and customer needs, the acquisition of new ideas for products, and identification of ways of improving production methods and reducing total cycle time. Information sharing in supply chain entails; ensuring regular and adequate supply of resources to the companies and also where the tourism activity is taking place such as tourists are visiting a site or delivering of food to its customers (Van der Zee & Van der Vorst, 2015).

In USA the fruits of performance of tourism companies through proper information exchange have helped in increasing efficiency and effectiveness of procurement and supply of operations in terms of good supplier-customer relationship (Manuj & Mentzer, 2016). In Africa, many developing countries

are yet to adopt the information exchange between supplier-customer relationship though the ones that have adopted the system are facing challenges of information exchange between supplier-customer and also supplier-firm which is acting as a barrier to performance o f the business operations (Holmberg, 2010).

Countries like Ghana and South Africa have adopted proper information exchange in tour companies that have helped the companies to manage the supply operations properly hence increasing productivity of the companies and also making the tour industry to be high (Chopra & Meindl, 2014). An efficient information exchange in tourism companies help in improving business operations especially the supply chain activities which occupy around 80% of the company operations. Keiro (2011) carried out a study on factors affecting the effectiveness of supply chain management practices in the manufacturing industry. The study found that top management commitment and supplier development enhanced supply chain management. According to the Kenya Economic Survey 2016, the tourism industry has increased its performance where there has been new tour companies and hotels coming up each year hence increasing the performance of the economy. However, the tourism companies in Kenya have been facing many challenges especially in the supply chain operations hence affecting the performance of the tourism companies. It against this background information the study sought to examine influence of information sharing on supply chain performance in the tourism industry in the County Government of Kakamega, Kenya.

**Statement of the Problem**

Information sharing allows tourism companies to meet and improve production scheduling through cross-functional linkages, supply and demand planning, production scheduling and planning, and customer demand management (Stratman & Roth, 2012). The supply chains have frequently experienced costly discontinuities in the current dynamic markets and vastly-changing technological environments. The tourism firm supply chains in tourism companies in Kenya have been facing inflexible and susceptible of disruption since they are unable to swiftly and suitably respond to emerging international protocols, certification requirements, and to governmental and regulatory changes. All these signs are symptomatic of supply chains typified by disruption. When the tourism companies supply chains are disrupted, the economic fundamentals are affected hence decreasing the business performance (World Tourism Organization, 2016). Nevertheless, tourism industry in County Government of Kakamega, Kenya there has been high decrease of profit margin 3.1% from 2013 to 2015 since they have been facing many problems such as confidentiality of the information shared, incentive issues, reliability and cost of information technology, anti-trust regulations, the timeless and accuracy of the shared information, and finally the development of capabilities that allow companies to utilize the shared information in an effective way hence affecting the effectiveness and efficiency of the supply chain operations. Kyengo (2012) did a survey on effect of supply chain strategy on organization competitive advantage. The study found that on-time delivery and effective coordination of the supply chain enhanced customer loyalty which in return enhanced organization competitive advantage. Kamah (2012) did a study on outsourcing and supply chain performance among Mobile Telephone Service Providers in Kenya. Kamah found that suppliers' capability and customer demand analysis were the factors enhancing outsourcing practices among the mobile telephone services provider. Despite the vital role played by information sharing on supply chain performance, there is no study which has focused on how information sharing affects supply chain performance of tourism companies in Kenya. Also the studies haven't looked on how collaboration; networking; partnership and linkages affects supply


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chain performance of tourism industry in Kakemega County. It against this insight the study sought to fill this gap by examining influence of information sharing on supply chain performance in the tourism industry in the County Government of Kakamega, Kenya.

**Objectives of the Study**

The aim of the study was to determine influence of information sharing on supply chain performance in the tourism industry in the County Government of Kakamega, Kenya. This study was guided by the following specific objectives:

- To examine influence of collaboration on supply chain performance of tourism industry in the County Government of Kakamega
- To determine influence of networking on supply chain performance of tourism industry in the County Government of Kakamega

**LITERATURE REVIEW**

**Theoretical Review**

**Transaction Cost Theory**

Also the study used Transaction Cost Theory by Ronald (2013). Ronald (2013) explains that companies is always concerned about search and information costs, bargaining and decision costs, as well as policing and enforcement cost all of which should be minimized. Transaction cost theory is based on the basis of company existence and the guidelines towards its expansion program to the external environment. Through this tour companies and hotels ought to minimize their operation through adaptation of information sharing strategies. In this theory both institution and environment in which they operate are perceived to have a symbiotic relationship with optimal benefits from each other. Moreover, if company's operational costs are lower than market costs then there are opportunities for more profits (Williamson, 2014).

According to Williamson (2014) transaction cost can be viewed as environmental uncertainty, opportunism, bounded rationality and core company assets. This classification was based on the fact that all these factors have tendency to accelerate transactions costs by making company service dear to acquire, thus few customers will be attracted towards microfinance financial products. Therefore, it is economical for a construction company to evaluate the procurement procedures present in an organization from which they can evaluate the benefits against cost of individual, institutional, economic and environmental factors in relation to procurement performance in a given tourism industry.

Deigo (2016) argues that transaction cost theory only focuses on cost minimization and firm cost since organization has other cost such as employee turnover, supplier costs among others but it does not show how these factors affects the firm operations. The theory is relevant to the study where tour companies and hotels continuously evaluate their cost benefit analysis with the sole purpose of improving efficiency and minimizing operational cost. In an organization there is need to develop measurers and mechanisms geared towards minimization of costs and improved of chances for more benefits. The theory also helped the tour companies and hotels on how the partnering and collaborating with active suppliers in elimination of order blow-ups by meeting customer demand, and decrease the loss caused by shortage or excess of innovative products. Members in a supply chain make forecasts independently. By collaborating with suppliers it enhances the competitive advantages of the supply chain.

**Network Theory**

In addition the study used Network Theory by (Oliver, 2012). Network theory views firm's continuous interaction with other players becomes an important factor in the development of new resources.

Relationships combine the resources of two organizations to achieve more advantages than through individual efforts. Such a combination can be viewed as a quasi-organization. The value of a resource is based on its combination with other resources, which is why inter-organizational ties may become more important than possessing resources. Thus, the resource structure determines the structure of the supply chain and becomes its motivating force (Haakansson & Snehota, 2015)

The theory contributes profoundly to an understanding of the dynamics of inter-organizational relations by emphasizing the importance of relationship between the parties, the build-up of trust through positive long-term cooperative relations and the mutual adaptation of routines and systems through exchange processes. Through direct communication, the relationships convey a sense of uniqueness, ultimately resulting in supply chains as customization to meet individual customer requirements. The parties gradually build up mutual trust through the social exchange processes (Johanson & Mattsson, 2017).

According to Yu (2013) the network theory does give the high perspective on how the suppliers connect to the company and also with the firm customers. It does not give who are resources with the company rely to. The theory was helpful to the study where the tour companies and hotel management understood the needs of information sharing and how it helps in supply chain performance. It also helped the management the different information sharing practices and how it affects supply chain performance in the company. In addition the theory helped the use of linking and partnering with suppliers assist the deceleration of the possible shortage gaming behavior and avoid potential causes of the bullwhip effect.

**Empirical Review**

**Collaboration and Supply Chain Performance**

Kim and Shunk (2013) argues that E-ordering is the process of creating and approving purchasing requisition, placing purchase orders as well as receiving goods and services ordered, by using a software system based on internet technology which greatly improves the supply chain performance. In the case of e-ordering, the goods and services ordered are indirect goods and services i.e., non-product related goods and services. The supporting software system an ordering catalogue system is usually used by all employees of an organization. In case of Enterprise Resources Planning (ERP) the goods and services ordered are product related. It may be noted that ordering of direct goods and services usually is plan-based. EDI electronic ordering is ideal for customers wishing to develop an automated purchasing system for orders.

By eradicating repetitive manual processes and removing the need for paperwork, EDI electronic ordering solution enables the business to reduce costs, increase productivity and improve customer service thus improved supply chain performance (Sanders, 2014). Petersen, Ragatz, and Monczka (2015) asserts that online ordering system is an e-commerce function where a company allows customers to order products or services via their website. Since the Internet is booming, having an online ordering system can boost sales to some extent as it eases customers to place an order for the company's services. People can place orders from their home as long as they have a computer/laptop with Internet connection thus improved supply chain performance.

Electronic controlled substance orders are placed using a software program that has been approved for Controlled Substance Order System (CSOS). Typically, this software is available through a wholesaler and

may be implemented into their ordering Web site. This software includes functionality to digitally sign the purchase order using the purchaser's CSOS digital certificate. A CSOS Certificate may be installed into multiple software programs and may also be transferred to multiple ordering computers (Sanders, 2014). Sales and Purchase ordering appears to be a straightforward process but is in fact a major challenge for buyers and suppliers.

**Networking and Supply Chain Performance**

Global supply chain management has tremendously gained importance since the past decades due to the global competitive business environment (Belch & Blech, 2017). Bert (2017) stress on the need of supply chain design for global operations and they argue that the choice of supply chain strategy impacts competitive performance. The internationalization or globalization1 of supply chains has increased foreign competition in the countries' local markets. For this reason, companies must make quick and wise decisions at strategic and operational levels (Kibera & Waruinge, 2016) regarding the procurement of goods and services globally in order to minimize the extent of procurement risks or problems. Procurement firms establish relationships networks with their key suppliers when they perceive supply risks (Blech & Blech, 2017). Their study on supply risk management via relational approach in the Chinese business context reveals that improved communication and supplier trust are positively related to supplier performance (Blech & Blech, 2017), Bert (2017) and emphasized that in order to "mitigate quality risks, supply chain members are coordinated by sharing their information.

Anthony and Young (2014) did a research on "effects of supplier relationship strategies on permanence of retail shops in Mexico". A survey research design was used where 121 retail; shops were targeted. Simple random sampling technique was used to select 79 retail shop where 189 respondents were sampled. Questionnaire and interview schedule were used as data collection instruments. Qualitative and quantitative analysis were used in data analyzing, presentation and interpretation. Multiple regression analysis was used to show the relationship between independent and dependent variable. The study found out that respondent agreed that supplier relationship strategies help retail shops to increase good customer supplier relationship, increase service delivery, helps to monitor supplier easily and that measures have been put in place to ensure efficient use of resources. The study concluded that there is a significant relationship between customer supplier relationship and performance of retail shops (p=0.029). Having strong customer supplier relationship ensures meeting customer needs since the suppliers know the needs and wants of its customers. The study recommended that the retail shops needs to implement proper supplier relationship strategies which make sure there is.

**Conceptual Framework**

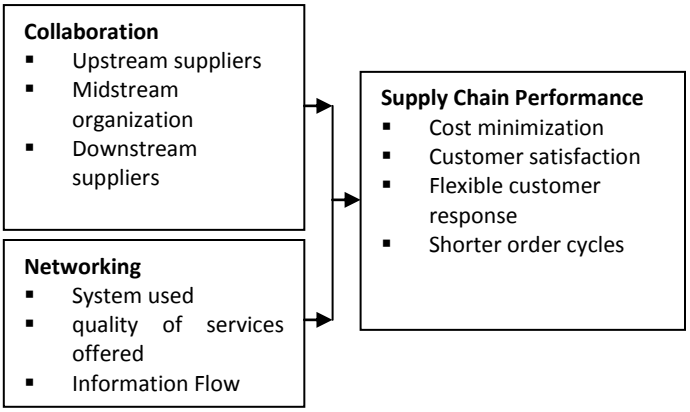


**Figure 1: Conceptual Framework**

**Source: Author (2019)**

**Research Methodology**

The study employed an exploratory research design where the researcher sought to collect information from respondents. The design utilized both qualitative and quantitative data which entailed collecting data that describe a phenomenon. The


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target population comprised of 4 licensed tour companies and 5 licensed hotels in Kakamega County (Tourism Regulatory Authority, Western Region, 2016). The main research instrument that was used in this study is questionnaire. Questionnaires were administered to the respondents. Both open and close ended questionnaire were used. Data collected was analyzed using descriptive statistics with the help of Statistical Package for Social Sciences (SPSS) (version 21),

## FINDINGS

### Collaboration and Supply Chain Performance

The study sought to examine influence of collaboration on supply chain performance of tourism industry in County Government of Kakamega.

**Table 1: Collaboration and Supply Chain Performance**

| | Statements | | 1 | 2 | 3 | 4 | 5 | Min | Max | Mean | Sd |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Suppliers collaborating with other suppliers it enhance access of information hence increasing providing of quality goods and services to the firms | Freq | 30 | 50 | 24 | 115 | 18 | 1 | 5 | 3.17 | 1.22 |
| | | % | 12.7 | 21.1 | 10.1 | 48.5 | 7.6 | | | 63.4 | |
| **2** | The supply chain department of the firms make sure they collaborate with the suppliers in order to increase firm-supplier relationship | Freq | 12 | 46 | 54 | 81 | 44 | 1 | 5 | 3.42 | 1.15 |
| | | % | 5.1 | 19.4 | 22.8 | 34.2 | 18.6 | | | 68.4 | |
| **3** | Suppliers collaborating with the firm it helps in improving firm operations hence enhancing competitive advantage | Freq | 52 | 28 | 28 | 59 | 70 | 1 | 5 | 3.28 | 1.53 |
| | | % | 21.9 | 11.8 | 11.8 | 24.9 | 29.5 | | | 65.6 | |
| **4** | The firm makes sure they collaborate with both the middle, upstream and downstream suppliers in order to access information | Freq | 83 | 79 | 50 | 25 | 0 | 1 | 4 | 2.07 | 0.99 |
| | | % | 35 | 33.3 | 21.1 | 20.5 | 0 | | | 41.4 | |

The results indicated that 12.7% of the participants strongly disagreed, 21.1% disagreed, 10.1% were undecided, 48.5% agreed and 7.6% strongly agreed that suppliers collaborating with other suppliers it enhanced access of information hence increasing providing of quality goods and services to the firms. It had a mean of 3.17, Sd=1.22, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a slightly higher uniformity of data and there was homogeneity of data.

The findings indicated that 5.1% of respondents strongly disagreed, 19.4% disagreed, 22.8% were undecided, 34.2% agreed and 18.6% strongly agreed that the supply chain department of the firms made sure they collaborated with the suppliers in order to increase firm-supplier relationship. It had a mean of 3.42, Std=1.15, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a higher uniformity of data and there was homogeneity of data.

According to table 1, 21.9% of employees strongly

disagreed, 11.8% disagreed, 11.8% were undecided, 24.9% agreed and 29.5% strongly agreed that suppliers collaborating with the firm it helps in improving firm operations hence enhancing competitive advantage. It had a mean of 3.28, Sd=1.53, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a lower uniformity of data and there was no homogeneity of data.

From the results 35% of participants strongly disagreed, 33.3% disagreed, 21.1% were undecided and 20.5% agreed that the firm makes sure they collaborated with both the middle, upstream and downstream suppliers in order to access information. It had a mean of 2.07, Sd=.99, minimum=1 and maximum=4. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a higher uniformity of data and there was homogeneity of data.

From the results majority of respondents with 68.4% (mean=3.42) were of the opinion that the supply chain department of the firms make sure they collaborate with the suppliers in order to increase firm-supplier relationship.

The findings concurred with Todrov (2014) who found out that that the organizations have realized significant supply chain coordination through supply chain integration. Through supply chain integration organizations have been able to attain of strategic goals, reduce risks and improve internal and external coordination of operation process. Also Oluyane (2014) supported the results where he revealed that implementation of ICT enhance procurement operations where it helps the firm to access suppliers, lower operations costs and helps in improves tendering process.

**Networking and Supply Chain Performance**

The research sought to determine how networking affects supply chain performance of tourism industry in County Government of Kakamega.

**Table 2: Networking and Supply Chain Performance**

| | Statements | | 1 | 2 | 3 | 4 | 5 | Min | Max | Mean | Sd |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Using poor IT systems affect the flow of information between the suppliers and organization hence affecting supply chain operations | Freq | 35 | 33 | 62 | 49 | 58 | 1 | 5 | 3.26 | 1.36 |
| | | % | 14.8 | 27 | 22.8 | 37.1 | 24.5 | | | 65.2 | |
| **2** | Using advance IT system helps proper flow of information hence increasing supply chain performance | Freq | 35 | 37 | 62 | 49 | 54 | 1 | 5 | 3.21 | 1.35 |
| | | % | 14.8 | 15.6 | 26.2 | 20.7 | 22.8 | | | 64.2 | |
| **3** | There is offering of quality of services to the customers in terms of strategies used in supply chain | Freq | 39 | 18 | 80 | 58 | 42 | 1 | 5 | 3.19 | 1.29 |
| | | % | 16.5 | 7.6 | 33.8 | 24.5 | 17.7 | | | 63.8 | |
| **4** | The hotels offer quality food stuffs in terms of adoption of total quality management in supply chain operations | Freq | 7 | 64 | 54 | 88 | 24 | 1 | 5 | 3.24 | 1.05 |
| | | % | 3 | 27 | 22.8 | 37.1 | 10.1 | | | 64.8 | |


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The results showed that 14.8% of the participants strongly disagreed, 13.9% disagreed, 26.2% were undecided, 20.7% agreed and 24.5% strongly agreed that using poor IT systems affect the flow of information between the suppliers and organization hence affecting supply chain operations. It had a mean of 3.26, Sd=1.36, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a lower uniformity of data and there was no homogeneity of data.

From the findings, 14.8% of employees strongly disagreed, 15.6% disagreed, 26.2% were undecided, 20.7% agreed and 22.8% strongly agreed that using advance IT system helps proper flow of information hence increasing supply chain performance. It had a mean of 3.21, Sd=1.35, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a lower uniformity of data and there was no homogeneity of data.

The findings indicated that 16.5% of the respondents strongly disagreed, 7.6% agreed, 33.8% were undecided, 24.5% agreed and 17.7% strongly agreed that there is offering of quality of services to the customers in terms of strategies used in supply chain hence increasing supply chain performance. It had a mean of 3.19, Sd=1.29, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a low uniformity of data and there was no homogeneity of data.

According to the results, 3% of participants strongly disagreed, 27% disagreed 22.8% were undecided, 37.1% agreed and 10.1% strongly disagreed that the hotels offer quality food stuffs in terms of adoption of total quality management in supply chain operations increasing supply chain performance. It had a mean of 3.24, Sd=1.05, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a higher uniformity of data and there was homogeneity of data.

From the findings majority of participants with 65.2% (mean 3.26) were of the view that using poor IT systems affect the flow of information between the suppliers and organization hence affecting supply chain operations.

The study concurred by Anthony and Young (2014) who found out that respondent agreed that supplier relationship strategies help retail shops to increase good customer supplier relationship, increase service delivery, helps to monitor supplier easily and that measures have been put in place to ensure efficient use of resources. Also the results is supported by Massie (2016) who found out that procurement planning enhances the organization to purchase quality products in order to meet customer needs hence increasing profitability of the authority by maintaining customer loyalty, also it enhances purchasing effectiveness and efficiency in the organization hence increasing authority growth, it promotes purchasing and supply department's employees utilize the organization resources efficiently and effectively hence increasing organization profitability, it enhances in reduction of holding of costs of inventory in the organization and it promotes in reduction of operating costs in purchasing and supply department hence increasing company profitability.

**Indicators of Supply Chain Performance**

The research sought to assess the indicators of supply chain performance of tourism industry in County Government of Kakamega.

**Table 3: Indicators of Supply Chain Performance**

| | Statements | | 1 | 2 | 3 | 4 | 5 | Min | Max | Mean | Sd |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Operational efficiency | Freq | 15 | 37 | 0 | 138 | 47 | 1 | 5 | 3.7 | 1.14 |
| | | % | 6.3 | 15.6 | 0 | 58.2 | 19.8 | | | 74 | |
| **2** | Reduce time in the ordering process | Freq | 26 | 11 | 52 | 100 | 48 | 1 | 5 | 3.56 | 1.19 |
| | | % | 11 | 4.6 | 21.9 | 42.2 | 20.3 | | | 71.2 | |
| **3** | Efficient utilization of resources | Freq | 41 | 52 | 48 | 71 | 25 | 1 | 5 | 2.95 | 1.28 |
| | | % | 17.3 | 21.9 | 20.3 | 30 | 10.5 | | | 59 | |
| **4** | Helps to get the information of suppliers easily | Freq | 26 | 50 | 36 | 95 | 30 | 1 | 5 | 3.22 | 1.23 |
| | | % | 11 | 21.1 | 15.2 | 40.1 | 12.7 | | | 64.4 | |
| **5** | It helps to improve service delivery offered to its customers | Freq | 15 | 103 | 47 | 63 | 9 | 1 | 5 | 2.78 | 1.03 |
| | | % | 6.3 | 43.5 | 19.8 | 26.6 | 3.8 | | | 55.6 | |

The results indicated that 6.3% of respondents strongly disagreed, 15.6% disagreed, 58.2% agreed and 19.8% strongly agreed that use of information sharing in supply chain activities in terms of procurement of goods and managing of inventory in the organization hence increasing effectiveness and efficiency of firm operations. It had a mean of 3.70, Sd=1.14, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation slightly showed a higher uniformity of data and there was homogeneity of data.

From the findings 11% of the participants strongly disagreed, 4.6% disagreed, 21.9% were undecided, 42.2% agreed and 20.3% strongly agreed that it helps to reduce the lead time in terms of ordering and receiving the goods. It had a mean of 3.56, Sd=1.19, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a high uniformity of data and there was homogeneity of data.

From the table 3 it showed 17.3% of residents strongly disagreed, 21.9% disagreed, 20.3% were undecided, 30% agreed and 10.5% strongly agreed that it helps the firm to use the resources efficiently and effectively hence reducing operation costs. It had a mean of 2.95, Sd=1.28, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a lower uniformity of data and there was no homogeneity of data. In addition the study shows 11% of the participants strongly disagreed, 21.1% disagreed, 15.2% were undecided, 40.1% agreed and 12.7% strongly agreed that it helps to get the information of suppliers easily due to good supplier network hence increasing supply chain performance. It had a mean of 3.22, Sd=1.23, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a high uniformity of data and there was homogeneity of data.

Moreover the results indicated 6.3% of the residents strongly disagreed, 43.5% disagreed, 19.8% were undecided, 26.6% agreed and 3.8% strongly agreed that it helps to improve service delivery offered to its


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customers. It had a mean of 2.78, Sd=1.03, minimum=1 and maximum=5. The data was normally distributed and had high dispersion since it had high range. The data was normally distributed and suitable for regression. The standard deviation showed a high uniformity of data and there was no homogeneity of data.

From the study majority of respondents with 74% (mean=3.70) were of the opinion that use of information sharing in supply chain activities in terms of procurement of goods and managing of inventory in the organization hence increasing effectiveness and efficiency of firm operations. Kyalo and Omwega (2017) concurred the findings where they revealed there was a significant positive influence on relationship between information sharing as part of humanitarian logistics and supply chain performance (rho=0.884, p-value <0.05). This implies that a unit change in information sharing as part of humanitarian logistics increases supply chain performance by 88.4%. Hence which means much more need to be done during information sharing in order to gain optimum solution to supply chain performance.

**Hypotheses Testing**

The study sought to determine to test the study hypotheses.

**Table 4: Results of Hypotheses Testing**

| Hypotheses | | P-Value | Decision Rule |
|---|---|---|---|
| **$H_{o1}$.** | There is no significant influence of collaboration on supply chain performance of tourism industry in County Government of Kakamega. | P=0.000<0.05 | Reject $H_{01}$ |
| **$H_{o2}$.** | There is no significant influence of networking on supply chain performance of tourism industry in County Government of Kakamega. | P=0.029<0.05 | Reject $H_{02}$ |

$H_{o1}$. There is no significant influence of collaboration on supply chain performance of tourism industry in County Government of Kakamega.

From the results a probability value of (p=0.000 < 0.05) was obtained implying that the hypothesis (there is no significant influence between collaboration and supply chain performance of tourism industry in County Government of Kakamega) was rejected and therefore indicating existence of significant influence of collaboration on supply chain performance of tourism industry.

Mburu and Njeru (2014) concurred the findings where they found out that ICT improves the services for suppliers and other customers in order to lower operating costs and improving performance. Online communication, online tender advertising and computerized tendering process influences performance of the procurement function. IT offers smoother and faster process flow, efficient distribution of information, decentralization of tasks and decisions, increased transparency and better control. Also the study was supported by Abdifatah (2012) who indicated that maintaining good supplier relation, effective and efficient internal operations, continuous improvement, flexible production processes, use of technology to speed up humanitarian work, inter-organization integrations and simplicity in internal operations are among the practices prevalent among humanitarian organizations in Kenya.

$H_{o2}$. There is no significant influence of networking on supply chain performance of tourism industry in County Government of Kakamega.

From the results a probability value of (p=0.029 <


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0.05) was obtained implying that the hypothesis (there is no significant influence between networking had a statistically significant influence on supply chain performance of tourism industry in County Government of Kakamega) was rejected and therefore indicating existence of significant influence of networking on supply chain performance of tourism industry.

Kung'u and Mwangi (2014) supports the findings where they found out that the Just In time enhances use of organization resources effectively and efficiently where it makes the retail business to manage its resources very well hence reducing wastage of resources, it reduces costs associated with inventory such as holding costs, carrying costs, ordering costs e.t.c, also reduces wastage of time since time is money where by it makes sure there are no long queues hence minimizing queuing time and enhance quality of service delivery.

## SUMMARY

### Collaboration and Supply Chain Performance

From the findings majority of the respondents were of the opinion that influence of collaboration on supply chain performance of tourism industry in County Government of Kakamega included: suppliers collaborating with other suppliers it enhance access of information hence increasing providing of quality goods and services to the firms; the supply chain department of the firms make sure they collaborate with the suppliers in order to increase firm-supplier relationship; suppliers collaborating with the firm it helps in improving firm operations hence enhancing competitive advantage; and the firm makes sure they collaborate with both the middle, upstream and downstream suppliers in order to access information.

### Networking and Supply Chain Performance

The study revealed that networking affects supply chain performance of tourism industry in County Government of Kakamega where using poor IT systems affect the flow of information between the suppliers and organization hence affecting supply chain operations; using advance IT system helps proper flow of information hence increasing supply chain performance; there is offering of quality of services to the customers in terms of strategies used in supply chain hence increasing supply chain performance; and the hotels offer quality food stuffs in terms of adoption of total quality management in supply chain operations increasing supply chain performance.

## CONCLUSIONS

The study found out that collaboration influences supply chain performance of tourism industry in County Government of Kakamega through resources dependence theory where it suggested the resources possessed by a firm are the primary determinants of its performance, and these may contribute to a sustainable competitive advantage of the firm. Therefore the supply chain department of the firms make sure they collaborate with the suppliers in order to increase firm-supplier relationship. There was a significant influence of collaboration on supply chain performance of tourism industry in County Government of Kakamega with $p=0.000 < 0.05$. The null hypothesis was rejected.

The results also revealed influence of networking on supply chain performance of tourism industry in County Government of Kakamega. This was explained by network theory where it views firm's continuous interaction with other players becomes an important factor in the development of new resources. Therefore using advance IT system helps proper flow of information hence increasing supply chain performance. There was a significant influence of networking on supply chain performance of tourism industry in County Government of Kakamega with $p=0.029 < 0.05$. The null hypothesis was rejected.

## RECOMMENDATIONS

The study established that information sharing

practices play an important role in increasing supply chain performance. Based on this, the study recommended that tourism industry need to take information sharing used in supply chain operations seriously if they are to deliver high quality services to their customers. The study revealed that networking influences supply chain performance in hotels and tour companies. This research therefore recommended that the supply chain department needs to adopt effective networking programs in order to enhance customer satisfaction and supply chain efficiency hence increasing access of information about the

**Recommendations for Further Studies**

This research was done in tourism industry in County Government of Kakamega; similar studies can be done in other sectors of the economy such as the manufacturing industry, retail industry among other sectors in order to compare the findings from these different sectors since the study had not been done in the sectors. The study only focused on collaboration and networking as information sharing programs. Also the there is need for further research on other information sharing programs in order to understand how other programs affect supply chain performance of tourism industry in County Government of Kakamega. In addition a study can also be done on factors affecting adoption of information sharing on supply chain operations of tourism industry in County Government of Kakamega since there is need to know the challenges faced by supply chain department in using different information sharing programs.

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