Influence of Supplier ICT Integration on Procurement Performance of Pharmaceutical Manufacturing Firms in Nairobi County

Author’s Details:

1 Ann Wanjiku Ndung’u 2 Dr. Denis Chege Ph.D
(1)(2) Jomo Kenyatta University of Agriculture and Technology

Abstract
This paper assesses the influence of supplier ICT integration on the procurement performance of pharmaceutical manufacturing firms in Nairobi County, Kenya. The pharmaceutical manufacturing companies are among the integral part of the country’s economy. In addition to these companies being part of the large pillar of manufacturing sector, they as well support the country’s healthcare, another critical pillar of the country’s socio-economic prosperity. It is therefore prudent that the suppliers of these pharmaceutical manufacturing companies be managed so as to obtain quality drugs and reliable services. Despite supplier’s contribution to the success of pharmaceuticals, there is scant evidence on how they have been brought closer in the decision making to determine the collective success of the entire sector. Available evidence shows the integrating information technology would a be a great move towards enhancing management of the suppliers. The paper was anchored on the Technology Acceptance Model. Descriptive survey research design was adopted for the study. The target population of the study was all the employees in the procurement department of the 110 pharmaceutical manufacturing firms in Nairobi County. Target respondents were the procurement managers of the pharmaceutical manufacturing firms in Nairobi County. A census was used where all the 110 firms were surveyed. Data collection instrument was a structured questionnaire which was used to collect primary data. Analysis of the collected data was done with the help of Statistical Package for Social Sciences (SPSS) The findings revealed that supplier ICT integration through inventory control, information exchange and coordination of functions significantly influenced the procurement performance in the pharmaceutical manufacturing companies. It was concluded that procurement performance in most of the companies was affected by inadequate embrace of ICT in managing the suppliers, thus it is recommended that the procurement managers in these companies ought to embrace ICT integration as one of the aspects of effectively managing suppliers

Keywords: Supplier Management, Supplier ICT Integration, Procurement Performance, Pharmaceutical Manufacturing Firms

1.0 INTRODUCTION
1.1 Background of the Study
The continued advancements in the modern manufacturing sector characterized by technological evolution and globalization, has prompted most players in the sector to seek new ways of gaining competitive advantage, so companies have sought to do this by taking advantage of the skills and innovations of their suppliers. Management of suppliers signifies an attempt to enhance the efficiency of a purchasing company by properly handling its suppliers. There has been a change in production companies from vertical integration to smaller, leaner operations in recent years (Prahalad & Hamel, 2016). One of the aspects that has been found to prompt the management of suppliers is the integration of Information Technology in the supplier management processes. Most of the manufacturing companies across the globe are continually realizing the need for ICT in enhancing the impact and contribution of the suppliers towards the success of their business.

Integrating technology among the suppliers implies that information sharing systems, data and knowledge interchange programmes are enhanced. This creates an opportunity for the manufacturing entities to easily gain knowledge from the suppliers and involve them in coming up with products and services that meet the customer needs and expectations.

In order to effectively manage supply chain risks, Kenyan manufacturing firms require a large database of information which it can analyze and make decisions on how to mitigate supply chain risks. Adoption of ICT
systems that will enhance the competitiveness of the supply chains helps in the development of the capabilities and skills that would have otherwise not been achieved (Borges et al., 2009). However, the introduction of technology alone may not be a source of competitive advantage, because it is readily available on the market only when the technology is incorporated into the risk management strategies of the corporate supply chain and is likely to achieve the anticipated sustainable benefits (Barney, 2012). Pharmaceuticals should therefore use their existing ICT infrastructure and skills to manage supply chain risks and therefore improve the procurement performance of the firm.

Information exchange is one of the main organizational mechanisms within procurement management. This relates to the exchange between suppliers and the purchasing organization of technical, marketing, manufacturing and inventory details (Stock & Lambert, 2018). In effective supplier production processes, most of the writers have supported knowledge sharing as a significant method (Dunn & Young, 2017). Burton (2018) described the exchange of information as the transfer of information related to business in a manner that allows the recipient to act. Mentzer (2015) highlighted the importance of exchanging knowledge in the set-up of the pharmaceutical manufacturing supply chain to secure competitive advantage in a number of ways, including improving awareness of consumer dynamics and demands for medical supplies, acquiring new ideas for medical goods, and finding ways to enhance production methods and minimize overall cycle time.

In order to promote knowledge sharing on supply chain efficiency, Zhou and Benton (2014) studied the impact of combining communication systems; the latter captured as a construct involving planning, development, and delivery practice elements. They found that the exchange of knowledge has a significant effect on the practice of supply management and a major impact of delivery practices on delivery efficiency. IT implementation (both application skills and knowledge sharing), supply chain integration (of logistics systems) and efficiency were included in the study by Li & Li, (2015). They noticed that IT implementation had an important effect on the integration of the supply chain and indirectly on the efficiency of the supply chain. In terms of both information and materials, Frohlich and Westbrook (2012) modeled supply chain integration using eight elements relating to IT, information exchange and logistics integration. They found that the broader reach of integration had a positive effect on improving efficiency. However, because the products were merged into a single build, any relationship between integration of knowledge and integration of logistics could not be established.

The role of purchasing and materials management has gained prominence in largest manufacturing organizations and has contributed to an increase in additional responsibility. Top management has identified it as a crucial mechanism that leads to the pharmaceutical manufacturing organizations’ competitive advantage (Fitzgerald, 2015; Krause, 2017). Organizations have begun to concentrate on their core competencies and outsource the remaining operations to outside suppliers. The above-mentioned facts have led pharmaceutical companies to rely more on providers to boost their results. As companies need to seek performance enhancement, they consider and manage their supplier base as an extension of the production system of the organization (Fawcett et al., 2015). Carr and Pearson (2017) noted that companies with a strategic buying strategy were more interested in supplier assessment than other companies. Manufacturing companies are considered by the government of Kenya to be a core pillar of its development strategy. According to Kenya Vision 2030 ("Kenya: Vision 2030 launched," 2007), the manufacturing sector is one of the pillars of economic development. By contributing 20% of the gross domestic product, the industry is expected to play a key role in the development of the Kenyan economy (KAM, 2018).

Kenya’s pharmaceutical industry is governed by the Pharmacy and Poisons Act 244 of Kenyan legislation. The Act controls the production, transportation and exchange of drugs. Drug regulation in Kenya is intended to ensure the consistency, protection and effectiveness of drugs. There are 23 leading pharmaceutical companies in Nairobi County that manufacture various medicines (Moahi et al., 2017). Kenya’s pharmaceutical industry is divided into production, distribution and retailing, each using its own supplier management methods to monitor and gain optimum market share in the face of hostile competition (Zaman & Zaman, 2018). According to Pharmacy and Poisons Board (2016), the pharmaceutical industry in Kenya had 208 licensed wholesalers, 35
licensed local manufacturers and 945 retailers for the year 2015. Both numbers acutely rose to 212 licensed wholesalers, 12,799 distributors and 45 licensed local producers, as obtained from the board's 2017 database.

Across its supply chain, pharmaceutical manufacturing sector currently employs 280,300 workers, representing 13 percent of total jobs and an additional 1.6 million or 20 percent of employees on the informal side of the industry (KAM, 2019). Kenya’s pharmaceutical manufacturing industry, however, faces vulnerabilities in the supply chain ranging from technological change, financial risk, political turbulence and growing regulatory pressures, workforce strike and counterfeit influx (Mutegi et al., 2017).

1.2 Statement of the Problem
In the current pharmaceutical market environment, rivalry has shifted from firm to supply chain level and suppliers have been identified as key in influencing the overall performance of the supply chain: Therefore, the management of supplier output is of vital importance to the buyer company (Huang & Keskar, 2017). In addition, most of the pharmaceutical manufacturing firms are compelled to calculate the output of their main suppliers who account for around 80% of their business (Pradip & Kannan, 2015).

Sullivan et al. (2019), noted the rising competition in pharmaceutical market from generic goods for the branded market share. Pharmaceutical companies have a great need to distinguish themselves from their rivals and to recognize a consumer segment that can invest their allegiance to them. One of the strategic ways of doing this is by concentrating on their upstream supply chain through involvement in suppliers’ management practices such as supplier ICT integration (Sullivan, 2016).

Imports domination in the local market and ineffective regulation has resulted in a number of challenges including: flooding of substandard and counterfeit drugs on the Kenyan pharmaceutical market, high levels of competition from cheaper or subsidized pharmaceutical products, lack of specialization in industrial pharmacy and plant management, inadequate facilities for specialized training in industrial pharmacy, over-reliance on imported inputs for manufacturing and high production costs as compared to external competitors (Saurav, 2019). Nzovila et al., (2019) noted that challenges facing Kenyan pharmaceutical sector can best be addressed from the upstream supply chain. To curb this challenge, they recommended the use of supplier ICT integration.

Few studies have been conducted addressing supplier ICT integration in pharmaceutical manufacturers; despite the significance of the practices in pharmaceutical supply chains. This study therefore endeavored to determine the influence of supplier ICT integration on the procurement performance of pharmaceutical manufacturing firms in Nairobi County.

1.4 Research Question
1. What is the influence of Supplier ICT Integration on procurement performance of pharmaceutical manufacturing firms in Nairobi County?

1.5 Significance of the Study
The main aim of this study was to assess the influence of supplier management practices on the procurement performance in the pharmaceutical manufacturing companies in Nairobi County, Kenya. The findings from this study are projected to be beneficial to a number of parties and stakeholders. They include; the government and policy makers, the owners of the pharmaceutical management companies as well as research institutions. These are the main stakeholders and key players in the pharmaceutical industry in the country.

2.0 LITERATURE REVIEW
2.1 Theoretical Review
This paper was anchored on the Technology Acceptance Model (TAM) by Davis (1989). The main purpose of the model is to clarify the behavior of the use of ICT, i.e. what are the main causes of the acceptance or rejection of integration of information technology by potential ICT adopters. TAM forecasts the acceptance and
design of the information system as the issues before the system experience of the user (Davis 1989). The TAM forecast of the acceptance of users and any technology is based on perceived utility and perceived ease of use. The perceived usefulness (U) within the TAM is described as the degree to which a given consumer thinks that using a system will increase his / her use performance (Davis, 1989).

As technology is seen as the main driver for improving the competitive advantage of the supply chain, this principle is applicable to the Kenyan manufacturing sector. Integration of supply chain information technology with key stakeholders such as manufacturers improves the efficiency of businesses by supplying timely information, thereby mitigating the risks of the supply chain (Dehning et al., 2006). The perceived ease of use is strongly linked to the training and expertise that the workers have. In order to allow them to apply the technology effectively and efficiently, Kenyan manufacturing companies should train their employees to implement the systems. Implementation of ICT enables the supply chain managers to avoid the narrow focus of the relationship between suppliers, customers and logistical providers by establishing long term relationships and strategic alliances and therefore viewing the customers as partners other than rivals (Williams, 2018).

2.2 Conceptual Framework

![Conceptual Framework Diagram]

2.3 Empirical Review

Moberg (2017) noted that the promise behind the success of procurement is that the sharing of data and coordination of strategies among supply chain pharmaceutical manufacturing companies will reduce overall logistics costs and increase emergency response needs. Moberg, and Sako (2017) indicated that higher levels of knowledge sharing in the supply chain between pharmaceuticals contribute to lower inventories due to improved communication. Due to the fact that certain medical goods require minimal exposure to environmental conditions, this coordination is critical; thus, supply is only made when the need induces development.

Electronic procurement is the current popular technological platform which in the broadest sense refers to business to business or supplier to business interactions that ease the buying and selling of supplies, labour, and facilities such as data networks and information sharing. This relates to the information exchange and scheduling (Muhia & Afande, 2015). The e-procurement can be termed as the process of integrating and streamlining procurement processes through the institution (Muhia & Afande, 2015). Pharmaceuticals use electronic procurement systems such as Electronic Data Interchange (EDI) and Enterprise Resource Planning (ERP) to automatically and efficiently initiate the purchasing process as well as payment. Apart from efficiency benefits, electronic procurement plays a big role in minimizing expenditures on writing materials i.e. papers and pens culminating in green procurement adherence.

Monczka, Handfield, Giunipero and Patterson, (2015) did a study on Purchasing and supply chain management stated that EDI was able to replace paperwork used by buyers and sellers for commercial transactions thus enhanced record keeping and faster retrieval and information sharing amongst the business entities. In addition, it has also reduced lead times since the information on reorder levels are usually shared with the prospective
suppliers, therefore able to respond immediately when inventory is required. This, in the end, will reduce the cost of inventory and support the realization of JIT (Just In Time) strategy and better service.

Integration of the supply chain connects pharmaceuticals with their clients, i.e. hospitals, chemists and manufacturers, suppliers and other participants of the channel by incorporating their relationships, operations, roles, processes and places. Integration is closely correlated with the success of operations in many areas and with a certain severity in each of those areas from the supply chain management literature. In various fields, such as flow of goods, preparation and control, organization, and knowledge flow, integrative activities can be developed (Van der Vaart. & Van Donk, 2018). Bowersox (2016) argues that integration with suppliers and the buying company can advance the supply chain process. Continuous standardization of each internal logistics feature and efficient exchange of knowledge and strategic ties with suppliers and buyers will achieve external and internal integration.

Supply chain operations coordination among businesses is becoming strategically important as new organizational forms such as virtual businesses, global pharmaceutical manufacturing and pharmaceutical manufacturing networks and various company-to-company alliances take place (Amours, 2019). It is important to consider the importance of time as a strategic tool and the ability to satisfy consumer and business demand with shorter delivery times. Flexibility and versatility are emphasized by various pharmaceutical manufacturing firms to adapt to the particular needs of the health sector. To get the right product, at the right price and at the right time for the consumer, not only is it important for competitive success, but also the key to survival. When attempting to develop a new supply chain plan, these are essential elements for consideration. The best product available at the right location at the right time helps the company to compete in this volatile marketplace (Ahamat & Abdul Rahman, 2017).

3.0 RESEARCH METHODOLOGY

3.1 Research design

The study adopted a descriptive survey research design using both quantitative and qualitative approaches. Descriptive survey research design enabled the researcher to collect data once over the same period of time, analyze and make a report. In this design, correlation and inferential statistics were employed to describe relationships between two or more sets of factors (Choy, 2014).

3.2 Target Population

The study targeted a population of 110 registered Nairobi County pharmaceutical manufacturing companies (KAM, 2020) while the unit for observation is the procurement managers of the firms.

3.3 Sampling

The sample frame for this study was 110 head of procurement from the 110 registered pharmaceutical manufacturing companies obtained from the directory of Kenya Association of Manufacturers and exporter (KAM, 2020). A census was used where all the 110 pharmaceutical manufacturing companies in Nairobi County was surveyed. These were the units of analysis. For the units of observation, the procurement managers in these companies were surveyed. One procurement manager from every company was selected thus a total of 110 respondents were surveyed in the study.

3.4 Data Collection

The study used a structured questionnaire to collect the primary data. The questionnaires were self-administered. Target participants comprised of the senior supply chain managers or procurement managers who deal with day to day purchasing activities of the organization who was expected to fill in the questionnaires.

3.5 Data Analysis

The data collected was edited, structured and properly arranged for coding in the Social Sciences Statistical Package. It was evaluated quantitatively for the purpose of obtaining descriptive statistics, while correlation and regression analysis are used for the purpose of obtaining inferential statistics. Multiple Linear Regression
Analysis was used in estimating how dependent variable (procurement performance of pharmaceutical firms in Nairobi County) relate with the independent variable (Supplier ICT Integration).

4.0 FINDINGS

4.1 Response Rate
Out of the 110 issued questionnaires, 91 were dully filled and returned for analysis. This represented a response rate of 82.7% while the non-response was 17.3%.

Table 1: Response Rate

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Response Rate</th>
<th>Non-Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>91</td>
<td>19</td>
</tr>
</tbody>
</table>

4.2 Reliability Test
Reliability was used to check the internal consistency of the data measuring instrument. Cronbach’s Alpha (α) was used to test for the instrument reliability. This is a test of reliability proposed by Cronbach (1952). Table 2 summarizes the results, where the Cronbach’s alpha coefficient for supplier ICT integration was 0.769 and 0.902 for procurement performance, hence they were reliable.

Table 2: Reliability Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (α)</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier ICT Integration</td>
<td>0.769</td>
<td>9</td>
</tr>
<tr>
<td>Procurement Performance</td>
<td>0.902</td>
<td>6</td>
</tr>
</tbody>
</table>

4.3 Supplier ICT Integration
The study sought to establish the influence of Supplier ICT Integration on procurement performance of pharmaceutical manufacturing firms in Nairobi County. Supplier ICT integration was assessed through inventory control, information exchange and coordination of functions. The respondents were asked to indicate their level of agreement or disagreement with specific statements drawn from these aspects. Table 3 summarizes the findings.

As the findings portray, majority of the respondents agreed that their respective organizations had an effective system/platform for sharing information with the suppliers as shown by a mean of 3.54 and a standard deviation of 1.29. It was further established that most of the organizations surveyed were able to communicate efficiently with their suppliers and other stakeholders (Mean = 3.79; standard deviation = 1.25) and indication that the companies have put the technology requirements for enhancing communication and information sharing. Majority of the companies had their processes aligned with those of their suppliers which as Brau et al. (2017) contend, is essential for enabling the supplier performance and relationship with the organization. The findings compare with those by Hackney and Dunn (2017) who argued that having a proper system of Information Technology in the organization’s operations is essential for not only gaining competitiveness but also ensuring that the operations of the firms are effective and efficient towards meeting the customer needs and expectations.

Table 3: Descriptive Results on Supplier ICT Integration

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization has an effective system/platform for sharing information with the suppliers</td>
<td>3.54</td>
<td>1.29</td>
</tr>
<tr>
<td>There is a framework for ensuring effective flow of information between the organization and the suppliers</td>
<td>3.75</td>
<td>1.32</td>
</tr>
<tr>
<td>The organization is able to communicate efficiently with the suppliers and other stakeholders</td>
<td>3.79</td>
<td>1.25</td>
</tr>
<tr>
<td>There is a system adopted to integrate the business process in the organization towards enhancing effective operations</td>
<td>3.68</td>
<td>1.37</td>
</tr>
</tbody>
</table>
The company’s processes are aligned with those of the supplies for easier flow of operations between the organization and the suppliers

Most of the processes in our company have been automated through ERP applications

There is a framework of harmonizing programmes and operations in the organization

Simplifications of operations in the organization has been embraced to steer effectiveness

We have achieved better control of the inventory levels as a result of using automated inventory management systems

4.4 Procurement Performance

The study sought to establish the procurement performance of the pharmaceutical companies in Nairobi County Kenya. The procurement performance was assessed through lead time, cost saving and inventory stock outs. First, the respondents were asked to indicate their level of agreement or disagreement on specific statements based on these three aspects. A five-points Likert’s scale was used. Table 4 shows the findings.

As the findings portray, the organization had been able to reduce lead time significantly for the past five years as shown by a mean of 3.53 and a standard deviation of 1.08. The respondents further disagreed that inventory holding costs in their respective organizations had not reduced as projected as shown by a mean of 3.05 and a standard deviation of 1.21. A report by the Kenyan Association of Manufacturers (KAM) (2017) revealed that most of the manufacturing companies and the pharmaceuticals included were unable to meet their overheads mainly due to high operational costs and related costs such as the costs of procurement.

Table 4: Descriptive Results on Procurement Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organization has been able to reduce lead time significantly for the past five years</td>
<td>3.53</td>
<td>1.08</td>
</tr>
<tr>
<td>The company has always achieved its lead time reduction targets</td>
<td>2.80</td>
<td>1.94</td>
</tr>
<tr>
<td>The company has been saving on costs of operations in the past five years</td>
<td>2.67</td>
<td>1.80</td>
</tr>
<tr>
<td>The costs of procurement have been reducing significantly in our organization</td>
<td>3.01</td>
<td>1.26</td>
</tr>
<tr>
<td>There have been fewer incidences of inventory stock-outs in our organization in the recent past</td>
<td>3.10</td>
<td>1.36</td>
</tr>
<tr>
<td>Inventory holding costs have been minimal in our organization in the recent past</td>
<td>3.05</td>
<td>1.41</td>
</tr>
</tbody>
</table>

4.5 Inferential Analysis

4.5.1 Correlation Results

The correlation results as shown in Table 5 revealed that ICT integration strongly correlated with procurement performance at a significance level of 0.000 and with a Pearson correlation coefficient of 0.831.

Table 5: Correlations for Linearity Test

<table>
<thead>
<tr>
<th></th>
<th>Procurement Performance</th>
<th>Supplier ICT Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.831**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.831**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>91</td>
<td></td>
</tr>
</tbody>
</table>
4.5.2 Regression Analysis Results

The linear regression model was carried out to reveal the relationship between the two variables and the findings are as herein presented. As the model summary in Table 6 reveal, the R Square ($R^2$) for the model was 0.690. This implies that Supplier ICT Integration influences up to 69.0% variation in the procurement performance. This confirms that Supplier ICT Integration has an influence on the Procurement Performance in pharmaceutical manufacturing firms in Nairobi County. According to Tanner, Wolfle, Schubert, and Quade (2016), integrating technology in the supply chain and procurement process has a strong influence on the procurement performance and continued collaboration between the organization and the supplier.

### Table 6: Model Summary for Supplier ICT Integration

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.831</td>
<td>0.690</td>
<td>0.687</td>
<td>0.64329</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Supplier ICT Integration

The Analysis of Variance (ANOVA) result are as shown in Table 7. As the findings indicate, the F-Statistics for the model was 198.526 at a significant level of 0.000<0.05. This implies that there is a significant influence of Supplier ICT Integration on the Procurement Performance. Zachmann (2012) stated that when Supplier ICT Integration is well though and directed towards meeting the customer needs, it significantly influences the organizational performance by giving it a modern approach to new products and improving the existing products.

### Table 7: Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>82.154</td>
<td>1</td>
<td>82.154</td>
<td>198.526</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>36.830</td>
<td>89</td>
<td>.414</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>118.983</td>
<td>90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Procurement Performance
b. Predictors: (Constant), Supplier ICT Integration

The regression coefficients result as shown in Table 8 revealed that the Beta ($\beta$) coefficient for Supplier ICT Integration was 0.802 which implies that a unit change in Supplier ICT Integration would lead to an increase in Procurement Performance by up to 80.2%. The P-value for Supplier ICT Integration was 0.000 which is less than the standard P-value of 0.05. This implies that there is a significant and positive relationship between Supplier ICT Integration and procurement performance. On this merit, we therefore reject the null hypothesis that there is no significant influence of supplier ICT integration on the Procurement Performance in pharmaceutical manufacturing firms in Nairobi County. The findings are in line with those by Saurav (2019) who established that through continued focus on IT, the supply chain and procurement process become more flexible and effective thus enhancing firm performance.

### Table 8: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.844</td>
<td>.220</td>
<td>3.841</td>
<td>.000</td>
</tr>
<tr>
<td>Supplier ICT Integration</td>
<td>.802</td>
<td>.057</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Procurement Performance
4.6 Discussion
The findings revealed that most of the firms surveyed had an effective and efficient systems of sharing information with the suppliers and that here was a framework for ensuring effective communication and flow of information between the manufacturing companies and their suppliers. It was further established that there were efficient communication frameworks that helped in bringing the suppliers closer to the organizations for easier operations and continued cooperation. The respondents indicated that here were systems in their respective organizations meant to enhance the integration of the business process with those of their suppliers this is one way that modern organizations have been able to steer their operations and continued collaboration with the suppliers towards meeting the customer needs. The respondents agreed that they had frameworks for harmonising the programmes of their respective organizations with those of the suppliers and that through integrations of systems and processes they were able to achieve better control of the inventory levels and both supply chain aspects in conjunction with their suppliers. The inferential results of the model revealed that supplier ICT integration had a significant and positive effect on the procurement performance of the pharmaceutical manufacturing firms in Kenya.

5.0 CONCLUSION AND RECOMMENDATIONS
The study concluded that supplier ICT integration was essential in promoting procurement performance of the pharmaceutical manufacturing firms in Nairobi County. Through inventory control systems, enhanced information exchange platforms and coordination of process, the organisation were able to have the suppliers properly integrated thus enhancing the operational framework and ability to collaborate towards meeting the customer needs.

In the modern business era, technology is becoming as one of the drivers of every aspects of business operations. While some organizations could be highly advanced in technology integration in their operations, their suppliers may not be well advanced in technology. This makes it difficult to effectively share information and coordinate functions between the organization and the suppliers. It is therefore essential for the pharmaceutical manufacturing companies to spearhead the integration of the appropriate technology with their suppliers for effective flow of operations. This could be done through ensuring that the suppliers are supported to have the right technology such as inventory monitoring systems and Enterprise Resource Planning (ERP) systems which are essential in monitoring and managing the supply chain operations between the organization and the suppliers.

The following suggestions are made for Further Studies in the future:
The study focused on the pharmaceutical manufacturing firms in Kenya. It is therefore suggested that a similar study focuses on other industries such as the construction industry which are also critical to the country’s economy.

The study was based on a census and targeted mainly the pharmaceutical companies located in Nairobi County. It is recommended that a similar study is carried out but with a different methodology to ascertain whether the findings could differ with regard to the methodology and research approach adopted.

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