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**AN ASSESSMENT OF E-PROCUREMENT ADOPTION ON COMPANY PERFORMANCE: A CASE STUDY
OF GLAXO SMITHKLINE (GSK) KENYA.**

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ABSTRACT

Procurement is important for the economic development of any Nation. It provides the background to which the governments provide public goods and services freely such as national defence, public safety, education, and infrastructure (bridges and roads). It is also the means through which goods, services and capital assets are sourced. Although, e-procurement is considered an ideal tool in supply chain management, the take-up in most governments is remarkably slow. In Kenya for instance several studies have revealed that there are various challenges facing its implementation such as resistance to technology; cost associated with the implementation, management support among others. This study aimed to fill this gap through reviewing the literature on e-procurement adoption as well as examining the potential effects of its successful adoption. A case study design was used to collect quantitative and qualitative data. A case study design was used to collect quantitative and qualitative data; participants were asked to answer questions administered through a questionnaire. The target population were the employees of the GlaxoSmithkline limited Company Kenya. The collected data was captured in to the Statistical Package for Social Scientists (SPSS) and Ms Excel softwares. The findings many of the staff agreed the adoption of e-procurement system, helps improve effectiveness, efficiency and competitiveness by increasing supplier participation and in general increase of the company's performance. The study concludes that e-procurement helps with the decision-making process by keeping relevant information neatly organized and time-stamped, that they keeps the company on top in terms of service delivery. The adoption e-procurement has a strong effect on business practices and overall business performance.

Keywords: Procurement, e-procurement, supply chain management and public

INTRODUCTION

Procurement is important for the economic development of any Nation. It provides the background to which the governments provide public goods and services freely such as national defence, public safety, education, and infrastructure (bridges and roads). It is also the means through which goods, services and capital assets are sourced (Porter, 2001). The procurement process has evolved over the years. Traditionally, it was paper- and conversation-based, usually with procurement officers interacting with long-time partners or well-known suppliers and purchasing at fixed prices (Ehap, 2015). In recent years, this has changed somewhat to become a strategic function: procurement officers seek suppliers that fit with a company's overall strategy. Purchasing in the traditional paper procurement saw replication of requisitions. This therefore led to increased transaction cycles, increased inventory costs and contract none compliance. It could take weeks to get a purchase approved because it involved manual rekeying process at the supplier end, followed by the paper chase from the accounts payable (Loughlin, 2012).

It is quite evident that the focus of many organizations has now changed its focal point and has shifted towards the improvement, development and integration of support functions to achieve strategic business objectives. These objectives may include: operational efficiencies, profitability and sustainability. To achieve this, businesses have moved to the use of technology such as internet subsequently leading to strategic competitive edge in the market. The internet was a simple invention with a great potential that led to automation of processes and procurement process was not exempted thus (Electronic Procurement). With e-procurement, the process is simplified and speeded up considerably, thanks to real-time interaction with pre-approved suppliers and trading partners, who can be anywhere in the world (Kiragu, 2012). With online purchasing, the purchase can be approved online and the order completed within minutes; the required item often arrives within days. It allows companies to easily communicate with their suppliers, buyers and customers, to integrate "back-office" systems with those used for transactions, to accurately transmit information and to carry out data analysis in order to increase their competitiveness.

Since the internet arrived in the scene of supply chain management in the mid-1990s, enterprises all over the world have tried to gain the benefits it can offer. Today most of the leading enterprises are enjoying the benefits of e-procurement and continue to expand the procurement processes globally. GlaxoSmithKline (GSK) is such a company. It is a research-based pharmaceutical company with 100,000 employees worldwide (Aberdeen Group, 2005). The company operates 80 manufacturing sites in 37 countries and 24 research and development centres globally.

Contract compliance has improved more than 20% overall. Just as importantly, the higher compliance rate has been sustained. In addition, implementing supplier content directly through SciQuest allowed GSK to halt the practice of using a wholesaler, saving more than \$500,000 a year. The e-procurement system has also streamlined GSK's procurement process, allowing the company to capture more detailed spend information, enhancing spend analysis. Manual purchase orders have been eliminated, allowing GSK to reduce headcount or reassign resources. This study assessed the implementation of e-procurement at GSK, Kenya Branch with a view of acquiring knowledge on how to implement successful e-procurement systems.

Statement of the Problem

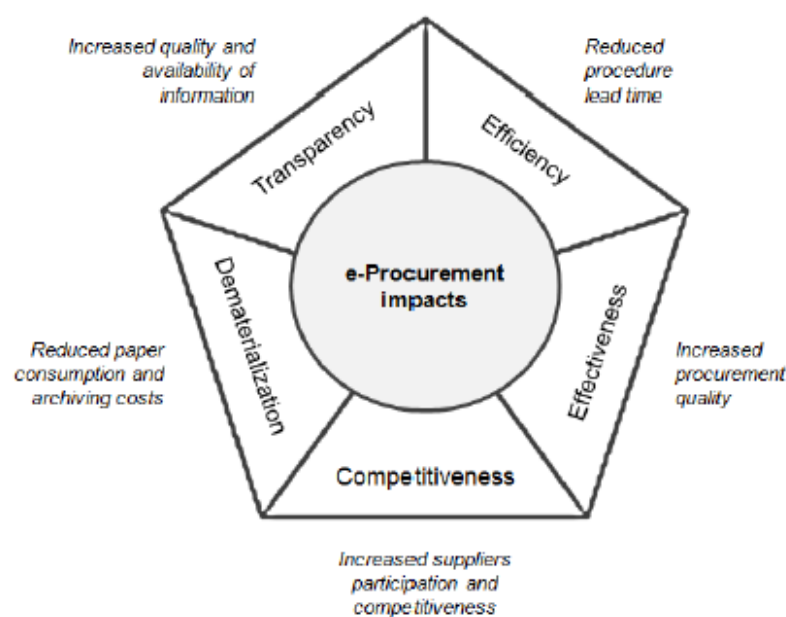
Since the Internet arrived on the scene as a supply chain management tool in the mid- 1990s, enterprises have tried to gain from the numerous benefits that electronic-procurement can provide. These benefits include: cost reduction,

process streamlining, improved contract compliance and many more. E-procurement is one of the most thrilling technologies to hit the business world in recent years. In (Shale, 2014) view, the effect of web based technology has additional significance to all the activities and avenues of business in current energetic global competition. Due to the effectiveness of e-procurement technology, majority of the private sector have deployed the use of e-procurement and have intelligently expanded their implementations, therefore accruing benefits and creating competitive edge in the marketplace. In addition (Pyke Johnson, 2004) says that in response to the ever-changing currents of globalization, outsourcing, and technology, leading firms have taken remarkably diverse approaches to managing their suppliers. Some firms have pursued strategic alliances and partnerships, while others have pushed ahead into the competitive on-line world. Although, e-procurement is considered an ideal tool in supply chain management, the take-up in most governments is remarkably slow. In Kenya for instance several studies have revealed that there are various challenges facing its implementation such as resistance to technology; cost associated with the implementation, management support among others. This study therefore sought to assess the implementation criteria used in the private sector towards the effective adoption of e-procurement. Its findings will provide a base from which the government's institutions learn and borrow from.

LITERATURE REVIEW

Model of the study

Studies have been done on the measurement of e-Procurement performance, the benefits of e-Procurement, value of e-Procurement, and adoption of e-Procurement models. The e-Procurement performance measurement is the iterative process that assesses the effectiveness of e-Procurement initiatives. This research borrows from the model of measuring e-procurements impacts on organizational performance (Gardenal, D'Angelo, Manzo, 2013). The measurement framework is based on five impact dimensions, each consisting of a set of indicators.



E-procurements measurement Model: (Gardenal, D'Angelo, Manzo, 2013)

The impact dimensions represent the organizational areas which could benefit the most from the introduction of e-procurement; efficiency, effectiveness, competitiveness, dematerialization and transparency.

According to the e-procurement literature has examined the nature of behavioural and relational changes to organizations and their supply chains as a result of adoption. According to a study by (Kennedy Deeter-Schmelz, 2001), the motivation of buyers to use the internet as a resource for various elements of the purchasing process, concluded that 'organizational characteristics and organizational influences' are significant motivators to the use of e-procurement. In other words, the extent to which e-procurement is used and developed is strongly influenced by the general disposition of the organization as a whole. The relationship between user perceptions and the level of compliance as noted by a number of authors like (De Boer, Harink, Heijboer, 2002). The broad argument by these authors is that in order to achieve improvements in performance, internal customer satisfaction should be a key concern in the development, adoption and deployment of e-procurement.

According to (Croom Brandon-Jones, 2007), a study done in the UK, e-procurement implementation influences governance structures, there is reduced search costs leading to increased supply availability, and hence greater leverage in negotiation. There was observed increased level of communication driving knowledge sharing between customers and suppliers. It was also found that e-procurement tended to reinforce existing hierarchical relationships among firms as mentioned by (Brousseau, 1990).

They continue to say in their consideration the effect of e-procurement on organizational characteristics, the most significant issue to emerge from our study was the role of internal service in e-procurement. The analysis suggested that the reputation of the procurement function and the general disposition of an organisation towards e-procurement were strongly influenced by users' perceptions of internal service. Whilst they supported the view that e-procurement implementation created the potential to improve compliance, it is clear that compliance is far from 'given'. The extent to which internal users are provided with support to use e-procurement appears to have a significant effect on maverick spending. In most business enterprises, procurement function embodies one of the largest expense items usually in a firm's cost structure is considered as a strategic component in the value chain. As said earlier it is a tool used for acquiring, receiving and paying for goods. To do this a number of communication mediums including the use of mail,

phone, fax, electronic data interchange and more recently, e-mail and the internet to facilitate procurement process between the various parties. Owing to the unique structure of the internet and related web-based technologies it can possibly support and improve the activities of procurement process through converting traditional paper-based processes to e-procurement (Aboelimged, 2010).

Effectiveness

In (Puschmann Alt, 2005) view the application of Internet Technologies in procurement is designed in such a way to realize quicker and more efficient operational procurement processes that bypass the purchasing department hence allowing employees to focus on more strategic tasks.

a) Procurement Quality (Communication and Discounted Prices)

E-procurement provides a single point of data entry into the system therefore data does not need to be entered into multiple systems, but is entered once only. As a result of the system adoption, data exchange with suppliers is improved. In addition (Gardenal, 2013) opine that e-procurement allows better discounts, since it makes it possible for larger accessibility and to use advanced instruments for negotiations, such as e-auctions. Another driver of effectiveness is that it enables easy achievement of goals (FarajiJalal, 2007). Again e-procurement has proven to be effective with respect to services, including those associated to human capital. Its effective management capabilities allow organizations and businesses to strike a purposeful, proactive and cost effective balance of fixed and variable workers. It is to be noted that a well-planned executed workforce management strategy is one that combines technology and continuous partnership with talent providers that can directly influence bottom line results and contribute to the attainment of business objectives. In addition (Hawking, Stein, Wyld, Foster, 2004) state that since dependable procurement decisions cannot be made without market intelligence and each is reliant on the other, a reduced operating and inventory cost is also another benefit of e-procurement: This is due to the fact that much if not all paperwork is eliminated. Postage costs are also not incurred, among other expenses connected with sending and receiving documents through post. Other benefits associated with the implementation and adoption of the e-procurement systems include improved inventory management, increased accuracy of production capacity and negotiated unit cost reduction.

(Metoh, 2011), says that E-procurement is an essential part of electronic business (e-business). E-business is able to create massive new wealth and change the traditional ways of business to a more modern and effective direction. One of the greater benefits is the reduction in procurement staff because most of the procurement process is done electronically, the number of staff needed to facilitate the process reduces. The reduction of employees is an important way of creating competitive advantage through reduced costs. (Matunga, Nyanamba, Okibo, 2013.)says that another important gain of the application of e-procurement systems is in the way communication between parties is improved. It lets sections of electronic documentation to flow through the supply chain, and in addition, he notes that because the communication is easier and better communicating the requirements is faster and more manageable. This results to improved understanding of requirements and due compliance besides permitting clients to measure the state of the market by observing the level of interest shown tenders.

Efficiency

The main driving force behind the implementation and adoption of e-procurement solutions in many companies has been cost reductions and process efficiencies. According to (Mose, Njihia, & Magutu, 2013), businesses have realized that time and cost savings can be realized having links with major suppliers by use EDI in private networks. They say that cost saving, improved efficiency and control, are the three catalysts driving growth in the e-procurement area. A study carried out by Aberdeen group indicated that, e-procurement assists 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 this in the long run will increase efficiency in if not all, a greater per cent of company's processes.

According to (R. George Stephenson, n.d.)Through application of rapid data processing in electronic technology, e-Procurement provides a means to improve efficiency within specific areas of the supply chain and provide solutions to the challenges that may crop up along the way. It provides improved efficiency across the supply chain thereby extracting a number of tangible and quantifiable benefits.

a) Operational Efficiency (Time, Cost)

By definition, efficiency is a measure of the utilization of resources throughout a process. According to (Gardenal, 2013) the use of e-procurement influences this aspect by letting employees achieve almost the same results of a traditional "paper-based" procedure, but they use less time, because of the automation of activities. The reduction of the overall elapsed time engaged in completing the tendering process is the main driver to measure efficiency. More or less, all research on e-procurement report great efficiencies concerning process and procurement costs (Segev, Beam, Gebauer, 1997) Employees can access approved vendor catalogues from their personal computers, identify and compare needed items, and order them. Product availability and delivery information is readily accessible, and payments can be made electronically. Rule-based software can either provide automatic approval for routine orders or route the request to an available manager for approval (Gansler, Lucyshyn Ross, 2003).

Due to the varying characteristics of purchasing of materials, buyers often have to spend a lot of time dealing with individual transactions. This is an issue that has been addressed by the world, (Gates, 2009) becoming increasingly interconnected by electronic networks therefore gradually shrinking with each passing day. According to (Kangogo Gakure, 2013) business transactions across all organizations are steadily transitioning to electronic platforms. The barriers of time, distance and space are collapsing at a rapid pace (Gates, 2009). Electronic procurement

implementation is a strategy by organizations aimed at reducing managerial and logistic complexity in the purchasing process (van Weele Lakemond, 2005). This means negotiating with suppliers, converting purchase requests to purchase orders, handling queries and ensuring the correct allocation of invoices received. This huge operational workload is time consuming and derives buyers to neglect more strategic tasks. This is of great concern to the businesses and with the inclusion of E-procurement there is less time spent hence cutting down on cost as (Puschmann Alt, 2005) asserts.

Competitiveness

For an organization to be effective and efficient, it must pay attention to its efforts on those supply chains related processes and customers that offer the greatest potential to achieve the utmost competitive advantage. The elementary kinds of advantage are price, quality and delivery time (R. George Stephenson, n.d.). Having a competitive environment considerably lowers prices in any procurement auctions. For the success of any e-procurement systems the increase in number of bidders highly depends on the (suppliers) that participate to procurement auctions (Tas, Genis-Gruber, 2008). In a different perspective, (Matunga, Nyanamba, Okibo, 2013) says that e-procurement gives an organization competitive advantage over its competitors. A distinct advantage of e-procurement over other much slower processes for instance having to post documentation between offices is that it provides a centralized unit that can oversee all procurement activities and therefore different offices worldwide can access the same documentation when required.

a) Increase supplier participation

According to (Eadie, Perera, Heaney, Carlisle, 2007) with e-Procurement suppliers can be monitored on timely delivery, quality delivery of products and services hence performing suppliers can be contacted in future. It brings with it other logistical considerations which may influence on system quality. It therefore infers that with e procurement, every prospective supplier and buyer is always accessible to his/her convenience. The result is not only greater market access but also increased productivity. Development of supply chain (Eadie et al., 2007) adds, process for the most important supply chains and their processes within a company is a useful technique to establishing and understanding the internal supply chain. This is best accomplished through the use of cross-functional teams from all parts of the organization included in the supply chain under review. Team members must be knowledgeable regarding their part of the supply chain and must have an understanding of how their part interfaces with the other supply chain members. Once the key areas are understood, the opportunities to apply e-Procurement will emerge.

b) Value addition

E-procurement reduces significantly the price of materials and supplies. Buyers easily identify the best value when they have access to more suppliers. It not only results in increased competition, but new visibility also creates opportunities for small businesses that were previously unavailable (Reddick, 2004). He adds when online reverse auctions are used, buyers and sellers can quickly exchange information and bids, which often results in significant savings. Transactions that are digitized provide a whole, prompt, and far more accurate audit trail that allows management to track the status of orders, and identify and fix problems sooner. This data collection allows organizations to monitor off-contract purchasing, a significant target for cost-cutting improvements. (Gansler, Lucyshyn, Ross, 2003).

(Drijfhout, 2012) says that the essence of e-Procurement is a free market. By putting out contracts to public tender, businesses can compete to offer the best price and quality. Competition between two businesses does not really stimulate market forces, so there is little incentive to compete. If you publish the same tender notice in a place where it can be found by fifty businesses, then you have fifty potential competitors. This is the market mechanism and it ultimately translates into lower prices.

Company Performance

As business enterprises operate in the new economy, it has become necessary to align themselves both internally and externally with the demands that the dynamic business environment is providing. According to (Croom, 2001) the use of open information systems offers greater levels of information to buyers, and in so doing opening up greater competitiveness among providers. The application of Internet technologies in procurement has led to faster and more efficient operational procurement processes that bypass the purchasing department and enable businesses to concentrate on more strategic tasks. E-procurement is a useful instrument to gain complete information about all products and services provided by buyers and sellers as well. (Mose, Njihia, Magutu, 2013) compliment E-procurement as one of the most successful applications of electronic commerce (e-commerce), having been implemented by many companies seeking better business processes quoting a research carried out by the (Aberdeen Group, 2001). (Reddick, 2004) says that this tool has aided in lowering transaction costs by availing of information to buyers and suppliers at the same time saves precious resources.

In (Piotrowicz, 2006) view, the unrelenting developments in internet technology has offered an opportunity to make procurement for goods and services more transparent and efficient hence enhancing overall company performance. Besides reducing transaction expenses, minimizing risk is also a significant element for an effective procurement strategy (Nepelski, 2009). These risks according to him can be associated with interference of supply, price escalation, inventory scheduling, technology access and quality. He adds on and says that a most valuable reason behind adopting a particular procurement approach is the reduction of uncertainty related to these factors. In their book (Kalakota Robinson, 2001) listed benefits of e-procurement as cost saving, improved efficiency, measurement and single data entry. The e-procurement technology has focused on automating workflows, consolidating and leveraging organizational spending power, and identifying new sourcing opportunities.

(Piotrowicz, 2006) opines that, over the last decade e-procurement has emerged as a major component in the Supply Chain Management field. He adds that e-procurement has changed how businesses purchase goods at its most basic level. At a strategic level it is expected that e-procurement will open up the acquisition process of resources from transaction processes to strategic sourcing. Some companies have created very close links with their suppliers, closer than just long-term cooperation. Companies have taken an interest in improving their suppliers' performance by exchanging staff, providing the necessary training, tools, technologies and performance evaluation. The key roles in business relations provide two-way communication, cross-functional teams and larger purchasing power. These factors were analysed by Humphreys et al. (2004) who highlighted that supplier development is associated with buyer-supplier performance improvement. (Carr Pearson, 2002), reported links between supplier-buyer relationship and firm's financial performance. (Mose et al., 2013) noted that the use of e-procurement system makes it possible to measure and monitor orders such as: processing time, time an order was sent, and current status. He adds that after the automation of procurement processes, paper documents are eliminated resulting in faster order approval and document processing enabling personnel from different departments to access the same data because of centralization of information. The traditional paper-based system is sequential, prone to errors, encourages the carrying of excess inventory, and makes enterprise-wide integration very difficult. With e-procurement, the process is significantly different and more efficient (Reddick, 2004).

RESEARCH METHODOLOGY

A case study design was used to collect quantitative and qualitative data. In this study the population was the employees of private sector companies in Kenya. Out of the 400 employees a sample of 10% was used which is 40. The collected data was captured in to the Statistical Package for Social Scientists (SPSS) and Ms Excel softwares. Quantitative data analysis which mainly formed numerical values was analysed using descriptive statistics that is frequency, percentages and means. The quantitative data was presented in form of pie charts, tables and graphs. This was enhanced by an explanation of the figures. Qualitative data was presented in narrative form. These data presentation methods are expected to give meaning to the data and enhance the conceptualization of the study findings.

RESEARCH FINDINGS AND DISCUSSION

Regression Analysis

The study conducted a multiple regression analysis to determine the significance of each of the variables with respect to company performance on e-procurement adoption. The study applied the statistical package for social sciences to code, enter and compute the measurements of the multiple regressions for the study, and the findings are presented below.

Table 4.12: Model summary

R	R ²	Adjusted R ²	σ
0.911	0.829	0.815	0.502

σ, standard error of estimate; a, predictors: (constant), Effectiveness level, Efficiency level, Level of Competition; dependent variable: Company Performance

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable. The three independent variables that were studied, explain 82.9% of variance company performance as represented by the R². This therefore means that other factors not studied in this research contribute 17.1% of variance in the dependent variable.

Table: Multiple regression results

Description	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	B	
(Constant)	3.374	.842		4.009	.000
Effectiveness	0.842	.046	0.330	1.830	.001
Efficiency	0.754	.88	0.167	8.545	.0035
Competitiveness	0.616	.13	0.032	5.046	.0041

From the regression findings, the substitution of the equation (3.1) becomes:

$$Y = 3.374 + 0.842x_1 + 0.754x_2 + 0.616x_3 \quad (4.1)$$

In equation (4.1), Y is the dependent variable (Company Performance), x₁ is Effectiveness, x₂ Efficiency, and x₃, Competitiveness. According to the equation, taking all factors constant at zero, Company performance will be 3.374. The data findings also show that a unit change in effectiveness will lead to a 0.842 change in Company performance; a unit change in efficiency will lead to a 0.754 change in Company Performance, and a unit change Competitiveness will lead to a 0.616 change in Company Performance. This means that the most significant factor is effectiveness, hence equation (4.1) becomes:

$$Y = 3.374 + 0.842x_1$$

(4.2)

Summary of Major Findings

The general findings indicate 60% were male while their female counterparts represented 40%, the company seems to incorporate the third rule, and therefore it is an equal opportunity employer. Majority of the employees at GSK are fairly young and energetic and are able to run the affairs of the company. Half of the respondents in the study were in the management personnel had worked for more than 5 years, meaning the position requires people who have work experience. On the other hand, the other half had worked between one to five years meaning it is a group of young and brilliant tucks who are energetic and able to learn and take the company to a higher level. Procurement had the majority of staff from the analysis because it was the target group.

Level of effectiveness on the adoption of e-procurement systems

The findings many of the staff agreed the adoption of e-procurement system, helps improve communication. In addition, e-procurement has an effect on supplier partnerships and relations. This makes it simple for buyers and suppliers in different countries worldwide to communicate and co-operate. Again, the use of e-procurement system keeps the company on top in terms of service delivery because information is accessible from any computer by an authorized employee.

Efficiency level after e-procurement implementation

According to the findings most of the respondents agreed that use of the e-procurement systems saves on time. The response could be attributed to the fact that for electronic systems, transactions are not constrained by office hours and may not even need human intervention, thus increasing the capacity to complete transactions on a real-time basis. Therefore, the downstream processes are not constrained by waiting for transactions to be completed.

E-procurement and Competitiveness

According to the findings there was a strong agreement that the use of e-procurement helps in increasing supplier participation. Adopting procurement strategy and e-Procurement tools to build a healthy and continued relationship with suppliers can in fact pay greater dividends in the long run. They agreed that the e-procurement aids in improvements and variations. This is due to the change in technology, which leads to quicker and more efficient operational procurement processes.

Measure of Company Performance

The study found out that the company performance improved after the introduction of the e-procurement system. In this case the company was measured in terms of the growth in the market share, information availability, return on investment, transparency among other. The respondents agreed that the system led to the increase of the company's market share probably due to increased efficiency, effectiveness and competitiveness caused by the introduction of the new technology.

It was also found out that, there was increased information availability which likely was a result of the enhanced information systems. Nowadays enhanced communication and information flow, just by a click of a button can lead to great performance of the company. On transparency the findings indicated that most of the respondents agreed that the system brings about increased level of transaction transparency. This is probably because with the introduction of information technology all transactions are online and therefore all processes and steps taken are transparent to the involved parties.

Conclusion

The study concludes that e-procurement helps with the decision-making process by keeping relevant information neatly organized and time-stamped, that they keeps the company on top in terms of service delivery. The adoption e-procurement has a strong effect on business practices and overall business performance. The respondents agreed the e-procurement system has led to the increase of the company's market share probably due increased efficiency, effectiveness and competitiveness of the new technology and also brings about an increased level of transaction transparency and also increased information availability.

Recommendations

From the findings, e-procurement systems pushes down costs and delivers super efficiencies into the process of purchasing and supplying goods and services, all private and public companies should strive to adopt the system.

According to the findings, it is recommended that companies should adopt e procurement in order to achieve high levels of effectiveness to enable improved company performance.

Secondly, e-procurement involves automation of processes therefore efficiency level is improved in terms of transaction time and employees are able to achieve more with less time.

Lastly, businesses, organizations and companies should look beyond price discounts, and recognize that adopting e-procurement strategy and tools can build a strong and unrelenting relationship with suppliers which makes them attain a competitive edge.

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