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EFFECT OF E-TENDERING ON ORGANISATIONAL PERFORMANCE IN SELECTED PUBLIC HOSPITALS IN UASIN GISHU COUNTY, KENYA.

¹CHEGUQU N RASTO, ²DR. YUSUF KIBET

¹Jomo Kenyatta University of Agriculture and Technology, ²Moi University

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performance. The study adopted the use of diffusion of innovation theory. The study employed a descriptive survey of 5 hospitals. The sample size was 367 respondents. Questionnaires were the main types of data collection tools. The data collected was then coded and entered into the Statistical Package for Social Sciences (SPSS) Version 22. The study used both quantitative and qualitative data. Data was then presented in tables of frequencies and percentages. The study findings indicated that e-tendering has increased competitiveness in the tendering bid for the hospital; The result on inferential analysis was that e-tendering had a $\beta = 0.369$; $P < 0.005$. The study findings will be of great significance to Uasin Gishu County Hospitals as it was deemed to shed light on how e-procurement practices can enhance performance. The study recommended the e-tendering to be adopted for all hospitals to enhance performance. The study also forms a basis for further research in the area of procurement.

Background of the Study

According to Pierre, Timothy, George and Gerry (2009) organizational performance encompasses three specific areas of firm outcomes: organizational performance (profits, return on assets, return on investment); product market performance (sales, market share); and shareholder return (total shareholder return, economic value added). Santos and Brito (2012) measures performance as the inclusion of multi-dimensional measures (combined financial and non-financial metrics) the determination of appropriate strategic frames of reference, and the integration of external data in the reporting process,

including benchmarking with other organizations. Thus in relation to this study, organizational performance means the act of doing something properly as it is required institutional management. Low performance could be caused by poor application of the electronic procurement practices with regards to tendering, invoicing and payment using electronic means.

E-tendering practices refer to the use of computer-internet based system to carry out individual or groups of the procurement process, including search, sourcing, negotiation, ordering, receipt, and post-

ABSTRACT

Integrating e-procurement in hospitals' supply chain units has made it possible to conduct procurement practices effectively as compared to the manual methods of recording procurement and general conducting of procurement functions. However, the performance of hospitals in delivering high quality of services has reduced due to lack of an e-procurement system in some hospitals. The purpose of the study was to determine the effect of e-tendering on organizational

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purchase review (Wangui, 2013). The advent of web-based electronic procurement has been heralded as a 'revolution' because of its potential to reduce the total cost of acquisition (Barngetuny & Kimutai, 2015).

Globally, it has become necessary for companies to provide their customers with a cost-effective total solution and better customer satisfaction with innovative ideas and methods. With the emergence of Information and Communication Technology (ICT) companies have been forced to shift their operation from the traditional style to e-Business, e-procurement practices, and e-Supply Chain philosophy in order to sustain themselves. Real-time information about demand changes is required in order for the production process to maintain the desired replenishment schedules and levels. This model is most applicable to environments with stable demand patterns, as is the case with a distribution of prescription medicine. The model indicates intermediaries when large systems are involved (Barngetuny & Kimutai, 2015). According to Potter (2013) the main reason why organizations establish the use of e-tendering is to prevent bulky mechanism of doing business. That there used to be a very high inefficiency and bribes in States on tendering and thus, most states found it reasonable to establish e-procurement.

In Africa, combating corruption, and building capacity in procurement tendering has helped governments maximise the buying power of their budgets and improve the quality of service delivery to their citizens especially the marginalised (Hamisi, 2010). Competitive and transparent public procurement systems are seen as a key element to achieving sustainable development and more prosperous marginalised group in Africa (Onchweri, 2015). In Ghana, e-procurement system holistically tackles underlying issues affecting hospital

Statement of the Problem

Procurement functions were characterized by massive scandals and indignity that attributed to poor procurement performance and corruption. The lack of transparency in procurement process had made it impossible to give contracts. In hospitals within Uasin Gishu County, the capacity of the hospitals to achieve

performance such as lack of access to information for civil society partners and the public. In South Africa, the implementation of the Preferential Procurement Policy Framework Act 5 of 2000, gave effect to section 217 (3) of the Constitution of the Republic of South Africa of 1996, by providing a framework for the implementation of a fair public preferential procurement policy. In relation to Knudsen (2010) Libya had become a large user of e-procurement in Africa. The main challenge that faced procurement was lack of issuing the correct and transparent invoice and payment documents.

In relation to this, continuous replenishment supply model has been integrated into hospitals in Kenya for supply chain management (Nzioka, 2010). The idea of the continuous replenishment supply chain model is to constantly replenish the inventory by working closely with suppliers and/or intermediaries (Kazi & Chirchir, 2012). The actual supply chain in hospitals supply chain model is focused on tracking customer demand in the production process and finished goods inventory efficiently. This integration is often achieved through the use of an information system that is fully integrated. Through an application of such a system, the organisation can receive the access to timely information that can be used to develop and modify production plans and schedules. This information is also integrated further down the supply chain to the procurement function so that the modified production plans and schedules can be supported by input materials (Barngetuny & Kimutai, 2015). The GoK report of 2015 revealed that Kenya was yet to overcome the challenge of paying contractors on timely basis even with the use of e-procurement in hospitals such as the Kenyatta National Hospital.

best supply deals was not giving the exact results and the process continued to deprive other suppliers a better chance to access the procurement services; due to lack of viable information about its procurement process. Payments were delayed when it came to service delivery and thus, hospitals were slow in delivering services as a result of timelessness in supply. Furthermore, the hospitals were

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ineffective in paying the suppliers due to late invoicing and delayed approvals for the supply of goods and services in hospitals in Uasin Gishu County. It is due to these backgrounds that this study was undertaken to assess the effect of electronic procurement practices on performance of selected public hospitals in Uasin Gishu County, Kenya. The study ensured that information from hospitals with high rates of adoption of e-procurement and those with low levels of adoption of e-procurement were well investigated by making data collection instruments reliable through relevant questions that were generally suitable to meet the expected results for the study.

2.0 Theory and Hypothesis Development

The Institutional Theory

The Institutional Theory proponent was Scott in 1995 and published in 2004. Scott's assertion of the theory was that structures, including schemes, rules, norms, and routines, become established as authoritative guidelines for social behavior. The institutional theory is the traditional approach that is used to examine elements of public procurement (Gibbens, 2010). Kamau (2004) identified three pillars of institutions as regulatory, normative and cultural-cognitive. The regulatory pillar emphasises the use of rules, laws, and sanctions as an enforcement mechanism, with expedience as the basis for compliance.

According to Scott (2004) institutions are composed of cultural-cognitive and regulative elements that, together with associated activities and resources give meaning to life. The author explains the three pillars of institutions as regulatory, normative and cultural-cognitive. The regulatory pillar emphasises the use of rules, laws, and sanctions as an enforcement mechanism, with expedience as the basis for compliance. The normative pillar refers to norms (how things should be done) and values (the preferred or desirable) social obligation being the basis of compliance. The cultural-cognitive pillar rests on shared understanding (common beliefs, symbols, shared understanding).

In Kenya, public procurement is guided by the PPDA Act 2005, regulations and guidelines which are from time to time issued by the

Public Procurement Oversight Authority only and which must comply with to the letter by all the private entities and providers. In relation to the study, the drive for legitimacy ensures that the actions of an organization are desirable, proper, or appropriate within the environmentally and socially constructed system of norms, values, beliefs, and definitions. In other words, organizations benefit from perceptions of credibility, persistence, and meaningfulness, thereby increasing the possibility of survival.

Critics of the Institutional Theory

Most critics of the theory were against on DiMaggio and Powell, 1983; Meyer and Rowan, 1977 which was supported by Greenwood, Hinings and Whetten (2014). Greenwood *et al.*, (2014) suggested that the refocusing of institutional theory was built around two themes. The first was that institutional theory, over time, has begun to substitute what was originally its independent variable - institutions - for its dependent variable - organizations. That is, it now focuses far too heavily on explaining institutions and institutional processes, rather than how organizations work. The second theme is that institutional theory assumes that the correct focus in understanding organizations is the similarities between them, which have led scholars in this tradition to ignore differences between organizations and overlook the value of comparative organizational studies.

The theory is limited by the fact that it is focused on internal operations of an organization. Meyer and Höllerer (2014) made the point that a key focus for institutional theorists should be on understanding the interactions between institutions and forms of organizing which may include formal organizations but should not be limited to them.

Second, they caution against losing sight of the fact that similarities are important and moving too far away from a focus on institutions. Meyer and Höllerer suggest that Greenwood *et al.*, overlook the extent to which the issues they raise are already on the radar of institutional theorists and also ask whether the term 'institutional' theory is used too loosely, in

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ways which risk diluting what is distinctive about this body of theory.

Effects of E-tendering on organizational performance

According to Eadie *et al.*, (2007) who conducted a study titled: Post- adoption variations in usage and value of e-business by organizations: Cross- country evidence from the retail industry, had adopted the use of a survey research design and a sample of 3 national surveys in the United States of America. The study collected information through document analysis.

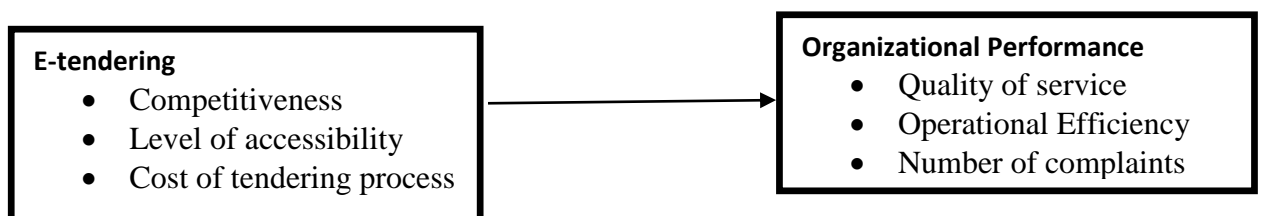
The result of the study was as follows: that an organization which uses e-procurement practices has the following advantages: First, Price reduction in tendering: That the two most important measures for the success of procurement processes were cost and time which was embarked. In this method, there was no paperwork, postage fee and other costs associated with preparation and sending tender documents. It is also faster to send a document electronically as compared to the traditional method of sending tender documents through the post office. It results to improved order tracking and tracing, for it is much easier to trace the orders and make necessary corrections in case an error is observed in the previous order.

Secondly, the study also found that there was reduction in time to source materials. That reduction in time had been proved as a relevant benefit which was supported by Agwata (2017) who stated that e-procurement practices were efficient methods of finding and connecting new sources, being a lean channel for communication. A lot of time was spent on

paper invoicing in terms of writing, filing and postal communication but while in e-procurement, the staff has sufficient time to engage on strategic issues of procurement. The time was tied in moving from one town or country to another to look for a potential supplier or buyer is greatly reduced since with a click of a button, you can readily get the information on the internet. By extension, e-procurement practices lead to the reduction in maverick buying. Maverick buying is when staff buys from suppliers than those with whom a purchasing agreement has been negotiated.

Thirdly, the study also found that e-tendering lowered administration costs. This is in line with Ateto, Ondieki and Okibo (2013) who stated that e-procurement practices result in a reduction in paperwork and this leads to lower administration costs.

Finally; Hawking *et al.*, (2004) as quoted in Eadie *et al.*, (2007) considered market intelligence and the decisions made on that intelligence as two separate drivers. They, however, state that since reliable procurement decisions cannot be without market intelligence and each is reliant on the other for the purpose of this study these two are considered together as "Improved market intelligence and enhanced decision making". A reduced operating and inventory cost is also another benefit of e-procurement: This was the fact that much if not all paperwork is eliminated. Postage costs are also not incurred, among other expenses associated with sending and receiving documents when sending them by post.



3.0 RESEARCH METHODOLOGY

The study employed the use of descriptive survey research design. This implies to mean that the study was able to collect data from more than one organization and thus making the study to cover a wider scope in terms of geographical location and respondents. The choosing of a descriptive survey research

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design enabled the study to get information that was relevant with the happenings within the hospitals in relation to the content necessary for the study topic (Atkinson, 1996).

The study targeted a total of 5 hospitals in the Uasin Gishu County. The hospitals included in the study were Moi teaching and referral hospital (MTRH) Turbo district Hospital, Huruma District Hospital, Uasin Gishu District Hospital and Ziwa Sirikwa District Hospital. The 4379 respondents of the study were in the departments of procurement and supply chain and management as the target population for the study (The County Government of Uasin Gishu revenue file, 2016).

The sample size for students was calculated based on Yamane's formula (Yamane, 1967).

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = Sample size;

N = Estimate of the population size;

e= the error of 5 percentage points.

The substitution effect of the Yamane's formula is as follows:

$$n = 4379 / [1 + 4379 * 0.05 * 0.05]$$

$$n = 367$$

Table 3.1: Sample Size

Respondents	Category	Target population	Sample size
Moi Teaching and Referral Hospital (MTRH)	Management staff	96	8
	Supply Chain staff	114	10
	Junior Employees	2447	205
Turbo district Hospital	Management staff	39	3
	Supply Chain staff	52	4
	Junior Employees	417	35
Huruma District Hospital	Management staff	40	3
	Supply Chain staff	68	6
	Junior Employees	310	26
Uasin Gishu District Hospital	Management staff	33	3
	Supply Chain staff	52	4
	Junior Employees	373	31
Ziwa Sirikwa District Hospital	Management staff	34	3
	Supply Chain staff	81	7
	Junior Employees	223	19
Total		4379	367

The sample size for the study was 367 respondents.

The study used purposive sampling to identify the supply chain management staff. Purposive sampling was used as it enabled the study to give the respondents access to relevant information which was close to the subject of the study. This was because SCM staff was considered to be the most skilled and

knowledgeable in dealing with the study. During sampling, the researcher was able to provide a list that the respondents filled with relation to their respective fields of work. The researcher used this list to allocate the highest offices that were targeted by the study. In cases where the highest staff in the list was not available, the study traced the second or third

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most important and relevant position to provide information.

The study also used simple random sampling to identify the management staff. The study adopted the use of simple random sampling procedure to acquire the number of junior staff in the hospital. The sampling techniques were advantageous as it gave all the respondents an equal opportunity to take part in the study. Using simple random sampling involved the researcher giving random numbers and picking the numbers that fit the sample size out of the entire population. This meant that the respondents with the codes the researcher identified were given a chance to participate.

During the day of the study, the study collected information from all the hospitals at different intervals. The questionnaires were issued to the junior staff who were then guided and assisted in difficult points that they found challenging to understand through. This was done with the help of a research assistant. After data collection, the study compiled information acquired by coding and storing the data collected in categorised safes. The study arranged the data collection instruments according to the different categories of minimized error before data analysis.

Questionnaires

A semi-structured questionnaire was used as it contained both open-ended and closed-ended questions. Structured questionnaires were used to collect the required information for the study. The questionnaire consisted of Lickert scale types of questions from where the respondents will pick the responses on a scale of 5: Strongly Agree, 4: Agree, 3: Undecided; 2: Disagree; 1: Strongly Disagree. A few open-ended questions may also be available in the questionnaire to support the Lickert scale questions.

The study conducted a pilot test of the data collection instruments. According to Kothari (2010) pilot test is a small-scale trial, where a few examinees take the test and comment on the mechanics of the test. They point out any problems with the test instructions, instances

where items are not clear and formatting and other typographical errors and/or issues. The study approached a total of 20 respondents with the questionnaires in two hospitals which included Moi Teaching and Referral Bungoma county Referral Hospital and Trans Nzoia Referral County Hospital. A Cronbach alpha coefficient test was used to determine the reliability of the instruments and this was achieved at $\alpha < 0.7$. The result of the study was $\alpha = 0.73$ which was above 0.7. The study ensured the validity of the research instrument by discussing the data collection instruments with the supervisors and experts in study at the department prior to data collection process. The respondents were expected to indicate by tick or cross for every item in the questionnaire if it measures what it is supposed to measure or not. Additionally, the study considered validating research instruments through face, content and external validity.

Face validity was conducted by presenting data collection tool and scrutiny of the instruments by the research supervisor. Content validity was ensured by going thorough literature review on which the content of the questionnaire was based. External validity of a study was ensured by making it possible to present results obtained from generalized answers from different expertise and settings. Generalization was made considering the degree of confidence with which the sample findings were conferred on the population and whether similar findings were obtained at other times and places (Kothari, 2001). External validity was not affected as there was no case where subjects behaved in an unnatural way due to the fact that they were aware that they were being observed by the researcher. The researcher kept distance and only avail when needed by the respondents.

The questionnaire tested reliability by using Cronbach alpha coefficient test to determine the internal consistency of the items. This was a method of estimating the reliability of test scores by the use of a single administration of a

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test. Consequently, it was used to provide good systems of reliability because holding other factors constant, the more similar the test content and conditions of administration are, the greater the internal consistency reliability (Mugenda and Mugenda, 2009).

In this study, the items were considered reliable if they yielded a reliability coefficient of 0.70 and above. This figure was considered respectable and desirable for consistency levels (Cooper, 2006). In this study, reliability was established through a pilot-test whereby some

items were added or dropped to enable modification of the instrument. After the modification, the data collection instruments, the study conducted a re-test before conducting the main data collection. The results of the reliability test were as follows 0.987 was attained from e-tendering, 0.957 was attained from e-invoicing, 0.931 was established from e-payment and 0.952 was found with regards to organizational performance. All the cronbach's alpha results were higher than the recommended 0.

4.0 Results

Response Rate

The study was able to administer a total of 367 (100%) questionnaires but only 321 questionnaires were returned. This means that the study had 87.47% response rate.

Reliability Test

Table 4.1 Reliability Statistics

Variable	Number of Items	Cronbach's Alpha
E-tendering	3	0.987
E-invoicing	3	0.957
E-Payment	3	0.931
Organizational Performance	3	0.952

The reliability test presented 0.987 on e-tendering, 0.957 on e-invoicing, 0.931 on e-payment and 0.952 on organizational performance. All the cronbach's alpha results were higher than the recommended 0.7. This implied that all the results presented in accordance with the questionnaires were reliable. This implied that the questions the study presented were easy to understand, there was less error and that the study corrected the errors that existed in the research instruments during the pilot study suggested in the proposal.

The study assessed the background information of the respondents in an effort to ensure that sampling was effectively done. The study sort to establish the gender composition,

age bracket of the respondents, level of education and working experience of the respondents. The incorporation of background information into the study was to show that the study was able to give a representation of the diverse population under the study. The study also sought to examine the demographic characteristics associated with the respondents so as to ascertain that the methodology employed was not bias based on any of the demographics of the respondents.

Gender of Respondents

The study collected data from both genders; this was essential since it enabled the study eliminating any gender bias. The results obtained were then presented in Table 4.1.

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Tables 4.2 Gender of the Respondents

Gender	Frequency	Percentage
Male	190	59
Female	141	41
Total	321	100

The study findings revealed that 59.0% (190/321) of the respondents were male and 41.0% (141/321) of the respondents were female. This implies or means that the study was able to minimize the influence of gender biases by collecting data across all genders. Despite there being a slightly high number of males as compared to their female counterparts, the study was able to identify and convince both genders to take part in the study. This was meant the data collected represented the opinions of both genders and hence was not

biased despite the disparities in the distribution which indicated that there was slightly more male than female owing to the occupation of the respondents.

Age of the Respondents

The study aimed at collecting data from different age groups of respondents so as to avoid bias in terms of age. Hence it was important to collect data across the different age groups. The findings were then represented in Table 4.2.

Table 4.3 Ages of Respondents

Years	Frequency	Percent
18-25	28	9
25-30	96	30
35-40	138	43
Above 40	60	19
Total	321	100

The study results indicated that majority of the respondents were aged between 35-40 years which had 43.0% (138/321) of the responses and the lowest number of respondents (9%) (28/321) was in age bracket between 18-25 years. 30% (96/321) of respondents were aged between 25-30 years. Finally, 19% (60/321) of the respondents were aged above 40 years. The study was able to avoid bias in terms of age groups by collecting data across the different age groups. This was essential as it meant that the data collected represented the opinions of different respondents of different age groups hence no biases in terms of age.

Level of Education

Data from respondents of different levels of education was collected. The findings were then presented in Table 4.3.

Table 4.4 Respondents' Level of Education

Level of Education	Frequency	Percentage
Certificate	10	3
Diploma	32	10
Degree	144	45
Masters	69	21
PhD	45	14

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Others	21	7
Total	321	100

The findings were that 3% (10/321) of the respondents had certificate level of education. 10% (32/321) of the respondents stated that they had acquired diploma education as their highest level of education. 45% (144/321) of the respondents had acquired a university Degrees as their highest level of education. 35% (114/321) of the respondents stated that they had acquired Masters or Doctorate as their highest level of education. Finally, 7% (21/321) of the respondents also indicating that they held other types of educational credentials which they did not specify.

This was important because data collected represented the opinions of respondents with different academic qualifications and hence a true representation of the happenings at the hospitals in Uasin Gishu County.

Working Experience

The study collected data from respondents of different categories based on working experience. The findings were then presented in Table 4.4.

Table 4.5 Working Experience of the Respondents

Working Experience	Frequency	Percentage
Less than 5 years	63	20
5-10 years	111	35
10-15 years	101	31
More than 20 years	45	14
Total	321	100

The findings on the respondent's experience indicate that a majority; 35% of the respondents which represents (111/321) people had worked in the hospital for a period of 5-10 years. 20% (63/321) of the respondents had worked for a period of fewer than 5 years. 31% (101/321) of the respondents had working experience between 10-15 years. Finally, 14% (45/321) of the respondents stated that they had worked for a period of over 20 years.

Specific Information

This section presents data collected from respondents based on the objectives of the study.

E-Tendering

The study identified the extent to which e-tendering affected organizational performance in public hospitals within Uasin Gishu County, Kenya. The responses were then recorded and grouped separately according to Table 4.5.

Table 4.6 Respondents opinion on e-tendering

Statement		SA	A	U	D	SD	T
There is increased competitiveness in the offering of tenders from the hospital	F	186	19	26	58	32	321
	%	58	6	8	18	10	100
There are improved levels of accessibility to medicine and services	F	167	26	51	64	13	321

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	%	52	8	16	20	4	100
The system has reduced load of work and speeding the selection of the right supplier and thus reduced the Cost of tendering process	F	161	51	19	45	45	321
	%	50	16	6	14	14	100

The finding of the study was that 58% (186/321) of the respondents strongly agreed that there is increased competitiveness in the tender bid processes in hospitals in Uasin Gishu County. In addition to the main finding, 6% (19/321) of the respondents agreed, 8% (26/321) of the respondents were undecided, 18% (58/321) of the respondents disagreed and 10% (32/321) of the respondents strongly disagreed to the statement.

Further, 52% (167/321) of the respondents also revealed that there is an improved level of accessibility to medicine and services in the hospital. Other responses on the statement were that 8% (26/321) of the respondents agreed, 16% (51/321) of the respondents were undecided, 20% (64/321) of the respondents disagreed and finally, 4% (13/321) of the respondents strongly disagreed.

Finally, 50% (161/321) of the respondents revealed that the system has reduced the load of work and speeding the selection of the right supplier and thus reduced the Cost of the tendering process. Finally, 50% (161/321) of the respondents revealed that the system has reduced the load of work and speeding the selection of the right supplier and thus reduced the Cost of the tendering process. 16% (51/321) of the respondents agreed, 6% (19/321) of the respondents were undecided, 14% (45/321) of the respondents disagreed and 14% (45/321) of the respondents strongly disagreed with the statement.

The highest finding of the study could be meant the hospital has put in place electronically enabled procurement systems that allow individuals and hospitals to bid for any amount of tender they find suitable and in line with their profession or qualifications. This was meant most of the hospitals in the area have free and fair bidding processes that allow those

who qualify to receive a tender to apply with assurance; and was meant there is less condition put on bids and the availability of information for suppliers is readily available either through online or directly from the hospital's website. This implies to mean that the hospital management has supplier friendly ICT systems that allow applicants for tendering projects to easily access information with less knowledge or skills required to operate the site where tenders are available.

The ability of the hospital to provide specialised IT oriented systems to conduct application and supplier assessment during the procurement process has thus improved the hospitals' value in terms of service and product delivery. This was because the hospitals have a very large number of bidders and only chooses from the best bidder. This also means that selecting the best bidder adds advantage to the supply chain in that the hospital is able to receive quality goods and services.

For the hospitals that do not have better operations in terms of e-tendering, there is a lack of timely delivery of services and goods due to delayed tendering as the suppliers are invited late for the tendering process. In addition to this, the hospitals that lack e-procurement systems tend to experience a low number of suppliers who bid for tenders. This means that the small number of suppliers in the bidding process leads to lack of options when it comes to the choosing of the best bidder. In addition, the use of manual selection process is fraudulent as executives in the hospital favor those suppliers they know or tend to take bribes from individuals and hospitals in exchange for other advantages such as the ability to get accepted to undertake the tenders they want from the hospitals. This means that some hospitals are still not able to conduct the

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tendering process efficiently. This also means that some of the hospitals in the Uasin Gishu County have been victimised by the lack of transparency in the tendering process and thus

such hospitals are characterised by the low quality of medication and substandard services.

Table 4.7 Simple Regression model

Model Summary						
Model	R	R Square	Adjusted R Square	R	Std. Error of the Estimate	
1	.647 ^a	.897	.896		.40025	
a. Predictors: (Constant) E-tendering						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	443.751	1	443.751	2770.019	.000 ^b
	Residual	51.103	319	.160		
	Total	494.854	320			
a. Dependent Variable: Organizational Performance						
b. Predictors: (Constant) E-tendering						
Coefficients ^a						
Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	.029	.041		.714	.476
	E-tendering	.812	.015	.647	52.631	.000
a. Dependent Variable: Organizational Performance						

In the model summary, R² was found to be 0.897. This meant that 89.7% of the independent variable was able to be used towards the dependent variable. Thus, e-tendering had a greater influence on organizational performance.

Organizational Performance $F(1, 319) = 0.029 + 0.812(\text{e-tendering}) + 0.20(\text{Error Margin})$. A multiple regression was run to predict organizational performance from e-tendering. The single variable's significant relationship to organizational performance was statistically predicted as follows: $F(1, 317) = 2770.019, P < 0.05, R^2 = 0.897$. E-tendering had positive beta and was significant.

Multicollinearity test by Correlation Analysis

The idea was to see whether there was a problem of multi-co linearity within variables. It also showed an association between variables.

Table 4.13 Correlation Matrix

Variables	Correlation Parameters	E-tendering	E-invoicing	E-payment
E-tendering	Pearson Correlation	1	.647**	.666**
	Sig. (2-tailed)		.000	.000
	N	321	321	321

**** . Correlation Is Significant At The 0.01 Level (2-Tailed).**

The correlation coefficient test of e-tendering and e-invoicing is 0.647. This implies to mean

that there is a positive association of 64.7 percent between e-tendering and e-invoicing.

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The correlation coefficient test between e-tendering and e-payment is 0.666. This implies to mean that there is a positive association of 66.6% between e-tendering and e-payment. Finally, the correlation coefficient test of e-invoicing and e-payment is 0.875. This implies to mean there is a positive association of 87.5 percent between e-invoicing and e-payment. The results implied to mean that all the three

variables had a correlation of over 0.70 which indicated high consistency and thus reliability of data was excellent.

Linearity

The study conducted tests on linearity assumption of the multiple regression model the result of the scatter plot was then presented in Figure 4.1., 4.2 and 4.3 respectively.

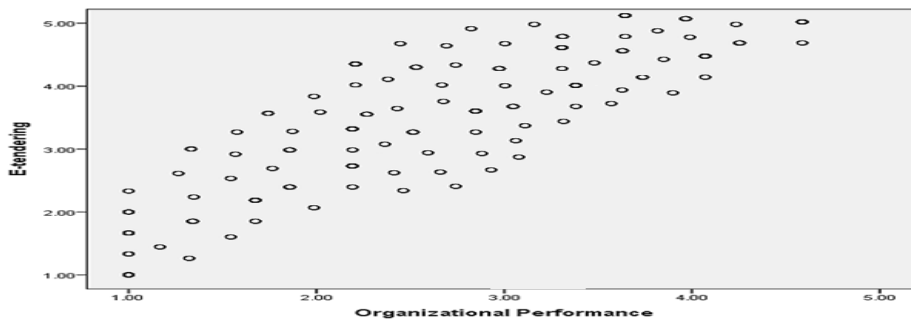


Figure 4.1 Linearity test for x-e-tendering and y-organizational performance

The study found out that linearity assumption was not violated as there were more dots developed in a linear manner which represented that data was highly concentrated in an ascending manner to represent a line. Thus, e-tendering as a variable was applicable in the regression model.

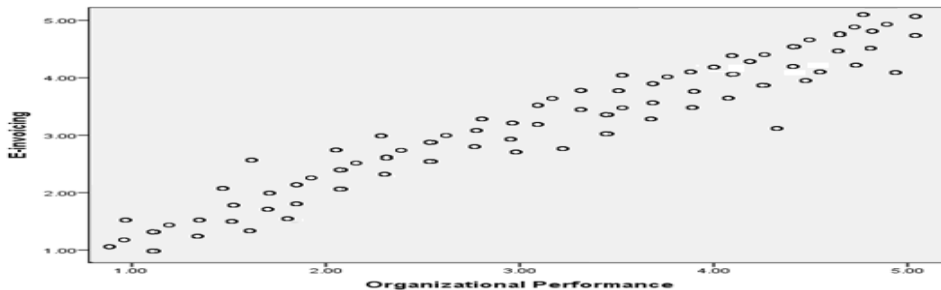


Figure 4.2 Linearity test for x-e-invoicing and y-organizational performance

Similarly, linearity assumption test showed that there was much of the dots that formed the straight line with fewer outliers which were distributed almost equally from the top and the bottom of the line. This meant that there was a linear relationship between the two variables. Thus, e-invoicing was accepted to be used in the regression model with expectations of positive results.

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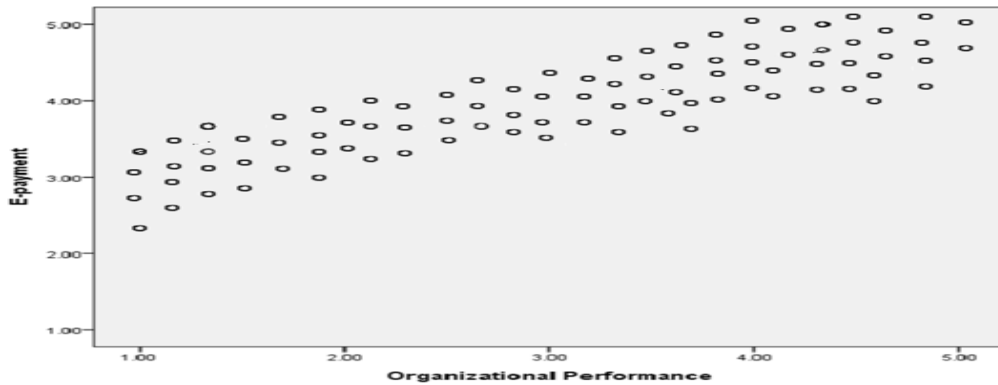


Figure 4.3 Linearity test for x-e-payment and y-organizational performance

The result of the linearity assumption test was that there could be a slight error in terms of the distribution of data. However, majority of the data formed or were closer to the line than the dots that were away from the line. This implied that despite slight variation of data, linearity assumption was not violated.

Normality

Normality assumption test was done so as to justify the uniformity of distribution of data between the independent and the dependent variable. The test presented its results in form of Q-Q plots. Each plot was then interpreted on whether they had violated or failed to violate the normality assumption as shown in Figure 4.4, 4.5 and 4.6.

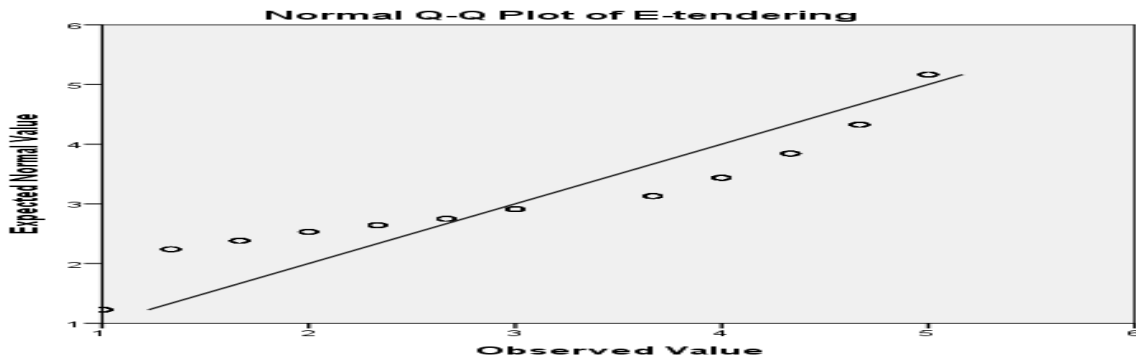


Figure 4.4 Normality test for x axis or e-payment and y-organizational performance

The outcome of the plot showed a slight deviation of data to the straight line. Thus, the study went ahead to check on the Kolmogorov-Smirnov^e and Shapiro-Wilk tests.

Table 4.14 Kolmogorov-Smirnov^e and Shapiro-Wilk tests for e-tendering

	E-tendering	Kolmogorov-Smirnov ^e			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Organizational	2.33	.448	11	.053	.572	11	.055
Performance	3	.248	19	.003	.747	19	.054
	3.67	.443	14	.011	.576	14	.059
	4	.332	50	.012	.672	50	.561
	4.33	.469	17	.050	.533	17	.912
	4.67	.438	20	.145	.580	20	.645

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The result showed that there was a high level of significance between organizational performance and e-tendering in every level of data as presented in the plotted Q-Q plot. The fact that there was no significant relationship implies to mean that normality assumption was not violated. The results had met the normality assumption as standardized in that If the test was not significant, then the data were normal, so any value above $P > 0.05$ indicates normality.

Hypothesis H_{01} , stipulated that e-tendering has no significant effect on the organizational performance. The results of the study were positive and significant, ($\beta = +0.369$; $P < 0.05$) therefore e-tendering had an effect on organizational performance and thus rejecting the hypotheses that there is no significant relationship between e-tendering and organizational performance. The hypothesis result supports existing literature by Thomas (2006) that e-tendering has a significant impact on the organizational performance. The study by Asumba (2010) also revealed that the use of e-tendering was majorly involved in increasing efficiency of tendering operations with regards to application of contracts between the institutions offering the contract and the suppliers or contractors. Additionally, the study revealed that there was an increasing use of e-tendering due to the fact that tendering required transparency as opposed to previous regimes.

A study by Wanjera (2014) contradicted with the result. The study revealed that most public institutions in Vihiga District Hospital are not using e-procurement to contract projects. That manual document was the major focus in the procurement process. There was no relationship between e-tendering and organizational performance. With regard to the findings of the study, 58% (186/321) of the respondents strongly agreed that there is increased competitiveness in the tender bid process in hospitals.

5.0 Conclusions, Discussion and Recommendations

In relation to e-tendering, majority of the respondents strongly agreed that there is increased competitiveness in the tender bid process in hospitals. The hypotheses for the objective were that e-tendering has no significant effect the organizational performance. The regression result showed that e-tendering has an effect on organizational performance with a beta coefficient of the effect is very significant.

As a centralized department can oversee all procurement activities and different offices worldwide can access the same documentation when required, this gives a distinct advantage over the much slower process of having to post documentation between offices. This extends the supply chain beyond geographical boundaries to a much wider group. This implies 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.

Conclusion

In regard to e-tendering, the main finding of the study was that there is increased competitiveness in the tendering bid for the hospital meant; the hospital has put in place electronically enabled procurement systems that allow individuals and hospitals to bid for any amount of tender they find suitable and in line with their profession or qualifications; most of the hospitals in the area have free and fair bidding processes that allow those who qualify to receive a tender to apply with assurance; there are less condition put on bids and the availability of information for suppliers is readily available either through online or directly from the hospitals website; and finally the hospital management has supplier friendly ICT systems that allow applicants for tendering projects to easily access information with less knowledge or skills required to operate the site where tenders and availed.

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Recommendations

In relation to e-tendering, the study recommends that hospitals should use a joint policy in the establishment of similar systems of selecting and issuing tenders as a standard procedure to ensure high levels of performance. This will enable the hospital to purchase the right items based on the best suppliers and thus a stiff competition among

suppliers and high quality of supplies offered to the institution

Areas for Further Studies

There is need to conduct future studies on the role of e-procurement adoption processes on organizational performance. This will enable future study improve the adoption of e-procurement in all sectors as their studies will provide insight on adoption strategies and their determinants.

References

- Agwata, P.M., Kwasira, J. & Kihara, C.M. (2017). Application of procurement best practices in enhancing service delivery in oil refinery companies in Nakuru, Kenya. *International Journal of Economics, Commerce and Management*. United Kingdom. Vol. V, Issue 5,
- Asumba, G. (2010). B2B progress in Italian organization, a multiple case study. *Human Resources Procurement Journal*, 21(3), 275- 292.
- Ateto, M.D., Ondieki, N.S. & Okibo, W. (2013).The effect of e-procurement practices on effective procurement in public hospitals: A Case of Kisii Level 5 Hospital. *American International Journal of Contemporary Research*. Vol. 3 No. 8; August 2013.
- Barngetuny, D.C & Kimutai, G. (2015). Effects of e-procurement on supply chain management performance in Elgeyo-Marakwet County. *International Academic Journal of Procurement and Supply Chain Management | Volume 1, Issue 5, pp. 99-120*
- Cooper, J. (2006). "The digital divide: the special case of gender." *Journal of Computer Assisted Learning* 22(5), 320-334.
- DiMaggio, P. J. and Powell, W. W. (1983). 'The iron cage revisited: institutional isomorphism and collective rationality in organizational fields'. *American Sociological Review*, 48 (1), 147-60.
- Eadie, K., Germany, K. & Kraemer, K.L. (2007). *Post- adoption variations in usage and value of e-business by organizations: Cross-country evidence from the retail industry*. *Inform. Systems Res.* 16(1) 61- 84.
- Eadie, R., Perera, S., Heaney, G. & Carlisle, J. (2007). Drivers and barriers to public sector e-procurement within Northern Ireland's construction industry.
- Gibbens, J. (2010). "The digital divide." *Journal of Computer Assisted Learning* 22(5): 320-334.
- Government of Kenya (2015). *E-procurement practices Processes in Kenyan County Tendering*. IFMIS Department: Retrieved from <http://www.ifmis.go.ke>,
- Greenwood, R., Hinings, C. R. and Whetten, D. (2014). 'Rethinking institutions and organizations'. *Journal of Management Studies*, 51 (1), 1206-20.
- Hamisi, S. (2010). Challenges and opportunities of Tanzania's SMEs in adapting supply chain management. *African Journal of Business Management*, 5(4), pp. 1266- 1276
- Kamau, S. (2004).Challenges and opportunities of Tanzania's SMEs in adopting supply chain management. *African Journal of Business Management*, 5(4), pp. 1266- 1276
- Kazi, S.K. & Chirchir, M. (2012). Supply chain management practices and performance at Kenya medical supplies agency. School of Business, University of Nairobi-Kenya.
- Knudsen, A.T.K. (2010). Reinventing local governments and the e-procurement initiatives, *Public Administration Review*, 62 (4), 424-433.
- Kothari C.R. (2001). *Research Methodology: Methods and Techniques*. Wishwa Prakashan, New Delhi.
- Kothari, C. R. (2009). *Research Methodology*. New Delhi: Willy Eastern Limited. India.
- Meyer, J. W. & Rowan, B. (1977). 'Institutionalized organizations: formal structure as myth and ceremony'. *American Journal of Sociology*, 83 (1), 340-63.

Available Online at <http://www.oircjournals.org>

- Meyer, R. & Höllerer, M. (2014). 'Does institutional theory need redirecting?'. *Journal of Management Studies*, 51 (1), 1221-33
- Mugenda, A & Mugenda, O. (2009). *Research Methods in Social Sciences*, Nairobi, Longhorn.
- Nzioka, G.M. & Ngugi K.C. (2010). The practice of supply chain management in public healthcare sector in Kenya: The case of Kenya medical supplies agency. Department of Management Sciences, School of Business; School of business; University of Nairobi-Kenya.
- Ombat, K.O. (2015). The relationship between e-procurement systems and performance of procurement function in commercial banks in Kenya. *International Journal of Economics, Commerce and Management*. United Kingdom; Vol. III, Issue 12, ISSN 2348 0386
- Onchweri, N.N. (2015). Determinants of compliance in public procurement regulations in the public sector. A case study of Kisii County, Kenya. *International Journal of Economics, Commerce and Management*; United Kingdom. Vol. III, Issue 10, October 2015. ISSN 2348 0386.
- Pierre, J.R., Timothy, M.D., George, S.Y. & Gerry, J. (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*. 2009 35: 718. DOI: 10.1177/0149206308330560
- Potter, J. (2013). "Web services and GIS." *Geospatial Solutions* 12(7): 56-57.
- Rebecca, J. (2007). "Where we're going, *Electronic procurement*, 12 (1), 27-33.
- Santos, J.B & Brito, L.A.L. (2012). Toward a subjective measurement model for firm performance. *BAR, Rio de Janeiro*, v. 9, Special Issue, art. 6, pp. 95-117,
- Scott, G. (2004) "B2B progress in Kenyan organization, a multiple case study", *Human Resources Procurement Journal*, 21(3), 275- 292.
- Wangui, K.M. (2013). The effect of e-procurement on supply chain management at teachers' service commission. School of business University of Nairobi; Kenya.
- Wanjera, N. (2014) An introduction of the change management process in government, *International Journal of Electronic Business*, 3, (1), 68-87.