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Critical Success Factors Influencing the Implementation of Electronic Procurement Projects: A Case of Kenya Revenue Authority

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Abstract

The purpose of the study was to evaluate critical success factors determining the implementation of electronic (E-) procurement projects in a case of Kenya Revenue Authority. The study focused on four objectives: To examine the influence of Information technology infrastructure, Staff competence, Top management support and Levels of management involvement in the implementation of E-Procurement projects. The study employed a descriptive survey. The target population was 6,900. Yamane formula was utilized to obtain the sample size of 56 respondents. Questionnaires, telephone and the use of email were employed to collect data which was analysed by descriptive and inferential model through SPSS. The results of the study showed that taking (information technology infrastructure, staff competence, top management and level of management involvement) to be constant, the implementation of E-procurement projects in Kenya Revenue Authority would be 3. 847.The increase in the information technology infrastructure by one unit leads to 1.317 growth in the implementation of E-procurement projects and it was significant variable (p= 0.000 which was < than 0.05). An increase in the staff competence by one unit increases the growth of implementation of E-procurement projects by 0.436 units holding other factors constant and was significant. In addition, top management would lead to 0.179 increases in implementation of E-procurement projects holding another factors constant. The variable was insignificant since 0.176 was more than 0.05. Further, a unit increases in the level of management involvement would lead to a 0.282 rise in implementation of E-procurement projects. The variable was significant since 0.035 was less than 0.05. All the variables were significant since their p-values were less than 0.05 except top management The study concluded that the independent variables were statistically significant predicting the dependent variable since adjusted R square was 0.606. This implied that 60.6% variations in the implementation of E-procurement projects was explained by information technology infrastructure, staff competence, top management and level of management involvement. The study also concluded top management support had a weak influence statistically, that r=0.169. This indicated that top management had a weak relationship with the implementation of E-procurement projects in Kenya Revenue Authority. The results on a test of significance indicated that top management (β=0.300, p=0.214) was insignificant

at p<0.05 and 95% confidence level. The study recommended that there is need to have a soft infrastructure in all counties and located in strategic entries to boost efficiency on E-procurement. Concerning staff competence, whereas most of Kenya Revenue Authority staff are competent in handling E-procurement tasks, they need continuous refresher courses either through Kenya school of Government or KRA training school. There is a need to rethink going forward where top managers have to focus by giving support and be fully involved and not only mere participation. Further, there is a need for more motivation and direction at operation level managers indeed who are key to critical success factors for better and future enhancement on E-procurement.

Keywords*: Information technology infrastructure, Staff competence, Top management support, Levels of management involvement and E-procurement implementation*

1.1 INTRODUCTION

Organization performance is determined by efficient management of procurement, for example, collusion in tender evaluation, overspending, timeliness, inadequate training of procurement officers to manage the systems in procurement, transparency, and accountability are key challenges affecting procurement which eventually lead to the poor performance of the organization. Procurement remains a vital function in both the private and public sectors in Kenya, it affects people's lives and consumes a large segment of the government budget. Public and private organizations require procurement for both acquisition and disposal of assets of an organization (Mathenge 2012). Several factors influence the successful implementation of E-procurement. User acceptance of e-procurement systems, reliability of information technology and supplier performance, top management and employees' commitment to the success of adoption, monitoring the performance of procurement systems and senior management support to e-procurement implementation process (Mose 2012).

Government of Kenya reports of 2018 show that state corporation has been experiencing a myriad of challenges including corruption, nepotism and mismanagement. Challenges and obstacles can harm the success of a management information system such as e-procurement and should not be underestimated because they lead to the slow utilization of the system and in some cases failure. Globally, critical success factors in the implementation of e-procurement vary according to the level of adoption, resource allocations, government policy and integration with existing information systems of e-procurement in the specific countries. Though researches have previously been carried out globally in determining the critical success factors in the implementation of E-procurement in public institutions the scope has been mainly based on the level of adoption of e-procurement in the specific countries. This formed the basis of conducting the study to determine factors influencing the implementation of electronic procurement projects at Kenya Revenue Authority.

1.2 Statement of the Problem

Procurement remains a vital function in both the private and public sectors in Kenya, it affects people's lives and consumes a large segment of the government budget. Public and private organizations require procurement for both acquisition and disposal of assets of an organization (Mathenge 2012). Organization performance is determined by efficient

management of procurement, for example, collusion in tender evaluation, overspending, timeliness, inadequate training of procurement officers to manage the systems in procurement, transparency, and accountability are key challenges affecting procurement which eventually lead to the poor performance of the organization. Government of Kenya reports-GOK 2018 show that state corporation has been experiencing a myriad of challenges including corruption, nepotism and mismanagement. Challenges and obstacles can harm the success of a Management Information System such as e-procurement and should not be underestimated because they lead to the slow utilization of the system and in some cases failure. Majority of the existing studies have focused primarily on the rationale for the adoption of e-procurement rather than the critical success factors influencing the implementation of e-procurement.

Past studies have outlined factors that influence the adoption of e-procurement but have done less as far as e-procurement implementation is concerned. Though researches have previously been carried out globally in determining the critical success factors in the implementation of E-procurement in public institutions the scope has been mainly based on the level of adoption of e-procurement in the specific countries. Globally, critical success factors in the implementation of E-procurement vary according to the level of adoption, Resource allocations, government policy and integration with existing information systems of e-procurement in the specific countries

A study by Mathenge and Wausi (2018) conducted on the critical factors for successful implementation of e-procurement in Kenyan Public Sector found the significant factors as Resource availability, integration with existing information systems, IT infrastructure, Supplier support, Employee training, top management support and information security. In their study, Chigadi & Moronge (2018) observed that stakeholder participation, Government policy, monitoring and evaluation and capacity building are critical factors in the success of e-procurement implementation. Other than the foregoing, the researcher is not aware of any other local studies that have sought to determine the critical success factors for e-procurement implementation in public

Despite previous studies tackling the challenges and obstacles in e-procurement implementation, in Kenya, there is still slow utilization of the system and in some cases failure. Kenya Revenue Authority has the critical role of collecting revenue and administering Tax laws on behalf of the Kenyan Government and for this objective to be achieved efficient strategies need to be employed in the procurement processes. It is therefore concluded that there exists a knowledge gap in factors critical in the implementation and that none of the past studies specifically tackled the e-procurement implementation in Kenya revenue Authority hence the reason to examine Critical success factors determining the implementation of electronic (E-) procurement projects with particular focus on four variables: information technology infrastructure, staff competence, top management support and Level of Management Involvement

1.3 Research Objectives

The study focused on the following objectives;

i. To assess the influence of information technology infrastructure in the implementation of E-Procurement projects, A case of Kenya Revenue Authority
ii. To examine the influence of staff competence in the implementation of E-Procurement in Kenya, A case of Kenya Revenue Authority
iii. To determine the influence of management support in the effective implementation of E-Procurement projects, A case of Kenya Revenue Authority
iv. To evaluate the influence of Level of Management Involvement in the effective implementation of E-Procurement projects, A case of Kenya Revenue Authority

2.1 LITERATURE REVIEW

2.1.1 Implementation of E-Procurement Projects

Several factors such as user acceptance of e-procurement systems, reliability of information technology and supplier performance, top management and employees' commitment influences the successful implementation of E-procurement (Mose 2012). Aman and Kasimin (2011) conducted a study of e-procurement implementation in the Malaysian government. The study established that a properly implemented e-procurement system helps companies to connect. The e-procurement platforms also link their business processes directly to their suppliers and help to manage all interactions with other business partners.

Besides, Makali (2015) conducted a study on e-procurement and procurement performance of supermarkets in Nairobi. The study revealed that businesses that had adopted e-procurement platform experienced enhanced cost efficiency through the reduction of wastage such as usage of paper and reduced cost of sourcing for suppliers. The study also noted that efficiency and effectiveness of operation at the workplace has been improved due to better communication within the organization. The e-requisitioning, e-tendering and e-sourcing have improved operations.

Pani and Kar (2011) stated that training and capacity building of staff in procurement practices is a critical factor for successful e-procurement implementation. The staff need to be well trained and equipped to be well conversant with the e-procurement systems. Considering that the success of e-procurement is dependent on the users who are part of the implementation process. Further studies by Altayyar and Beaumont (2016) assessed external factors affecting the adoption of e-procurement in Saudi Arabian's SMEs using within-case and cross-case analysis techniques. The Study found nine (9) external factors relevant to the adoption of e-procurement adoption. The factors were government support, own postal addresses and delivery service, providing secure and trustworthy online payment options, low cost and a high-speed internet connection, IT-related educational programs, supplier's willingness and readiness to participate or exert pressure, competitor's pressure, policy and regulations and Business and national culture of the country.

Mambo (2015) investigated factors influencing the implementation of e-procurement in the national government in Kenya using the linear regression model. The Study found out that staff training contributes the most to the implementation of e-procurement, followed by IT infrastructure then suppliers' capacity while top management commitment contributed the least to the implementation of e-procurement. Oketch and Moronge (2016) assessed the determinants of e-procurement implementation in Kenyan State Corporations within the Ministry of Finance. The study concluded that lack of employee competence hinders smooth adoption of e-procurement in the public sector and also, the inadequate legal framework was a challenge to e-procurement adoption. Chebii (2016) assessed the determinants of successful implementation of e-procurement in Kenya using the Multiple Regression Technique. The study found out that technology, government support and supplier responsiveness have a positive significant effect on e-procurement implementation.

2.1.2 Information Technology Infrastructure and The Implementation Of E-Procurement Projects

Technology plays an important role in warehouse structure operational effectiveness, the efficiency of various functional areas of business management and resiliency for the adopting firm (Benjamin & Terry, 2012). Information technology helps in real-time information processing and analysis. Due to robotics and automation technologies, repetitive operations are possible with great speed and accuracy. information systems in technology have developed human values in the design of the warehouse structures through value-sensitive design, worth cantered design and understanding step to prepare system design.

Through this, implementation of information by human values, privacy and trust of warehouse operations is embedded to monitor goods, performance and the trained staff in both the public and private sectors of warehouse structures (Chennai, Van Waart &De Haan 2011). On the communication front, ease and speed in connectivity across the globe, changes the way transactions are done. As a result, accuracy, reliability and speed in material and information flow in the supply chain has increased manifold, leading to productivity, effectiveness, and efficiency in logistics operation today. Technology in organizations help in greater clarity of material properties, link to structural conditions of the relationship between the organization and the warehouse structure and the exploration of the use of information technology in flexibility to conduct stores operations (Alistar, 2010).

Technological resources have been consistently identified as an important factor for successful information systems adoption. Technologies have changed and redefined the way organizations and government corporations operate. Organizations adopt new technologies to improve the efficiency and effectiveness of various work processes. Unfortunately, many technology-based products and services never reach their full potential, and some are simply rejected (Uyarra & Flanagan, 2010). Failed investments in technology may not only cause financial losses but also lead to dissatisfaction among employees (Arasa & Achuora, 2012). Hence, explaining and predicting user adoption of new technology is important. New technology adoption by service employees is affected

by various factors. Some of them include; technology readiness, technology integration and interoperability with the existing IT systems and the IT security applications.

A Study by Kakwezi and Nyeko (2010) pointed out that technology readiness is a key factor in the adoption of innovative products and services. Technological readiness is highly predictive of the speed of technology adoption and level of usage of technology in consumer households and organizations. The resource is multifaceted, with some factors being contributor's the information set up of infrastructure among others. It reflects a set of beliefs about technology and is not an indicator of competence. Further study of Mose, Njihia and Magutu (2013), private and public-sector organizations have been utilizing information technology (IT) systems to streamline and automate their purchasing and other processes over the past years. n Further, not all the technology is in place yet to enable the Government to take full advantage of internet commerce (Public Procurement Oversight Authority-PPOA 2013). The PPOA in identified issues on parties' transaction, synchronization, confidentiality, data integrity and bandwidth as the major considerations that the government had to make before taking full advantage of the benefits of e-procurement.

Croom and Johnston (2013) indicate that the public sector undertakes e-procurement initiatives because it is believed that certain cost reductions and benefits including those related to public policy imperatives will arise without the considerations of the implications. The items involved in public procurement range from simple items or services such as office clips or cleaning services to large commercial projects such as the development of infrastructure including roads, military equipment and airstrips. With the government as a service provider, a basic measure of a successful or failed public e-procurement will be manifested through quality and magnitude of the services it provides

2.1.3 Staff Competence and The Implementation Of E-Procurement Projects

Staff training ensures that an organization has people with the correct mix of attributes which is achieved by the provision of appropriate learning opportunities and enabling them to reform to the highest levels of quality and service (Croom & Johnston, 2013). According to Davila, Gupta and Palmer (2012) training is the process of increasing knowledge and skills of an employee for doing particular jobs. It is an organized activity designed to create a change in the thinking and behaviour of people and to enable them to carry out their jobs in a more efficient manner (Gunasekaran & Ngai, 2010). Training is the acquisition of the technology which permits employees to perform up to standard. Training on competency-based performance help employees understands the importance of their jobs and how their performance correlates to higher customer satisfaction levels. To achieve productivity in any sector including the security sector, employees should be analyzed to determine their training needs and the relevant training offered to enable them to perform as required (Talluri, Chung & Narasimhan, 2013).

Khanapuri (2011) asserts that there are several requirements relating to the implementation of an e-procurement system. They include technology, objectives, information, staffing and skills. The requirements make the adoption process to face some challenges such as Compatibility, Integration, Adoption and regular use by employees and lack of capacity by small suppliers. Companies require investing in a good IT system with access to the web and integration to the customers. Also, the staff handling the system will require to be

empowered. According to the World Bank (2013), the cost of purchasing e-procurement software can be huge and may be prohibitively expensive for smaller organizations. They must consider not only the price of the software itself but other costs associated with the system and its implementation. Those additional costs include networking infrastructure, information technology hardware and software, application design, development and implementation, training, and maintenance of equipment. There is also the time required for employees to learn the new system.

2.1.4 Top Management Support and The Implementation of an E-Procurement Project

Management is key in almost all organizations in the world today. While there is no manual to managing these organizations, the contingency theory offers managers an opportunity to optimize the course of action they take. This way, they will be able to effectively apply these contingencies to their style of leadership. There are four approaches to these contingency theories (Burrell & Morgan, 2017). Top management is the driving force in organizations goal setting, mission statement through the strategic level organization. Study on factors influencing implementation of e-procurement in the national government indicated that top manager was committed to e-procurement implementation with monitoring processes and strategies to total quality (Mambo, Ombui, & Kagiri, 2015)

The executive management team is in charge of setting the vision and objectives, achieving aggregate duty for change in process and hierarchical structures, and planning the arrangements and techniques important to set up an e-Procurement activity (OECD, 2011). If the e-acquirement framework does not have the full support of the top management team, there is each explanation behind it to fall flat. It is critical to ensure that the top management has given full support for the execution of e-acquisition. Extensive consideration and support ought to be given by senior management to guarantee that the acquirement change has been surely known in the office (Basheka, 2011).

Khanapuri (2011) asserts that there are several requirements relating to the adoption of an e-procurement system, including technology, objectives, information, staffing and skills. The requirements make the adoption process face several challenges such as compatibility, integration, adoption and regular use by employees and lack of capacity by small suppliers. Companies require investing in a good IT system with access to the web and integration to the customers. The term best management to characterize define convictions about online business activities in firms and cooperation in those activities. The consequences of quantitative research by Ngobe (2011) demonstrate that top administration title emphatically impacts the degree of hierarchical absorption of web innovations in internet business techniques and exercises. Management profitability and key choice guides are characterized in the article of Scupola (2010) as vital consider online business appropriation in associations. Management efficiency alludes to supervisors' discernment that internet business gives better access to data, helps in the administration of the time, and enhances correspondence among directors.

Good management can empower change by imparting and strengthening values through a verbalized vision for the association. Best management support is basic for making a strong atmosphere for the reception of innovations. Best management bolsters hierarchical adjustment and preparing of representatives are cases of issues for the effective usage of

association IT framework (Eakin, 2010). Imbuye (2013) found that top management support to be one of the best indicators of association reception of Information System advancements. Providers if included right on time in e-acquirement activities are in this way ready to assume a dynamic part in the process' refinement and endeavours in change administration (Malela, 2010). Specific advantages of e-acquisition in the general population area are thought to incorporate more prominent straightforwardness in acquirement through electronic distributing of delicate notification and contract grants. This thus is probably going to upgrade responsibility and decrease the occurrences of defilement. At the point when building up a business case for embracing e-obtainment, it is imperative to evaluate the gauge advantages and expenses connected with the procedure or procedures to be robotized keeping in mind the end goal to comprehend the likely results of e-acquirement execution or upgrade (Uyarra &Flanagan, 2010).

Senior administrators have generally seen IT as a back-office work that is a "vital cost" of working together, with no key ramifications. In the late years, senior supervisors are currently looking at IT as a vital asset and key empowering agent of development. All through arrangements the acquisition chief can facilitate believably ensure the provider a level of inciting instalment, which was impractical preceding e-obtainment (Eakin, 2010). Besides, the staff handling the system will require to be empowered. According to the World Bank (2013), the cost of purchasing e-procurement software can be huge and may be prohibitively expensive for smaller organizations. They must consider not only the price of the software itself but other costs associated with the system and its implementation. Those additional costs include networking infrastructure, information technology hardware and software, application design, development and implementation, training, and maintenance of equipment. There is also the time required for employees to learn the new system

2.1.5 Level of Management Involvement and The Implementation Of E-Procurement Projects

All organizations need to have participative management in their day to day operations (Khan &Igbal, 2016). Undoubtedly participative approach to management increases the stake or ownership of employees. An increased say in decision making means that there is a strong feeling of association. It also translates to the employees that they should assume responsibility and takes charges. This, in the long run, ensures that there is lesser new or delegation or supervision from the manager and when there is a lesser need for supervision the organization tends to function better. Lastly, increased productivity and job satisfaction cannot exist unless there is a high level of motivation in the employee. Decentralized decision-making means that everyone has a say and everyone is important (Khan and Igbal, 2016).

To elaborate on this, the following study is reviewed, King'ori, (2013) conducted a study to establish the effect of e-procurement on supply chain management at teachers' service commission. The study's objectives were to determine the procurement practices in TSC; to establish the level of e-Procurement application in TSC and to determine the challenges encountered when implementing the e-Procurement system in TSC. Data collected were analyzed using descriptive statistics and presented in frequency tables. The study revealed that there was a strong relationship between e-Procurement, the levels of ICT expertise and

the levels of e-Procurement application. This further indicated that Supply Chain Management is highly correlated with Supply Chain practices and e-Procurement applications.

Another study conducted by Keana (2015) on automated procurement systems and performance of supermarkets in Nairobi revealed that majority of supermarkets relied on electronic mail and automated identification bar-coding systems to transact their procurement operations more than any other systems mentioned to them. It was also established that time was saved and this propelled the retail chains to gain a competitive advantage in the supermarket industry. Moreover, the accuracy of products ordered and delivered was maintained when those systems were used. Lastly, the results established that the degree of correlation of the independent predictor (automation of procurement systems) and performance of supermarkets was not strong due to various challenges stretching from; high cost of system implementation, slow user acceptance of new automated procurement systems, lack of management support in the adoption of new systems, inadequate IT and networking infrastructure and inadequate employee training (Keana, 2015). In the study, the researcher asserted that many firms have not yet established how much to invest in inventories and the right inventory levels to hold to satisfy customers. Organizations have therefore turned to use modern technology to overcome such challenges.

A commitment refers to any action taken in the present that binds an organization to a future course of action (Oropesa, Del Risco, Perez & Lara, 2016). Commitments are essential to management because they are how a company secures the resources necessary for its survival. For instance, investors, customers, and employees would likely shun any company whose management refused to commit publicly to a strategy and back its intentions with investments. Commitments are beneficial to an organization because they give employees a clear sense of focus and help them prioritize and coordinate their actions. They're also motivational. They can, in particular, create excitement and energy in difficult times, inspiring employees to persevere despite hardships and setbacks (Oropesa, Del Risco, Perez and Lara, 2016). A study was conducted by Mwangi (2016) on Information Communication

Technology Adoption and Supply Chain Performance of Parastatals in Kenya's Energy Sector. The study targeted nine parastatals in Kenya's energy sector. The study established a strong relationship between ICT adoption and supply chain performance of Kenya's energy sector. Level of managerial commitment emerged as a key challenge to the implementation of e-procurement in the nine parastatals. They concentrated on the implementation of e-communication which in turn improves communication internally and externally. Other main challenges to the adoption of ICT are caused by the inability of staff to adapt to changes, poor support from the top management and the limited quality of training to staff. The study, therefore, recommended that the deployment of ICT in the supply chain is necessary and should be encouraged because of the advantages it would bring to organizations (Mwangi, 2016).

Finally, Tuazama (2015) researched Supply chain management practices and organizational performance of supermarkets in Nairobi. The study was guided by the following specific objectives; to establish the supply chain management practices

commonly used by supermarkets in the Kenyan retail chain sector and to determine the relationship between supply chain management practices and organizational performance of supermarkets in the Kenyan retail chain sector. The study findings indicated that Information sharing among the supply chain partners is related to the degree of critical and proprietary information shared among each other. Information sharing involved information related to logistics, customer orders, forecasts, schedules, market and so on. As part of supply chain practice, the researcher concludes that outsourcing enables costs reduction activities, improve productivity and reemphasize the organization to relook into their core business, refocus the organization's strategy, re-examine the investment and help the organization to improve their efficiency and improve their performance (Tuazama, 2015).

The researcher highlighted the fact that recent changes in the Kenyan political landscape have brought about cuts in public sector spending and the demands of government institutions to be efficient in their operations. The findings were that there was some difficulty selling the e-procurement concept internally to organizational stakeholders such as senior management and end-users, a lack of confidence, a fear of making errors, lack of technology and innovation champions within the organizations which has inhibited full acceptance of the process. The other factors that were found to affect the e-procurement process include the size of the firm and organization readiness (Oporo, 2014)

3.1 RESEARCH METHODOLOGY

The descriptive model survey design was employed with a target population of 6,900. Yamane formula of 1967 was utilized to get the sample size of 56 respondents. Questionnaires, telephone and the use of email were employed to collect the data. The study was analyzed using descriptive and inferential statistics.

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Information Technology Infrastructure and the Implementation of E-Procurement projects

The researcher had to establish the level of influence on Information technology infrastructure to the implementation of E-Procurement projects. The study presented the descriptive statistics of information technology infrastructure in Table 1

4.1.1 Descriptive statistics on Information Technology Infrastructure

The researcher had to establish the level of influence on information technology infrastructure to the implementation of e-procurement projects. The study presented the descriptive statistics of information technology infrastructure in Table 1

Table 1: Descriptive Statistics on Information Technology Infrastructure.

	N	MEAN	STD. Deviation
a). Correct know-how influence implementation of E-Procurement	56	4.81	0.55
b). Supplier reliability influence implementation of E-Procurement	56	4.84	0.33
c). Availability Technical support	56	4.77	0.41
d). ICT Self- Efficacy influence implementation of E-Procurement	56	4.79	0.45
Composite Mean		4.80	0.44

The findings depicted in Table 1 indicate that majority of respondents very strongly agreed that information technology infrastructure influence the implementation of e-procurement. agreed, supplier's reliability statement was highest with a Mean of 4.81 = STD 0.33. With a combined of 4.80=STD 0.44 < 1 meant that most responses were clustered around the mean, so the variable very greatly influences the implementation of E-procurement.

4.1.2 Inferential statistics on Information Technology Infrastructure

The first objective of this study was to establish the effect of Inferential statistics on Information technology infrastructure where hypotheses were tested;

Ha_1: There is no significant relationship between information technology infrastructure and implementation of E-procurement projects, a case of Kenya Revenue Authority.

Ho_1 There is a significant relationship between information technology infrastructure and implementation of E-procurement projects, a case of Kenya Revenue Authority. The findings are shown in Table 2.

Table 2: Results for Information Technology Information Technology Infrastructure Testing Hypothesis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.789[a]	.622	.615	.36498

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.838	1	11.838	88.870	.000[b]
	Residual	7.193	54	.133		
	Total	19.031	55			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.652	.714		-3.714	.000
	Information Technology Infrastructure	1.414	.150	.789	9.427	.000

a. Dependent Variable: Implementation of E-procurement Projects

b. Predictors: (Constant), Information Technology Infrastructure

The findings in Table 2 shows that r=0.789. This indicated that information technology infrastructure has a very strong relationship with the implementation of E-procurement projects in Kenya Revenue Authority. Besides, R^2 was 0.622 which indicate that information technology infrastructure explains 62.2% of the variations in the implementation of E-procurement projects in Kenya Revenue Authority. The results on a test of significance also indicate that information technology infrastructure (β=1.414, p=0.000) was significant at p<0.05 and 95% confidence level. The overall F statistics, (F = 88.870, p=0.000<0.05), indicated that there was a statistically significant relationship between information technology infrastructure and implementation of E-procurement projects in Kenya Revenue Authority.

4.2 Staff competence in the implementation of E-Procurement in projects.

The research had to determine the level of influence on staff competence. The researcher had to determine the effect of this variable through descriptive statistics.

4.2.1 Descriptive statistics on staff competence

The researcher requested respondents to tick appropriately to establish the level of the construct and finding reported as illustrated in Table 3.

Table 3: Descriptive statistics on staff competence

	N	MEAN	STD. Deviation
a). Subject Matter Knowledge influence implementation of E-Procurement.	56	4.88	0.25
b). ICT and Troubleshooting skills implementation of E-Procurement.	56	4.74	0.49
c). Research and Development influence implementation of E-Procurement.	56	4.84	0.36
d). Customer relation skills implementation of E-Procurement	56	4.78	0.49
Composite Mean		4.81	0. 12

The results as indicated in Table 3 described that staff competence determines the implementation of E-procurement projects subject matter knowledge influence had the highest mean of 4.88=STD 0.25. All the statements for this variable imply that respondents sounded clear that staff competence is a vital component with the composite mean 48.81 =STD 0.12< 1 very strongly agree with this construct.

4.2.2 Inferential statistics Staff competence in the implementation of E-Procurement in projects.

The second objective determined the effect of Inferential statistics on Staff competence in the implementation of E-Procurement in projects where hypotheses were tested

H_a2: There is no significant relationship between staff competence and implementation of E-procurement projects, a case of Kenya Revenue Authority.

H_02: There is a significant relationship between staff competence and implementation of E-procurement projects, a case of Kenya Revenue Authority. The findings were illustrated in Table 4

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Table 4: Results for Hypothesis Testing on Staff competence

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.743[a]	.551	.543	.39758

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.496	1	10.496	66.400	.000[b]
	Residual	8.536	54	.158		
	Total	19.031	55			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.435	.799		-3.047	.004
	Staff Competence	1.343	.165	.743	8.149	.000
a. Dependent Variable: Implementation of E-procurement Projects						
b. Predictors: (Constant), Staff Competence						

The findings in Table 4 reveal that r=0.743. This is an indication that staff competence has a very strong relationship with the implementation of E-procurement projects. Besides, R^2 was 0.551, that staff competence explains 55.1% of the variations in the implementation of E-procurement projects. The results on a test of significance also indicate that staff competence (β=1.343, p=0.000) was significant at p<0.05 and 95% confidence level. The overall F statistics, (F = 66.400, p=0.000<0.05), indicated a statistically significant relationship between staff competence and implementation of E-procurement projects thus, the null hypothesis was hence rejected and concluded that there is a significant relationship between staff competence and implementation of E-procurement projects in Kenya Revenue Authority.

4.3 Top management support in the effective implementation of E-procurement projects.

The third objective of the study was to determine the level of influence on top management support

4.3.1 Descriptive statistics on top Management support.

The researcher sought to establish the degree to which the respondents agree with statements measuring top management support to make conclusions based on the results as described and revealed in Table 5.

Table 5: Results of Descriptive Statistics Top management support

	N	MEAN	STD. Deviation
a). Commitment to change influence implementation of E-Procurement.	56	4.74	0.32
b). Allocation of finances influence implementation of E-Procurement	56	4.83	0.34
c). Delegation of authority influence implementation of E-Procurement.	56	4.84	0.36
d). Inspirations and Mentorship influence implementation of E-Procurement.	56	4.87	0.33
Composite Mean		4.82	0. 34

Results described in Table 5 indicates that composite mean Top management support component is 4.82 which implies that these statements of the variables very strongly agreed with the construct and its effect on the implementation of E-procurement projects at KRA. Inspirations and Mentorship influence implementation of E-Procurement had the highest mean of 4.87 =0.33 STD. It was followed by a delegation of authority Thus, can deduce that, from the results, it's obvious that management support influences the implementation of E-procurement projects.

4.3.2 Inferential statistics Top Management support and implementation of E-Procurement projects

The third objective sought to examine the effect of Inferential statistics on Management Support in the implementation of E-Procurement in projects by testing hypotheses;

Ha_3: There is no significant relationship between Top management and implementation of E-procurement projects, a case of Kenya Revenue Authority

Ho_3: There is a significant relationship between Top management and implementation of E-procurement projects, a case of Kenya Revenue Authority. Findings as captured in Table 6.

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Table 6: Results on Testing Hypothesis Top Management support

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.169[a]	.028	.010	.58515

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.542	1	.542	1.582	.214[b]
	Residual	18.489	54	.342		
	Total	19.031	55			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.604	1.162		2.240	.029
	Top Management	.300	.238	.169	1.258	.214
a. Dependent Variable: Implementation of E-procurement Projects						
b. Predictors: (Constant), Top Management						

The findings in Table 6 confirm that r=0.169. This indicates that top management has a weak relationship with the implementation of E-procurement projects in Kenya Revenue Authority. Besides, R^2 was 0.028 which indicate that top management explains 2.8% of the variations in the implementation of E-procurement projects. The results on a test of significance also indicate that top management (β=0.300, p=0.214) was insignificant at p<0.05 and 95% confidence level. The overall F statistics, (F = 1.582, p=0.214>0.05), indicated that there was a very statistical insignificant relationship between top management and implementation of E-procurement projects in Kenya Revenue Authority. The null hypothesis was hence accepted and it was concluded that there is no significant relationship between top management and implementation of E-procurement projects in Kenya Revenue Authority.

4.4 Level of Management Involvement in the effective implementation of E-Procurement projects.

The research sought to find out the degree in which the variable influence on the implementation of E-procurement where average means and standard deviation were computed.

4.4.1 Descriptive statistics on Level of Management Involvement

Through the mean and standard deviation, the researcher sought to observe the degree to which the informants agree with statements of this construct as reported in Table 7.

Table 7: Results on Descriptive Statistics Level of Management Involvement

	N	MEAN	STD. Deviation
a). Continuous communication influence implementation of E-Procurement	56	4.72	0.40
b). Real-time decision-making influence implementation of E-Procurement	56	4.69	0.52
c). Improved involvement influence implementation of E-Procurement	56	4.68	0.53
d). Staff empowerment influence implementation of E-Procurement	56	4.87	0.32
Composite Mean		4.74	0. 44

Data on findings from Table 7 the composite mean of 4.74 = STD of 0.44 implying this variable, by the majority of the respondent indicated very strongly agreed and agree. Staff empowerment influence implementation of E-Procurement was the highly ranked with a mean of 4.87=STD 0.33 < than 1 therefore n effect on the implementation of E-procurements projects.

4.4.2 Inferential statistics on Level of Management Involvement and implementation of E-Procurement projects.

Test of the fourth hypothesis was to establish how the level of Management involvement influence the implementation of E-Procurement in projects by testing hypotheses;

H_a4: There is no significant relationship between Level of Management Involvement and implementation of E-procurement projects, a case of Kenya Revenue Authority

$H_0$4: There is a significant relationship between Level of Management Involvement and implementation of E-procurement projects, a case of Kenya Revenue Authority.

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Table 8: Results on Hypothesis Testing, The Level of Top Management

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.741[a]	.549	.541	.39851

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.455	1	10.455	65.835	.000[b]
	Residual	8.576	54	.159		
	Total	19.031	55			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.131	.642		-1.761	.084
	Level of Management	1.101	.136	.741	8.114	.000

a. Dependent Variable: Implementation of E-procurement Projects
b. Predictors: (Constant), Level of Management Involvement

The findings in Table 8 shows that r=0.741. This indicates that level management involvement has a very strong relationship with the implementation of E-procurement projects in Kenya Revenue Authority. Besides, R^2 was 0.549 which indicate that level management involvement explains 54.9% of the variations in the implementation of E-procurement projects. The results on a test of significance also indicate that level management involvement (β=1.101, p=0.000) was significant at $p<0.05$ and 95% confidence level. The overall F statistics, ($F = 65.835$, $p=0.000<0.05$), indicated that there was a statistically significant relationship between level management involvement and implementation of E-procurement projects. The null hypothesis was hence rejected and it was concluded that there is a significant relationship between the level of management involvement and implementation of E-procurement projects in Kenya Revenue Authority.

4.5 Multiple Regression Analysis

Regression analysis is applied when the study aims at establishing if a variable (independent) predicts another variable (dependent). This study sought to establish the influence of information technology infrastructure, staff competence, top management and level of management involvement on Implementation of E-procurement projects in Kenya Revenue Authority. The findings were presented in various Tables. Table 9 presents the model summary

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Table 9: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.797[a]	.635	.606	.36902
a. Predictors: (Constant), Level of Management, Top Management, Staff Competence, Information Technology Infrastructure				

From the findings in Table 9, the R square was found to be 0.606. This implied that 60.6% variations in the implementation of E-procurement projects in Kenya Revenue Authority are explained by information technology infrastructure, staff competence, top management and level of management involvement.

Furthermore, the analysis of variance is illustrated in Table 10

Table 10: Analysis of variance (ANOVA)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.086	4	3.022	22.189	.000[b]
	Residual	6.945	51	.136		
	Total	19.031	55			
a. Dependent Variable: Implementation of E-procurement Projects						
b. Predictors: (Constant), Level of Management Involvement, Top Management, Staff Competence, Information Technology Infrastructure						

Based on the results presented in Table 10, the p-value was found to be 0.000 and F-calculated was 22.189. Since p-value was less than 0.05 and the F-calculated was greater than F-critical (2.5534), then the regression relationship was significant in determining how information technology infrastructure, staff competence, top management and level of management involvement influenced the implementation of E-procurement projects in Kenya Revenue Authority.

Furthermore, the regression coefficients is presented in Table 11 below

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Table 11: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.847	1.186		-3.243	.002
	Information Technology Infrastructure	1.317	0.36	0.735	3.658	.000
	Staff Competence	0.436	0.114	0.241	3.825	.000
	Top Management	0.179	0.131	0.101	1.366	.176
	Level of Management Involvement	0.282	0.131	0.189	2.153	.035
a. Dependent Variable: Implementation of E-procurement Projects						

The established model for the study was:

$$\mathbf{Y= -3.847 + 1.317X_1 + 0.436X_2 + 0.179X_3 + 0.282X_4}$$

Where:

Y= Implementation of E-procurement projects

X_1= Information technology infrastructure

X_2= Staff competence

X_3= Top management

X_4= Level of management involvement

The regression equation above has established that taking (information technology infrastructure, staff competence, top management and level of management involvement) to be constant, the implementation of E-procurement projects in Kenya Revenue Authority would be -3.847. The findings presented also show that the increase in the information technology infrastructure leads to 1.317 increases in implementation of E-procurement projects if all other variables are held constant. The variable was significant since 0.000 was < than 0.05. Besides, it was found that if staff competence increases, there is a 0.436 growth in the implementation of E-procurement projects in Kenya Revenue Authority. The variable was significant since 0.000 < than 0.05. On the other hand, the findings show that a unit increases in top management would lead to 0.179 increases in implementation of E-procurement projects in Kenya Revenue Authority in Kenya. The variable was insignificant since 0.176 was less than 0.05.

The study similarly found that a unit increases in the level of management involvement would lead to a 0.282 rise in implementation of E-procurement projects. The variable was significant since 0.035 was < than 0.05. Summary, information technology infrastructure had the greatest influence on the implementation of E-procurement projects in Kenya Revenue Authority followed by staff competence, the level of management involvement while top management had the least influence on the implementation of E-procurement projects in Kenya Revenue Authority. All the variables were significant since their p-values were less than 0.05 except top management.

5.1 CONCLUSIONS

From the findings, the R square was found to be 0.606. This implied that 60.6% variations in the implementation of E-procurement projects in Kenya Revenue Authority are explained by information technology infrastructure, staff competence, top management and level of management involvement. On Information technology infrastructure, this was the highest-rated variable where was rated 62.2% of the variations in the implementation of E-procurement projects in Kenya Revenue Authority. Further conclusion indicated that an increase in the information technology infrastructure leads to 1.317 increases in implementation of E-procurement projects if all other variables are held constant. The variable was significant since 0.000 was < than 0.05.

Staff competence statements on subject matter knowledge were highly ranked at matter knowledge influence had the highest mean of 4.88=STD 0.25. The variable was the second-best as where the majority agreed on the variable prepositions that r=0.743 which meant staff competence has a very strong relationship with the implementation of E-procurement projects. Besides, R2 was 0.551, that staff competence explains 55.1% of the variations in the implementation of E-procurement projects. made in the tool of study. The study concluded top management support had a weak influence statistically. that r=0.169. This indicates that top management has a weak relationship with the implementation of E-procurement projects in Kenya Revenue Authority. Besides, R2 was 0.028 which indicate that top management explains 2.8% of the variations in the implementation of E-procurement projects. The results on a test of significance also indicate that top management (β=0.300, p=0.214) was insignificant at p<0.05 and 95% confidence level

On the aspect of Level of management involvement, the study concluded that the construct affected implementation of E-procurement. That, that r=0.741. This indicates that level management involvement has a very strong relationship with the implementation of E-procurement projects in Kenya Revenue Authority. The study similarly found that a unit increases in the level of management involvement would lead to a 0.282 rise in implementation of E-procurement projects. The variable was significant since 0.035 was < than 0.05. Summary, information technology infrastructure had the greatest influence on the implementation of E-procurement projects in Kenya Revenue Authority followed by staff competence, the level of management involvement while top management had the least influence on the implementation of E-procurement project. Other than, except top management, all the variables were significant since their p-values were less than 0.05.

6.1 RECOMMENDATIONS

On Information technology infrastructure the study recommended that there is need to have the soft infrastructure in all counties and located in strategic entries to boost efficiency on E-procurement. The study also recommended a continuous refresher courses either through Kenya school of Government or KRA training school. Furthermore, the top management support was least ranked statistically concerning their support on E-procurement, there is need to rethink going forward. They have to focus by giving support and be fully involved and not only mere participation. There is a need for more motivation and direction at operation level managers indeed who are key to critical success factors for better and future enhancement on E-procurement

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