

COST OF E-PROCUREMENT SYSTEM AND PERFORMANCE OF NAIROBI COUNTY: A CASE OF CITY HALL

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ABSTRACT

Electronic procurement or e-procurement refers to the phenomenon where the procurement process is conducted over the internet. The main objective of adopting cost of e-procurement system is to improve efficiency and effectiveness of the process in the context of cost and time. While Kenya's private sector has been more receptive in adopting e-procurement, the public sector has had quite the challenge in doing the same. This study examined how the independent variable (cost) affects e-procurement performance in Nairobi County, Kenya. The study found basis on the Technology Acceptance Model (TAM), the Accelerator Theory of Investment, the Systems Theory, and the McGregor's XY theory. A descriptive research design was adopted with the target population being a census of the 240 professionals working in Nairobi County. The choice of a descriptive research design is based on its ability to conduct empirical review on available studies while venturing into new perspectives of the problem. The 240 professionals who composed the target population were from the Procurement,

Finance, Human Resource, and Information Technology departments based at City Hall in Nairobi. The primary form of data collection instrument was questionnaires that were administered to the target population. Field and readability tests were conducted for reliability while test-retest method was used to ensure questionnaire reliability. Analysis was conducted using Statistical Package for Social Sciences (SPSS). Pearson Correlation was used to examine the relationship between independent and dependent variables of the study. Notably, the linear regression model was used to statistically quantify the relationship between the independent and dependent variables. The findings were interpreted and presented in the form of charts, graphs, and tables. Particularly, the study discovered that cost has a strong effect on e-procurement performance. Based on the findings, the study recommended increased budgetary allocation for employee training as well as hiring already of qualified staff, infrastructure maintenance, and the implementation of change management programs.

Key Words: *cost of e-procurement system, performance, City Hall, Nairobi County*

INTRODUCTION

All organizations have their scheduled spending on utilities and also day-to-day operations that they strive to facilitate independently (Kagume & Wamalwa, 2018). Staying in operation requires a balance between revenue and expenditure. Jackson, Crocker and Carter (2016) assert that expenditure entails spending in either what the business deals with or it needs to survive. Against this background, procurement entails spending that defines how goods, services and utilities are ordered and delivered.

Procurement is profitable if it is strategically implemented to ensure that the organization remains in operation (Chepkemoi, 2014). The procurement process involves: identifying internal needs, analysis of the supplier market, assembly of supplier profiles, drafting a sourcing strategy, implementing the drafted source strategy, negotiating with suppliers in an active bidding process and then implementing the transaction plan with the winning bid (Moczka, Handfield, Giunipero & Patterson, 2014). However, different organizations have found ways of simplifying the procurement process by either merging required tasks or breaking them down depending on what works best for them.

Strategic procurement ensures that the process is carefully streamlined to get the best goods, services and utilities at the optimum prices so that organizations are able to cut on spending while subsequently increasing revenue (Vaidya, 2012). All organizations are involved in procurement but the difference is the efficiency that benefits growth. Lysons and Farrington (2016) posit that procurement efficiency is identified by acquiring the organization necessities at convenient prices through the identification of better sources for acquiring goods, services and utilities. Muchelule and Shalle (2017) postulate that most professionals focus on the actual procurement process ignoring the importance of simplicity as well as the basic procurement principles. Streamlining procurement involves identifying better methods of conducting the process for increased profitability and efficiency in the organization. Lysons and Farrington (2016) observe that basic procurement principles such as transparency, fairness, competition, accountability, and integrity help with conducting a more efficient process. In most cases, the basic procurement principles are ignored leading to a costly process thus making organization loose large amounts of money.

PROBLEM STATEMENT

In the past, the procurement process has been conducted manually in both public and private institutions. However, this tradition has experienced change in recent years as there have been major advancements in technology. Technological advancements have revolutionized different fields including business and particularly procurement. Despite the fact that some public institutions have adopted electronic procurement, they still suffer from inconsistencies thus leading to more complications that lead to costlier procurement processes (Sople, 2012). Case studies conducted have shown how partial adoption of technology has been worse than avoiding technology at all in process automation (Sople, 2012). Partial adoption of technology has in the past led to inconsistencies in the various processes thus making them more complicated and less economical to conduct. For this reason, most institutions end up wasting a lot of money trying to automate processes but eventually end up back to their old traditions as transition becomes a major challenge. Vaidya (2012) explains that stakeholders and systems impact the performance of process automation and the changes occurring in institutions. Also, the availability as well as reliability of technology and finances has a bearing on the process of automation and the subsequent performance (Blokdyk, 2018). This research was conducted to examine the

determinants of e-procurement performance in Nairobi County. Further, the research sought to explain why the partial adoption of technology complicates the process rather than simplifying and improving process efficiency as is the objective. Previous researches conducted on the subject have been used as the basis of adopting technology by different institutions but clearly, there is still a challenge and more research is required on the subject. This research found basis on previous researches relevant to the topic of study to explore in depth, the relationship between cost of e-procurement system and performance in the public sector.

GENERAL OBJECTIVE

The general objective of this research was to determine the impact of cost of e-procurement system on performance of City Hall in Nairobi County.

THEORETICAL REVIEW

According to Kock (2014), theories are just formulations in research that are applied for better research understanding by either contradicting or supporting available knowledge within the scope of the defined assumptions. The basis of a theory is abstract thinking based on the expertise of the proposer. In the real world, theories are used to define the relationship between ideas in an attempt to promote relevance as well as continuity. Laopodis (2013) asserts that the general performance of the organization is based on the performance output of its individual processes. Theories that are performance-based include; Technology Acceptance Model (TAM), Accelerator Theory of Investment, the Systems Theory and the XY Theory. These theories are proposed in reference to various performance aspects in organizations (Smith-Acuña, 2011).

The Technology Acceptance Model (TAM)

Davis' (1989) TAM is the most popular theory that has been derived from Fishbein Ajzen's Theory of Reasoned Action (TRA). Based on Ajzen's TRA, an individual's attitude towards a specific behavior is based on the beliefs that are tied to the consequences of engaging that behavior (Kock, 2014). Belief in the context of TRA refers to the probability that an individual will undertake a behavior provided that they already know the consequences of that behavior. Al-Suqri and Al-Aufi (2015) observe that TRA portrays an individual's attitude as an entity that is not based on any set of beliefs. The establishment as well as the change of attitude in this theory is therefore externally influenced by the knowledge of consequences. The output of TRA is the accurate projection of human behavior based on the choices that they have with regards to a particular matter at a specific time. Even though TRA is a more general model that seeks to explain human behavior, TAM is a derivative of the theory that is uniquely applicable to the users of Management Information Systems (MIS). The difference between the TAM and the TRA is that the former directly links usefulness of the system to the intentions of the user with

reference to the system while the latter proposes that attitude defines the link between beliefs and intentions (Kock, 2014).

TAM projects the degree of user acceptance of an information system as being based on the perception of its usefulness (U) as well as ease of use (EOU) (Blokdyk, Technology Acceptance Model a Complete Guide, 2018). Kock (2014) postulates that U in this model refers to the user's attitude with reference to the importance of the MIS in improving their performance while Ease of Use explains the user's belief of the MIS having the ability to effectively reduce their effort. Therefore, U as well as EOU is based on the user's belief towards the MIS. The user's beliefs have a direct effect on the attitude of the user with regards to the system. Al-Suqri and Al-Aufi(2015) observe that Behavioral Intentions (BI) of the system use is defined as the output of Attitude and Usefulness function. Therefore, BI represents the how the system is actually used. From both TAM and TRA; beliefs, attitude and intention have a direct impact on the use of the system, either usefulness or ease of use. However, Davis (1989) draws a stronger relationship between usefulness of the system and the intentions as compared to the relationship between ease of use and intentions (Blokdyk, Technology Acceptance Model a Complete Guide, 2018). While both usefulness and ease of use are subject to change over time, prolonged usage of the system leads to improvement in ease of use. Besides, Davis (1989) suggests that user competence in the technology infrastructure to be adopted is an important contribution towards improving the user experience with the infrastructure (Al-Suqri & Al-Aufi, 2015).

The TAM is relevant to the technology infrastructure variable of the study. Employee competence and perceived usefulness of the e-procurement technology is solely based on the training offered (Maundu, 2015). Stakeholders getting to understand how the e-procurement technology infrastructure functions help to improve their attitude towards the e-procurement process (Toroitich, 2017). Further, user training improves user experience with the technology infrastructure and subsequently, improving the ease of use by helping the users to understand the usefulness of the infrastructure (Mathenge & Wausi, 2018).

The Accelerator Theory of Investment

This theory was developed by French economist Albert Aftalion and popularized by J. M Clark. Based on this theory, an increase in the quality and quantity of output is primarily based on increase in the amount of input (Laopodis, 2013). The input in this research is financial investment and the output is improved performance. Taking the assumption that the input-output ratio remains constant, and then the optimum input is always a portion of the output at any given point in time. Any changes applied to the input have a direct impact on the output. Therefore, the total input is proportional to the difference experienced in output (Peterson, 2012). A condition for the increase in output is that the input should always be positive. An increase in output leads to an increase in input while the vice versa is also true and applicable in investments (Laopodis, 2013). An assumption for the principle is that the changes in the output trigger consistent

reactions. All the other factors that have the ability to impact the output should be held constant for this principle to be effective.

The Accelerator Theory of Investment appeals to the cost variable of the study. The quality and quantity of investment in the e-procurement process has an effect on how the outcomes of the process with regards to its performance (Peterson, 2012). Increased investment in e-procurement technology infrastructure as well as education ensures better output in terms of process performance. Sufficient investment on both hardware and software promotes reliability of the entire process. Reliability implies data, information, and system availability consistency between all the stakeholders in the e-procurement system (Koria, 2017). Ndunge (2016) observes that proper investment on e-procurement education helps all stakeholders appreciate the importance of the process and subsequently embrace it to improve performance.

The Systems Theory of Management

In the mid-1900s, biologists Ludwig von Bertalanffy, Cliff Joslyn, and Francis Heylinghen proposed the Systems Theory in their article, “*What is Systems Theory*” (Luhmann, 2012). Over time, the theory has found applications in different fields, among them business. The article proposed that general systems are flexible enough to favor the dynamic business requirements which are subject to evolution (Bertalanffy, 2015). The Systems Theory is based on the quality of the relations between the components of the system. Based on the theory, an organization is considered a system and independent processes could accurately be termed as sub-systems (Smith-Acuña, 2011). Therefore, a system is a set of interrelated components that work together to achieve a common goal. The components of a system are defined by boundaries and the effect they either have on the environment or vice versa. In business, procurement is a system and the rest of the organization becomes its environment in which the impact can be experienced in either direction (Luhmann, 2012).

Systems engineering is one subsections of the Systems Theory. Systems engineering is a framework that is based on technical customer as well as business requirements to improve quality (Bertalanffy, 2015). The independent components should be effectively integrated to form a complete system. Therefore, every component is important in the operation of the system and the quality of output from the system (Smith-Acuña, 2011). Eliminating any component of the system is detrimental to its operations.

The Systems Theory justifies the inclusion of integration as variable in the study. E-procurement is a system with the technology infrastructure and stakeholders being the components that work together towards achieving the objective of streamlining and improving procurement’s efficiency (Rotich & Okello, 2015). The Systems Theory reflects on the aspect of integration and the entire e-procurement process working as a single unit. All the stakeholders and the relevant technology need to deliver on their requirements to avoid interference with the process (Nyabuto, 2016).

McGregor's X and Y Theory

The theory was developed by Douglas McGregor, a social psychologist, in the 1960s in the book "*The Human Side of Enterprise*." The theory is directed at the leaders' perspectives of follower motivation and how it affects their management styles (McGrath and Bates, 2017). Based on the theory, motivation improves reliability, quality of employees' output, and that of organizational processes.

Theory X involves micromanagement for employees who are not motivated towards accomplishing their tasks and as such, managers are required to be authoritative (Jacob, 2012). An authoritative manager is characterized by punishing or rewarding employees to ensure that all tasks are not only completed in time but also effectively. Organizations that employ Theory X have several hierarchies of management for efficient micromanagement. As a result, power and authority is centrally managed. This theory is best suited for managing new employees or experts who have an independent way of doing things. Further, research indicates that Theory X is more likely to demotivate employees rather than motivate them due to the irritation caused by micromanagement (Jacob, 2012).

Theory Y explores managers applying participatory management formula for employees who are motivated towards their tasks and such, are effective on their own (Thompson, 2013). Participatory management cultivates a trust-based culture of interaction between employees and their managers. Employees are trusted by their manager and as a result, regular appraisals are directed towards improving communication as opposed to exerting control as is in the case of Theory X (Jacob, 2012). Theory Y is more common in present day practice because employees are looking to advancing their careers and gaining promotion at their work places. However, Theory Y's setback is that employees are bound to abuse the freedom and neglect their responsibilities (Keynes, 2018).

McGregor's XY Theory accounts for the analysis of reliability as an independent variable in the study. A common aspect of Theory X and Theory Y is the end goal, i.e. motivating employees for improved reliability and effectiveness in task completion (McGrath *et al.*, 2017). The success of either theory is based on the needs of the organization and those of its staff. The theories are compatible with each other and therefore, could be effectively integrated for the purpose of covering up the shortcomings of each theory (Seurey, 2015). Cautious awareness of what exactly motivates employees is the biggest success determinant for both theories. Procurement managers seeking to ensure e-procurement adoption is effective need to assess procurement officers' motivation so as to figure out which form of management to apply for optimum results (Kagume & Wamalwa, 2018). Different employees have varied sources of motivation and as such, a combination of both theories would be more effective as compared to applying them independently.

EMPIRICAL REVIEW

Previous studies on the adoption of e-procurement provided a solid background for this research paper. These recent studies on the adoption of e-procurement have pointed integration problems, security issues with technology, the cost involved in adopting as well as maintaining technology and employee training issues as the challenges affecting successful e-procurement implementation. It is crucial to understand that the role of the internet in e-procurement is more of a tool rather than a strategic provision. Kalau (2016) explains that the internet cannot be used as a strategic resource because it is common to all the organizations seeking to automate their processes.

Rotich and Okello (2015) conducted a research to examine whether there is a relationship between e-procurement and the general performance of the process in Kericho County. The study adopted a correlational research design. 120 IT, finance, procurement, and accounts professionals were purposively selected. The questionnaires were used as the primary data collection technique. Inferential and descriptive analysis was applied to the data. The findings of the study indicated that e-procurement has a significant impact on the procurement process. Further, the study revealed that while the government needs to add regulations mandating the adoption of e-procurement by all stakeholders, critical resources as well as leadership needs to be adequately catered for if e-procurement is to be adopted successfully.

The cost of adopting e-procurement could prove to be a setback. Cash is not only required to purchase as well maintain the relevant technology but also in training the stakeholders to ensure that they appreciate their role of ensuring e-procurement success. Amin (2012) observes that the core procurement stakeholders need to be convinced that it is feasible before they invest their time and effort. Dynamics in technology make its adoption in any field very costly. Nyagaresi (2016) elucidates that other incurred costs include the licenses required in purchasing the relevant software. Also, ongoing costs such as constant stakeholder training pose a great challenge to those seeking to adopt e-procurement.

Njoroge and Ngugi (2016) conducted a study on the challenges facing the compliance with procurement regulations in Nairobi County. Particularly, the study explored the impact of funding, employee competence, and leadership on the compliance with procurement regulations. The study used a descriptive correlation research design as well as stratified random sampling to pick employees who had a direct input in the procurement process and its regulations in Nairobi County. The target population totaled to 69 Nairobi county employees. The study discovered that funding and employee training had the most significant impact on compliance with procurement regulations.

In a research led by Ateto, Ondieki and Okibo (2013), it was discovered that the greatest challenge to the adoption of e-procurement in Kisii Level 5 hospital is the staffs' lack of technology-relevant training. Also, shortage of funds prevented the hospital from utilizing the e-

market provider. The study was premised on the objective of determining the extent to which e-procurement influences efficiency based on improvement of the services' quality, the affordability of services, and public hospitals realizing the value for money. The study adopted a descriptive research design with the target population being 6 departmental heads of the hospital. The heads of department were of strategic importance to the research because they are at the core of decision-making as well as task allocation. The primary data collection technique used was questionnaires. Tables, charts, graphs, and statistical measures of central tendency as well as dispersion were used to analyze the data.

RESEARCH METHODOLOGY

Research Design

The study adopted a descriptive research design because it explores existing information on the subject while attempting to uncover new perspectives. Descriptive research design discovers, reports, and documents the findings on a phenomenon. The design is primarily grounded on both discrete and continuous quantitative data. Toroitich (2017) observes that the number of possible values in discrete data is a finite set of whole numbers along the number line while the possibilities in continuous data can be fractions or decimals. In other words, descriptive statistics help in analyzing the attributes of a particular data set through measures on the data and summaries. The measures on the data include mean, mode, and median. In addition to the measures of central tendency, measures of dispersion assist in examining the degree of spread-out evident in the data (Vaidya, 2012). Standard deviation, being the most common measure of central dispersion, was used as part of the analysis. Particularly, standard deviation accounts for the degree of variation in the data elements from the mean. A higher standard deviation implies that the variation of the data set is higher or the data points are more spread out in the data set (Kagume & Wamalwa, 2018). Graphs, tables, and charts facilitate the breaking down as well as easy discussions for hard-to-understand data. The choice of descriptive research design is based on the fact that numerical outcomes from quantitative data are easily analyzed statistically to provide credible as well as accurate grounds for decision-making (Shale, 2014). Descriptive and inferential statistical analysis could be conducted on quantitative data because it is possible to generalize the outcome to a larger data set or the general population. Mwende (2016) posits that the aspect of descriptive research design being based on natural observation provides simple data collection for primary credible data.

Target Population

The entire set of people or objects that is of interest to a researcher is considered to be a target population. It is a complete set of individuals or objects with homogenous characteristics' that provide the premise of collecting data (Inzofu, 2016). The study revealed that of the skilled portion of the employees, city hall has only 240 professionals. Therefore, the 240 professionals

formed the base of the study's respondents with the census technique being used to select the respondents. Particularly, the respondents were gathered from the Procurement, Human Resource, Finance, and Information Technology department. The procurement department is primarily responsible for the process and as such, its inclusion provided vital information for the study. The IT department accounts for the technology infrastructure used in the e-procurement process including the computers as well as systems (Osir, 2016). The finance department is responsible for the cost variable through budget allocation for all the necessary requirements of the e-procurement process. Finally, the human resource department is responsible for all the members of staff in terms of hiring qualified personnel as well as the necessary training (Kalau, 2016).

Data Collection Instruments

A questionnaire is set of structured questions whose scope covers a particular area of interest or certain variables under study. Therefore, having a predefined set of objective is important prior to the actual structuring of the questionnaire. The quantitative approach that this research took inspired the use of questionnaires as the major data collection method administered in a drop and pick method. This method was easy to use and provided a reliable as well as a credible source of primary research data for simplified analysis. Further, Toroitich (2017) asserts that questionnaires cover large sections of the population thereby providing a wide base for better and clear data analysis. Both open and closed ended questions were used. Open ended questions were used in the study to allow the inclusion of additional information by the respondents including their attitude, recommendations, and general understanding of the subject matter. Considering the nature of open-ended questions, the study was able to gain access into the respondent's thoughts with regards to the subject matter. Chepkemoi (2014) explains that the use of open-ended questions improves the accuracy of data collection because the respondents are not likely to scan through the questions, as it is the case with closed-ended questions. Closed-ended questions were incorporated into the study because of their simplicity. Even though they limit the information provided, closed-ended questions ensure that the respondents remain within the scope of the study matter instead of veering off the subject. According to Ochonma (2015) the information provided by closed-ended questions are easily analyzed because easy assignment of values to the answers for easier statistical interpretation. Likert Scales present questionnaires with an effective and efficient approach of presenting closed-ended questions with a degree of flexibility attached to them. Toroitich (2017) explains that likert scales are universally implemented in collecting research data for their simplicity to understand by respondents. Likert scales present ordinal data in which mathematical calculations could be conducted including measures of central tendency and dispersion. The most preferred and recommended measures of central tendency for ordinal data are mode and median. Owing to the fact that a consensus has not been arrived at with regards to mean calculation on ordinal data, the phenomenon is notable in a number of recent studies (Inzofu, 2016; Toroitich, 2017).

Data Analysis

Data availability is rendered useless if information cannot be generated through the arrangement of meaningful analysis. Coding of research data was done in excel using where all the necessary breaking down and respective arrangements were done (Koria, 2017). Once the data was coded in excel, computer-aided analysis was conducted using Statistical Package for Social Sciences (SPSS) version 24. Descriptive statistics i.e. percentages, measures of central tendency and dispersion were used for quantitative data analysis. From SPSS, Pearson correlation was used to define the degree of association between the variables. Further, the model summary determined the strength of correlation between the variables. The regression model for numerically quantified the degree of the relationship between the dependent and independent variables:

$$Y = B_0 + B_1X_1 + e$$

Where: Y is the dependent variable in this case being the performance of e-procurement; B₀ is the Y-intercept; X₁ is the cost relative to e-procurement; e represents the error term.

RESEARCH RESULTS

Weaver, Morales, Dunn, Godde and Weaver (2018) explain that the linear regression model is used when predicting the value of one variable based on another. Even though logistic regression could also be used to evaluate the relationship between various predictor variables, Trochim, Donnelly & Arora (2015) argue that it is not an optimum model for variables that have high correlation values. The study sought to establish the linear relationship between the independent and dependent variables in the regression model.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982 ^a	.964	.951	.220651

a. Predictors: (Constant), Cost of e-procurement system

The R value (0.982) indicates a strong positive relationship between the variables. The R Square value indicates that 96.4% of e-procurement performance in Nairobi County is accounted for by the cost of e-procurement system.

Table 2: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.148	.091	.731	1.624	.133
	Cost	1.304	.126	1.158	6.533	.000

a. Dependent Variable: Performance

The Coefficients from the table present all the required information to predict e-procurement performance based on the independent variables. Besides, the coefficients depict the statistical significance of each of the variable's contribution. Therefore, from the findings in table 2, the regression model takes the form:

$$Y = .148 + 1.304X_1$$

Based on the regression model, while holding all the independent variables, an increase in the cost by a unit leads to the improvement of e-procurement by a factor of 1.304. Against this background, it is evident that cost has the most significant impact on e-procurement. As a result, Njoroge and Ngugi (2016) argue that the cost of acquiring technology, conducting scheduled maintenance, and training employees is key in ensuring that the e-procurement process significantly impacts performance.

Based on the analysis conducted, it is evident that there is appreciation as well as awareness on the benefits of e-procurement but implementation remains a great challenge for the public sector, particularly Nairobi County. Majority of the respondents agreed that the current state of e-procurement ensured better communication between the stakeholders of the process. The data analysis revealed that training cost improved the competence of employees and in turn, improved e-procurement performance. Further, the cost of purchasing and maintaining technology infrastructure is crucial in the performance of e-procurement as was outlined by most of the respondents. Amin (2012) explains that technology is dynamic and as such, organizations tend to lag behind in terms of making the necessary changes to reflect the advancements. Most of the respondents pointed out that the costs incurred in the process of transitioning from manual to electronic procurement interfered with the performance of the process in general. Besides, most of the respondents indicated that integrating external stakeholders such as suppliers promoted collaboration and as such, contributed to better e-procurement performance. Despite the high costs of transitioning from manual to electronic procurement, Njoroge and Ngugi (2016) assert that adequate investment ascertains better performance.

CONCLUSIONS

Based on the findings of the study, cost has the most significant impact on the adoption, implementation, and performance of e-procurement. Budget allocation is required to not only purchase the required infrastructure but also for maintenance purposes (Rotich & Okello, 2015). Technology being a fast-paced industry implying that regular maintenance activities, including updates, are required to ensure that all systems as well as physical infrastructure is up to date. Adequate support is necessary for maintaining technology as well as improving user competence. Training costs are vital in sustaining the ease of use, improved usefulness, and better user attitude (Ateto, Ondieki & Okibo, 2013).

RECOMMENDATIONS

The study recommends that the County should increase its budgetary allocation towards improving the performance of the e-procurement process. Particularly, the budget should address the maintenance of the available infrastructure as well as training. Notably, user training will assist in improving the reliability of the stakeholders while infrastructure maintenance will assist in ensuring the reliability of the technology. The County should focus on user training for improved competence of the available staff. Besides, hiring of already qualified members of staff, particularly in the IT and Procurement departments, will go a long way into helping the County in cutting on training costs while improving the quality of collaboration among the staff.

Moreover, the County should ensure that the procurement system is compatible with all the other systems for better collaboration and consistency. A specialized e-procurement management team could come in so handy in ensuring the adoption of all the changes that are necessary for better e-procurement implementation. The study recommends the implementation of change management programs for effective transition processes, in the event that any are required. Change management programs will help stakeholders to not only appreciate the need for change but to also realize the significance of the responsibilities allocated to them. Internal factors such as organizational culture and structure should be flexible enough to facilitate the effective transition and implementation of e-procurement. Since integration is not encouraged by the regression model, the study recommends that both stakeholders and systems should maintain their identity in the process of collaboration.

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