

# DETERMINANTS OF EFFECTIVE IMPLEMENTATION OF ELECTRONIC PROCUREMENT IN THE SAVINGS AND CREDIT CO-OPERATIVE ORGANIZATION: A CASE STUDY OF CHAI SACCO, KENYA

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**Abstract:** In the recent past, there has been a significant effort in the public sector to improve public procurement strategies and procedures. These efforts have mainly focused in realizing improved efficiency and cost-savings through the public sector purchasing system, by developing a number of instruments and tools which assist public sector bodies in their procurement activities. Among these instruments, electronic procurement has come out as a popular system that has been adopted by organizations to achieve these objectives. With the emergence of Information and Communication Technology (ICT), organizations have been forced to shift their operation from the traditional style to e-business, e-procurement and e-supply chain philosophy in order to sustain themselves. The study explored the determinants of implementation of electronic procurement Sacco's. The specific objectives of this project was to evaluate the influence of procurement policies on the implementation of electronic procurement in Sacco's, to find out the influence of training on the implementation of electronic procurement in Sacco's, to determine the influence of management commitment on the implementation of electronic procurement in Sacco's and to determine the influence of technical infrastructure on the implementation of electronic procurement in Sacco's. The study targeted 145 respondents from Chai Sacco. The study adopted both primary and secondary data analysis research design. Primary data was collected using semi structured questionnaires containing both closed and open ended questions to allow variety. The quantitative data was analyzed using descriptive statistics. In addition the study used multiple regression analysis to analyze the data. This study concluded that procurement policies significantly and positively influenced on the implementation of electronic procurement in Sacco's. The study also concluded that training has a significant and a positive influence on the implementation of electronic procurement in Sacco's. The study further concluded that management commitment had significant and a positive influence on the implementation of electronic procurement in Sacco's. The study finally concluded that technological infrastructure had a significant and positive influence on the implementation of electronic procurement in Sacco's. The study recommends that well and effective documented procurement policies and procedures on how employees in the organization is supposed to go on the implementation of electronic procurement should be put in place to realize good performance in the implementation of electronic procurement. The study recommends that organizations should be sensitized on the importance of training on the issues related to implementation of electronic procurement. Such programmes can be in the form of seminars, training, workshops and conferences. To ensure success in implementation of electronic procurement and great performance of the organization, the study recommends a conducive environment to be created by top management where all employees interact and share information freely on the issues related to electronic procurement. The study recommends that project managers need to be aware of their procurement technology preferences and provide the tools and equipment to the procurement team as they can be more motivated. Implementation of technological systems can either act as a medium for change or be the means of achieving a desired change in implementation of electronic procurement

**Keywords:** procurement policies, training, management commitment and technical infrastructure.

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## 1. INTRODUCTION

In the recent past, there has been a significant effort in the Sacco's globally to improve procurement strategies and procedures. These efforts have mainly focused in realizing improved efficiency and cost-savings through the purchasing system, by developing a number of instruments and tools which assist public sector bodies in their procurement activities. Among these instruments, electronic procurement has come out as a popular system that has been adopted by organizations to achieve these objectives (Knudsen, 2002). With the emergence of Information and Communication Technology (ICT), organizations have been forced to shift their operation from the traditional style to e-business, e-procurement and e-supply chain philosophy in order to sustain themselves (Lee et al., 2007). In the automation of the supply chain process, e-procurement provides several advantages which every organization should consider adopting. E-procurement is seen as a powerful means of achieving efficiency and —has an indirect effect on cash savings by providing the access to good deals (OGC, 2015). It helps suppliers in tendering for contracts by erasing spatial and distance constraints, by speeding up procedures and by reducing administration costs significantly.

### Statement of the Problem:

Sacco's experience major challenges in the execution of procurement practices. In Kenya, the Sacco's spend about Kshs.2 billion per year on procurement on average. However on annual bases, the government losses close to Ksh. 1 billion due to inflated procurement quotations (KISM 2016). According to Public Procurement Oversight Authority (PPOA 2009), most of the tendered products/services in many Sacco's have a mark-up of 50 per cent on the market prices. In the year 2016, the Ministry of Education lost 4.2 billion Kenyan shillings, in the year 2015, a total of Ksh. 33,061,925 is said to have been embezzled from "Kazi Kwa Vijana funds" (Daniel 2010).

The inefficiency and ineptness of overall implementation of procurement practices in many Sacco's contributes to loss of over Ksh.40 million annually (Tom 2017). According to Victor (2012), procurement expenditure could be minimized through proper implementation of e-procurement practices. A relatively well-developed body of research by Daniel (2010), Victor (2012) and Tom (2009) explored implementation of procurement practices in public sector organizations in general and left a major knowledge gap on effective implementation of electronic procurement in the public sector in Kenya. It's hence against this background this study evaluated determinants of implementation of electronic procurement in the Kenyan Sacco's.

Local scholars have dealt with the situation being studies either holistically or partially rather than specifically. Furthermore, while this area of research has attracted noteworthy interests and consequently additional quality concepts and theories in the western world, this field has not gotten much attention in the Kenyan context. Analyzing determinants of determinant of implementation of electronic procurement in the Kenyan Sacco's is therefore underscored. This study has basically sought to answer the question: what are the determinant of implementation of electronic procurement in the Kenyan Sacco's.

### Objectives:

- i. To evaluate the influence of procurement policies on the implementation of electronic procurement in Sacco's.
- ii. To find out the influence of training on the implementation of electronic procurement in Sacco's.
- iii. To determine the influence of management commitment on the implementation of electronic procurement in Sacco's.
- iv. To determine the influence of technical infrastructure on the implementation of electronic procurement in Sacco's.

## 2. THEORETICAL REVIEW

### 2.1 Innovation Diffusion theory:

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread. Everett Rogers popularized the theory in his book Diffusion of Innovations; the innovation must be widely adopted in order to self-sustain. Diffusion of Innovation (DOI) theory is a popular model used in information systems research to

explain user adoption of new technologies. Rogers defines diffusion as ‘the process by which an innovation is communicated through certain channels over time among the members of a social society’ (Bulmer, 2004). An innovation is an idea or object that is perceived to be new. According to DOI, the rate of diffusion is affected by an innovation’s relative advantage, complexity, compatibility, trialability and observability.

Bird (2009) defines relative advantage as ‘the degree to which an innovation is seen as being superior to its predecessor’. Complexity, which is comparable to perceived ease of use construct, is ‘the degree to which an innovation is seen by the potential adopter as being relatively difficult to use and understand’. Compatibility refers to ‘the degree to which an innovation is seen to be compatible with existing values, beliefs, experiences and needs of adopters’. Trialability is the ‘degree to which an idea can be experimented with on a limited basis’. Finally, observability is the ‘degree to which the results of an innovation are visible’ (Aberdeen Group, 2005). The diffusion theory is relevant because it explains the reason why supply chain partners adopt technical innovations. One of the reasons why organizations adopt technical innovations is relevant advantage. This means that organizations that adopt technical innovations have relatively better comparative advantage than those who do not (Thai, 2007)

## 2.2 The Theory of Accountability:

Azadegan and Teich (2010), explained accountability theory as the perceived need to justify one’s behaviors to another party causes one to consider and feel accountable for the process by which decisions and judgments have been reached. In turn, this perceived need to account for a decision-making process and outcome increases the likelihood that one will think deeply and systematically about one’s procedural behaviors. This theory was originally developed by Tetlock, Lerner, and colleagues and has been effectively applied in organizational research. Importantly, as explained carefully by Bird (2009), a useful way to understand accountability is to distinguish between its two most prevalent uses: as a virtue and as a mechanism.

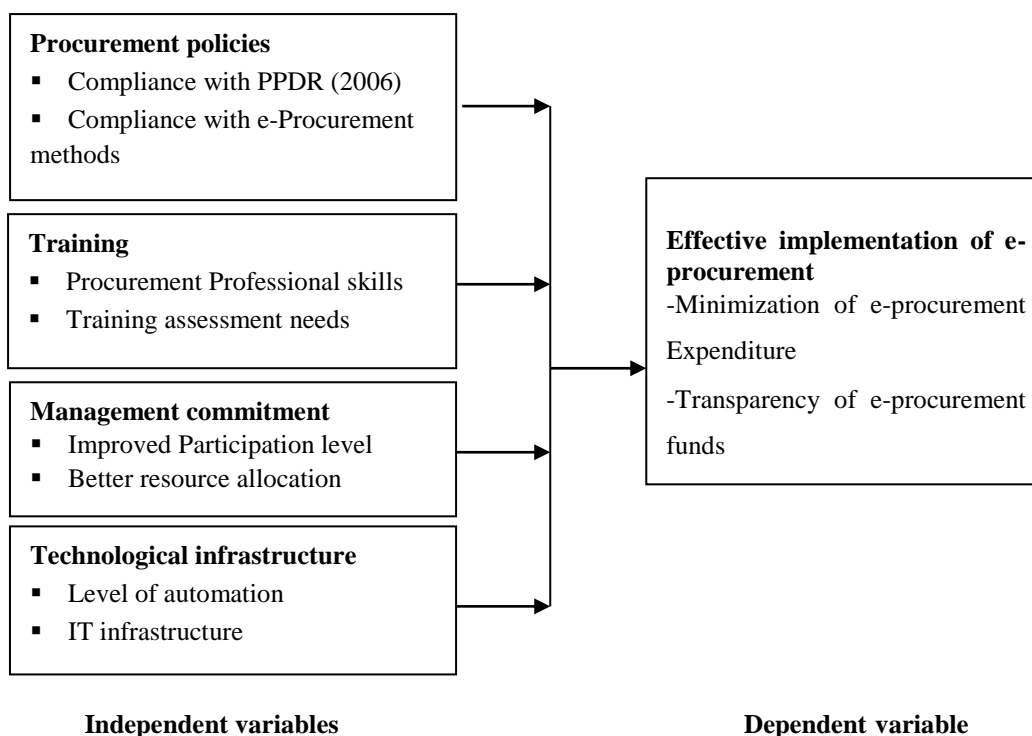
As a virtue, accountability is seen as a quality in which a person displays a willingness to accept responsibility, a desirable trait in public officials, government agencies, or firms; hence, in this use, accountability is a positive feature of an entity (Bulmer, 2004). As a mechanism, accountability is seen as a process in which a person has a potential obligation to explain his or her actions to another party who has the right to pass judgment on the actions as well as to subject the person to potential consequences for his or her actions. Accountability theory focuses on the process of accountability.

The theory of technological connectivity is important to the success of e-procurement as it is the bedrock of e-procurement. Connectivity is the red line between manual procurement and e-procurement. Technical skills are also important as the staff carrying out the e-procurement must be IT compliant. This is because the computers cannot work by themselves. Ethics in e-procurement is paramount as without it, bidders who do not comply with the set procurement regulations and regulations will be awarded contracts which they do not deserve. Therefore compliance with set regulations and rules should be adhered to.

## 2.3. The Knowledge-Based Theory:

The knowledge-based theory of the firm considers knowledge as the most strategically significant resource of the firm. Its proponents argue that because knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance (Grant 2007). This knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees (Zander 2007).

The knowledge-based theory determines the nature organization human resources capabilities which are mostly influenced by the nature of training given to the employees. Existence of professional trained staff in procurement field and availability of many staff with high education level plays an important role in strengthening the organization capabilities in terms of trained manpower. The study thus used this theory to establish how an organization trains employees in order to equip them with knowledge that helps them to support effective implementation of procurement practices.

**Conceptual Framework:****Figure 2.1: Conceptual framework****Critique of the Study:**

The theoretical and the empirical literature demonstrate that, the existing literature on implementation of effective procurement practices is not extensive in Africa and in Kenya in particular. Most studies on implementation of effective Public Procurement practices are common in many developed countries such as Europe, America and Canada. This is explained by studies by Bovaird (2007), Ryall (2001), Murray (2009) and Stonebraker (2007).

**Summary:**

This chapter discussed the existing literature on determinants of implementation of electronic procurement in Sacco's. The chapter explained the conceptual framework, theoretical framework, empirical literature, critical review and research gaps. The next chapter covers the methodology adopted to undertake the study.

**Research gap:**

Despite the importance of public sector procurement, the number of studies that have investigated the determinants of implementation of electronic procurement in the Kenyan Sacco. Studies by Thomson and Jackson (2007), DEFRA (2006) and Brulhart (2009) draw much emphasis on effective procurement in developed nations but fail to address the factors affecting adoption of effective procurement practices in developing nations. Studies by Patrick (2008) and Edward (2009) attempted to explain the status of effective procurement practices in Kenya but do not offer practical solution on how government training institutions should embrace effective procurement practices. A study by Talluri (2008) found that many government organizations in United India and Malaysia lack effective procurement policies for supporting effective implementation of procurement practices .A study by Sobczak (2008) notes that many Japanese firms that employ just in time inventory management technique have succeeded in embracing efficient procurement practices. A study by Moses (2009) found that application of poor sourcing strategies is a key impediment to implementation of effective procurement practices in many government institutions in Kenya. A study by Simpson and Power (2007) found that in many African government institutions, many procurement managers are not trained on implementation of effective procurement practices since most African training institutions have not embraced effective procurement practices in public

procurement training institutions. These studies have not specifically addressed the key effective e-procurement practices implementation factors hence developing a major knowledge gap on factors influencing implementation of effective electronic procurement in the public sector in Kenya. This study aims to fill the missing gaps by determining the major determinants of implementation of electronic procurement in Sacco's and offering recommendations.

### 3. RESEARCH METHODOLOGY

The research design used in this study was descriptive research design. Quantitative research was used to provide numerical measurement and analysis of the Kenyan Sacco dynamic. The method was chosen since it is more precise and accurate since it involves description of events in a carefully planned way. The study was undertaken at Chai Sacco. The target population therefore comprised of 145 respondents who was drawn from the Chai Sacco. Taking into consideration variables such as homogeneity in the data, and the experiences of other researchers, this study utilized a sample size of 43. The study used stratified random sampling technique to select the sample. The study grouped the population into strata. From each stratum the study used simple random sampling to select respondents. Three data collection methods were by use of questionnaires. The research data was transcribed, coded and then subjected to predetermined categories for ease of analysis with the help of research assistants. The filled out questionnaires responses was coded and categorized according to emerging themes. Data collected from the field was processed and analyzed into meaningful and relevant information. It was then be assigned percentages to help in analysis. Statistical Packages for Social Science (SPSS) version was used to analyze the primary data collected. Visual representation such as frequency tables, bar graphs and pie charts were also used. The researcher employed multiple regression model to the study. The research deems regression method to be useful for its ability to test the nature of influence of independent variables on a dependent variable.

#### Model:

The model was specified as follows:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$

Where,

Y= Implementation of electronic procurement in the Kenyan SACCO.

X1: Procurement policies

X2: Training

X3: Management commitment

X4: Technological infrastructure

### 4. REGRESSION RESULTS

#### Regression analysis model summary:

A multiple linear regression analysis was performed to test the effect of the independent variables on the dependent variable. The average ratings for the four independent variables were used as the indicators for input into the regression model. The coefficient of determination and standard error of the regression model is indicated in Table 4.10. Results in Table 4.14 indicate that the adjusted  $r^2$  was 0.537 indicating that the independent variables explained 53.7% of the effective implementation of e-procurement. This indicates that the model had good explanatory power.

**Table 4.1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766 <sup>a</sup>	.587	.537	.33710

Further, the regression output in Table 4.15 presents the source of variance, mean of variances and the f value. The results indicate that the overall model was significant and could provide important results. This indicates that the model could provide some predictive significance and was a good fit.

Table 4.2: ANOVA<sup>s</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.329	4	1.332	11.724	.000 <sup>b</sup>
	Residual	3.750	33	.114		
	Total	9.079	37			

a. Dependent Variable: Implementation of e-procurement

b. Predictors: (Constant), Technological infrastructure , Procurement Policies, Management Commitment, Training

Further, the regression output on significance of the independent variables is presented in Table 4.3.

Table 4.3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	2.393	.085		2.052	.001
	Procurement policies	.455	.229	.314	1.987	.001
	Training	.750	.105	.766	7.152	.000
1	Management commitment	.536	.162	.483	3.306	.001
	Technological infrastructure	.652	.126	.652	5.162	.002

a. Dependent Variable: Implementation of e-procurement

$$Y = 2.393 + .455X_1 + .750X_2 + .536X_3 + .652X_4 + \epsilon$$

Where,

Y= Implementation of electronic procurement in the Kenyan SACCO.

X1: Procurement policies

X2: Training

X3: Management commitment

X4: Technological infrastructure

The results in Table 4.3 indicate that procurement policies significantly and positively influenced on the implementation of electronic procurement in the Kenyan Saccos. This implies that compliance with procurement policies plays a very important role in bringing forth improved organizational performance through implementation of electronic procurement in the Kenyan Saccos by bringing forth transparency and professionalism within the procurement process.

Further, training has a significant and a positive influence on the implementation of electronic procurement in the Kenyan Sacco's. This implies that conducting training to improve implementation of electronic procurement is particularly important to organizations with stagnant or declining rates of productivity, and changing mode of operation. Training is also essential to organizations that are incorporating new technologies which may consequently increase the likelihood of employee obsolescence.

Management commitment had significant and a positive influence on the implementation of electronic procurement in the Kenyan Sacco's. This implies that commitments are beneficial to an organization because they give employees a clear sense of focus and help them prioritize and coordinate their actions toward the implementation of electronic procurement.

Finally, technological infrastructure had a significant and positive influence on the implementation of electronic procurement in the Kenyan Sacco's. This implies that technological infrastructure has positive impact on the implementation of electronic procurement it enables organizations to effectively monitor and coordinate procurement procedures of all procurement projects because of computerized procurement procedures and this subjects much of procurement functions to automated operations which are fast and effective.

## 5. CONCLUSION

The study concluded that training has a significant and a positive influence on the implementation of electronic procurement in the Kenyan Sacco's. The study also concluded that management commitment had significant and a positive influence on the implementation of electronic procurement in the Kenyan Sacco's. The study further concluded that technological infrastructure had a significant and positive influence on the implementation of electronic procurement in the Kenyan Sacco's. The study recommends that well and effective documented procurement policies and procedures on how employees in the organization is supposed to go on the implementation of electronic procurement should be put in place to realize good performance in the implementation of electronic procurement.

## 6. RECOMMENDATIONS

The study also recommends that organizations should be sensitized on the importance of training on the issues related to implementation of electronic procurement. Such programmes can be in the form of seminars, training, workshops and conferences. The study finally recommends that project managers need to be aware of their procurement technology preferences and provide the tools and equipment to the procurement team as they can be more motivated. Implementation of technological systems can either act as a medium for change or be the means of achieving a desired change in implementation of electronic procurement. Integrating technology into procurement management process could be one of the best ways that contribute to effective implementation of electronic procurement

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