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## Relationship between E-procurement Adoption and Partnership Practice in Tea Firms

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### **Abstract:**

Many firms in the world and more so in Kenya have registered dismal supply chain performance in terms of partner relationship within supply chain system because of the inefficient and unsustainable procurement procedures as witnessed in the Kenyan public sector. The purpose of this study was to establish the influence of e-procurement adoption on supply chain partnership practice. The objectives of the study were to establish the influence of e-procurement adoption on partnership practice in tea firms in Kenya. The study was guided mainly by Diffusion of Innovation theory and Resource Based Theory. The research design adopted during the study was explanatory. From 12 tea firms a target population of 4200 respondents was set. Purposive and proportional sampling was used to select a sample size of 365 respondents among the staff, top management and suppliers. Questionnaires and structured interview schedule was used to collect data. Pearson product moment correlation coefficient and linear regression were used to test strength of the relationship between variables. E-procurement adoption positively influence partnership practices ( $r=.548$ ). The e-procurement adoption positively influenced the partnership practices. From the regression model,  $R^2$  was .300 and showing that e-procurement adoption account for 30% partnership practice. The electronic procurement adoption in tea firms has built partner relationships with suppliers, benefited in the reduction of cost, lead time and stable supply source and adopted the supply chain management practices. It has enhanced trust and partner relationship with suppliers using electronic procurement. The e-procurement adoption was found to make firm partner relationships improve supply chain performance. The tea firms should provide information to all their suppliers on inventory levels of products, product compositions and raw materials purchased from them, always and promptly without bias and also execute adequate debriefing of suppliers to enhance partner relationships after every evaluation.

**Keywords:** Adoption, E-Procurement, Partnership, Practices, Tea Firms

### **1. Introduction**

Supply Chain Management is an essential prerequisite to exist in any competitive global environment for profitability especially for profit government corporations and entities (Thai, 2009). As the world's economy becomes increasingly competitive, sustaining competitiveness and the resulting profitability depend less on the ability to raise prices (Presutti, 2003). Firms establishing competitive supply chains are always the big winners in contemporary business world. In the current economic environment, a value creation perspective is important for improving supply chain performance (Wiengarten, Fynes, Humphreys, Chavezand, & McKittrick 2010). The functional characteristics of e-procurement systems can enable companies to improve the efficiency of value creation processes in the supply chain. The process through which e-procurement contributes to supply chain performance can only be highlighted through explaining the relationship among such processes as; partner relationships, information sharing, and supply chain integration which are proposed as the processes that connect e-procurement systems with supply chain performance. Since e-procurement is an electronic (technology-based) system (Presutti, 2003), the consequences of e-procurement can be inferred from the technological applications associated with supply chain management. Partner relationship is a critical issue for business, especially in supply chain activities. Corporations need to be convinced that in today's scale-driven, technology-intensive global economy, partnerships are the supply chain's lifeblood (Liker & Choi, 2004).

To achieve the total performance of supply chains, firms need to know more than inventory positions, deliveries dates, and fill rates. There is need to understand the impact of supply chain variations in total cost and elevate supply chain efficiency for better company results. Organizations must have comprehensive visibility into supply chain performance to maximize competitive advantage (Croon and Johnson 2003). This becomes more intense as firms continue to adopt e-procurement strategies to leverage the competitive advantages of the internet. Managers need to understand the impact of technology and gain competency in the practices for e-procurement (Presutti, 2003). E-procurement creates a higher profile for supply management and boosts its visibility to top management (Presutti, 2003).

The need of supply chain performance has created a greater focus on the supply management link in the supply chain. E-procurement in supply chain have been considered a key area where innovations gives significant benefits for organizations procurement functions (European Commission, 2012). The adoption of information technologies and systems plays a key role in procurement overtime. However, there is a looming gap currently existing in our understanding of the role of procurement in our organizations today (Brook, 2002). E-procurement creates a higher profile for supply management and boosts its visibility to top management (Presutti, 2003).

According to Batenburg (2007) European firms e-procurement adoption varies among countries, and Germany and UK are considered as early adopters of e-procurement, while Spain and France had low adoption rates. The global perspective of e-procurement adopted from the Transparency International (2006) shows that it has helped Brazil in sharing of information between the procuring entities and supplying firms. The business processes of a company, such as distribution, research and development, operations and logistics, are heavily influenced by global competition, high-speed information availability, continuously changing business relationships, shorter innovation cycles and an increasing complexity of products.

E-procurement is one of the most world existing developments in supply chain management in modern times. However, in most African countries, the ultimate e-procurement system is still in the development stage and will evolve over time (Bardi, *et al.*, 2013). Greunen, *et al.*, (2010) argues that supply chain management profits have not been achieved due to poor understanding on how it works in an environment. Problems such as poor information sharing between purchasers and suppliers, non-automated supplier appraisal systems, adversarial relationship and non-responsive supply chain integration exist in this electronic age according to Chartered Institute of Purchasing & Supplies (CIPS) (2011). Giner *et al.*, (2011) confirms that a proper e-procurement system implementation processes links directly the suppliers by managing their interactions. It is evident that although this study focuses on e-procurement, it fails to address the role played by the web based technologies in supply chain performance.

Partner relationships refers to mutually committed relationships between enterprises and their partners (e.g. suppliers, the same tier manufactures and channel members) in the supply chain (Li, Rao, Ragunathan, & Ragunathan 2005; Liker & Choi, 2004; Panayides & So, 2005; Skjott-Larsen Kotzab, and Grieger 2003). Therefore, partner relationship is an ongoing relationship between firms that involve a commitment over an extended time period, a mutual sharing of information and the risk and rewards of relationship (Ellram & Krause, 1994). All these characteristics show that partnerships play an important role in procurement aspect. If we consider those companies that use the internet throughout their supply chain, it is noticed that they both exchange information to a high extent and closely integrate their systems with their partners (Cagiano *et al.*, 2003). Also the internet may support and facilitate information sharing, both in collaborative or in market-type relationships, and can be used to support closer integration (system coupling) with the partners (Cagiano *et al.*, 2003).

In Kenya studies carried out in e-procurement include that of Orori 2011; Njoroge 2010 and Mburu 2011. It is however clear that the studies have not focused on the influence of e-procurement adoption on supply chain performance in tea firms. In order to understand e-procurement along with its application in Kenyan tea firms, this study sought to establish the relationship between e-procurement adoption and supply chain management practices such as partnership, information sharing and supply chain integration.

### 1.1. Statement of the Problem

Procurement in Kenya has been linked to poor handling leading to excessive corruption (Thai, 2009). According to Ogot, Nyandemo, Kenduiwo, Mokaya, & Iraki (2009) there is need for an automated procurement system that is interlinked. Once this is implemented and linked to procurement entities, it becomes a tool for the compliance function in the monitoring and evaluation of procurement entities (PPOA, 2010) but despite these efforts. Several workshops and meetings have been held within the procurement function to improve the performance of the supply chain but they have inadequately addressed how e-procurement adoption can enhance supply chain performance through partner relationship, information sharing and supply chain integration within supply chain system (PPOA, 2010).

Weak ICT infrastructure and its adoption in support of e-procurement is a challenge to procurement (Imbuga *et al.*, 2011). A good example is the core mandate system that is deployed to the Public Procurement Oversight Authority (PPOA) is e-procurement. Once this is implemented and linked to procurement entities, it becomes a tool for the compliance function in the monitoring and evaluation of procurement entities (PPOA, 2011). A study by Kiprono (2013) indicated that the main impediment to e-procurement adoption in tea firms in Kenya is a "wait-and-see" attitude among firms in selecting e-market places and procurement service providers which has significantly hampered supply chain performance. Many firms in Kenya and the world continues to registered dismal Supply chain performance in terms of partner relationship within supply chain system because of the inefficient and unsustainable procurement procedures as it has been witnessed in the Kenyan Public sector. This study therefore will investigate the relationship between e-procurement adoption and partnership practices in tea firms in Kenya. The findings from this study are beneficial to the tea firms as far as the adoption of e-procurement systems is concerned and also in coping with problems of implementation and institutionalization of the e-procurement systems so as to guides firms to formulate effective procurement policies to gain competitive edge in the market.

## 2. Literature Review

### 2.1. Electronic Procurement

According to Robinson, *et al.*, 2010 and Rolstadas, *et al.*, 2011, procurement is a process in which organizations establish agreements for the acquisition of goods or services (contracting) or purchase goods or services in exchange for payment (purchasing). Albrecht *et al.*, (2005) stated that e-procurement is where a number of organizations adopt e-procurement systems to obtain supplies. The only vendors who are connected to a buyer's e-procurement system are visible to the buyer. Kim and Shunk (2004) argue that e-procurement systems enable firms to exchange goods and services. E-procurement in this study was defined as an organization's procurement using the internet technologies (Kim & Shunk, 2004) with support to sourcing, procurement, tendering and ordering fulfillment processes. Organizations and individual embrace e-procurements due to its integration benefits by bringing goods and services to the required area (European Union, 2012). This assist the organizations improve procurement efficiency and reduce the management challenges (Done *et al.*, 2011, European Union, 2012 & Reddick, 2004).

### 2.2. Partner Relationship

Supply Chain Management (SCM) is the integration of these activities through improved supply chain relationships to achieve sustainable competitive advantage (Handfield and Nichols, 1999). All the links in the supply chain must be strong and well integrated. According to (Li *et al.*, 2005), the dimensions in SCM practices, partnership, information sharing, information quality, internal lean practices, supplier appraisals and postponement. But during the study only the influence of partnership practice was considered.

There are a lot of synonyms for partner relationship, such as partnership, supply chain relationship, buyer-supplier relationship, strategic relationship, and obligation contractual relations (CIPS, 2010). It also has multiplex statement. Liker & Choi (2004) used the Japan diction "keiretsu" to represent the deep supplier relationship attributed to network among vendors and improve parent companies management. Therefore, partner relationship is an ongoing relationship between firms that involve a commitment over an extended time period, a mutual sharing of information and the risk and rewards of relationship (Ellram & Krause, 1994). All these characteristics showed that partnerships play an important role in procurement aspect. As a result, the researcher can know that e-procurement has positive relation with partner relationship, information sharing and supply chain integration. Johnson & Klassen (2005) also mention that e-procurement deepens strategic partnerships between networks of firms. Therefore, it was expected that firms that deliver e-procurement system in the supply chain were likely to strengthen partner relationship.

### 2.3. Partnership Relationship and Supply Chain Performance

Depending on ongoing and mutually beneficial partner relationships, an enterprise can launch a successful product/service faster than its competitors (Liker and Choi, 2004). Enterprises that incorporate strategic collaboration partners in their product design process could potentially further reduce the time and cost of developing and introducing new products (Eng, 2004). Evans & Wurster (2001) claimed that the low infrastructure and transaction costs of internet-based systems allow organizations to venture in opportunities to earn information from multiple partners, by building relationships between trading partners. Amit & Zott (2001) proposed the importance of close relationships among trading partners as a key source of advantage to both buyer and seller.

Inter-organizational relationships would arguably lead to enhanced supply chain performance and greater potential benefits for all parties in the supply chain (Lee *et al.*, 1997). Sink & Langley (1997) argues that firms had core capabilities in the functioning logistics but earn profit from managed relationships. Business are increasingly relying on their suppliers relations to reduce costs, improve quality, and develop new process and products faster than their rivals' vendors can (Liker & Choi, 2004). For example, some corporations set up efficient EDI connections with preferred buyers and sellers to sign just-in-time agreements and preferred pricing (Albrecht *et al.*, 2005).

It is possible for organizations to work together with different partners and customers simultaneously to reduce the time and cost of developing and introducing new products (Eng, 2004). Through relationship learning, both parties in customer-supplier relationship identified ways to reduce or remove redundant costs, to improve quality and reliability and to increase speed and flexibility (Selnes & Sallis, 2003). These theories provide the evidence that if firms increased their partner relationship in the supply chain, they are likely to improve their supply chain performance and may happen in tea firms. The influence of partner relationships on supply chain performance is expected to be positive.

### 2.4. Theoretical Framework

The study adopted Diffusion of Innovation (DOI) theory (Hsu, Kraemer & Dunkle 2006) and Resource-Based View (RBV) theory (Zhu & Kraemer, 2005) to explain the effect of e-procurement adoption on supply chain performance in tea firms. The technological context is addressed by both DOI theory and RBV theory. Diffusion of innovation theory by Rogers (2003) describes the process of spreading an innovation via communication channels with time in a social system. Roger's theory details the stages of the innovation decision process (knowledge, persuasion, decision, implementation, and confirmation). According to DOI theory, an innovation is communicated via channels over time. The communication channels are mass media channels (e.g., radio and newspapers) and interpersonal, interactive channels (such as in face-to-face communication). It is common to draw distinction between process and variance theories: theories describing typical stages of a process and theories hypothesizing cause effect relationships between variables (Gregor, 2006). The members of a social system, the potential adopters, could be individuals, informal groups, or organizations. When the adopter is an organization, along with the attributes of the organization's leader as an

adopter, DOI theory suggests that organizational structure (e.g centralization, complexity, and formalization) and organisational openness (links to other organizations) affect the rate of adoption.

Resource-Based View theory suggests that firms create value by combining resources, both tangible and intangible along with the term resources. The value of a particular resource may depend on the presence of other, related resources (Mohd Salleh, 2009). RBV theory distinguishes physical capital resources, human capital resources, and organisational capital resources. Information technology can be seen as a physical capital resource. The structure of a firm is both reflected and supported by its information systems, and the firm's relationships with other firms may involve sharing information in digital form and inter-organisational system integration. Srinivasan, Lilien, & Rangaswamy (2002), in a survey of companies in multiple industries in the US, found that the adoption and use of e-business was influenced by the technological capabilities of the firms. RBV theory has been criticised for being not specific enough in defining various types of resources; Priem and Butler (2001) argued that key definitions varied from study to study, with the resulting inconsistency hindering the accumulation of knowledge. Arguably, RBV theory addresses this context in a rather limited way, as the environment cannot be viewed solely as a resource, but also presents constraints and threats. DOI theory explicitly targets explaining technology adoption and addresses all the three contexts. RBV theory simply considers technology as a physical capital resource that can be used to generate a sustained competitive advantage. DOI theory suggests the specific attributes of an innovation (applicable to technology innovation) relevant to decisions regarding adoption and use. The organisational context is addressed by DOI theory and RBV theory. DOI theory and RBV theory are similar in terms of modelling the organisational context, because from the perspective of RBV theory, the aspects of organisational structure claimed by DOI theory to affect adoption and use can be seen as human capital and intra-organisational capital resources.

### 2.5. Conceptual Framework

The study conceptualize that there is a relationship between E-procurement adoption and supply chain management practices as in Figure 1. The independent variable was the E-procurement adoption and the dependent variable was partnership practice.

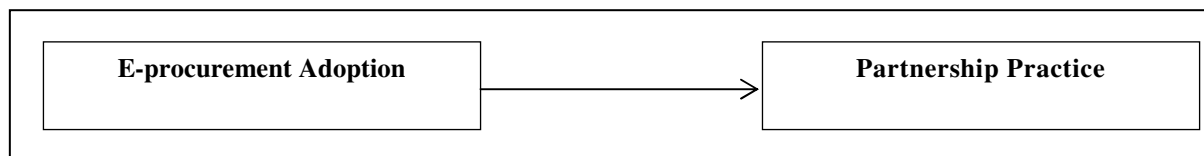


Figure 1: Conceptual Framework

### 3. Research Methodology

The study adopted explanatory research design. The design was suitable because it concerns with quantifying a relationship purposely to identify a cause-effect relationship. The study was conducted in tea firms located in the West and East of Rift Valley. The location was chosen because their tea firms have adopted the e-procurement and therefore provides viable information required in the study. The study targeted twelve (12) tea firms. The target population was 4200 respondents. Census sampling was used to select all the tea firms, as few firms have adopted the e- procurement. The line managers and staff from the procurement, administration and suppliers were sampled purposively. Using Yamane's (1967), the sample size was computed as hereunder:

$$n = \frac{N}{1 + N(\epsilon)^2} = \frac{4200}{1 + 4200(0.05)^2} = 365 \text{ respondents}$$

**Where;** n = the sample size, N = the population size,  $\epsilon$  = the acceptance sampling error

The research study was based on the primary and secondary data. Questionnaires were used to obtain information from procurement and administration staff, as well as structured interview schedule for managers and suppliers. A pilot study was conducted in Kenya Tea Development Agency (KTDA) among four KTDA tea firms with similar characteristics. Expert opinion was used to assess the validity of the data collection tools. The suggestions were used to modify the research items and make them adaptable to the study. Cronbach's coefficient alpha was used to determine the reliability of the research instrument, where a reliability coefficient of 0.7 and above was assumed to reflect the internal reliability of the instruments (Fraenkel & Wallen, 2000). The instruments' deemed reliable after many typographical errors and omissions detected were corrected. The responses from questionnaires and interview schedule items were cross-checked to facilitate coding and analysis using SPSS Version 21.0 computer programme. Pearson product moment correlation and linear regression were used to establish the relationship between independent and dependent variables.

### 4. Results

#### 4.1. Correlations between E-Procurement Adoption and Partnership Practice

The influence of e-procurement adoption on supply chain management practices in tea firms was investigated using Pearson product-moment correlation coefficient as shown in Table 1. There was a positive influence of e-procurement adoption ( $r=0.554$ ) on partnership practice.

		Adoption	Partnership
Adoption	Pearson Correlation	1	.548
	Sig. (2-tailed)		
Partnership	Pearson Correlation	.548**	1
	Sig. (2-tailed)	.000	

Table 1: Correlations between E-Procurement Adoption and partnership Practice  
 \*\*: Correlation is significant at the 0.01 level (2-tailed). b. N=272

This implies that as the e-procurement adoption in tea firms improved the partnership relationship. The e-procurement has positive relation with partner relationship. This finding agrees with Johnson & Klassen (2005) that e-procurement deepens strategic partnerships between networks of firms. Therefore, it was expected that firms that deliver e-procurement system in the supply chain were likely to strengthen partner relationship. The firms that increased their partner relationship in the supply chains are likely to improve their supply chain performance as it happened in tea firms.

#### 4.2. Linear Regression on the Relationship between E-Procurement Adoption and Partnership Practice

A linear regression model was used to explore the relationship between dependent variable and independent variable or predictor. It was used to predict partnership practice. From the regression model,  $R^2$  for partnership was .300. These showed that e-procurement adoption account for 30% partnership practice (Table 2). The predictors used in the model have captured the variation in the partnership practice of Tea firms. The regression model significantly improved the ability to predict the partnership practice. The F-ratio was significant ( $P < .05$ ) leading to rejection of the null hypotheses.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.548 <sup>a</sup>	.300	.297	.45709	.300	107.69	1	251	.000

a. Predictors: (Constant), Adoption

Table 1: Model Summary on partnership Practice

The  $\beta$  value for adoption of e-procurement had positive relationship with all the partnership practice as shown in Table 3. From the findings the t-test associated with  $\beta$ -values was significant and the e-procurement adoption as the predictor was making a significant contribution to the model. The coefficients results showed that the predicted partnership practice in relation to the e-procurement adoption was significant;  $\beta_1 = 0.534$  ( $p < 0.05$ ) which implies that we reject the null hypothesis ( $H_{01}$ ) stating that E-procurement adoption has no significant influence on partnership practice in tea firms. This indicates that for each unit increase in the adoption of e-procurement, there is 0.534 units increase in partnership practice in tea firms.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.702	.193		8.830	.000			
	Adoption	.534	.051	.548	10.377	.000	.548	.548	.548

a. Dependent Variable: Partnership

Table 2: Linear regression on the relationship between E-Procurement Adoption and Supply Chain Management Practices

b. Predictors: (Constant), Adoption of e-procurement

These findings agree with Presutti, (2003) that E-procurement creates a higher profile for supply management and boost its visibility to top management. The findings also agree with Schorr (1998) that firms no longer compete against each other individually, but do so together with their respective supply chains. For firms to compete and survive in this global competitive environment, they have to continuously improve their enterprise, collaborative and cohesive relationships within the supply chain networks.

The findings agree with Amit & Zott (2001) that the importance of close relationships among business partners is important to both buyer and seller. Inter-organizational relationships would arguably lead to enhanced supply chain performance and greater potential benefits for all parties in the supply chain (Lee *et al.*, 1997). The findings agree with Panayides & So (2005), that relationship orientation in logistic service provider-client relationships has a positive influence on supply chain effectiveness and indirect positive influence via supply chain effectiveness on supply chain performance. Therefore, this implied that partnership practice is pivotal if supply chain performance is to be enhanced.

## 5. Conclusion and Recommendations

A strong positive influence existed between e-procurement adoption and supply chain partnership practices in tea firms. The e-procurement adoption affected the partnership practice in tea firms positively. The electronic procurement adoption in tea firms has built partner relationships with suppliers, benefited in the reduction of cost, lead time and stable supply source and adopted the supply chain management practices. It has enhanced trust and partner relationship with suppliers using electronic procurement. The e-procurement adoption was found to make firm partner relationships improves supply chain performance.

The tea firms should provide information to all their suppliers on inventory levels of products, product compositions and raw materials purchased from them, always and promptly without bias and also execute adequate debriefing of suppliers to enhance partner relationships after every evaluation.

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