ROLE OF ELECTRONIC MATERIAL MANAGEMENT PRACTICE ADOPTION FOR MAINTENANCE, REPAIR AND OPERATIONS PRODUCTS ON COUNTY GOVERNMENT PERFORMANCE IN KENYA

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ABSTRACT

The main goal of this study was to find out how electronic procurement for MRO products affects the performance of Kenyan county governments. As a result, the study's main goal was to look into how electronic procurement for MRO products in Kenya affects the performance of the county government there. The study used a cross section research design to meet the overall goal and test the study hypotheses, so it used this type of design. Three hundred and seventy-nine people were chosen at random from each of the 47 counties using stratified sampling. The first information came from procurement professionals. At the end of the day, 342 questionnaires were handed out. Senior procurement officers from 47 countries filled out the questionnaires on their own. It looked at the effects of electronic tendering, electronic order processing, electronic material management, and electronic supplier management practices for MRO products on the performance of county governments in Kenya. The descriptive statistics used to look at the data included frequency, percentage, mean and standard deviation, which were then used to make figures and tables that show how the data was organized. Relationship analysis was used to find out how strong electronic tendering, electronic order processing, electronic material management, and electronic supplier management practices for MRO products were on county government performance in Kenya. The nature of these practices was also looked at. County government performance in Kenya changes 66.3 percent of the time. The rest of the percentage can be explained by things that aren't in the model, like electronic tendering, electronic order processing, electronic material management, and electronic supplier management practices, which aren't in the model.

Key Words: *Electronic Procurement*, E-Material Planning, Warehouse Automation

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INTRODUCTION

In recent years, electronic tools have made indirect commodity procurement, such as office supplies and MRO, a more productive and rising reality (Lee et al., 2003; Puschmann and Alt, 2005, Caniato et al., 2010). According to Foroughi (2007), one area of the supply chain where significant cost savings and efficiency can be achieved is indirect material procurement. "The procurement of items and services for organizations," according to Turban et al. (2006). According to Parida and Sophonthummapharn (2010), e-procurement systems are widely used to purchase and sell goods for maintenance, repair, and service (MRO) and can easily be converted into an e-catalogue. Companies are being forced to shift their operations from a traditional way to a virtual e-business, e-procurement, and e-supply chain philosophy as a result of the evolving application of internet technologies, and one such technological application called e-procurement has assured companies of greater profitability (Parida and Sophonthummapharn, 2010).

E-procurement has also shaped a new way of purchasing items by increasing the variety and innovation of available features (van Weele, 2010). As a result, different counties in different geographical regions may have different views on how to implement e-procurement for MRO procurement.

LITERATURE REVIEW

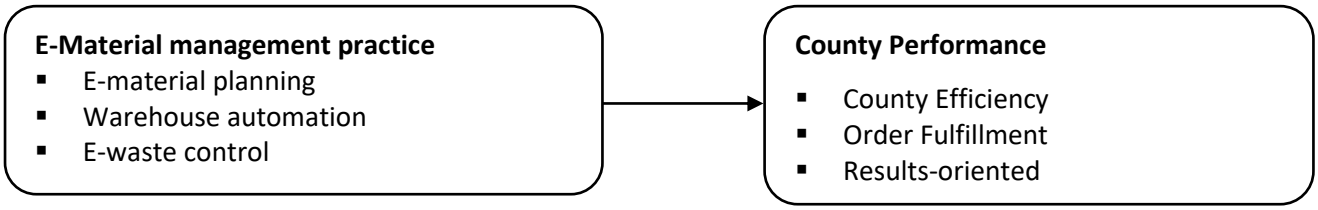
The resource based view (RBV) theory

According to the RBV, for a resource to successfully shift from a short-term competitive advantage to a long-term competitive advantage, it must be diverse in nature and not transportable. It focuses on an organization's ability to offer products that are not replicable and cannot be replaced. This characteristic allows a company to maintain its competitive advantage throughout time, ensuring long-term viability. IT (information technology) has long been in charge of supply chain management and procurement, according to Pressutti (2003). RBV is brought in to assess the long-term viability of IT sources. According to RBV Rajkumar, strategic resources generate economic rent, which is assessed by IT (2001). This is due to RBV's concentration on providing inimitable, uncommon, precious, and non-substitutable items through information technology.

In addition, the theory requires immobile and heterogeneous resources. The constraints linked with resources include a lack of ability to create distinctive products, uncertainty in social complexity, and insufficient knowledge and skills, all of which are heavily stressed by the idea for long-term competitive advantage sustainability. Alistair and Simon (2005). Other businesses may find it difficult to replicate the resources generated from information technology because they lack the necessary learning capabilities, organizational knowledge, and time. This is owing to the IT industry's need to provide dynamic and sensitive words. Webb is a character in the film Webb (2004). The idea thus focuses on how to improve and sustain electronic material management practice adoption for MRO products on county government performance in Kenya by utilizing information technology, which is a strategic resource that must be properly accepted and utilized in Kenya.

Conceptual Framework

As indicated in Figure 1, the conceptual framework for this study is based on one independent variables and one dependent variable.



Independent variable **Dependent variable**

Figure 1: Conceptual Framework

Empirical Review

Electronic material management practice

Lean supply chain management is a comprehensive production management system developed by Toyota in Japan but perfected by other scholars and organizations that deals with elimination of waste and reduction of error reduced inventories costs bringing about efficiency and effectiveness. With the introduction of concepts like JIT (Just in Time) and VMI (vendor managed inventory), it is paramount that best practice organizations introducing lean supply chain management practices identify strong suppliers and develop those suppliers into partners. The report further states that a diverse supplier base and mentoring of suppliers by the buyer means that efficiency and effectiveness is achieved in service delivery. When conducting a new supplier appraisal whether electronic or manual, assessment emphasis is put on product quality, planning, supply assurance, customer focus and change control, (KPMG, 2012), A supply chain of a certain product or a service essentially has three main parts, the supply, manufacturing and distribution. The supply side concentrates on how, where from and when raw materials are procured and supplied to manufacturing. Manufacturing converts these raw materials to finished products and Distribution ensures that these finished products reach the final customers through a network of distributors, warehouses and retailers. Effectively managing these flows can impact virtually all e-material supply chain, leading to profitable policies for continuous improvements in areas such as data accuracy, improving material quality, reducing lead times and reductions in operational complexity. Other benefits include: Improved delivery performance such as quicker customer response and fulfillment, rates especially in the field of IT which is changing very rapidly, greater productivity and lower costs, reduced inventory throughout the chain, improved forecasting precision of demand, enhanced inter-operational communications and cooperation and more reliable financial information.

METHODOLOGY

A cross-sectional survey design was used in this study, which combined quantitative and qualitative methods. The quantitative approach emphasizes measurement, and data is numerically analyzed to provide precise descriptions.

Pilot tests, according to Cooper and Schindler (2011), are used to detect flaws in design and instrumentation, as well as to provide proxy data for probability sample selection. The procedures used during pre-testing the questionnaire were the same as those used during the actual study or data collection. The sample size for the pre-test should be small, ranging from 1% to 10% of the target population (Mugenda & Mugenda, 2003). The questionnaire was tested on 10% of the total sample size, which added up to 37 respondents in this study.

Table 1: Cronbach Alpha for Reliability Assessment

Variables	Cronbach's Alpha Before Removing Some Items	No of Items	Remarks
Electronic Material Management Practice	.709	7	Accepted
County Government Performance	**.799**	**7**	**Accepted**

According to Bonett and Wright (2014), the Cronbach alpha test examines whether items in a given Likert scale are measuring the same construct. The second column in Table 1 indicate the number of items that made-up the Likert scale for each study variable while the third column details the number of participants in the pilot test. The fourth column presents the Cronbach alpha for the Likert scales for the five variables of the study while the final column presents the verdicts that were derived from the alpha values. Bonett and Wright (2014) opine that an alpha that is greater than 0.7 connotes that the items in scale provide a consistent measure of the variable that the scale is supposed to measure. The results in Table 1 thus indicate that the items in the each of the two Likert scales provided a consistent measure of the study variables.

To determine the validity of the instrument, the researcher examined the relevance and suitability of the data collected during the pilot-test in addressing the research issue. The pilot data confirmed that the instrument was capable of generating the date needed to examine determinants of implementation of COBDC. Validity was also enhanced by seeking the input of university research supervisors regarding the relevance and clarity of the content of the data collection instrument. In addition, the instrument was sub-divided into sections that correspond to the variables of the study with the view of making certain that all variables are comprehensively covered.

FINDINGS AND DISCUSSION

The study determined the impact of electronic material management practices for MRO products on county government performance in Kenya. County efficiency, order fulfillment, and citizen-centered service delivery were indicators of electronic material management practice adoption for MRO products in the literature reviewed in this study, while electronic material management practice adoption for MRO products was indicated by E-material planning, Warehouse automation, and E-waste control. The following hypothesis was developed and tested in light of the theoretical arguments:

H_0: In Kenya, electronic material management practice adoption for MRO products has no significant role on county government performance.

Table 2 showed that the coefficient of determination, as indicated by R squared, is 0.264, implying that electronic material management practice adoption explains 26.4 percent of county government performance, while other factors explain the remaining proportion.

Table 2: Model Summary for role of electronic material management practice adoption for MRO products on county government performance in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.514a	0.264	0.257	0.267	2.133

a. Predictors: (Constant), electronic material management practice adoption for MRO products
b. Dependent Variable: county government performance in Kenya

Table 2 showed the results of the Analysis of Variance (ANOVA). According to the results, the model's F-Statistics was 6.571, with a significance level of 0.0000.05. This implies that electronic material management practice adoption for MRO products has a significant role on county government performance in Kenya.

CONCLUSION AND RECOMMENDATIONS

The adoption of electronic material management practices for MRO products in Kenya was found to have a positive and significant impact on county government performance (rho = 0.514, p value 0.05). This means that electronic material management practices improve county government performance by 51.4 percent per unit change in Kenya. Hence the practice of e-material management improves supply chain performance because real-time stock levels allow inventory managers to quickly see which products have reached re-order levels. Knows how much inventory is in each warehouse, allows inventory to be counted throughout the supply chain, and reduces inventory carrying costs because electronic data allows for better reorder quantity decisions and visibility of product availability, both of which are critical to efficient operations.

The adoption of electronic material management practices for MRO products in Kenya was found to have a positive and significant impact on county government performance (rho = 0.514, p value 0.05). This means that electronic material management practices improve county government performance by 51.4 percent per unit change in Kenya. As a result, E-supplier management improves supply chain performance because buyers and suppliers develop a single shared forecast of demand and a plan of supply, buyers issue streamlined material orders from suppliers, quick information sharing with suppliers, predictability of goods flow, electronic payment to suppliers improve delivery, and improved relationships with channel partners.

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