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E-PROCUREMENT AND PERFORMANCE OF COMMERCIAL BANKS IN MOMBASA COUNTY

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ABSTRACT

This study identified the effects that e-procurement on the bank performances in Mombasa County. The study further determined the effects of e-catalogues, e-payment, e-marketing and e-sourcing towards the performances of banks. The theories that supported this research were; electronic procurement strategy adoption theory, e-procurement adoption theory, Michael Porters five forces of competitive theory, Business to Business theory and RBV (Resource Based View Theory). The study employed descriptive and inferential research design methods. The target population for the study was 148 bank employees in the branches from corresponding departments. The sample size was 108 which was arrived at by using Cronbach's Alpha formula from the target population. The study adopted quantitative research design. Data collection was done using questionnaire method. The researcher used pilot testing of 10% to discover the reliability and validity for the results for the study. Regression analysis and Pearson correlation which was employed during analysis of data, aided in producing the data analysis and interpretation. Data was analyzed by using statistical packaging social sciences version 22. Data presentation was done through frequency distribution of tables. From the findings the independent variables e-catalogues has effect on performances of banks especially because it effectively provides higher accessibility of information on products as respondents showed through the questionnaires. E-markets happened to have impact as they helped in accessing multiple markets especially from various offers of the same product. More so, e-payment and e-sourcing seem to impact more on the performances of banks. The study further recommended future studies on the effect of e-procurement using other research designs such as correlational or experimental research designs to help in finding in-depth investigation of the effect and evolutionary use of e-procurement in the banking sector and other industries as it was seen that the research only covered 62.6% of independent variables of the research. The study also recommended that the users' management and policy makers in the banking industry should focus on accepting alterations from the evolutionary e-procurement and its implementation in the future to further achieve top notch performances.

Key Words: *e-catalogues, e-payment, e-marketing, e-sourcing*

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INTRODUCTION

The supply chain management is a vital department in each and every organization in every industry as it is involved in the procedural sourcing for products and services for an organization (pg.8, Business Needs guide to CIPS). An industrial universal research by Arden Partners in 2011 shows that the procurement alias supply chain management department accounts for 60.6% of the companies' expenditure (Essig & Ulli, 2015). This calls for the need to keep up with a competent supply chain department. This involves cost reduction and a robust system for competitive advantage hence the need to adopt the electronic procurement. Hence, electronic procurement happens to be the usage of information technology all through the procurement to pay process development that responds to environmental changes (Msabaa, 2018).

The banking sector in Kenya is comprises of a total of forty-three commercial banks, one hundred and thirty foreign exchange bureaus, fifteen micro finance institutions and two mortgage finance companies (CBK, 2012). With reference to the companies Act of Kenya, the Central Bank of Kenya (CBK) Act cap 491, the Banking Act cap 488, and Microfinance Act 2006 are the main regulators and governors of the banking industry in Kenya. The Acts have been used to provide banks with prudential guidelines which are discharged by the CBK. In consequence, there has been a body that was enveloped by the banking institution in unison known as the Kenya Bankers Association which seeks to serve the banking institutions and their interests as a whole. It seeks to sought issues that its members are facing within their capacity.

In the recent past, the banking sector has continued to see significant growth in assets, product offerings, profitability measures and deposits. Over the years, this growth has been marked by the expansion of the branch network throughout the industry, both in Kenya and regionally. The automation of banking services and the development of a wide range of customer-oriented products and increased competition following the introduction of innovative products and services and entry into new markets (Ahmad et al., 2015).

The major challenges facing the Kenyan banking sector are: the global economic crisis leading to deposit cuts, interest rates and rates of return on investment, interest rates regulated by CBK's financial regulations, specific policies and procedures, and approval. The law dates from 2010. For example, small banks will be challenged to raise the minimum balance by a billion shillings by the end of 2012, according to the Kenya Monetary Fund (FSD). Competition in the banking sector is particularly fierce if it is difficult to maintain banking results, for example to reduce public debt. The banking environment in the manufacturing sector is changing due to domestic and global tendencies. So to keep its leadership under tight regulation, competition, and flexible management, the technology was adopted as a way to improve the performance of the banking industry. The coordinator's strict rule directions also encouraged others to use the technology in the banking industry Moon (2010).

This sector has experienced remarkable growth and is one of the robust industries in Africa. Growth consistency is heavily contributed by the endless expansion of banks to new market groups and segments especially East Africa, risk management and good economic prospects. The Central Bank of Kenya (CBK) expects the banking sector to continue this growth, mainly due to the restructuring and development of the Government that will help increase the banking sector towards new boundaries (FIS Consulting 2018).

The major banks in Kenya, which are the Kenyan first tire ranking banks, tend to be KCB (Kenya Commercial Bank), Cooperative Bank, Stanbic Bank, Barclays bank, Commercial Bank of Africa, Standard Chartered Bank, Family Bank, DTB (Diamond trust Bank) and Equity bank (NSE, 2016) which have grown all over East Africa and some tend to be franchised all the way from abroad e.g. Standard Chartered Bank Kenya (SCBK) is a subsidiary of

Standard Chartered PLC. Standard Chartered PLC is a banking company with international finance. While the bank is introduced into the UK, the bank operates mainly in Asia, Africa and the Middle East, and many benefits come from these regions. Standard Chartered Bank Kenya Limited was founded in 1911 with the first branch opened in the Mombasa Treasury (Seurey, 2015). In this paper, we are going to focus on the major banks' branches (ones that are stable and in the first tier in the banking industry and cannot easily go insolvent) based in Mombasa county. These would be Equity bank, Standard Chartered, KCB, Corporative Bank and Barclays.

Statement of the Problem

Procurement function has increasingly become an important area of study as it has undergone evolution to a point of becoming a recognized vital department that every institution has to have needless to say. There has been integration of procurement strategies with those with of an organization's strategic goals which also entails of cost reduction through various ways. Kagai (2018) the various ways of cost reduction in an organization's supply chain are value engineering, apt demand forecasting, outsourcing, offshoring, lean manufacturing etc. with adoption of sustainable measures within the supply chain. In contrast to this, Kenyan entities seem not to have adopted fully the functionality of procurement function hence having challenges facing them in the various sectors of the economy, creating loop holes that may capillarize the rate at which individuals might exercise corruption hence loss of the scarce resources in Kenya.

Clearly the procurement task in the competitive modern business environment has been identified by the big scandals and indignity that has been linked to poor procurement management, resulting in serious informational damage and corruption scandals (Poel, 2016) argues it is important to have a comprehensive procurement system that is interlinked which will lead to greater competition levels and low cost (Ogot *et al.*, 2019). Electronically based purchase is one of the most important distribution services recognized as an area where innovative information systems can bring significant benefits to members (European Commission, 2015).

Thus, this has led to focus on procurement function developing strategic ways of controlling cost all throughout the supply chain. The electronic procurement adoption has been adopted with many institutions worldwide. Many governments have also adopted the IFMIS system that promotes electronic procurement strategy, thus having a tool that supports management, financial control as well as planning. This is done by manage the basic set of financial data and translate details and data to the administration for data management. IFMIS is therefore defined as a computer application that integrates accounts, budgets, procurement as the key financial functions thus promoting proper security for management of data and maintaining books of accounts according to the set financial reporting (Kimwele, 2018). But it seems that this invention has not fully been integrated to the day to day functions in the country and other institutions for examples universities. They rather result to manual obsolete procedures that do not help in improving the procurement and supply chain sectors. There has been a gap of adoption of the technological innovation of e-procurement hence leading to a failed procurement sector, leading to improper procurement practices that also lead to rise of scandals of money laundering.

Many governments and institutions among them universities, hospitals, and non-governmental institutions have moved towards adopting e-procurement in their systems as well as IFMIS that helps them widely practice proper procurement and contract administration (Nyagah *et al.*, 2015). According to Moon (2015), e-procurement tools have been introduced to eradicate most of inefficiencies and ineffectiveness in the procurement management processes hence the immediate empirical studies done to document electronic procurement diffusion by state governments.

However, irrespective of the studies of e-procurement integration in various sectors and institutions, the e-procurement adoption in determination of banks' performances has been under researched with scholars looking into other objectives of study. With only Nyambane (2018), having concentrated on the impact of electronic procurement on the operations of Kenya Commercial Bank, a research gap has been created with vast information to be researched on effect of e-procurement on performance of banks. This research paper answered the questions: What is the established effect of electric procurement of performance of banks, major bank branches in Mombasa County? Do the tools of e-procurement alter any performance in the banking industry?

Objectives of the Study

The main objective of the study was to establish the effects of electronic procurement on performance of commercial banks in Mombasa County. The specific objectives were;

- To define the effects of electronic catalogues on performance of commercial banks in Mombasa County.
- To ascertain the effects of electronic markets on commercial banks' performances in Mombasa County.
- To examine at the effects of electronic sourcing on commercial banks' performances in Mombasa County.
- To investigate the effect of electronic payments on commercial banks' performances in Mombasa County.

The study was guided by the following research hypotheses;

- **H_{01}:** E-catalogues do not significantly affect performance of commercial banks in Mombasa County.
- **H_{02}:** E-markets do not significantly affect performance of commercial banks in Mombasa County.
- **H_{03}:** E-sourcing do not significantly affect performance of commercial banks in Mombasa County.
- **H_{04}:** E-payments do not significantly affect performance of commercial banks in Mombasa County.

LITERATURE REVIEW

Electronic Procurement Strategy Adoption Theory

According to Penttinen *et al.,* (2018), the e-procurement acquisition strategy did not indicate a substantial departure nor difference from the traditional concept of the purchasing strategy. The only difference is that network technology i.e. ICT is used as a tool for other related corporate strategy management. For much verification, a research on the strategic objectives of the purchasing function in conjunction to the information regarding the objectives of the purchasing organizations pursue when they embark on the usage of internet-based technologies. This links to the general objective of this paper in the support of the banks having adopted the electronic procurement into their systems which affects their day to day activities.

E-procurement Adoption Theory

There has been an environmental framework, suggested by Tastis *et al.*, (2006), that may provide a start point on the exploration on the adoption of electronic procurement (Chau *et al.*, 2006). As per the framework, the basis for adoption of a technologically innovative decision is geared by technological, environmental and institutional contexts of the organization. This theory is in favor of the general objective where the tools of e-procurement have been used to ease the business environment of the banks. This then gives clarification to the range of tools of e-procurement being used by the banks in the industry.

Poel *et al.*, (2016), explains that technological risks in adoption of electronic procurement as the organizations feeling the need to have all needs met from this investment by properly analyzing widely on the accepted standards and clear business case on the procurement technologies that completely suits the company overall. The importance of this risk factor analysis weighs heavily on the clarity on whether there are open

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and clear standards set to facilitate inter-organizational technological support systems. Failure to this, e-procurement adoption will face a slow adoption hence leading to failed business benefits as predicted from the business case. This framework has already been used and adopted into other informational systems contexts. The impact of electronic procurement is highly influenced by integration of IT systems available in the organizations, with some exemptions on the costs of readjustment of the software and hardware in order to find proper fit into the organization.

Michael Porter's Five Forces Competitive Model

The five forces competition model was introduced by Michael Porter while working on his publications in the late 70's on the competitive strategy (Enz, 2010). The model presents a broad way into analyzing the competitive strength of a firm. The five comparative parameters include; existing competitive rivalry between firms; threat of new market entrants; bargaining power of buyers; power of suppliers; and threat of substitute products (Roy, 2009). This model has great assessment on the business transaction process where the firm is able to gauge its competitiveness and aptly adjust its capacities to stay abreast with other industry players. The bargaining power of buyers is the potential with which buyers will bargain down the prices charged by firms or the power by which they will demand better quality and service of products (Hill & Jones, 2010). When the buyers have a strong bargaining power, they will be few in number. Since they have a high purchasing power, they will purchase in large (bulk) quantities. They are well informed about the product and the market; the cost of switching to a competitor's product is low; when the product is not differentiated; or when the shipping cost is low. In this way, buyers are identified as a threat to the firm.

Business to Business (B2B) Theory

Business to Business model was pioneered by Peter Drucker in 1994 while working on his project, 'The Theory of Business' (Axelsson et al., 2016). The theory backs the philosophy which states that no single business is an Island in that for business to be business it must be defined by continuous interactions. The theory stresses that trading revolves around interactions with each other; where one party presents a request for goods or services and the other responds by offering to meet the end of the transaction. The interaction involves negotiation on the price, and then followed by the promise to deliver and the transaction is only closed upon the satisfaction of the request party (Axelsson et al., 2016). The business logic was true way back in the Stone Age and still holds true today in the era of electronic commerce. Hence this provides linkage to the specific objective of the application of e-catalogues as information is being conveyed to another institution in order to satisfy the gap by practicing supply chain management through e-procurement.

The changes with regard to business transactions between trading partners has been initiated by the dependency of ICT platforms to effect business interactions and to close transactions. The place of ICT in today's business world can never be disputed. Similarly, supply chain transactions have been centralized by ICT influence. The concept of business-to-business in supply chain highlights the linkage of businesses in technologically powered network where organizations can rely on the platform to conduct procurement processes (Hakansson, 2015). The electronic platform makes it possible to easily identify potential suppliers by sorting out the offers through consideration of numerous parameters such as prices, quality and speed of delivery (Ahlstrom, 2017). Consequently, an organization can access information concerning the product offering by suppliers and hence this may lead to making express electronic orders which the supplier completes the interaction by delivering on the orders. This concept highlights the areas where business-to-business model is supported in the supply chain by linking together the transacting parties. Such can be conducted through sharing of

information hence adoption of e-catalogues form of electronic procurement.

Resource-based View (RBV) Theory

The Resource Based View theory was rooted in the work of Penrose around 1959 while working on her project, titled 'The Theory of the Growth of the Firm' (Peteraf & Barney, 2016). The RBV theory is largely based centralized on the resources of the firm. The resource-based view (RBV) emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. It adopts two assumptions in analyzing sources of competitive advantage (Peteraf & Barney, 2016).

First, this model assumes that firms within an industry (or within a strategic group) may be heterogeneous with respect to the bundle of resources that they control. Second, it assumes that resource heterogeneity may persist over time because the resources used to implement firms' strategies are not perfectly mobile across firms (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate). This hence supports the usage of e-payment as a tool for e-procurement as it supports the notion of managing resources, budgets and reviewing of vote books and facilitating payment.

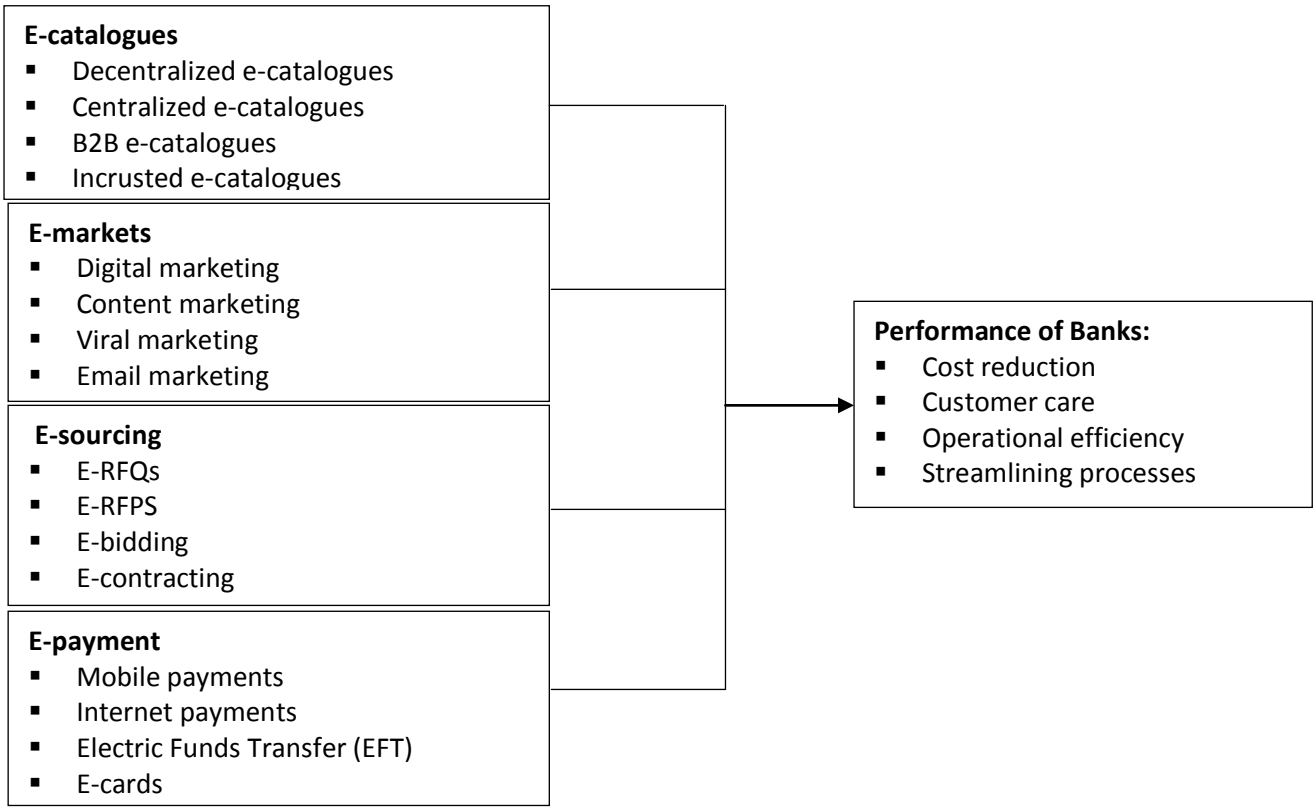

Figure 1: Conceptual Framework

Catalogue management system is where the ability of a buyer organization to procure goods electronically via the offering catalogue online made at reach by the numerous vendors. The product content can be made accessible by either the buyer or supplier (CIPS: Content and cata-logue management). An electronic catalogue (e-catalogue) is a web-based resource providing sufficient information on market offerings offered and available for sale by a vendor, and supports e-ordering and e-payment capabilities. Significant factors of a catalogue are product names, product hierarchy, descriptions, prices and supplier and internal codes (CIPS: Selecting an e-procurement

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solution). E-catalogues support a repetitive frequent replenishment of indirect goods, works or services, but may also contain the procedural steps towards facilitating complicated purchases that are rare, complex I the market and of value (CIPS: Content and catalogue management). This allows for efficient and cost-effective of proprietary goods and services especially since, with the aid of internet search engine tools, price comparisons of specified products can be obtained within seconds.

E-markets are known as using of the Internet and digital media capabilities and capacities to help sell available products or services. Instead of traditional marketing techniques, these digital technological inventions aid in creation and adding value to the existing marketing techniques, regardless of the size and type of your business. Electronic marketing is also known as Internet marketing (I-advertising), online marketing or marketing network (Mohamood, 2018). Munyao *et al*., (2018) as is the usual marketing, internet marketing is to create a strategy that helps companies submit accurate messages on the right product / service to an online audience. It includes all activities and procedures for the purpose of searching, attracting, winning and retaining customers. What has changed is its scope and a great option compared to the usual sales methods.

Sourcing is basically that part of the procurement process that is concerned with 'how and where the products, services or works are obtained' (CIPS). Lysons and Farrington (2016), define sourcing as the process of identifying, selecting and developing suppliers (Purchasing and Supply Chain Management). Therefore, e-Sourcing is commonly referred to as the electronic purchase, a process of identifying, selection and development of suppliers, procedures implemented through different types of web-based tools. Therefore, these systems are used to for standardization and automating the procurement to pay processes (Gunasekaran, McGaughey, Ngai & Rai, 2019). E-Sourcing confers to the definition of being a web-enabled application and support tools to facilitate interaction between buyers and suppliers using online chat, electronic negotiations, reverse auctions amongst other tools (Engelbrecht, Wiggans & Katok, 2018). E-sourcing can also be defined as the purchase process which Internet software is used to carry out activities like: electronic auction, E-RFX, electronic bidding, electronic tracking and electronic commerce and how buyers can prepare suppliers (Christopher, 2016).

Dennis (2019) explains e-payment system as a platform which is used by both the buyer and seller as a financial form of commitment through the use of electronic communications. E-payment is a monetary transaction between the buyer and seller by use of electronic platform to perform transactions including mobile payments, internet payments, e-cards, PC Banking and E-cash in the supply chain (Malhotra & Galletta, 2018).

E-commerce provides a platform for buyers and sellers form of communication and provision of opportunity for new market place creation. In a nut shell, a suggestion has been passed that the success rates of e-commerce have been brought about by the lower transaction costs thereby enhancing high firm productivity and efficiency (Vaidya *et al.*, 2016). According to Nyambane (2018), automation of e-procurement extremely decreases the effort of human capital in bank operations by enhancing automated communication to vendors and various suppliers using e-tendering hence fastening the tendering process, which also comprises of the utilization of e-auctions. It creates reports, both final and intermediate, storage of documents received thus anomalous offers evaluation (Thatcher, 2015). More so, the human resource can be let free for customer focus which increases the customer care in banks hence increasing customer loyalty thus increasing bank performances due added profits.

METHODOLOGY

In this study, the cross-sectional research was used. The descriptive research design was appropriate design picked since it supported the use of

questionnaires as data collection tool which help in establishing the effect of an e-procurement on the performance of banks in Mombasa County. The study population comprised of at least 148 respondents from each bank, including the general manager, the staff under the procurement department at least two respondents, tech support and clerks for the major banks in Mombasa County CBD. The sample frame for this study was the general and branch manager, the staff under the procurement department, tech support (ICT) and clerks for the major banks located in Mombasa County. The sample size was 108. The data that was collected from this research comprised both primary and secondary, collected by using a questionnaire, open ended, both structured and unstructured. Data collection involved a self-administered questionnaire. The data gathered was used as descriptive statistical methods where the data was analyzed using a vibrant data statistic tool called SPSS. The relevancy and relationships were determined by the simple regression analysis and correlation analysis techniques where

$$\mathbf{Y = a + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + \varepsilon}$$

Y – outcome as a result of changes in any or all the variables, x_1 to x_4

a – is a constant, the results when all variables x_1 to x_4 are zero.

X_1 – E-catalogues

X_2 – E-markets

X_3 – E-sourcing

X_4 – E-payments

B_1 – B_4 – Regression Coefficients

FINDINGS

Effect of E-catalogue on The Banks' Performance

The researcher used a measuring technique to determine the level of effect using a Likert scale. The scale used was to indicate rating where 1=very low extent, 2=low extent, 3=moderate extent, 4=great extent and 5=very great extent. The results were tabulated in Table 1 below.

Table 1: Descriptive Statistics of E-catalogue

	N	Mean	Std. Dev.
E-catalogue effectively provides a higher accessibility of information on products.	96	4.53	0.916
Business to business (B2B) e-catalogues improves bank performances all round.	96	4.13	1.043
Incrusted e-catalogues affect the bank's performances.	96	3.80	1.175
Centralized e-catalogue system affects the banks' performances where it improves operational efficiency and streamlining of the processes.	96	3.53	1.440
The use of decentralized e-catalogues improves competitiveness of banks.	96	3.33	1.524
Valid N (listwise)	96		
Aggregate mean = 3.864			

From Table 1 above, the research the aggregate mean of the sub variables was 3.864 where it explains that the e-catalogues have an effect on the performances of banks where it contributes positively towards this. This shows that majority of respondents responded that e-catalogues provide a higher level of accessibility of information on product with a mean of 4.53 with a concurrent standard deviation of 0.916. The study is then followed by response that e-catalogues improve bank performance with a mean of 4.13 and a standard deviation of 1.043. The respondents also stated that the use of incrusted e-catalogues affect bank's performance with a mean of 3.80 and a standard deviation of 1.175.

The findings from the interviewing of the respondents' state that centralized e-catalogues systems do not affect bank performance and that decentralized e-catalogues do not improve competitiveness of banks with a mean of 3.53 and 3.33 respectively. This is in line with (Nyambane, 2018) who states that e-catalogues have relative significant towards bank performances and that they need to be diversified to meet the demand of the banking industry in order to have any impact.

Effect of E-markets on The Banks' Performance

The respondents were asked to indicate the extent in which e-markets affect the performance of banks in Mombasa County. The respondents were requested to indicate extent in a Likert scale where 1=very low extent, 2=low extent, 3=moderate extent, 4=great extent and 5=very great extent. The results were as tabulated in Table 2 below.

Table 2: Descriptive Statistics of e-markets

	N	Mean	Std. Dev.
E-markets help access to multiple markets hence increasing in buyer's bargaining power.	96	4.40	0.932
Digital marketing enhances efficiency and effectiveness of banks.	96	4.33	1.094
Email marketing improves banks performances.	96	4.27	1.194
Viral marketing enhances banks performances.	96	4.27	1.194
Content marketing enhances efficiency and effectiveness of banks.	96	4.13	1.352
Private e-marketing reduces costs and enhances the buying capability of banks.	96	4.00	1.555
E-markets help in achieving customer care in the long run.	96	3.33	1.724
Valid N (listwise)	96		
Aggregate mean = 4.104			

From table 2 above, the aggregated mean of e-markets contribution from the questions issued was 4.104, showing a significant impact of the e-markets towards the banks' performances in Mombasa County. From the table above, the analysis shows that respondents heavily stated that e-markets help in accessing multiple markets and hence increasing in buyers bargaining power with a mean of 4.40 and a standard deviation of 0.932. This was closely followed by the response that digital marketing enhances efficiency and effectiveness of banks with a mean of 4.33 and a standard deviation of 1.094. With a mean of 4.27 and a corresponding standard deviation of 1.194, the respondents clearly responded that email marketing and viral marketing equally enhance and improve bank performance.

Content marketing and private e-marketing enhance bank efficiency, buying capability and reduce cost but to a lower extent with a mean of 4.13 and 4.00 respectively. As for the e-markets helping in achieving customer care in the long run, there was very least extent, with a mean of 3.33 and a standard deviation of 1.724.

Effect of E-payments on The Banks' Performance

The respondents were asked to indicate the extent to which several factors related to e-payments affect the performance of banks in Mombasa County. The calculated mean for the questions that were carried out in the research happens to be 4.266, where it shows that e-payments have the most of the impact on the banks' performances in Mombasa County hence seen as the most responsive variable of the analysis that was carried out. The responses were tabulated in table 3 below. From Table 3, the respondents stated that e-cards reduce the cost of transactions in the long run with a mean of 4.80 with a standard deviation of 1.414. This was followed by a response that EFT (Electronic Funds Transfer) speeds up payment processes in the procurement process in a great extent with a mean response of 4.60 and standard deviation of 1.507.

Internet banking came in third with a mean of 4.53 and a supporting standard deviation at 1.516 which translates to the fact that internet banking speeds up payment in the procurement process in a great extent. The respondents further stated that mobile payment speeds up payment in procurement process with a mean of 4.47 and standard deviation of 1.526. The research depicts that the responses showed that e-payment enhances operational efficient to a relative extent with a mean of 4.33 and standard deviation of 1.617 and that e-payment increases level of transparency in low extent with a mean of 4.00 and standard deviation of 1.655. The respondents also responded that e-

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payments improved customer care in totality in a least extent with a mean of 3.13 with a standard deviation of 1.743. The findings are consistent with Galletta and Malhotra (2018) who argued that some of the most used electronic platforms to perform payment transactions including mobile payments, internet payments, e-cards, PC Banking and E-cash in the supply chain reduce transaction costs.

Table 3: Descriptive Statistics of E-payment

	N	Mean	Std. Dev.
E-cards reduce the cost of transactions in the long run.	96	4.80	1.414
EFT (Electronic Funds Transfer) speed up payment in the procurement process.	96	4.60	1.507
Internet banking speeds up payment process in the procurement process.	96	4.53	1.516
Mobile payment speeds up payment in the procurement process.	96	4.47	1.526
E-payment enhances operational efficiency in the banks.	96	4.33	1.617
E-payment increase level of transparency hence fast audit	96	4.00	1.655
E-payment improve customer care in totality	96	3.13	1.743
Valid N (Listwise)	96		
Aggregate mean = 4.266			

Effect of E-sourcing on The Banks' Performance

The respondents were asked how e-sourcing affects the performance of the banks in the Mombasa County. The responses were as tabulated in table 4 below.

Table 4: Descriptive Statistics of e-sourcing

	N	Mean	Std. Dev.
E-sourcing leads to banks' cost reduction.	96	4.24	1.498
E-sourcing enhances streamlining of processes.	96	4.41	1.345
ERFQs and eRFPs shorten the sourcing processes entirely.	96	3.79	1.711
E-bidding impact on the costs of the procurement process at large.	96	4.54	1.179
E-sourcing enhances operational efficiency of banks as a whole.	96	3.39	1.821
Valid N (Listwise)	96		
Aggregate mean = 4.074			

From table 4 above, the aggregate mean of e-sourcing contribution from the questions analyzed was 4.074. It is evident that the respondents agreed that e-sourcing leads to reduction of bank costs with a mean of 4.24 and a corresponding Standard Deviation of 1.498. This is followed by a response rate that e-sourcing enhances streamlining of processes entirely with a mean of 4.41 and a standard deviation of 1.345. The respondents agreed that eRFQs and eRFPs shorten the sourcing process entirely but in a moderate extent with a mean of 3.79 and Standard Deviation of 1.711. The respondents also responded that e-bidding impact on the costs of the procurement process at large to an average extent with a mean of 4.54 and SD of 1.179 and that e-sourcing enhances operational efficiency of banks as a whole at least extent with a mean of (mean= 3.39 and SD=1.821. This theory is supported by (Nyambane, 2018) who suggests that the implementation of e-procurement in the banking industry in Kenya has not yet found full expression hence some benefits cannot be fully achieved through aspects like e-sourcing and electronic procurement in the wholistic procurement to pay procedure.

Effect of E-procurement On the Banks' Performance

Table 5: Descriptive Statistics of Banks' Performance

	N	Mean	Std. Dev.
E-procurement plays a big role in the cost reduction in the banks hence enhancing banks' performances.	96	3.57	1.419
Customer care is heavily contributed by the adoption of e-procurement by banks hence enhance banks' performances.	96	3.59	1.418
E-procurement has led to enhanced operational efficiency of the banks' processes.	96	3.99	1.357
E-procurement has heavily impacted the streamlining of processes hence efficiently improved the process of procurement to pay.	96	3.87	1.323
Valid N (listwise)	96		
Aggregate mean = 3.755			

As per the results shown above, the respondents portrayed that e-procurement plays a big role in the cost reduction in the banks hence thereby enhancing banks' performances with a mean of 3.57 and standard deviation of 1.419. More to that, there was a corresponding result that established that customer care has contributed towards enhanced banks' performances by a mean of 3.59 and a standard deviation of 1.418. More so, e-procurement has led to enhanced operational efficiency of the banks' processes shown by a mean of 3.99 and supporting standard deviation of 1.357. It is evident that e-procurement has heavily impacted the streamlining of processes hence efficiently improved the process of procurement to pay by a supporting mean of 3.87 and standard deviation of 1.323 from the study carried out.

In addition to this merit, less disputes, errors, appeals and clarification are as an achievement especially from the suppliers' end thus achieving operational efficiency since there are such themes achieved. E-procurement is seen to have also improved transparency, intellectual and informative effects in the general bank operations. According to Chan *et al.* (2015), measuring of competition seems to be an analysis that is highly achievable in private institutions as in comparison to institutions in the public sector. A number of researches conducted have concluded that e-procurement integration in bank operations brings with its competitive edge for the company in question thus customer satisfaction (Chopra *et al.*, 2016).

Correlation Analysis

To ascertain the link between the independent variables and the dependent variable, the research sought to conduct correlation analysis which involved coefficient of correlation and coefficient of determination.

Coefficient of Correlation

As indicated in the Table 6 below, it was distinguished that there is positive significant relationship between e-catalogue and bank performance with a correlation value of 0.635 at a significance level of 0.01. The study also found out that there is a positive correlation between e-payment and bank performance with a correlation value of 0.745 with the correlation significance level at 0.05. The study also found out that there was a positive correlation between e-sourcing with the correlation significant at the 0.05 level, with a correlation value of 0.613. Finally, the report found out that there was a positive correlation between e-markets and bank performance with a correlation value of 0.251.

Table 6: Pearson Correlation

		BP	EC	EP	EM	ES
Bank Performance	Pearson Correlation	**1**				
	Sig. (2-tailed)					
	N	96				
E-catalogues	Pearson Correlation	**.635***	**1**			
	Sig. (2-tailed)	.011				
	N	96	96			
E-payment	Pearson Correlation	**.745****	**.359**	**1**		
	Sig. (2-tailed)	.001	.189			
	N	96	96	96		
E-sourcing	Pearson Correlation	**.613***	**-.009***	**.337**	**1**	
	Sig. (2-tailed)	.015	.976	.220		
	N	96	96	96	96	
E-markets	Pearson Correlation	**.251***	**-.405**	**.101**	**.332***	**1**
	Sig. (2-tailed)	.367	.134	.721	.227	
	N	96	96	96	96	96

KEY: BP=Bank Performance, **EC=** e-catalogue, **EP**= e-payment **EM**= e-markets, **ES**= e-sourcing
****. Correlation is significant at the 0.01 level (2-tailed).
***. Correlation is significant at the 0.05 level (2-tailed).

The findings of the correlation showed that there was a positive correlation through the use of e-catalogues on the banks' performances in Mombasa County (Pearson Coefficient = 0.635, Sig = 0.11). This indicated that incrusted catalogues, B2B e-catalogues, decentralized e-catalogues and centralized e-catalogues have a positive impact on the performances of banks. This was consistent with the finding where e-catalogues is seen to have enhanced organizational performances due to improved operational efficiency within the organizations (Sharmer *et al.,* 2015). This hence being a source of electronic procurement tool, the banks' performances will be dependent on it for performance measurement overall. This finding supported the adoption of e-procurement theory where an organization realizes efficiency of work. This finding was also supported by the business to business theory where it encourages businesses to share information through interfaced of trade hence enhancing business competencies and efficiency.

From the table above, the use of e-payment shows that there is a positive correlation towards the performances of banks (Pearson correlation = 0.745, Sig.= 0.01). This supports that the EFT (Electronic Funds Transfer), e-cards, internet banking and mobile payments have a positive impact on the banks performances. This is in line with the finding where e-procurement includes the existence of e-payment, which enables the effectiveness and efficiency reduction of transactional costs and decrease in direct procurement costs (Sharmer *et al.*, 2015). This is in line with the electronic procurement strategic adoption theory where the use of e-procurement is aimed at adoption of technology to enhance business benefits such as costs reduction, streamlining of business processes among others which is evident through the use of e-payments. It assumes that resource heterogeneity may persist over time because the resources used to implement firms' strategies are not perfectly mobile across firms (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate). This hence supports the usage of e-payment as a tool for e-procurement as it supports the notion of managing resources, budgets and reviewing of vote books and facilitating payment.

E-sourcing is seen to have a positive impact on the banks performances in Mombasa County with a significant Pearson correlation of 0.613. It vividly portrays that the use of eRFQs, eRFPs, e-bidding and e-contracting have had a positive impact on the banks performances. E-sourcing is seen to be the purchase process which Internet software is used to carry out activities like: electronic auction, E-RFX, electronic bidding, electronic tracking and electronic commerce and how buyers can prepare suppliers (Christopher, 2016). According to Nyambane (2018), e-sourcing is seen to streamline business processes (procurement cycle), give the buyer organization higher bargaining power and reduce procurement sourcing costs in an organization that adopted fully e-procurement. This is supported by the Michael Porters five forces competitive theory where the firm, through use of e-sourcing has a higher bargaining power over the suppliers through the online platform hence diverse options to choose from pool of participants.

Lastly, there is the positive impact of e-markets of performances of banks with a Pearson correlation of 0.251. this shows that despite having a positive impact, it has not that much impact on the dependent variable. From this finding, it is evident that either the banks have not fully merged the usage of e-markets entirely or the utilization of e-markets is just relative to the performance of banks. This is with relation with the e-procurement adoption concept where it is seen that the adoption and amalgamation of e-procurement in institutions has not fully been adopted, leaving gaps in the procurement cycle and in this case e-marketing. With this having the lowest correlation, it is recommended that the banks should adopt fully e-procurement and utilize e-marketing essentially for the bank performances to improve.

Table 7: Coefficient of Determination (R^2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902[a]	.814	.798	1.93860

a. Dependent variable: Performance of Banks

b. Predictors: (Constant), e-catalogues, e-payment, e-sourcing, e-markets

The regression model summary showed the coefficient determination R square as 0.814, implying that at 81.4% of the relationship is explained by the identified four independent variables namely; e-catalogues, e-markets, e-sourcing and e-payment. The 18.6% is explained by other factors as other tools or impacts of e-procurement that were not studied in this research.

Regression Analysis

When there are two or more than two independent variables, the analysis concerning relationship is known as multiple regressions and the equation describing such relationship as the multiple regression equation.

Table 8: Multiple Regression Analysis Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	10.053	4.887		2.057	.000
	E-payment (X_1)	.312	.063	.481	4.952	.001
	E-catalogues (X_2)	.296	.076	.406	3.895	.001
	E-sourcing (X_3)	.250	.067	.355	3.731	.000
	E-markets (X_4)	.187	.037	.494	5.054	.000

a. Dependent Variable: Banks' Performance

From table 8 above, the following regression equivalent was established:

$Y = 10.053 + 0.312X_1 + 0.296X_2 + 0.250X_3 + 0.187X_4$.

Where

X_1= E-payment, X_2 = E-catalogues, X_3= E-sourcing, X_4 = E-markets and Y= Banks' Performances in Mombasa County. Therefore; Banks' Performances in Mombasa County= 10.053 + 0.312 E-payment + 0.296 E-catalogues + 0.250 E-sourcing + 0.187 E-markets.

The Beta Coefficients in the regression model showed that all of the tested variables had positive relationship with the effect of e-procurement on the performances of banks in Mombasa County, with all the variables tested being statistically significant with p-values less than 0.05.

The findings implied that a unit change of X_1(E-payment) = 0.312, will result to 0.312 change in the performance of banks found in Mombasa County; X_2 (E-catalogues) = 0.296, will results to 0.296 change in the performance of banks found in Mombasa County; X_3 (E-sourcing)= 0.250; will result to 0.250 change in the performance of banks found in Mombasa County, and finally X_4 (E-markets) = 0.187, will result to 0.187 change in the performance of banks found in Mombasa County.

The Y- Intercept (β_0 = 10.053), predicts that the performance of banks found in Mombasa County, when all other variables are zero, implying that without the independent variables that include; E-payment, E-markets, E-sourcing and E-catalogues on performance of banks found in Mombasa County is still affected by that ratio.

From the analysis, E-Payment X_1 (β = 0.312, $p<0.05$) has the strongest relationship with e-procurement with relation to the performance of banks found in Mombasa County, followed by E-catalogues X_2 (β = 0.296, $p<0.05$), then E-sourcing X_3 (β = 0.250, $p<0.05$), and finally E-markets X_4 (β = 0.187, $p<0.05$). All four variables significantly predicted the effect of e-procurement on the banks' performances in Mombasa County.

Further explanation showed that a factor increase in e-market would lead to an increase in bank performance by 0.187 and a factor increase in e-catalogues would lead to a positive increase in bank performance by a factor of 0.296. A factor increase of e-payment would lead to a positive increase in bank performance of 0.312 and a factor increase in e-sourcing would lead to an increase of bank performance by a factor of 0.250. Hence, the study found out that there was positive relationship between all independent variables and the dependent variables.

Analysis of Variance (ANOVA)

The study applied ANOVA to establish the significance of the regression model. Statistically, a model is considered significant if its p-value was less or equal to 0.05. The Table 9 below, showed significant level of regression model, with p-value of 0.000 which was less than 0.05. This indicated that the regression model is statistically significant in predicting the effect of e-procurement adoption on the banks' performances in Mombasa County.

Table 9: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1455.712	4	363.928	99.57	.001[b]
	Residual	332.605	91	3.655		
	Total	1788.317	95			

a. Dependent Variable: Bank Performance

b. Predictors: (Constant), e-Payment, e-Catalogue, e-Market, e-Sourcing

Fixing the confidence level at 95%, the analysis shows high reliability of the results obtained. The overall ANOVA results indicated that the model was significant at F=99.57, *p*-value = .001, this demonstrated that the overall model was of banks.

This was consistent with the findings of Munyao *et al.,* (2018) who reported that adoption of e-procurement with practices such as e-ordering, e-requisition, e-cataloguing, e-authorization, e-receipt and e-order processing leads to a positive significant and that e-catalogues, e-sourcing, e-markets and e-payments have a positive impact on the performances and significant improvement in procurement performance as well as an institution overall. More so adoption of e-payment practices such as Mobile Payments, Internet Payments, E-cards, EFT (Electronic Funds Transfer) banking and Electronic Funds Transfer leads to a positive improvement in procurement performance.

Hypothesis Test Results

H_{o1}: E-catalogues do not significantly affect performance of banks in Mombasa County. The results rejected the hypothesis (β=0.296, *p*= .001) performance of banks in Mombasa County. Thus, there is a positive relation between e-catalogues and performance of banks in Mombasa County. The null hypothesis on e-catalogues do not affect the performance of banks in Mombasa County is rejected since the *p*- value of .001 ≤ 0.5. Hence there is a significant relationship between the performance of banks in relation to e-catalogues. This result is concurrent to the research carried out by Nyagah (2015) who supported that e-catalogues helped in improving performances in institutions.

H_{o2}: E-markets do not significantly affect performance of banks in Mombasa County. The results rejected the hypothesis (β=0.187, *p*= .000) performance of banks in Mombasa County. Thus, there is a positive relation between e-markets and performance of banks in Mombasa County. The null hypothesis on e-markets do not affect the performance of banks in Mombasa County is rejected since the *p*- value of .001 ≤ 0.5. Hence there is a significant relationship between the performance of banks in relation to e-markets.

H_{o3}: E-sourcing do not significantly affect performance of banks in Mombasa County. The results rejected the hypothesis (β=0.250, *p*= .000) performance of banks in Mombasa County. Thus, there is a positive relation between e-sourcing and performance of banks in Mombasa County. The null hypothesis on e-sourcing do not affect the performance of banks in Mombasa County is rejected since the *p*- value of .001 ≤ 0.5. Hence there is a significant relationship between the performance of banks in relation to e-sourcing. According to Nyambane (2018), the e-sourcing procedure had a positive impact on the performances of procurement practices which overall improved the operations of the banks.

H_{o4}: E-payments do not significantly affect performance of banks in Mombasa County. The results rejected the hypothesis (β=0.312, *p*= .001) performance of banks in Mombasa County. Thus, there is a positive relation between e-payment and performance of banks in Mombasa County. The null hypothesis on e-payment do not affect the performance of banks in Mombasa County is rejected since the *p*- value of .001 ≤ 0.5. Hence there is a significant relationship between the performance of banks in relation to e-payment. E-payment enhances faster procurement to pay process hence it improves the performance of institutions (Ndiri, 2016).

CONCLUSIONS AND RECOMMENDATIONS

The results from instruments were analyzed and interpretations were recorded. It was clearly shown from the analysis carried out that e-catalogues, e-sourcing, e-markets and e-payment are some of the elements that affect banks' performances in Mombasa County through the use of e-procurement.

It was further discovered that the use of e-catalogues has effect on performances of banks especially because it effectively provides higher accessibility of information on products as

respondents showed through the questionnaires issued. It was also seen that respondents agreed to business to business (B2B) e-catalogues improves bank performances all round.

More to that, respondents defended that the use of e-markets had impact on the banks' performances. E-markets seem to provide help accessing multiple markets especially from various offers of the same product, service or works.

Another discovery concluded that the effect of e-payments on the performances of banks had a positive correlation. It was seen that the respondents' mean from the research carried out showed that the e-cards reduced the cost of transactions in the long run. Close to that effect, the research showed that EFT (Electronic Funds Transfer) speeds up payment in the procurement paying process.

In line with cost reduction as a result of using e-procurement, e-sourcing is seen to have an impact on banks' performances where it is seen that it was further discovered that e-bidding impacted on the costs of procurement process at large.

E-procurement has led to enhanced operational efficiency of the banks processes. It is further seen that e-procurement has heavily impacted the streamlining of processes hence it has efficiently improved the process of procurement to pay process by a supporting. Further to this research, it is seen that cost reduction is achieved in the banks hence enhancing the performance. Lastly, the research revealed that the customer care factor is achieved since e-procurement was adopted by banks hence improving its performances.

The study revealed that the e-catalogues had an effect on the banks' performances in Mombasa County. E-catalogues are seen to streamlining processes and enhancing operational efficiency where it mostly provides higher accessibility of information of market offerings. Therefore, it is highly recommended that the management in banks should encourage a strategic decision into adopting this tool in order to achieve the discussed benefits in the long run. Furthermore, decentralized e-catalogues improves competitiveness of banks, adopt centralized e-catalogue systems that affect the banks' performances they would improve operational efficiency and streamlining of the processes.

In line with the research findings, e-markets are seen to lowly affect the performances of banks hence the lowest positive correlation discussed above. Mainly the e-markets are seen to enhance operational efficiency and help in cost reduction especially in market survey costs among other operational costs. It is highly recommended that the banking industry management to enforce and initiate the usage of e-markets to establish efficiency and streamline processes in the banks. This is especially seen through the need to achieve customer care in the long run. By the enforced use of e-markets by the management, private e-marketing can reduce costs and enhance the buying capability of banks.

E-payment is the third variable that was researched in this study. It was seen to be the most positive correlation to banks performances. The use of e-cards tend to reduce costs and EFT (Electronic Funds Transfer) speed up payment in the procurement process. It is recommended that the management should devise ways to fully switch to use of e-payment since in enhances cost reduction, operational efficiency and streamlining processes especially during audit and transparency measures.

Lastly, the e-sourcing variable is seen to have a strong correlation to banks' performances. The use of e-bidding, eRFPs eRFQs and eRFPs which shorten the sourcing processes entirely. It is then recommended to the management of banks and the banking industry to adopt the use of e-sourcing since is affects performances through enhanced operational efficiency and streamlined processes.

For the management of banks, from the research carried out, they are recommended to embrace the new technologies into the bank processes in order to be competent and not have obsolete systems

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that may give other competitors a competitive advantage over the same marketed offering. It is further recommended that the procurement systems should be automated to reduce human interaction to enhance transparency and faster processes. Technology is an evolving innovation therefor the users and management should be at par with the standards and knowledge and should not hesitate to adopt the developed versions and other innovations in pursuit to achieve high bank performances.

It is recommended to the major participants in the banking industry, the policy makers in the banking industry, that they should develop policies that govern the minimum requirements of banks to adopting e-procurement in order to have steady and manageable practices. These would help them in achieving cost reduction, customer care, operational efficiency and streamlining processes.

Suggestions for Further Study

The current study was based on a descriptive research design on the banks in Mombasa County where performances were featured. Future studies should be undertaken using other research designs such as correlational or experimental research designs to help in finding in-depth investigation of the effect and evolutionary use of e-procurement in the banking sector and other industries.

The study explored on effect of e-procurement on the performance of banks, case study on the banks located in Mombasa County. The results findings show that only 62.6% of the results were explained by independent variables in this study. The 37.4% remain unexplained. The study therefore recommends a further study be carried out on other factors such as e-tendering, e-ordering and other tools of e-procurement and any other emerging modifications to e-procurement that impact on the performances of institutions, in this case the banking industry.

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