E-Commerce Strategy and Performance of Commercial Banks in Kenya

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ABSTRACT

This study aimed at establishing the relationship between e-commerce strategy and performance of commercial banks in Kenya, and the factors influencing the adoption of e-commerce strategy. The study adopted a cross sectional design, and targeted commercial banks in Kenya under the umbrella of Kenya Institute of Bankers Association (KIB). Data analysis was through measures of central tendency, dispersion and correlation analysis.

The results indicated that there was a strong relationship between the e-commerce strategy and performance of commercial banks in Kenya. The findings also indicated that the main factors which influenced the adoption of e-commerce strategy in banks to a larger extent are customer support service and the payment systems.

Key words: e-commerce, performance, adoption

Introduction

Electronic commerce (e-commerce) is the paperless exchange of business information using electronic platforms like electronic data interchange (EDI), e-mail, electronic bulletin boards, fax transmissions, and electronic funds transfer. It refers to Internet shopping, online stock and bond transactions, the downloading and selling of “soft merchandise” (software, documents, graphics, music, etc.), and business-to-business transactions, (Everything online business Book, 2003).It has become a vital strategic-management tool. An increasing number of companies are gaining competitive advantage by using the Internet for direct selling and for communication with suppliers, customers, creditors, partners, shareholders, clients, and competitors who may be dispersed globally. E-commerce allows firms to sell products, advertise, purchase supplies, bypass intermediaries, track inventory, eliminate paperwork, and share information. In total, electronic commerce is minimizing the expense and cumbersomeness of time, distance and space in doing business, which yields better customer service, greater efficiency, improved products and higher profitability.

Afua and Tucci (2001), argue that most firms are in business to win or to outperform their competitors. They also adopt new technologies to fend off new competitors, reinforce an existing competitive advantage or leapfrog competitor. Change is the key element that is transforming organizations in the 21st century. In order to survive this has led to firms changing their business models to confirm to the rapidly changing environment. According to Afua et.al, (2001), to take advantage of change or to avoid competitors, firms may want to undergo a strategic management process to answer the question of where the firm is now concerning the internet.

Organizational performance assesses how firms are able to meet their stated objectives over time. The management of an organization should be in a position to evaluate the performance level of the organization in order to ensure the organization is both effective and efficient in order to be successful.

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted. The CBK, which falls under the Minister for Finance docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. Commercial banks in Kenya are registered, regulated and supervised by different legislations. The financial sector has undergone significant reforms since 1990. The 1990s saw emergence of indigenous banks and non-bank financial. However these banks were plagued with various problems including weak capitalization, poorly performing portfolio and weak management structures.

Performance of commercial banks in Kenya has been revolutionized by the adoption of e-commerce. As banks become more of a convenient one-stop shopping environment, consumers will more than likely convert to transacting all personal finances online. For instance, once a customer has gone through all of the trouble of setting up electronic bill payments, he or she is likely to switch Higgins (2002) (as cited in Ojunga, 2005). By offering a wide array of products and services through integrating e-commerce with bank operations, banks are benefitting whereby banks are retaining customers by offering services that are important and add value to leading to tremendous cost savings, efficiency and effectiveness in bank operations leading to increased profitability of the banks. E-commerce strategy has led to substantial cost savings due to properly integrating e-commerce into existing banking operations such as funds transfers, bill payments and account balance enquiries, mobile banking and enabling of banking facilities anywhere other than the traditional banking hall.

While various studies have been done in reference to e-commerce, none has been done in regards to the effect of e-commerce Strategy in commercial banks in Kenya depicting the existence of a knowledge gap. The various studies that have previously been done surrounding the aspects of E-commerce include a survey of potential for adoption of e-commerce by tour operators in Nairobi (Mbuvi, 2000), An investigation of the business value of e-commerce (Muganda, 2001), A survey of the impact and challenges of Business e-commerce in Kenya (Kiyeng, 2003), An evaluation of e-commerce application by microfinance institutions in Kenya (Kipkech, 2009). The effect of e-commerce strategy in commercial banks has not been an area of emphasis in these studies and as such the reason for this study.

Therefore this study sought to establish the influence of e-commerce strategy on the performance of commercial banks in Kenya. The study also sought to determine the factors influencing the adoption of e-commerce strategy in commercial banks in Kenya.

Theoretical Framework

Johnson and Scholes, (2002) give an overall definition of strategy as the long-term direction of an organization. According to Mintzberg,(1994) strategy can be viewed in various forms, as a plan, pattern, position, ploy and perspective. As a plan, it is a means of getting from here to there. In other words, it is a "how”. As a pattern, it is a pattern in actions over time. Thus, a company that regularly markets cheap, mass produced products is using a “Low end” strategy. Mintzberg, (1994) argues that strategy is a ploy whereby it is designed to deceive or to manipulate for gain. As a position, Mintzberg, (1994) argues that strategy reflects decisions to offer particular products or services in particular markets. Lastly, he also argues that Strategy is a perspective, that is, vision and direction. Essentially strategy captures all these perspectives. It is a plan, pattern, position, ploy and perspective. In essence, Strategy is the bridge between policy or high-order goals on the one hand and tactics or concrete actions on the other.

According to Laudon et al (2009) electronic commerce is the use of the internet and the web to transact business or the use of digitally enabled commercial transactions between and amongst organizations. E-Business is the term used to describe the information systems and applications that support and drive business processes, most often using web technologies, e-Business allows companies to link their internal and external processes more efficiently and effectively, and work more closely with suppliers and partners to better satisfy the needs and expectations of their customers, leading to improvements in overall business performance, (National B2B Centre, p.16). This concludes that when e-commerce is combined with information systems of the firm it results to the firm doing e-business. The common element is the effective implementation of business activities using Internet technologies.

The technologies behind e-commerce are the internet and the worldwide web. According to Laudon and Treavor, (2009) the internet is a worldwide network of computers networks built on common standards. Created in the late 1960's to connect a small number of mainframe computers and their users, the internet has since grown into worlds' largest network connecting over 1.2 billion computers worldwide. The internet links businesses, educational institutions, government agencies, and individuals together, and provides users with services such as e-mail, document transfers, newsgroups, shopping, research, instant messaging, music, videos and news.

The Internet is changing the way customers, suppliers and companies interact, creating huge opportunities as well as unforeseen competitive threats. In much the same way as it is redefining external relationships with suppliers, customers and alliance partners, the Internet is also changing the way companies work internally, collapsing boundaries and redefining relationships among different functions, departments and divisions. In just a few years, the Internet has profoundly affected the basis of competition in many industries. Instead of the traditional focus on product features and costs, the Internet is shifting the basis of competition to a more strategic level changing the business models that companies use to organize themselves, engage in relationships and conduct their most basic transactions with customers and suppliers (Callahan and Pasternack, 1999).

The adoption of e-commerce is tending to automate rather than re-design existing business processes. High levels of internal information systems integration appear to be associated with low levels of business process integration. Business process management is a systematic approach to improving an organization's business processes. Business Process Management activities seek to make business processes more effective, more efficient, and more capable of adapting to an ever-changing environment David et al, as (Magutu, Ongeri, Mwangi, 2009).

According to Tasabehji, (2003) the key drivers of e-commerce are technological factor, political factor, social factor and economic factor. Technological factor is the degree of advancement of the telecommunications infrastructure which provides access to the new technology for business and consumers. This also involves speed of development and implementation of new technology by industry sector. Technology is what drives the phenomena of globalization and provides competitive advantage to firms. Technological factor reduces costs, improves quality and leads to innovation. It can benefit consumers as well as the organizations providing the products. Political factor refers to the degree of intervention of government in the economy.

There are certain formal and informal rules laid down by the government which every organization has to abide by in order to sustain its operations in a particular country. Important political factors in relation to e-commerce include the role of government in creating government legislations, initiatives and funding to support the use and development of e-commerce and information technology, government incentives to develop and support the use of new technology. Legislation includes number and type of supportive or restrictive laws and number of policies that govern electronic data, contacts and financial transactions. According to Tasabehji, (2003) Public policies would include whether government supports growth of electronic transactions and processes. Political decisions have a strong influence on many vital areas for business such as the education of the workforce, health of the nation and quality of the infrastructure of the economy such as the road and rail system.

Tasabehji,(2003) further argues that social factors are cultural aspects and demographic variables which are closely linked to the market potential and customers' needs. These include age distribution, attitude towards health and environment, education, leisure activities, attitude towards career, hanging lifestyle, gender role. As a Key driver to E-commerce, incorporating the level of advancement in IT education and training which will enable both potential buyers and the workforce to understand and use the new technology.

Wheelen and Hunger (2009), argue that due to increased competition in the business environments, innovation and the management of technology are becoming crucial to the corporate success. In common with any other business activity, e-commerce needs to be guided by corporation strategy. Organizations' have a range of strategic options, which support the achievement of its objectives, such as reducing costs, increasing prices, streamlining operations, increasing profitability and customer satisfaction. The key feature of corporation strategy is that it offers a clear statement of the basis for differentiation from competitors in order to gain competitive advantage. Walker,(2004) argues that without a successful market position there is no competitive advantage, successful position is based on the firms resources and capabilities. He concludes that a superior position is achieved when higher value is given to the customer through better quality or stronger technology.

According to Strickland, (2000) if the recipe for success in the adoption of e-commerce technologies or applications is having clear and sound objectives, then firms need to set clear objectives as prerequisite for crafting business strategy. While developing e-commerce strategy firms may neglect the fundamentals, and overlook fundamental business principles and forget the integration with the whole organization's strategy. E-commerce implementation must be aligned with whole strategy of the corporation. According to Whitley, (2001) the inputs into the strategy formulation process are the results of evaluating e-commerce technology, the business environment the capabilities of the organization plus the existing business strategy. The greater the impact of e-business on the overall business, the more significant is e-commerce strategy implementation, and the more important it is for the organization to understand and articulate clearly the relationships between e-commerce and other strategies. Jiang, (2003) argues that regardless of the level of integration between strategies, the strategy formulation process, issues such as the environmental context, the value chain, differentiation market and channel structure must be considered. Therefore companies that incorporate e-commerce with strategy will implement firm strategy effectively.

Research Methodology

The research design used was a cross-sectional survey. The population of the study was all commercial banks in Kenya, derived from the CBK Annual Report, (2010). 30 questionnaires were distributed to managers responsible for information technology in each of the 30 Banks identified, out of whom , 26 questionnaires were completed and returned, giving a response rate of 86.7 percent, which was considered satisfactory for the analysis. The study used both secondary and primary data. Secondary data was collected from journals and websites. A structured questionnaire was used to collect primary data from managers of e-commerce services or information technology managers in the banks, through drop and pick later approach.

The data collected was checked for completeness and consistency by editing, coding, classification and tabulation. Analysis was carried out with the help of SPSS (Statistical Package for Social Scientists) Version 17.0. Descriptive statistics such as frequency, percentages, mean and standard deviation were used to analyze the data. Regression analysis was also be used to come up with the model expressing the relationship between the dependent variable and independent variables .Correlation analysis was used to check on the overall strength of the established regression model and also the individual significance of the predictor variables.

Data Analysis, Findings And Discussions

In order to determine the **level of usage of electronic devices in the banks,** the respondents were asked to indicate the extent of adoption of e-commerce in their banks, using a five point Likert scale. The range was 'very high' (5) to 'very low' (1). The scores of very low and low have been taken to present a variable which had an impact to a small extent of usage (S.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq$ S.E <2.4). The scores of 'average' have been taken to represent a variable that had an impact to a moderate extent of usage (M.E.) (equivalent to a mean score of 2.5 to 3.4 pm the continuous Likert scale: $2.5 \leq$ M.E. <3.4). The score of both 'high' and 'very high' have been taken to represent a variable which had an impact to a large extent of usage (L.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq$ L.E. <5.0). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents. Table 1 shows the findings.

Table 1: Rating of level of usage of Electronic devices in the bank

Electronic Devices	Mean	Std. Deviation
Website	3.5769	.90213

Fixed lines	3.9231	.79614
Internet	4.0385	.66216
Computers	4.4615	.50839
Mobile phone	4.5000	.50990

The respondents rated the usage as follows; to a large extent: mobile phone (mean of 4.5000), computers (mean of 4.4615), internet (mean of 4.0385), fixed lines (mean of 3.9231) and website (mean of 3.5769). There was no variation in the respondents rating as indicated by low values of the standard deviations. The respondents were asked the extent of usage of electronic commerce applications in the bank. The results were given in table 2

Table 2: Extent of use of electronic commerce

	Mean	Std. Dev
Orders and delivery	1.9615	.91568
Electronic advertising display company information and products	3.0385	.77360
Electronic marketing	3.0769	.79614
Customer support service	3.4231	.80861
Payment system	4.5769	.80861

Source: Author 2011

The findings show that to a large extent payment system (mean of 4.5769) is applicable across all the banks. To a moderate extent; Customer support service (mean of 3.4231), electronic marketing (mean of 3.0769) and Electronic advertising display company information and products (mean of 3.0385) were applicable across all the banks. On the other hand only orders and delivery (mean of 1.9615) was used to a small extent across all the banks.

The respondents were asked the factors that influence the adoption of e-commerce in the bank. The results were given in table 3

Table 3: Factors influencing electronic commerce adoption

	Mean	Std. Dev
Orders and delivery	2.6154	1.29852
Electronic marketing	3.3462	.89184
Electronic advertising display company information and products	3.4231	.90213
Payment system	3.6154	.75243
Customer support service	4.4615	.85934

As indicated in Table 3, customer support service (mean of 4.4615) and payment system (mean of 3.6154) were found to influence electronic commerce adoption across the banks to a large extent, while electronic advertising (mean of 3.4231), electronic marketing (mean of 3.3462) and orders and delivery (mean of 2.6154) influenced electronic commerce adoption to a moderate extent amongst the banks.

The respondents were asked the effect of e-commerce adoption as regards to various factors which include perceived benefits, IT experience, IT infrastructure, customer pressure for IT adoption, competition in the industry and compatibility with current operations. The results were given in table 4.

Table 4.: Rating of the effect of e-commerce adoption in the bank

	Mean	Std. Dev
IT experience	3.8077	.56704
Perceived benefits	3.8077	.56704
Compatibility with current operations	4.0000	.00000
IT infrastructure	4.2692	.77757
Customer pressure for IT adoption	4.2692	.77757
Competition in the industry	4.6154	.80384

Source: Author 2011

The respondents unanimously rated effects of e-commerce adoption in the bank to a large extent. More specific; Competition in the industry (mean of 4.6154), Customer pressure for IT adoption (mean of 4.2692), IT infrastructure(mean of 4.2692), Compatibility with current operations(mean of 4.0000), Perceived benefits (mean of 3.8077), and IT experience (mean of 3.8077).

The respondents were asked to rate the extent to which e-commerce has influenced performance of the banks in terms of effectiveness, efficiency and relevance. The results were given in table 5

Table 5: Effect of electronic commerce on performance

		Mean	Std. Dev
Effectiveness	Marketing	3.4231	1.1375
	Electronic advertising, display	3.4231	.9021
	Customer support service	3.7308	.7776
	Orders and delivery	3.8077	1.0206
	Payment system	3.7692	1.3056
Efficiency	Marketing	4.4615	1.1889
	Advertising, display	3.7692	.7646
	Customer support service	3.1538	1.0077
	Orders and delivery	3.6154	1.2026
	Payment system	3.8846	.8162
Relevance	Meeting organization Objectives and goals	4.0769	.8449
	Product development	4.0769	.8449
	Market environment	4.0000	.8000
	Orders and delivery	3.8846	.9931
	Payment system	4.1538	.8806

Source: Author 2011

In terms of effectiveness; Customer support service (mean of 4.2692), Payment system (mean of 4.2692), Orders and delivery (mean of 4.2692) had influenced performance of the banks to a large extent. In terms of efficiency; Marketing (mean of 4.4615), Payment system (mean of 3.8846), Advertising, display company information and products (mean of 3.7692) and Orders and delivery (mean of 3.6154) had influenced performance of the banks to a large extent. In terms of relevance; Payment system (mean of 4.1538), Meeting organization Objectives and goals (mean of 4.0769), Product development (mean of 4.0769) Market environment (mean of 4.0000), and Orders and delivery (mean of 3.8846) had influenced performance of the banks to a large extent.

Correlation analysis of various e-commerce factors and performance

In order to establish the nature and strength of the relationship between various factors and performance, Pearson correlation coefficient was used as shown in table 6

Table 6: Pearson Correlation Coefficients

	Performance	Electronic marketing	Electronic advertising display	Customer support service	Order and delivery	Payment system
Performance of commercial banks	1.000					
Electronic marketing strategy	.722	1.000				
Electronic advertising display	.828	.263	1.000			
Customer support service strategy	.502	.331	.231	1.000		
Order and delivery strategy	.598	.378	.421	.143	1.000	
Payment system strategy	.467	.284	.265	.258	.268	1.000

Source: Author 2011

The findings indicate a strong correlation between electronic adverting display and performance (r =.828) , and also between electronic marketing strategy and performance (r =.722). Customer support service strategy and order and delivery strategy have moderate influence on performance, while the Payment system strategy is weak in influencing performance..

Table 7: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.961[a]	.924	.914	.39656	.924	90.201	5	25	.000

Source: Author 2011

The model summary shows a coefficient of determination (R^2) of 0.924, an indication that the strategies used (electronic marketing, electronic advertising display, customer support service, order and delivery and payment system) explain 92.4 percent of performance of commercial banks leaving only 7.6 percent unexplained.

A predictor model to show how the various factors influence performance of commercial banks is derived from the regression results given in table 8

Table 8: Coefficients of regression equation

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		.365	.207		1.761	.087
Electronic marketing strategy	X_1	.627	.073	.562	8.623	.000
Electronic advertising display company information and products strategy	X_2	.395	.075	.415	5.282	.000
Customer support service strategy	X_3	.628	.090	.661	7.020	.000

Order and delivery strategy	X_4	.254	.086	.238	2.942	.006
Payment system strategy	X_5	.975	.099	.884	9.833	.000

Source: Author 2011

Dependent Variable: Performance of commercial banks

The predictor model, using the standardized beta coefficients shown in table 8, is as follows:

$Y = 0.365 + 0.562X_1 + 0.415X_2 + 0.661X_3 + 0.238X_4 + 0.884X_5$

Where

Y= Performance of the banks

Constant = 0.365, shows that if electronic marketing strategy, electronic advertising display company information and products strategy, customer support service strategy, order and delivery strategy and payment system strategy were all rated as zero, performance of commercial banks rating would be 0.365

X_1= Electronic marketing strategy which shows that one unit change in electronic marketing strategy results in .562 units increase in performance of commercial banks other variables held constant.

X_2= Electronic advertising display company information and products strategy shows that one unit change in electronic advertising display company information and products strategy results in 0.415 units increase in performance of commercial banks other variables held constant.

X_3= Customer support service strategy, shows that one unit change in customer support service strategy results in 0.661 units increase in performance of commercial banks other variables held constant.

X_4= Order and delivery strategy, shows that one unit change in order and delivery strategy results in 0.238 units increase in performance of commercial banks other variables held constant.

X_5= Payment system strategy, shows that one unit change in payment system strategy results in 0.884 units increase in performance of commercial banks other variables held constant.

Summary Conclusion and Recommendations

The objectives of this study were to determine the factors influencing the adoption of E-commerce strategy in commercial banks in Kenya and to establish the influence of e-commerce strategy on performance of commercial banks in Kenya. The study indentified mobile phone, computers, internet, fixed lines and website as the most used electronic devices in the bank. To a large extent payment system was applicable across all the banks. The study further indicated that in terms of effectiveness; Customer support service, Payment system, Orders and delivery had influenced performance of the banks to a large extent. In terms of efficiency; Marketing, Payment system, Advertising, display company information and products and Orders and delivery had influenced performance of the banks to a large extent. In terms of relevance; Payment system, Meeting organization Objectives and goals, Product development, Market environment, and Orders and delivery had influenced performance of the banks to a large extent.

The study used regression analysis to find the association between electronic marketing strategy, electronic advertising display company information and products strategy, customer support service strategy, order and delivery strategy and payment system strategy and performance of commercial banks. The finding of the study indicated that the model was significant. This is demonstrated in the part of the analysis where R^2 for the association between electronic marketing strategy, electronic advertising display company information and products strategy, customer support service strategy, order and delivery strategy and payment system strategy and performance of commercial banks was 84.3%.

All the independent variables were also linearly related with the dependent variable thus a model of five predictor variables could be used to rate performance of commercial banks.

Conclusion

From the research findings and the answers to the research questions, some conclusions can be, made about the study. Performance is very vital for the functioning of any organization. The study established that the performance of any bank is affected by the different strategies that the banks adopt. Due to many factors like stiff competition, pressure from customers for adoption of new technologies, stiff competition, adopting e-commerce strategy will ensure that competitive edge over its competitors, hence enhancement of the bank's performance. For the banks to be effective, efficient and relevant and be financially viable, then strategies like e-commerce are inevitable in adopting in the banking industry.

The use of e-commerce has played a major role in many strategic initiatives. But, banks are still unsure how e-commerce system would be developed to support the bank strategy. From the study it is clear that the application of e-commerce tools in the various functions or processes of the bank has a great impact on the way the bank performs. While banks face many challenges in crafting strategies, it is critical to think of the role of e-commerce in the banking sector. The greater the impact of e-commerce on the performance of the bank's, the more significant is the application of e-commerce strategy in the banks.

From the findings, it was established that the performance is affected by the strategies selected by the bank. There is a rapid development in technology and hence banks are not being left behind in the adoption of new technology, due to either pressure from customers, stiff competition or change in technology. The banks performance is affected by the strategies selected. The banks which have adopted the e-commerce strategy, the performance is improved, banks which have not yet adopted the e-commerce strategies are struggling in the performance. The banking sector should embrace e-commerce strategy in order to survive in the rapidly changing markets.

Recommendations

Policy makers should regulate should provide or develop policies that will facilitate easy adoption of e-commerce in the banking sector. The policy makers should implement policies that will protect and attract more banks to adopt e-commerce strategy in order to improve economic performance not only of banks but of the country as a whole.

The study confined itself to commercial banks in Kenya. This research therefore should be replicated in all other financial institutions especially microfinance institutions, savings banks and the results be compared so as to establish whether there is consistency in the performance of all financial institutions as a result of ecommerce.

Limitations of the study

This study was based on a sample limited to commercial banks in Kenya. The study did not cover other financial institutions operating in the country and therefore it would not be prudent to say that their exist correlation of performance and ecommerce strategy within financial institutions and thus the findings may not be a thorough reflection of the sector as a whole.

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