The Role Of Technological Change On The Performance Of Commercial Banks In Kenya: A Case Study Of Kenya Commercial Bank

Bedan K. Thendu

Dr. Joseph M. Gichure

MSC Scholar, Jomo Kenyatta University of Agriculture & Technology, Kenya

Lecturer, Jomo Kenyatta University of Agriculture & Technology, Kenya

Abstract: The business environment has become very competitive in Kenya just as it is around the globe. The banking sector equally faces stiff competition occasioned by entry of new players offering new products and targeting medium and low income earners. Consequently, commercial banks have developed strategic means of survival. Most banks have embraced new technologies in their operations by investing huge capital to gain advantages of new products and services, increased productivity and reduced costs and thereby creating entire new markets for businesses. New communication technologies employed by banks are thought to be enablers of high production at reduced costs. Furthermore, there is need for commercial banks to gear effort towards increasing profitability and reward to shareholders. The study sought to find out the role of technological change on the performance of commercial banks in Kenya. The study adopted a descriptive research design and sampled employees across all levels of management of Kenya Commercial Bank (KCB). The result showed a strong correlation between technological change and performance of commercial banks with a coefficient of 0.93. A coefficient of determination was found to be 86.5% indicating high explanatory power of the variable with regard to performance of commercial banks. The study recommended that commercial banks embrace new technologies and business methodologies to reduce costs while improving the productivity.

Keywords: Technology change, commercial banks, performance, competitive strategy

I. INTRODUCTION

Global banking environment is situated in the midst of a challenging economic landscape and intense competition. Therefore, managers are increasingly seeking for strategic approaches to accomplish, improve and sustain banking performance and competitive advantage. Design and implementation of Strategy must be perceived as important components in the firm's management process. This is because strategy gives the direction that banking managers have in mind and which way they want to achieve their goals. Earlier research demonstrated that commercial banks that set out a clear strategy will outperform those firms that engage a mixed strategy (Bansal, 2012).

Amongst the many strategies implemented by banking institutions, competitive strategy has been proven as an essential tool globally for any business to remain in the competitive market environment and gain superior performance. Therefore, to possess an edge over rivals, firms employ innumerable competitive strategies, principally because each company's strategic style entails custom-designed actions to fit its own circumstances and industry environment (Adhiambo, 2014). Research has made it clear that there has been a fall in market growth occupied by various commercial banks in Kenya, due to inadequate utilization of their organizations' resources, lack of implementation of specific policies, strategies and actions designed to accomplish market growth in firms are not in place (Huber, 2014).

Adoption of technology in banking sector operations provides a competitive advantage in organization by ensuring effectiveness and cost-cutting initiatives. In the banking sector technology can create a competitive edge through providing the much-needed skills in the 21st century. In the early days of banking in Kenya, the banker met with his client behind closed doors, in the privacy of an office, gradually giving way to a more direct relationship. Technology change may be considered as neutral because it can have both positive and negative effects or a combination of the two and sometimes the technical advantages of the systems may outweigh the social advantages. Sometimes it is possible to take into account social and psychological needs by recognizing the social dimensions of technological changes (Adhiambo, 2014). New technology can present a considerable threat to employees as the world of work has changed in many ways and knowledge workers are employed in largely computerized offices and laboratories, and technicians work in computer integrated manufacturing systems. They may have to be managed differently from the clerks or machine operators they displace. The service industries have become predominant and manufacturing is in decline (Armstrong, 2008).

A. TECHNOLOGY AS A COMPETITIVE STRATEGY

Competitive strategy refers to game plan adopted by management for competing successfully in their chosen market. It involves the analysis of the market and its environment, consumer purchase behavior, competitive activities, needs and competencies of market intermediaries. Firms engage competitive strategies as tools for achieving or improving competitive advantage and superior performance in their industry landscape. Thus, the objective of competitive strategy is to devise innovative means of gaining market and industry dominance by satisfying buyers' need and preferences and responding to the sensitive requirements of stakeholders (Huber, 2014).

A firm's competitive strategies consist of the business approaches and the initiative it takes to attract customers, withstand competitive pressure and strengthen its market share. Thus, the firm has to focus in creating tomorrow's competitive advantages faster than competitors mimic the ones it poses today (Ogutu, 2015).

Banks started looking at ways to increase their clientele and began opening branches in the high street and in urban customer catchment areas, thereby following the changes taking place in commerce. Cashier, safe deposit boxes, securities management, and private customer loans services: most of these operations and transactions were carried out over the counter. Customers waited their turn and then, standing at the counter, leaned forwards towards a bank clerk seated on the other side. At the end of the 1980s, advances in data processing had redefined the bank's relationship with its customers: commercial banks quickly developed cash dispensers followed by automatic teller machines (ATMs), thereby enabling customers to carry out routine operations outside the opening times of the banks (Central Bank of Kenya 2007). Henceforth, banks could focus on giving advice and credit and customers were received by appointment in appropriate and more comfortable areas. Today, credit offer simulations can be done on own tablet. A service and a product can be differentiated in various ways. Unusual features, responsive customer service, rapid services and products innovations and technological leadership, perceived prestige and status, different tastes, and engineering design and performance are examples of approaches to differentiation (Ogutu, 2015). The rapid growth of Information Communication and Technologies (ICT) has brought remarkable changes in the twenty-first century, as well as affected the demands of modern societies. ICT is becoming increasingly important in our daily lives and in our banking system.

Technological change emphasizes automation and other capital-intensive production devices. Such technological change transforms the nature of human interaction with work. Further, a major factor causing change or being used as a change agent is change in technology, (Ogutu, 2015). Technological forces especially computer based information systems and internet continues to revolutionize how customers are served, employees communicate and networks with each other and external stakeholders (Solocum & Heuriegel, 2007). Further, the introduction of new technology may result in considerable changes to systems and processes. Different skills are required and new methods of working are developed. Technological change transforms the nature of the marketplace by changing the relative cost, features and availability of products. The result of technological changes may be an extension of the skills base of the organization and its employees, including multi skilling however it could result in downsizing (Armstrong, 2012).

Many organizations have enhanced new technology through the adoption of E-commerce. Electronic commerce is one of the most popular and widely used innovations in the international business environment today. It has a very great and significant impact on almost all businesses as well as on the' participants. With the fast-paced lives of people, ecommerce is now able to eliminate traditional boundaries, change behaviors, and bring about new opportunities. Ecommerce is a modern business methodology that addresses the needs of organizations, merchants and consumers to reduce costs while improving the quality of goods and services and increasing the speed of service delivery, by using internet. With the changing environment e-commerce has brought many opportunities and challenges to the telecommunication industry in Kenya. This is because the adoption of internet usage in Kenya has only gone to the elite. This is due to the technicalities involved in its usage (Ochola & Otor, 2013).

E-commerce has revolutionized the way Kenyan banks are doing business, since the world has become a global village where people only need to transact their business online like paying bills, transferring funds in and out of the country and other transactions. By adopting e-commerce organizations are able to minimize their operational costs, offer effective and highly efficient, tailor made services that enable customers to transact all transactions without visiting the banking hall. The opportunities in e-commerce are enormous since every business is out there to minimize their costs and to maximize their profits thus increasing their shareholders wealth (Hofer & Schendel, 2008).

B. PERFORMANCE OF COMMERCIAL BANKS IN KENYA

Organizational performance comprises the actual output or results of an organization as measured against its intended goals and objectives. According to Richard *et* al (2009), organizational performance encompasses three specific areas of firm outcomes namely financial performance, product market performance and shareholder return, in some cases; production capacity performance may be analyzed. Specialists in many fields are concerned with organizational performance including strategic planners, operations, finance, legal, and organizational development (Thompson, 2007).

Using organizational goals as a basis, different methods are adopted by different firms to measure their performance. This performance indicator can be measured in financial and non-financial terms (Bagorogoza & Waal, 2010; Bakar & Ahmad, 2010). Most firms, however, prefer to adopt financial indicators to measure their performance (Grant *et al.*, 2008). Return on assets (ROA), average annual occupancy rate, net profit after tax and return on investment (ROI) are the commonly used financial or accounting indicators by firms. Some other common measures are profitability, productivity, growth, stakeholder satisfaction, market share and competitive position (Bagorogoza & Waal, 2010).

In Kenya, there are a total of 42 commercial banks. There are two banks in receivership; Chase bank and Imperial bank. All commercial banks are regulated by the Central Bank of Kenya. The Capital Markets Authority has additional oversight over the listed banks. All banks are required to adhere to certain prudential regulation such as minimum liquidity ratios and reserve ratios with the Central Bank. Kenya is over-banked with a relatively high ratio of banks total population, with 42 commercial banks serving 44 million people compared to Nigeria with 22 commercial banks serving 180 million people and South Africa with 19 commercial banks serving 55 million people (CBK report, 2015).

They have been a number of developments in the banking sector in the recent time. In the third quarter of 2016, interest rate remained volatile with the interbank rate and 91-day T bill touching high of 25.8% respectively. At the beginning of the third quarter of 2015, the MPC raised the CBR to 11.5%, and has kept it unchanged. The end of 2016 saw commercial banks reporting lower loan uptake given the expensive costs of financing loans. This was driven by actions by the Central Bank, which raised the Central Banks base lending rate by 300% in the quarter. Kenya commercial banks have continued to record much lower earnings growth, driven by the challenging economic environment which has reduced appetite of credit (CBK report, 2015).

Commercial banks have continued to face numerous challenges. Dubai bank was placed under receivership with the Kenya Deposit Insurance Corporation (KDIC) for failure to meet statutory requirement since July 2015. On other hand, Imperial Bank was also closed and put under receivership, due to what was described as unsafe and unsound business practices. Barclays Bank decided to exit African operations in order to focus the bank on its score in UK and US market. The bank appointed subcommittee to study how and when to sell its 62.3% stake in Barclays Africa, which is valued USD

4.8bn. Barclays CEO James Staley highlight that despite the recognition that Africa is one of Barclays genuine growth, it is becoming costly distraction owing to the devaluation of the South Africa Rand and extra risk of corruption and misconduct in Africa which would tarnish the entire African operation if something was to go wrong (CBK report, 2015).

Corporate governance issues in the banking sector continued with the culprit this time being National Bank. The top executives were sent on suspension and subsequently resigned owing to unsafe practices which include issuance of loans without following process. This led to a huge spike in National Bank which resulted to a provision charge of Kshs 3.7bn leading to a loss of Kshs 1.2bn. Finally, the banking industry had a 5.03 per cent decline in pre-tax profits in 2015 compared to profitability in 2014 .The decline could be explained by exclusion of three banks (Dubai, Imperial and Chase) placed under receivership (CBK report, 2015).

C. STATEMENT OF THE PROBLEM

Commercial banks play an important role in the Kenyan economy mainly through its contribution to the country's GDP and employment. Commercial banks in Kenya contributed 70% of the Gross Domestic Product (GDP) and created 79.8% of new jobs in the year 2011. The products offered by commercial banks are generic hence making the competition very stiff. In order for the firms to survive and enhance their performance they need to employ unique strategies which are difficult to imitate and are sustainable. In order to remain competitive, commercial banks in Kenya over the years have structured their products to suite the market needs (CBK report, 2015).

Related studies have been done on various competitive strategies and their effects on performance of organizations (Asava (2009), and Kimari (2010). The studies revealed that companies with strong technology-enabled innovation strategies are more likely to secure competitive advantage and create superior shareholder value. Inspite of the noble role most manufacturing firms studied did not have the requisite technological resources for effective sustainable competitive advantage (Lovas & Goshal, 2000).

From the studies on competitive strategy of commercial banks, it is found that Competitive strategy is important for survival of commercial banks. The studies also indicated that different strategies may be used by different commercial banks depending on their size, presence and market share. However, despite this background, limited studies have been done to determine the effect of technological change on performance of commercial banks in Kenya as they operate within such an environment. As a result of the liberation, turbulence in the economy, new government policies and sprouting of many financial institutions, commercial banks have been undergoing changes to survive and compete effectively. The proposed study has been motivated by the need to fill this gap in knowledge. The study therefore sought to establish the effect of technological change on performance of commercial banks in Kenya through a case study of Kenya Commercial Bank.

D. OBJECTIVE OF THE STUDY

The objective of this study was to evaluate the role of technological change on the performance of commercial banks in Kenya.

II. LITERATURE REVIEW

A. THEORETICAL FRAMEWORK

A theory can be defined as a supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained. Theoretical analysis' can refer to an actual analysis of empirical data obtained through experiments but with a focus on theory rather than application (Larsen & Lomi, 2009). This study was anchored on Resource Based Theory.

Resource Based View Theory was developed by Pfeffer and Salancik in 1978. The Resource-Based View (RBV) is an economic tool used to determine the strategic resources available to a firm. The fundamental principle of the RBV was that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firm's disposal. To transform a short-run competitive advantage into a sustained competitive advantage, it required that these resources be heterogeneous in nature and not perfectly mobile. Effectively, this translated into valuable resources that are neither perfectly imitable nor substitutable without great effort (Hoopes et al., 2003). If these conditions hold, the firm's bundle of resources could assist the firm sustaining above average returns. The resource-based view suggested that a firm's unique resources and capabilities provided the basis for a strategy (Hoopes et al., 2003). The business strategy chosen should allow the firm to best exploits its core competencies relative to opportunities in the external environment. These included human, infrastructure, financial and physical resources. According to resource based theory; organizations wished to maintain a distinctive product (competitive advantage) and would plug gaps in resources and capabilities in the most cost effective manner to do so. Outsourcing of cataloguing was easier to rationalize using resource-based theory as this emphasized that cost-effective solutions were required to some of the major activities, in order to fulfill the main aim of the organization (provide organized access to resources).

From a resource based view of the firm, it is of high importance to take a close look at the internal organization of a company and its resources in order to understand how competitive advantage is determined within firms (Wernerfelt, 1984). In other words, the central premise of RBV addresses the fundamental question of why firms are different and how firms achieve and sustain competitive advantage by deploying their resources (Kostopoulos *et* al., 2002). The resource based perspective of firms is based on the concept of economic rent and the notion of an organization as a collection of capabilities. Whereas traditional strategy models focus on the organization's external competitive environment, the RBV accentuates the need for a fit between the external market context in which a firm operates and its internal capabilities.

From this perspective the internal environment of an organization, in terms of its resources and capabilities, is the critical factor for the determination of strategic action (Hint *et* al., 2004).

The original idea of viewing a firm as a bundle of resources can be traced back to Penrose (1959), who argues that it is the heterogeneity, not the homogeneity, of the productive services available from its resources that give each company its unique character. The view of the firm's resources heterogeneity is the basis of the RBV and was advanced by Wernerfelt (1984), suggesting that the evaluation of companies in terms of their disposable resources could lead to different insights from traditional perspectives that view competitive advantage as a rather external paradigm and argue that the alignment of a firm to its external environment is the main determining factor for a firm's profitability (Ogutu, 2015). Barney (1991) developed a framework for the identification of the properties of firm resources needed for the generation of a sustainable competitive advantage. The properties include whether resources are valuable, rare among a firm's current and potential competitors, imitable, and nonsubstitutable. If resources have these characteristics they can be seen as strategic assets. Subsequently, this notion has been adopted by many researchers (Amit & Schoemaker, 2010).

The RBV can be depicted as an "inside out" process of strategy formulation. A central thrust is the contribution of core competencies as strategic assets, which will be the continuing source of new products and services through whatever future developments may take place in the market, which by their nature, are not known (Connor, 2002). The emphasis of the RBV approach to strategic management decision-making is on the strategic capabilities as basis for superiority of the firm rather than attempting to constantly ensure a perfect environmental fit. Resources are the specific physical, human, and organizational assets that can be used to implement value-creating strategies. Capabilities present the capacity for a team of resources to perform a task or activity (Grant, 1991). In other words, capabilities present complex bundles of accumulated knowledge and skills that are exercised through organizational processes, which enable companies to coordinate their activities and make use of their assets (Day, 1994).

Capabilities are always vulnerable to be competed away by a competitor's higher order capability amongst other limitations such as erosion or substitution. Intangible assets are central to the RBV approach to understanding competitive advantage since they cannot easily be acquired or imitated, in contrast to tangible assets. Lovas and Goshal (2000) identified the relevant intangible assets as know-how, product reputation, culture and networks as main contributing factors to the overall success of a firm. Thus, the asymmetric performances between heterogeneous companies are very much driven by the intangible strategic assets. Adding to this notion, Lovas and Goshal (2000) conclude that firms have to achieve a synergy between exploitation and creation of human and social capital as intangible assets in order to obtain better performances in the long run. Grant developed a practical framework for a resource-based approach to strategy consisting of the identification of resources and capabilities, their potential for achieving competitive advantage with

ISSN: 2394-4404

appropriable return, the strategy selection and the consequent identification of resource gaps.

Differentiation supports and sustains competitive advantage, but conformity to institutional pressures provides legitimacy, resources, and competitive advantage. In contexts where institutional and competitive pressures exert strong influences, the strategic decisions of managers result both in conformity to institutional pressures, which leads to isomorphism and legitimacy, and in differentiation, which, following the resource-based view of the firm, can increase the possibility of creating a competitive advantage through heterogeneity in resources and capabilities. Although both alternatives have an effect on performance of public universities and the creation and maintenance of dominant market positions, little attention has been paid to the analysis of the effects of conformity on performance of banks and competitive advantage. Differentiation tends to reduce rivalry, increasing the possibility of building competitive advantages, whereas conformity improves the social support of stakeholders and therefore the legitimacy of the firm. Differentiation reduces competitiveness and the fight for scarce resources, thereby improving performance of banks; but on the other hand, conformity makes all organizations similar and, therefore, the competitive pressures are stronger. Differentiation will create benefits and dominant positions that will last until competitors imitate a firm's key resources, and will be restored through the creation of new opportunities that result in a new competitive advantage and new entry barriers (Ogbonna and Harris, 2003). The new lines of institutional thinking answer this question and establish a point of connection with the resources-based view.

B. CONCEPTUAL FRAMEWORK

A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation (Reichel & Ramey, 1987). It is a tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny. The conceptual framework for this study is depicted in Figure 1.

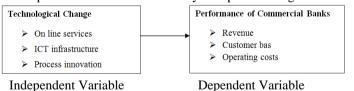


Figure 1: Conceptual Framework

III. RESEARCH METHODOLOGY

A. RESEARCH DESIGN

The research design refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. The study used descriptive design because it enhances systematic description that is as accurate, valid and reliable as possible regarding the responses. Descriptive design is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals (Kothari, 2010).

B. STUDY POPULATION

Population is a well-defined set of people, services, elements, and events, groups of things or households that are being investigated. This definition ensures that population of interest is homogeneous (Kothari, 2010). Kenya Commercial Bank has an extensive network of 192 branches in Kenya as at 31st December 2016 as noted in their annual accounts. Out of this, 13 branches are located within the Nairobi region. In this regard, the target population of this study was comprised of the management staff of Kenya Commercial Bank branches within Nairobi region. By carrying out the study within the Nairobi region, the study captured the various demographic trends. The cosmopolitan population in Nairobi comprises people from all walks of life. According to KCB (2017), there are 720 management employees distributed at various branches within the Nairobi region and classified as follows: Top management: 76, Middle level management: 186 and operational level management 458.

Yamane Taro (1973) formula was used was used to determine sample size for the study. It states that the desired sample size is a function of the target population and the maximum acceptable margin of error. It is expressed mathematically as: $n = \frac{N}{1+Ne^2}$ where; n is sample size, N is target population size and e is the margin of error. For this study, a margin of error of 5% will be used. A sample size was found to be 88 respondents as indicated below. $n = \frac{^{720}}{^{1+720}(0.05)^2} = 88$

$$n = \frac{720}{1+720(0.05)^2} = 88$$

C. DATA ANALYSIS AND PRESENTATION

Data analysis is a practice in which raw data is ordered and organized so that useful information can be extracted from The study gathered qualitative and quantitative data. Descriptive statistics including mean, standard deviation, frequency and percentages was used in analyzing the data collected (Kothari, 2010). Correlation and regression analyses were used to assess the relationship between the two variables and the contribution of technological change to performance of commercial banks. Statistical Package for Social Sciences (SPSS) software version 23 was used in the analysis. The results arrived at were presented using tables, graphs and charts.

IV. FINDINGS OF THE STUDY

Of the eighty eight (88) questionnaires administered, 71 were filled and returned, equivalent to 81% response rate. This response rate is considered satisfactory in making conclusions for the study as argued by Mugenda and Mugenda (2003). The reliability of the questionnaire was assessed by evaluating Cronbach's Alpha coefficient. Ten questionnaires were randomly distributed to the target population during a pilot

study and the data evaluated for reliability. The reliability coefficient for technological change was found to be 0.898, and was considered sufficient according to Nunnally and Bernstein (1994).

A. DESCRIPTIVE STATISTICS

The respondents were asked to indicate the extent of agreement with statements relating to technological change and its influence on performance of commercial banks. A five point Likert scale was used *Where:* 1 = Very large extent; 2 = Large extent; 3 = Moderate extent; 4 = Less extent; and 5 = Not at all. The results were summarised and presented in Table 1.

Tubic 1.							
To what extent do the following	Responses by percentage						
Technological factors influence performance of commercial banks	1	2	3	4	5	Mean	Standard deviation
Provision of online services to customers Introduction and use of Electronic	88.7	11.3	0.0	0.0	0.0	1.11	0.318
commerce (e- commerce) in business Growth of ICT (Information Communication	16.9	56.3	18.3	5.6	2.8	2.21	0.893
Technology) infrastructure	56.3	26.8	14.1	2.8	0.0	1.63	0.832
Process innovation	28.2	42.3	16.9	9.9	2.8	2.17	1.042

Table 1: Technological factors that influence performance of Kenya Commercial Bank

According to the findings in Table 1, respondents agreed to very large extent that provision of online services to customers in the banking business has expanded the income generating potential of Kenya Commercial Bank (mean of 1.11), and that growth of ICT (Information Communication Technology) infrastructure influence reduction of operational costs and hence better return on assets for the bank (mean of 1.63). They also agreed that process innovation has added competitive advantage to the bank (mean of 2.17), and that introduction and use of Electronic commerce (e-commerce) in business has influenced positively the increase in customer numbers (mean of 1.11). The respondents mentioned that the recent technological innovation embraced in the last five years by the bank include online banking, ATM, and Electronic Money Transfer (EMT).

B. REGRESSION ANALYSIS

The linear regression model of the form of $Y = \beta 0 + \beta X + E$ was used to depict a relationship between the dependent variable (performance of commercial banks) and independent variable, X (technological change). The coefficient of determination (R^2) and correlation coefficient (r) which shows the degree of association between technological change and performance of commercial banks were evaluated. The results were summarized and presented in Table 2.

Model	R	R squared	Adjusted R	Std.	Sig
			squared	Error	

1	0.930	0.865	().794	0.250	0.012
a. Predictor	s: (Constant)	online	services,	e-commerce,	ICT	infrastructure,
Process inn	ovation.					

b. Dependent Variable: Performance of Commercial banks

Table 2: Relationship between performance of KCB and technological change

From the results, the values of R and R^2 were found to be 0.930 and 86.5% respectively. The R value of 0.885 represented a high positive relationship between technological change and the performance of commercial banks. The R^2 indicates the explanatory power of the independent variable. This high value showed that 86.5% of the variation in performance of commercial banks is explained by technological change.

V. DISCUSSION

The findings indicate that 88.7% of the respondents agreed to a large extent that provision of online services to customers was a major technological factor that influenced performance of commercial banks with mean (1.11). Growth **ICT** Communication Technology) (Information infrastructure with a mean (1.63) was also observed to a large extent to be a technological strategy employed by commercial banks. A correlation coefficient value of 0.873 obtained from correlation analysis indicating high correlation between technological change and performance with significance value of 0.005. Simple regression analysis was performed and R square value (86.5%) shows a high degree of influence on performance. Multiple regression analysis on the other hand produced a coefficient ($(\beta_3 = 0.319)$ indicating greater influence of technological change on performance. The influence is higher than that of differentiation strategy but less than that of cost leadership strategy. The findings concur with those of Hofer and Schendel (2008) who observed that the opportunities in e-commerce are enormous since every business is out there to minimize their costs and to maximize their profits thus increasing their shareholders wealth and overall performance.

Inferences can therefore be made that Information Technology systems have revolutionized the operations of banks. The emergence of Information Technology has been incorporated into the Banking Industry which has propelled a noticeable change in the banking sector. Indeed banks that have embraced technological change have improved their performance over time and have tended to outperform other banks.

VII. CONCLUSSION AND RECOMMENDATIONS

The study revealed that technological change affects the performance of commercial banks to a great extent. Technology in the areas of communication, business systems largely contribute to efficiency, reduced operational costs and higher revenues. Consequently, commercial banks should embrace new technologies especially e-commerce which is a modem business methodology that addresses the needs of organizations, Merchants and consumers to reduce costs while improving the quality of goods and services and increasing the

speed of service delivery through use of internet. The study further recommends that management of commercial banks should possess the skills necessary to conceptualize and formulate sensible competitive strategies based on the growing business needs and have the capacity to oversee the implementation. More importantly, the management should guide their employees towards realizing the need to remain competitive in the changing business environment.

REFERENCES

- [1] Adhiambo, O. (2014). Exploring strategic thinking practices among Malaysian SMEs. *Malaysian Management*
- [2] Amit & Schoemaker, (2010). Is performance driven by industry–or firm-specific factors? A new look at the evidence. *Strategic Management Journal*, 24, 1–16.
- [3] Armstrong, M. (2012). *A handbook of personnel Management Practices*. Kogan Page Limited London.
- [4] Asava, K. L. (2009). Knowledge management for competitive advantage within commercial banks in Kenya. Master of Science thesis (University of Nairobi).
- [5] Bagorogoza and Waal, (2010). Competitive strategy and performance measurement in the Malaysian context: An exploratory study. *Management Decision*, 46(1), 5–31.
- [6] Bakar and Ahmad, (2010). Manufacturing practices, strategic fit and performance: A routine-based view. *International Journal of Operations & Production Management*, 24(2), 171–191.
- [7] Bansal, P. (2012). Is performance driven by industry- or firm-specific factors? A reply to McNamara, Aime and Vaaler. *Strategic Management Journal*,
- [8] Barney, G.(2002). Disentangling interfirm and intrafirm causal ambiguity: A conceptual model of causal ambiguity and sustainable competitive advantage. *Academy of Management Review*, 32(1), 156–178.
- [9] Central Bank of Kenya (2007) Annual Report 2007-Banking Sector Developments, pp 28
- [10] Collis, W.M. (1994). Competence and resource architectures. *International Journal of Operations & Production Management*, 23(9), 977–994.
- [11] Connor, T. (2002). Antecedents of export venture performance: A theoretical model and empirical assessment. *Journal of Marketing*, 68, 90–108.
- [12] Day, D. (1994). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14, 179–191.
- [13] Grant, M.R. (1991). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 79–92.
- [14] Grant, M.R., (1991). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 79–92.
- [15] Hint et al., (2004). Strategy without ontology. *Strategic Management Journal*, 24, 285–291

- [16] Hofer, C. & Schendel, D. (1978). Strategy formulation: Analytical concepts. St. Paul, MN West.
- [17] Hoopes et al., (2003). The resource based perspective, rents, and purchasing's contribution to sustainable competitive advantage. *The Journal of Supply Chain Management, Summer*, 38–47.
- [18] Huber, M. (2014). Supply chain management as a competitive advantage in the Spanish grocery sector.
- [19] Kostopoulos et al., (2002). A comparison and contrast of strategic management and classical economic concepts: Definitions, comparisons, and pursuit of advantages.
- [20] Kothari, C. (2010). Research Methodology, Methods and Techniques Second Revision Edition. Delhi, India: New Age International (P) Limited, Publishers
- [21] Kothari, C.R. (2004). Research methodology methods & Techniques, 2nd ed., New Delhi: New Age International publisher
- [22] Larsen & Lomi, (2009). Evidence on formal strategic planning and company performance. *Management Decision*, 44(1), 9–30.
- [23] Lovas and Goshal (2000). Competitive advantage through sponsorship: A conceptual model and research propositions. *European Journal of Marketing*, 38(8), 1013–1030.
- [24] Mugenda and Mugenda. (1999). Research Methods: Qualitative and Quantitative Approaches. Nairobi, Kenya: Acts Press.
- [25] Ochola, B. O. & Otor, S. C. J. (2013). E-commerce adoption among micro, small and medium sector in nairobi county, Kenya. Doctor of Philosophy thesis (University of Nairobi).
- [26] Ogbonna and Harris, (2003). The alignment of appropriate firm and supply strategies for competitive advantage. *International Journal of Operations & Production Management*, 25(5), 403–428.
- [27] Ogutu, F. M. (2015). "Porter's five competitive forces framework and other factors that influence the choice of response strategies adopted by public universities in Kenya", International Journal of Educational Management, 29(3)
- [28] Reichel and Ramey, (1987). Creating a sustainable competitive advantage through training. *Team Performance Management*, 6(5/6), 90–97.
- [29] Richard et al. (2009). Exploring strategy implementation consistency over time: The moderating effects of industry velocity and firm performance. *Journal of Management and Governance*, 10(2), 205–226.
- [30] Solocum, J. W. & Hullriegel, M. (2007). Fundamentals of Organization Behavior (International Students ed.). Thombson SouthWestern, China.
- [31] Thompson, M. (2007). Understanding HRM-Firm performance linkages: The role of the "strength" of the HRM system. *Academy of Management Review*, 29(2), 203–221.
- [32] Wernerfelt, R.A (1984). Resource attributes and firm performance in international joint ventures. *Journal of World Business*, 42, 47–60.