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Effect of Information and Communication Technology on Service Delivery in Commercial Banks in Kenya

Dr. James T. Kariuki, PhD

Department of Management Science, University of Nairobi, Nairobi, Kenya

Abstract: *Adoption of ICT has significantly altered banks operations and service delivery mechanism. Across the globe, banks have adopted technology in order to facilitate operation efficiency, service provision and cost reduction. This studywas undertaken todetermine the extent of ICT use, the benefits of using ICT andthe challenges experienced in the use of ICT in commercial banks in Kenya. A descriptive research design was used in which a questionnaire was administered to information systems managers and customer service managers in each of the banks. Descriptive statistics were used in the analysis. The results of the study show that banks in Kenya have adopted the use of ICT. Use of ICT has resulted in faster processing of customer requests, easy access to banking information and services, reduction of errors, provision of timely services and transaction alerts among other benefits. However, to realise the full benefits of ICT investment, banks in Kenya must train customers and employees on the use of installed systems, address customer security concerns, enhance user support and ensure good system user interface.*

Key words: *ICT, Service Delivery*

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I. Introduction

Information and communication technology (ICT) has revolutionized operations and service delivery in all sectors across the globe. Adoption of ICT facilitate operational efficiency, internal and external communication, operational cost reduction, knowledge management, decision making and improved service delivery. Thus, for an organisation to remain competitive, there is need to invest in appropriate ICT and to continuously re-evaluate and improve the effectiveness and efficiency of its business information system (Chaffey& Wood, 2005).

In both developed and developing countries, ICT is critical in the banking industry as it has greatly influencedbusiness processes, marketing and service delivery.For instance, through the use of ICT, banks have launched new services and efficient service delivery channels such as internet banking, mobile banking and automated teller machines.Consequently, there has been a paradigm shift in operations and service delivery in the banking industry as a result ofICT adoption. Today, banks continue to invest heavily in ICT in an endeavour to improve service delivery, catch up with global developments, manage transaction costs and widen the range of value added services and products on offer.

In Kenya, the banking industry comprises of both locally and foreign owned banks. Commercial banks in Kenya are clustered into a three-tier system based on a weighted composite index. The index makes use of bank's assets, deposits, capital, number of deposit accounts and loan accounts. A bank with a weighted composite index of 5 percent or more is a large bank, of between 1 percent and 5 percent is a medium bank and a small bank has less than 1 percent (Sirima& Pere, 2014).With increased competition among players in the banking sector, there has been increased adoption of ICT which has resulted in launch of new services and delivery channels, reduction in number of branches and employees, and operational cost reduction.

II. Literature review

In general, ICTrefers to technologies that are used to capture, store, process and disseminate information. According to O'Brien (2002), an information system is a system that combines people, hardware, software, data resources and communication networks to collect, transform and distribute information in an organization.Thus, a firm's information system comprises of interrelated subsystems that support different functional areas such as production/operations, sales &marketing, finance, supply chain and human resources whichare integrated to serve the firm as a whole (Ferreira, Erasmus, &Groenewald, 2009).In order to provide superior and unmatched services, there is a need to integrate both telecommunication and information technology capabilities within a firm's information system (Burnes, 2004, Ngira, 2016).

According to Chavira (2013), a service is a means of delivering value to customers by facilitating the outcome that customers want to achieve without transfer of specific process, roles and risks. On the other hand, service delivery refers to a set of processes that provide the architecture on how the service will be rendered (such as service creation, session control and protocols).Organizations implement various service delivery channels to facilitate access to their services. A key consideration in the design and implementation of service delivery channels is to enhance customer satisfaction. Customer satisfaction as defined by Kotler and Keller (2006) is the extent to which a customer's expectation is met or matched by a perceived performance.Nagabhushanam(2013) defines an effective and efficient service as that which satisfies the needs of a given customer consistently over time. Service quality is a key component in creating and sustaining worthy relationships with customers and keeping abreast with their ever-changing needs (Njoka, 2013). According to Njoka (2013), banks are using information technology to reduce costs and more importantly create value-based services for their customers in order to remain competitive. In addition, banks are using ICT enabled channels such as automated teller machines (ATMs), internet banking and mobile banking to enhance access and quality of service, increase productivity and overall customer satisfaction.

Although banks are investing substantial amount of resources in ICT, the value of these investments can only be realised if these systems are adopted by both internal and external customers. Various models can be used to explain technology adoption process. For instance, the Technology Acceptance Model (TAM) notes that perceived usefulness (PU) and perceived ease of use (PEOU) determines when and how users adoptsnew technology. On the other hand, the Unified Theory of Acceptance and Use of Technology (UTAUT) explains user intentions to use new technology based on four constructs namely performance expectancy, effort expectancy, social influence and facilitating conditions.With increased implementation of new ICT systems and in order to realize the envisioned benefits, banks in Kenya must enhance employees' capacity building as well as training of customers on the use of new technologies.

III. Research Problem

In a globally competitive business environment, ICThas become part and parcel of service delivery since organizations are able to provide a variety of services by adopting appropriate technology. In addition, customers are able to undertake self–service operations through ICT enabled platforms. Adoption of ICT enhances organizational processes and efficiency, reduce operational costs and consistently deliver high quality services that drives customer satisfaction and customer retention. Further, ICT facilitates knowledge management, business interaction and sharing of critical business information (Buhalis, 2003).

Banks in Kenya have made heavy invested in ICT, with foreign banks replicating systems in their parent country. For local banks, ICT investment has been modelled on benchmarking result and specific customer segment needs. Although various studies (Apulu, 2012, Cooper, 2010;Piccoli et al. 2004;Xue, 2003) in other sectors have shown a relationship between ICT and service delivery, this study was designed to answer the research question; what is theeffectof ICTon service delivery in the banking sector in Kenya? The objectives of the study were to:

i. Establish the extent to which commercial banks in Kenya are using ICT in service delivery.
ii. Determine the benefits of using ICT on service delivery in commercial banks in Kenya.
iii. Establish the challenges of using ICT to deliver service in commercial banks in Kenya.

IV. Research Methodology

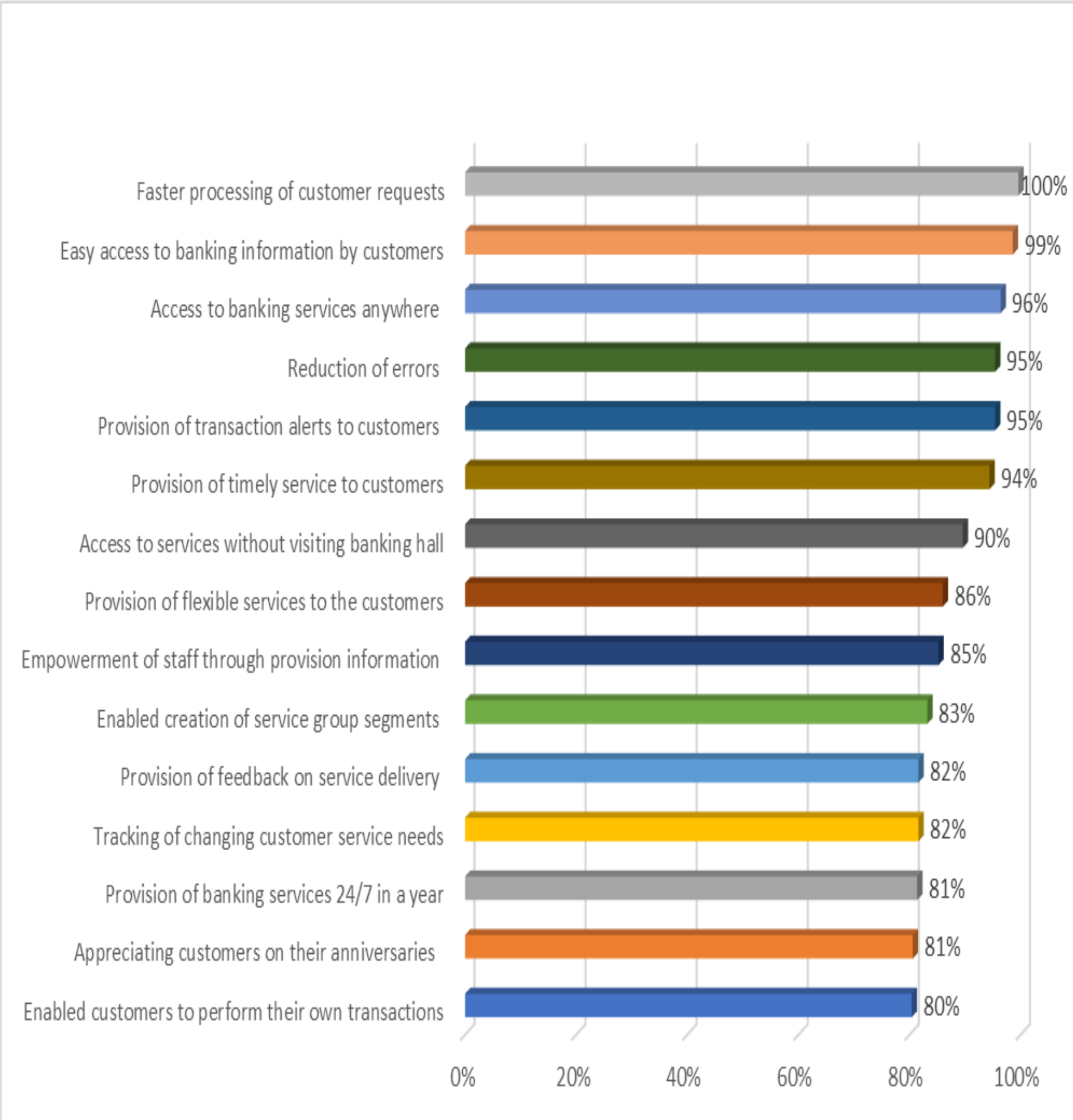
In this study a descriptive research design was used. Descriptive research design was selected because it allows for collection and analysis of data in order to describe a specific phenomenon (Mugenda & Mugenda, 2003). The study population was 41 commercial banks that were in operation. Given the population size, all banks were involved in the study. A questionnaire was used to collect primary data that was used in the study. In each bank, the questionnaire was administered to the Information SystemManager and the Customer Service Manager. Completed questionnaires were inspected for completeness, coded and data entered into SPSS. Since this was an exploratory study, descriptive statistics were used in the analysis.

V. Results and Discussions

On the use of ICT enabled service delivery channels (ATM, Mobile banking and Internet banking), frequencies were computed and the results show that 94% of the banks provide ATM services to their customers while 86% of the banks have mobile and Internet banking services. Launch of mobile and internet banking services in Kenya may be attributed to vast telecommunication coverage in the country as well as adoption of mobile devices such as laptops, tablets and smart phones.It was noted that, although a high number of banks customers make use of internet banking to access information only, majority do not participate in electronic transaction processing due to security concern, fear of unknown, lack of knowledge on how to transaction and lack of information on services portfolio.

For objective two, data was analysed to determine benefits of using ICT enabled service delivery systems. The results are depicted in Figure 1.

Figure 1: Benefits of Using ICT Enabled Service Delivery Channels



As shown in Figure 1, the top four key benefits of using ICT enabled service delivery channels in Kenya are faster processing of customer requests, easy access to banking information, access to banking services anywhere in the country and reduction of errors. Although ICTsystems facilitate tracking and appreciation of customers on their anniversaries, this benefit was ranked second last while provision of self-services platform was ranked last. In addition, majority of the respondents (81%) indicated that ICT facilitatesaccess to banking services 24/7 in a year. These findings are consistent with Karuga (2010) and Apulu (2012) assertion that ICTs influencesoperations and service delivery.

Table 1 presents ranking of factors hindering effective and efficient use of ICT in Kenyan banking sector. Majority of the respondents (86%), indicated lack of thorough knowledge of technology by customers and customers' security concerns as major impedimentsin the use of ICT in service delivery. Other challenges include changes in customer preferences, poor system configuration and frequent technological changes. In addition, 63% of the respondents indicated lack of thorough technological knowledge among staff as a major hindrance in the use of ICT in the banking industry. However, network issues were ranked last and this implies existence of reliable ICT network across the banks in Kenya.

Table 1: Challenges in the use of ICT in service delivery

SNO	Challenges in use of ICT in the banking	Number of respondents
1	Inadequate customers knowledge on systems in use	86%
2	Customers' concern about security	86%
3	Changes in customer preferences	81%
4	Poor configuration of ICT enabled service setup	78%
5	Inability to accept hard currency by online systems	77%
6	Technological changes	73%
7	Poorly designed system's user interface	71%
8	Huge costs of acquiring ICT systems	71%
9	Lack of adequate support personnel to handle customer queries	63%

10	Inadequate staff knowledge on system in use	63%
11	Unavailability of services due to network issues	59%

VI. Conclusion and Recommendations

The study has established that majority of banks in Kenya have adopted the use of ICT in service delivery. Adoption of ICT facilitates faster processing of customer requests, easy access to banking information, access to banking services and reduction of errors among others. However, to realise the envisioned benefits, there is need for Kenyan banks to train customers and employees on the use of installed systems, address customer security concerns, enhance user support and ensure good system user interface. In addition, there is need for Kenyan banks to have an ICT strategy to guide selection and deployment of technology. Further, banks need to proactively manage implementation of emerging technologies in order to ensure support of business strategies and service delivery.

Since this was an exploratory study, there is need for a detailed study to evaluate the relationship between ICT adoption, bank characteristics, service delivery and commercial bank performance in Kenya.

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