Journal of Business Management & Accounts Studies
ISSN: 2581-7973
Volume 2 Issue 1, 30 April 2019
PP. 15-21

THE IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY ON BANK OPERATIONS

(A STUDY OF POLARIS BANK NIGERIA PLC)

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Keywords

ICT adoption
ICT infrastructure
Effectiveness of Bank Operation

Abstract

The study investigated the impact of information communication technology on bank operations in Polaris Bank Plc. Despite the rapid growing adoption of the information technology tools to improve banking operations through the use of USSD code, online banking and real time gross settlement in Nigeria banks, there are still ineptitude service delivery, low productivity, loss of time and also an increase in the average operating cost which has made customers to be dissatisfied on the loopholes in the banking operation through technology. The study adopted survey research method and primary data was relied on. Simple random sampling and questionnaire was used to collect data from the respondents from the employees of Polaris Bank in Lagos State. 150 copies of questionnaires were administered to the employees and 118 copies were returned. The study employed descriptive statistics and regression analysis as method of data analysis. The finding revealed that information communication technology has positive and significant effect on Polaris Bank operations. The study recommended that the banks should emphasis on efficient utilization of the ICT enabled services such as credit and electronic cards to pay at retail outlets, points of sales (POS), phone banking, electronic payment debit, Automated Teller Machines (ATM), home banking, internet banking, mobile banking, personal digital assistant banking

1. INTRODUCTION

The beginning of the ICTs industry is traced to the birth of the internet in the late 1960s and the appearance of the Personal Computer (PC) in the 1970s. Its development as currently understood actually picked up momentum in the early 1990s (Adufat, 2009). Since then, ICTs have integrated communication, computing and graphics through digitalization has it thrived on websites with the use of broad-band optical fiber lines. It has already made headway into the wireless mode and is becoming more and more personalized (Tijani, 2012). ICTs are general purpose technology and have wide applicability in various manufacturing and services sectors. It has the potential to affect virtually all sectors of the economy by imbuing greater information and development content in products and processes (Ibrahim, 2013).

More importantly, it has spawned new products and made existing products more versatile. The development of lCTs has emerged to become another factor integrating the developed and the developing countries in business and economy. ICTs have transformed the world in all sectors, its potential for reducing poverty and fostering growth has increased rapidly (Abdul-Azeez, 2002). The advent of ICT's had a huge impact on the way organizations of all types and users carried out their task as technologies (ICTs) revolution has improved efficiency and effectiveness in most sectors of the economy (Abdul-Azeez, 2012). Meanwhile, allowing organizations to create and analyze important new information, it changed the way major decisions were made. In both business and government, the growth of

the internet and its related software has spawned new ways of conducting business developments. Hence, ICTs has changed the way economic activities were organized. The impact could be traced in two ways. First, how the ICTs industry changed during the last few years and second, how ICTs have impacted on other economic activities such as exploration, manufacturing, services etc (Irefin, 2018).

It is a known fact that Information and Communication Technologies have revolutionized the Information handling capabilities, especially in Information centers throughout the world, which resulted to massive investment in research aimed at making computers and telecommunication networks more efficient to cope with the increasing demands (Ibrahim, 2013). All over the world, the development of science and technology has been recognized as a necessary condition for economic growth and social progress. In most developing countries, science and technology indicators have shown lower values than in other parts of developed countries (Wangwe, 2000). The relevance of coming to terms with the importance of science and technology at Nigeria's development cannot be overemphasized. As Ibrahim (2013), noted that technology policy as a framework consciously put in place for the purpose of acquiring and utilizing scientific and technological knowledge in order to achieve national development objectives. In his view, the effective performance of ICT requires enormous amount of human, financial and institutional capability. To develop these capabilities, a nation need to have the appropriate policy, build the necessary institutions and structures, which should be sustainable (Adufat, 2009).

However, banks all over the world realized that only those that overhaul the whole of their payment services systems and operations are likely to survive and proper in this technology era. Hence, for our banks to properly place themselves in favorable position for competition and be one of the institutions to be reckoned on, the use and adoption of information technology is necessary and important (Tijani, 2012). Therefore, the banking sector had vast amounts of new information technologies and up-growing banks are expected to build strong fireworks and large sums on their websites, sophisticated software packages, teleconferencing, equipments, broadband network, mobile communications and other digital technologies while such investment helped them keep absorbed of competitors ahead of their rival in the business world (Irefin, 2018).

2. STATEMENT OF PROBLEM

Information and communication technology (ICT) has been a very essential ingredient towards effective and efficient service delivery in Nigerian banking industry (Ibrahim, 2013). It is increasingly recognized that the development, adoption and diffusion of ICTs are key determinants to successful banking industry. Despite the rapid growing adoption of the information technology tools to improve banking operations through the use of USSD code, internet, online banking and real time gross settlement in Nigeria banks, there are still gap facing the banking operations which has led to ineptitude service delivery, low productivity, loss of time and also an increase in the average operating cost have made customers to be dissatisfied on the loopholes in the banking operation through technology. Hence, the study will try to optimize how ICT will enhance banking operations for better service delivery to teeming customers.

3. OBJECTIVES OF THE STUDY

The broad objective of this study is to examine the impact of information on banks operations in Nigeria. Specifically, other objectives include

i. To determine the effect of ICT adoption on effectiveness of banking operation

ii. To assess the significant effect of ICT infrastructures on effectiveness of banking operation

4. RESEARCH QUESTIONS

i. Does ICT adoption have effect on effectiveness of banking operation

ii. Does ICT infrastructure has significant effect on effectiveness of banking operation

5. RESEARCH HYPOTHESES

To provide answers to the research questions, the following hypotheses are formulated in null form:

$H0_1$: ICT adoption has no positive effect on effectiveness of banking operation

$H0_2$: ICT infrastructure has no significant effect on effectiveness of banking operation

6. LITERATURE REVIEW

6.1 Information Communication Technology

ICT according to Ade-Lawal (2016) is a technology which supports activities involving the creation, storage, manipulation and communication of information (principally computing, electronics and electronic communications) together with their related methods, management and applications. It is a collection of tools used to assist in forming information systems (Bamiro, 2015). In the view of Alonge (2017), ICT can be look from ICT infrastructure; hence, it means all physical facilities and technologies engaged in delivering and disseminating information and communication services in telecommunications, broadcasting, cable television service, postal service, publishing, printing, computer networks, and a wide range of terminal equipment (Aderemi, 2010). Information Technology (IT) is a collection of devices that handle the process of inputting data and outputting information.

6.2 Barriers in Adoption of ICT Banks In Nigeria.

These barriers under listed below can be classified into internal and external barriers that inhibit banking operation in Nigeria.

Internal Barriers to ICT Adoption: Internal barriers are the factors that can be resolved by the organization itself because they exist within the organization and can be resolved by the organization management or staff (Lawson, 2016). These internal factors include ICT infrastructure; technical sophistications; cost of resources; lack of

skilled human resources; lack of timely reliable systems for communication and lack of most up-to-date software; application problems; internal corruption and lack of software renewal. These internal barriers could be further classified into individual (owner/manager) barriers, organizational barriers and cost and return on investment (Alonge, 2017).

External Barriers to ICT Adoption: External barriers are the impeding factors that need to be addressed either by government intervention or other external collaborators such as social activists and lack of developed legal and regulatory systems (Anwar, 2011).

6.3 The Impact Of Information Communication Technology On Nigeria Banking Operation

Adeosun (2009) states that the use of ICT enables strategic management, communication, collaboration, information access, decision making, data management and knowledge management in organizations. According to Apulu and Latham (2011), ICT causes fundamental changes in the nature and application of technology in businesses. ICT provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness (Buhalis, 2003). Sule (2015), states that ICT enables organizations to decrease costs and increase capabilities and thus assist to shape inter-organizational coordination. The use of ICT can assist to lower coordination cost and increase outsourcing in organizations. ICT is used to exchange information and it provides a medium for learning. Anwar (2011) note that organization's such as banks stand to gain from ICT in areas such as reduced transaction costs, and quality control. Fink and Disterer (2006) argue that ICT not only help bank to become more efficient and effective but also help them to become competitive. He reiterated that banks have the opportunity to achieve a competitive advantage from the advances in ICT through innovation, marketing, efficiency gains, better quality and customer responsiveness. Lal (2004) further states that web-enabled services increases the competitiveness of organizations as they change the relationship with customers and also assist to create stronger link between firms and clients. ICT helps to increase business competitiveness and enhance enterprise performance through indirect cost savings such as labour costs and increased labour productivity; direct cost such as reduction of firm's input (Chowdhury & Wolf, 2003). In order words, it can be said that ICT can influence the performance of an enterprise in multifaceted ways. Hence, ICT can bring about change in organizations and make them more competitive, innovative and also generate growth (Apulu & Latham, 2011)

6.4 Benefits of Information Technology

Safety: There is no doubt that introduction of technology has achieved safety. The introduction of smart cards and all other such of technologies, bank customers will not have to exposed to risk of robber (Bamiro, 2015).

Cost saving: When cash is used in the settlement of bills, it is exchanged from banks to hand which resulted to continues transfer of fund. The cash is subjected to gradual wear and tear which will eventually destroyed. Reprinting these note cost the government some huge amount, thus introduction of cashless transaction technology, save government the cost on repenting of currency with time (Sule, 2015).

Convenience: The introduction of technology allows people to transact without the inconvenience of bulk cash and one can collect cash from the bank's branch nearest to the place of transaction regardless of the branch one operation the account. This is a step in bringing the bank closer to the customers.

Availability: Technology has made banking services available which could be accessed anywhere i.e. ATM, POS machine and others.

Speed: The existence of electronic fund transfer (EFT) technology have allows the movement of fund from one location to another with limit time frame both locally and internationally (Adeosun, 2009).

7. EMPIRICAL STUDIES

Dabwor, Ezie and Anyatonwu (2017) studied the effect of ICT adoption on the competitive performance of banks in an emerging economy: The Nigerian experience. The study adopted both inferential and descriptive design using a t-test, the findings of the study revealed that a positive relationship exists between ICT and banks performance in Nigeria. This implies that a marginal change in the level of the investment and adoption of ICT such as (automated teller machine, web based transactions and mobile payments) in the banking industry resulted in a proportionate increase in the profit level. The study recommends that it is germane for bank management to intensify investment in ICT products to facilitate speed, convenience and accurate service delivery.

Oyinkola (2018) conducted a study on the impact of Information Technology on banking operations in the First bank of Nigeria PLC. The data used was primary data and the research instruments used are questionnaires and personal interview for staff and customer of the bank. Simple frequency percentage was adopted as the statistical and the hypothesis was analyzed using Chi-square. The result revealed that IT has greatly improved the growth and performance of Nigerian commercial banks and has led to increased customers satisfaction. The study recommends government support to improve local IT firms to foster importation, the lower tariff on the importation of IT related equipment and their agencies and regulatory bodies to upgrade their equipment as well.

Aregbeshola (2014) their study assess the impact of ICT on commercial bank performance in South Africa. The analysis of the data was done using the panel environment using the orthogonal transformation approach. The finding of the study indicates that the use of ICT increases the return on capital employed as well as the return on assets of the South African banking industry. The study recommends that banks emphasize policies that will enhance proper utilization of ICT equipment rather than additional investment

Ike, Adoghe and Abdulkareem (2013) conducted a study on impact of ICT in oil and gas exploration. The study concluded that stakeholders in oil and gas industry should adopt a longer term strategic approach such as research and development and implementation of new and valuable solution

Ozigbo (2014) investigated the adoption of ICT in the management of Nigerian oil and gas industry. The study used survey

research design. Analysis of Variance (ANOVA) was employed to analyse the data and the result shows that adoption of ICT is depended on the development and upgrading of technological capabilities.

Wilson, Odo and Ikenna (2014) examine the impact of Information and communication technology on bank profitability, they used a sample comprising one-quarter of the banks in Nigeria quoted on the Nigeria stock exchange. The study adopted the OLS regression techniques, it was found that the regression result was in conflict with the apriori expectations, which indicates that IT spending in the study period had no significant impact on future operating performance. However, the study further concludes on the findings of the result which shows that technology investment is inevitable for banking institutions to enable them to continue to operate efficiently in the current competitive banking industry.

Tijani (2012) examined factors affecting the adoption of ICT in SMEs in Nigeria. A logistic regression analysis was conducted tp predict the adoption of ICT. Their study shows that cost is a major barrier for SMEs in adopting ICT. Other cirtical determinants include ICT infrastructures, government support, management support and business size in that order

Apulu and Latham (2011) conducted a study on adoption of ICT by SMEs. The findings showed that ICT aid growth and increase SMEs competitiveness. They confirmed that ICT adoption in Nigerian SMEs can assist them to easily process and store information, communicate with customers and business partners and so on and thereby, assisting in their developmental process

8. THEORETICAL FRAMEWORK

8.1 Technology Acceptance Model (Tam).

This study will be anchored on Technology Acceptance Model (TAM) Theory in 1989 by F.D. Davis. The essence of this theoretical model is to predict and explain ICT adoption behavior, that is, what causes potential adopters to accept or reject the use of information technology. In TAM, two theoretical constructs predicted the usefulness and perceived ease of use are the fundamental determinants of system use, and predict attitudes toward the use of the system, that is, the user's willingness to use the system. Perceived usefulness refers to the degree to which a person believes that using a particular system would enhance his or her job performance, and perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort (Korpelainen, 2011).

8.2 Unified Theory Of Acceptance And Use Of Technology (UTAUT).

The Unified Theory of Acceptance and Use of Technology (UTAUT), Venkatesh (2003) developed the unified model through reviewing eight models which explain ICT usage, namely TRA, TAM, the motivational model, TPB, a model combining TAM and TPB, the model of PC utilization, DOI, and the social cognitive theory. The purpose of UTAUT is to explain a user's intentions to use ICT and the subsequent user behavior. The model considers four constructs as direct determinants of user acceptance and usage behavior, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. There are four key moderating variables: gender, age, experience, and voluntariness of use. The authors stated that UTAUT provides a tool for managers to assess the likelihood of success of technology introductions and to understand the drivers of acceptance in order to design interventions, which include, e.g., training or marketing. UTAUT focuses on users who may be less willing to adopt and use new systems.

8.3 Resource Based View (RBV) Theory

Resource Based View (RBV) was articulated into a coherent theory by Werner felt (1984). The theory states that the organizational resources and capabilities that are rare, valuable, non-substitutable, and imperfectly imitable form the basis for a firm's sustained competitive advantage. RBV suggests that the firm can secure a sustained competitive advantage through facilitating the development of competencies that are firm specific, produce complex social relationship that are embedded in a firm's history and culture, and generate tacit organizational knowledge (Ade-Lawal, 2016). The basic argument of the RBV, as explained by Barney (1991) is that the firm' s resources confer enduring competitive advantage to a firm to the extent that they remain scarce or hard to duplicate, have no direct substitutes and enable companies to pursue opportunities. This view of the firm infers that firms create competitive advantage by implementing unique combinations of resources and business practices that are difficult for competitors to imitate.

Organisation resource may provide significant competitive advantage when they are used to create a unique or difficult to imitate organizational culture that institutionalizes organizational competencies throughout the organization. Supporting this theory, the RBV theory pays attention to the role of resources and skills in determining the boundaries of the firm' s activities, both at the corporate and business strategy levels. Therefore, this study adopts resource based view theory because ICT is part of the resources which an organization employed to achieve its objectives and goals

9. METHODOLOGY

The data collected were both quantitative and qualitative. Simple random method was equally used to sample the population of study. In this study, the survey research design was used. Survey was quite appropriate in eliciting people's views on the issue. The population for the study comprises all the entire employees of Polaris Bank of Nigeria Plc in Lagos State (Formerly Skye Bank). The study used primary method of data collection and the research instrument used was questionnaire. The study administered 150 questionnaires to the staff of Polaris Bank operating in Lagos State. The data was analysis via descriptive statistics and correlation analysis. The qualitative data were extracted from the content analysis of literature and evaluation of published articles, books, papers, as well as internet entries.

10. DATA PRESENTATION AND ANALYSIS

Below are the presentation of data, and their analysis. The researcher retrieved demographic data covering the gender, age, marital status and academic qualification of the respondents. Below are

the frequency tables showing the response of the respondents based on the percentage:

Data Analysis

Descriptive Statistics

This section of the chapter focuses on the demographic detail of the respondents

STATEMENT	RESPONSES	FREQUENCY	PERCENT (%)
Gender	Male	87	73.7
	Female	31	26.3
	Total	118	100
Age	20-29 years	19	16.1
	30-39 years	31	26.3
	40-49 years	42	36.6
	50-59 years	6	5.1
	60 years and above	20	16.9
	Total	118	100
Marital Status	Single	30	25.4
	Married	83	70.3
	Divorced	5	4.2
	Total	118	100
Level of education	SSCE	7	5.9
	OND/NCE	27	22.9
	BSC/HND	70	59.3
	Professional Qualification	10	8.5
	Post Graduate	4	2.0
	Total	118	100

Source: Field Survey, 2019

This section presents data analysis on the socio-demographic characteristics of respondents. In table 4.1, the distribution of respondents by their socio-demographic characteristics is presented. As shown in the table regarding gender distribution, majority of the respondents were male representing 73.7% (87) and female 26.3% (31).The result also shows that majority of the respondents fall within the age 20-29 years accounting for 16.1%(19), (42) years, 26.3% (31); 36.6% (42); 5.1% (6); and 16.9% (20) accounted for 30—39 years, 40—49, 50-59 and above 60 years respectively. The table equally indicates that the respondents were single accounting for 25.4% (30) while 70.3 % (83) which were majority were married and the divorced respondents were 4.2% (5). The level of education of the respondents shows that 5.9% (7) were SSCE holder, OND/NCE holders were 22.9% (27), B.SC/HND were 59.3 % (70) which are the majority; Professional qualification holders were 8.5% (10) and postgraduate qualification holders were 2.5% (4).

Hypothesis One:ICT adoption has no positive effect on effectiveness of banking operation

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.577[a]	.349	.324	.86963	1.927

a. Predictors: (Constant), ICT Adoption

b. Dependent Variable: Effectiveness of Bank Operations

The coefficient of determination of R^2 is 0.349 which means that about 34.9% of dependent variable - (Effective of bank operations) is accounted for by the independent variable - (ICT adoption). This shows the dependent variable is explained by the independent variable by 34.9%. While the remaining variation factors are explained by other variables

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.514	.148		10.208	.000
	ICT Adoption	.407	.051	.477	7.994	.000

a. Dependent Variable: Effectiveness of Bank Operation

The result further indicates that ICT adoption has positive and significant effect on effectiveness of bank operation. From the findings, the beta value of ICT adoption shows positive sign. Therefore, the null hypothesis that ICT adoption has no positive effect on effectiveness of banking operation is rejected

Hypothesis Two

H_o: ICT infrastructure has no significant effect on effectiveness of bank operation

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.460[a]	.379	.272	.75808	1.224

a. Predictors: (Constant), ICT Infrastructure

b. Dependent Variable: Effectiveness of Bank Operation

The coefficient of determination of R^2 is 0.379 which means that about 37.9% of dependent variable-(ICT infrastructure) is accounted for by the independent variable-(effective bank operation). While the remaining variation factors are explained by other variables

The result further indicates that ICT infrastructure has positive and significant effect on performance of Polaris Bank Plc. From the findings, the significant value of ICT infrastructure is 0.01 which is less that the confident interval of 0.05. Therefore, ICT infrastructure has no significant effect on effective bank operation and the alternate hypothesis is accepted.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.410	.443		3.186	.002
	ICT Infrastructure	.390	.117	.239	3.341	.001

a. Dependent Variable: Effectiveness of Bank Operation

Discussion of Findings

The results show that the adoption of ICT in Polaris Bank has improve their performance in terms of operation which later leads to productivity. This can be assert by the result regressed in both hypothesis 1 & 2. This finding is in line with the findings of Ovia (2005), and Acharya *et al*., (2008). Thus, the adoption of ICT has improve return on assets which has enhance the profitability of Polaris Bank Plc., the findings also assess the effects of ICT infrastructure which also increase the investments of Polaris bank. Presumably, ICT investment has increases bank profitability which have assist the institution to have superior efficiency over their colleagues at any point in time.

Conclusion

The objective of this study is to investigate the impact of information communication technology on effectiveness of bank operations in Nigeria using Polaris Bank Plc. Meanwhile, some important variables were considered such as ATM usability, e-banking services were regressed on the profitability of Polaris banking service. The study then conclude that ICT adoption and its infrastructure have positive significant effect on effectiveness of bank operation.

Recommendations

Based on the conclusion of the findings, this study thus recommends that:

i. The banks should emphasis on efficient utilization of the ICT enabled services such as credit and electronic cards to pay at retail outlets, points of sales (POS), phone banking, electronic payment debit, Automated Teller Machines (ATM), home banking, internet banking, mobile banking, personal digital assistant banking.

ii. The banks should embark on aggressive campaign and re-orientation of clients to create awareness for the customers to patronize the facilities especially in the area of use of POS, mobile banking and so on.

iii. It is therefore necessary for the government to emphasize the need for more policies that will boost the efficiency in utilization of ICT equipment by reducing the cost of acquiring them so as to reduce cost and boost the growth of the economy.

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