

Challenges of ICT Application in Nigerian Banking Organizations: A Study of New and Old Generation Banks

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Abstract

Banking organizations have historically stood out as essential services providers. As a means of coping with the demands the information-intensive nature of the banking system, modern banks increasingly employ Information and Communication Technology (ICT) for operations. In Nigeria the proposed cashless economy, has further intensified the quest for ICT among banks. This study therefore focuses on the challenges of ICT application in the Nigerian Banking System. Data were collected through a survey, conducted among employees and customers of randomly selected, new and old generation banks in south-eastern Nigeria. Analysis reveals that security and fraud issues associated with e-banking, ranked highest among challenges confronting ICT application in banks. No significant difference was found among study organizations with regards to views on ICT based challenges in the banking system. Since this state of affairs would greatly hinder the success of the proposed cashlite society, the study recommends among other things that banks and relevant stakeholders in the sector must work in synergy to prevent security breaches in e-banking operations.

Key words: service provision, cashlite society, e-banking, ICT, Nigeria

Introduction

Human civilization has spiralled into a complex and inundating whole, with sociologists identifying crucial social institutions that sustain the byzantine social network that support modernity (Macionis and Plummer, 2008). In the economic sphere, the development of trade and commerce drove the need for readily exchangeable forms of money and consequently the emergence of banks as institutionalized means of safeguarding bullion or commodities with “exchange value” (Weatherford, 1998). The essential services provided by banks at every point in time have been anchored on existing technology. Presently, following the popularization of Information and Communication Technology (ICT) banks have revolutionized operations from traditional modes to modern services (Ekanem, 2003; Osabuohien, 2008).

In Nigeria, the Central Bank in 2011 came up with a blueprint that is moving Nigeria from a cash-based economy to a cashlite society or cashless economy (CBN, 2011). Among other things, the policy is aimed ensuring that Nigeria competes favourably in the global economic order as well as help the

Nigerian government save humongous sums of money spent on printing new naira notes periodically (CBN, 2012). However, this initiative has brought to the fore, the existing and possible ICT related challenges which need to be addressed if the cashlite policy is to succeed in a developing country like Nigeria. The Efinance (2004) cautions that the implementation of multichannel banking might be different and more difficult in a developing country, requiring specific strategies and additional costs. A 1999 World Bank survey (cited in Efinance, 2004) reported the average on-line banking penetration for developing countries to be only 5 percent. It is therefore crucial to determine if the prevailing circumstances associated with use of ICT in the Nigerian banking sector, can ensure a successful transition to a cashlite society.

Furthermore, it is important to see if the literacy level of customers influences their perception of e-banking channels, its associated challenges, and by extension the long term adoption of these new modes of banking. It is pertinent to examine the extent to which literacy level affects acceptability and use of ICT facilities such as smart cards provided by banks. Could illiteracy constitute a problem on its own to the cashlite drive in Nigeria? This is particularly in view of the fact that Nigeria is classified among less developed countries with a huge population that is largely illiterate, with the mean years of schooling standing at 5.2 years only (UNDP, Human Development Report, 2013). To operate an ATM machine, carry out an online banking transaction or a use a mobile phone to transfer or receive cash successfully, are all new modes of banking which require a minimum level of literacy on the part of bank clientele. Unfortunately, the picture still looks gloomy as the latest human development index ratings released by the United Nations Development Programme (UNDP) for 2012 placed Nigeria in the 'low human development category,' specifically placing 153rd out of 187 countries and territories of the world (UNDP, Human Development Report, 2013).

A study by Agboola and Salawu (2008) revealed that there is no uniformity in improvement on banking services in Nigeria with regard to use and adoption of ICT by banks. Naturally such a problem might create customers' preference for certain banks leaving the disadvantaged ones struggling for survival. The recent history of the Nigerian banking sector is replete with failure of banks and frequent state interference to salvage the sector and by extension the national economy. Thus, banks in Nigeria are categorized according to length of existence, using specifically the 1986 banking sector deregulation policy (Osubuohien, 2008; Agboola and Salawu, 2008) to delineate these into old generation (pre-1986) and new generation banks (post-1986).

While a perceived weakness in the fortunes of a bank may be enough 'self-fulfilling prophecy' to cause failure, it is also of essence to see if ICT challenges differ across the two generations of banks in Nigeria, or whether they are peculiar to one generation. In view of the imminent nationwide adoption of the proposed cashlite economy, it is necessary that the study investigates the aforementioned with the aid of the following objectives:

ascertain the challenges of ICT application in Nigerian banking organizations, examine the relationship between literacy level and perception of ICT-based challenges in banking organizations, and investigate if there are disparities between old and new generation banks on ICT related challenges.

Empirical Review

The pervasiveness and growing importance of ICT in daily lives and businesses are now evident globally. However studies have shown that as with every anthropogenic creation and activity there are challenges associated with its use. For instance, a study by Ali, Siafullah, Imran and Mohamad (2010) found that though the banks in the Sultanate of Oman are trying to offer one form of mobile-banking (m-Banking) or the other, there are weaknesses in the level of patronage. Similarly, Ayo (2006) revealed that mobile-commerce (m-Commerce) in the banking sector of Nigeria is necessary but not smooth in implementation due to lack of infrastructure. The Efinance (2004) reports that in many developing countries issues related to slowness and cost deter people from utilizing e-banking services. As Tiwari, Buse and Herstatt (2007) observed, government employees in Germany were not supportive of mobile banking, due to security concerns and high cost. Similarly, Ali *et al.* (2010) found in their study that security threat was the major worry among respondents. The study also noted that the cost of mobile services is very high in the Sultanate of Oman as compared to other developing countries of the world. Oluyemi (2006) observed that though the advantages and opportunities that ICT offers are very great, fraud can more easily be perpetrated electronically than is the experience with the manual operations system.

Clarke, Hammerli, Arendt and Pasic (2007) report that the ICT infrastructures over which critical financial services are being delivered are becoming ever more interconnected, open and ubiquitous; but at the same time, ever more fragile and vulnerable to failure and cyber-attacks. In an Aite Group Survey of 267 bankers, it was found that security and fraud issues were their major worries as identified by 77 percent of the respondents (Banktech, 2011). Projections indicate that over the coming years, the financial sector will witness high level of self-service to the extent of making mobile banking a strong market driver (Clarke, Hammerli, Arendt and Pasic, 2007). Similarly, Agboola (2006) had observed in his study of Nigerian banks that Automated Teller Machine (ATM) still ranked least in its spread among other technologies; he attributed this to cost, lack of facilities necessary for their operation and fear of fraudulent practices. The Central Bank of Nigeria (CBN) Annual Report of 31st December 2010 makes the nature of the fraud problem more succinct:

In 2010 the Nigerian banking industry lost between ₦11.4 billion and US\$10.98 million to successful fraud or forgery. As in the preceding year, most of the successful fraud cases were

perpetuated via the electronic system, reflecting weakness in the internal control systems of banks in Nigeria (CBN, 2010:59).

In the U.S.A the use of ATM by bank customers in high crime areas has been of concern as far back as 1986 (Anyasi and Otubu, 2009). Similarly, Agboola and Salawu (2008) found that in the post-consolidation era in Nigeria, new generation banks appeared to be more efficient in utilizing ICT to enhance performance. The study also showed that on the average, customers spend 21.58 minutes for loans and draft, a function of the fact that most activities in these two areas still relied on manual processes. The study also observed too much of idle time among workers in five of the 24 banks studied. Implicit in this finding is the fact that increasingly, the jobs of bank employees may be at stake, as many banking operations and services become automated.

Idowu, Alu and Adagunodo (2002) in their study of selected Nigerian banks identified the major hindrance to the use of ICT in the banking industry in Nigeria to include poor telecommunication infrastructure and inadequate electric power supply. The researchers therefore recommended that the Nigerian government should find solution to the epileptic supply of electricity in the country. In Romania, the Efinance, (2004) reports that the main reason for the slow transition from a “cash-only economy” to a market using predominantly electronic payments is that most individual customers do not yet perceive any benefits in the use of cards, as many retailers are still reluctant to install Points-of-Sale (POS) in their shops. In Nigeria, it may be expected that the citizenry may wish to be certain on the gains of using e-banking channels as advocated by the cashlite policy, in contrast to using traditional banking channels. The International Telecommunications Union (ITU, 2011), observes that challenges of developing a successful e-banking initiative for poorer people entails managing a host of inter-related issues; technology, pricing, financial literacy, functionality, partnerships, delivery channels, point-of-sale distribution, regulation among others.

Earlier, in his study of selected branches of banks in Lagos, Ehikhamenor (2003) had observed that the expected benefits of investment in ICT were realized in only a relatively few number of banks. Furthermore, Maldeni and Jayasena (2010) reported that while people in poor countries become increasingly well connected through mobile technology; they remain much less well-connected financially. There are also issues related to tackling fraud, money laundering and terrorism financing in mobile banking (Bold, 2010, cited in Maldeni and Jayasena, 2010). The ITU (2011) also noted that most players in the ICT driven branchless banking space have a ‘volume problem’ of getting enough clients to drive revenue. Again, the ITU reports that about a decade after the introduction of the first mobile banking services actual usage remains modest in many countries, with exception of technologically advanced nations like Japan and South Korea. This has been attributed to the fact that the appeal of mobile banking might simply not be strong enough to influence the mass migration of bank customers away from existing channels.

In a similar development the provision of international remittance services which has traditionally been the preserve of long-established firms such as Western Union and Money Gram is already under threat as e-banking solutions appear destined to play an intrinsic role in the provision of international remittances as there is already evidence of services being launched and at a lower cost than Western Union or Money Gram (Kwiatkowschi, 2010).

In their evaluation of e-banking internet conferencing and e-public services, Patriche and Bajenaru (2010) found that some users fear that by using online banking, they expose themselves to non-privacy, security and financial risks, such as hackers gaining access to their usernames, passwords and so to their accounts and ultimately, leading to possible identity theft, misuse of the system and transactional errors, that could cause monetary loss as well as psychological and social effects on victims. The researchers also found that another threat was associated with the usability and performances of the system, with difficulty to use web-sites, slow interaction due to bandwidths, and breakdowns of the system that could again be associated with monetary loss.

However the study also observes that once these issues are overtaken there are many advantages of using e-banking as compared to the traditional banking system pointing out that other studies have revealed that the majority of the e-banking users trust the system and did not have unpleasant experiences, as opposed to the ones that do not because they perceive it as distrustful (Patriche and Bajenaru, 2010). From the studies reviewed, it is apparent that despite the gains and promises that use of ICTs makes, there are a host of challenges that need to be addressed to enable banking organizations and society in general benefit fully from its potentials.

Theoretical Framework

This study leans on the McDonaldization theory as explanatory model. Ritzer (2004) conceptualizes McDonaldization “as the process by which the principles of the fast-food restaurant are coming to dominate more and more sectors of American society as well as the rest of the world.” McDonaldization affects virtually every aspect of society and has shown every sign of an inexorable process, sweeping through seemingly impervious institutions and regions of the world. McDonaldized systems function along four dimensions namely; efficiency, calculability, predictability and control through nonhuman technology. Modern banking organizations aptly fall into this McDonaldized category.

Under pressure to meet customer needs, and measure up to global best practices, with an ultimate aim of profit maximization, banks are caught up in the quagmire of challenges associated with adoption of state of the art technologies such as ICT in their operations. With the globalized banking order in place, it would be detrimental not to use such conventional ICT for

banking operations. But then its use, particularly in a developing economy like Nigeria, may bring to the fore critical challenges that may negatively affect benefits accruable from use of ICT in banking services. And so, perhaps the greatest challenge confronting Nigerian banking organizations may be how to fit in squarely into the global McDonaldized banking system, given the localized challenges facing adoption and use of conventional ICT in banking operations. Indeed, Ritzer (2004: 17-19) paradoxically captures such defects in a supposedly 'rational' global McDonaldized system as the "irrationality of rationality", describing it as a double edged phenomenon.

Study Methodology

Data for the study were collected using a cross-sectional survey design. Awka and Obosi in Anambra State, South-Eastern Nigeria, were the locations selected for the study. In order to ensure a representative sample, the multi-stage sampling technique was utilized in selecting the study locations. Awka is the State Capital, while Obosi is a suburb of Onitsha, the commercial nerve centre of the State. For this study the 1986 banking sector deregulation policy was used as benchmark to distinguish between old generation and new generation banks. Following this, the twenty-four licensed banks were clustered into old generation and new generation categories. Next, one old generation bank and one new generation bank were randomly selected using the simple random method. A branch of each banking organization was used for the study in both Awka and Obosi.

The population of the study comprised employees and customers of the four banks branches. A total sample size of 648 respondents consisting of 132 bank employees and 516 customers were selected. In choosing the study participants the entire staff strength of the selected bank branches were used for the study due to the "relatively" manageable size of respondents, while 516 customers were drawn using the accidental sampling technique. An equal number of 129 customers were accidentally drawn from each branch in the bank premises or banking halls as they visited the bank to carry out transactions. The process was carried out in all the bank branches until the 516 respondents were selected. A questionnaire schedule pre-tested for validity was used to collect quantitative data.

For the In-depth interviews, four key bank employees from each bank making a total of eight interviewees were purposively selected from the Awka Head Offices of both banks as follows: Operations Manager, Head of Marketing, and the Heads of the Sub-Units of Customer Care, and Information Communication Technology Unit. These key staff provided incisive information on the phenomenon under investigation. The quantitative data generated was analyzed at two levels - the univariate and bivariate levels. Qualitative data obtained from the In-Depth Interviews (IDIs) were analyzed using the manual content analysis technique, during which qualitative data were carefully transcribed, read, coded and organized thematically to enable ease of interpretation. Useful quotes were thereafter used to elucidate and

support the quantitative data.

The study conformed to ethical standards. Before commencing the investigation, official approval was obtained from the management of each bank, while contact persons were established in each bank branch to facilitate administration of instruments. Each respondent also gave informed voluntary consent. The deliberate design of the instruments of data collection and the accidental sampling technique adopted in selecting bank customers ensured that the anonymity of study participants was preserved. Participants had the full right to decline their participation at any point they wished to.

Findings

Results from the study are based on 624 validly completed questionnaire forms. Table 1 below shows the demographic characteristics of respondents. The table shows that males constituted 58.3% of the total respondents while 41.7% were females. Most respondents fall within the age groups of 18-28 and (59.9%) and 29-30 (31.9%) respectively. Similarly statistics on the measures of central tendency for age of respondents reveals that the mean age of respondents was about 28.62 years.

With regard to marital status, the majority of respondents (70.8%) were still single, while 27.6% were married. The combined population of respondents who are divorced, separated and widowed constitute only 1.6 percent in all. The high number of single respondents tallies with the large number of respondents who fall into the younger age categories. With respect to highest educational attainment, a greater proportion of respondents possess SSCE/equivalent (45.4%) and B.Sc./HND equivalent (30.6%). Other categories of educational attainment/certification were the First School Leaving Certificate (8.8%), OND/equivalent (10.7%), Masters degree (4.5%). This shows that most of the banking population have attained some level of literacy. Table 1 also shows that an overwhelming majority of respondents (98.1%) were Christians while very few belonged to other religious groups.

The residential distribution of respondents shows that about two out of five respondents reside in rural (40.2%) while the remaining (59.8) live in urban areas/localities. A look at the occupational spread out of respondents shows that over one-quarter (32.2%) of respondents are students, about 22.3% are private sector employees, while 5.2% are either farmers, artisans or belong to other occupations not categorized.

The results further show that over three-quarters (76.3%) of respondents agree that there are problems associated with use of ICT in banks. This indicates that most respondents are mindful of the ICT based problems being experienced by banks. To examine the relationship between literacy level and perception of ICT challenges in banks, the variable measuring perception of ICT challenges was cross-examined by level of educational attainment, which, for ease of analysis was categorized into three simple groups.

Table 1: Distribution of Respondents by Selected Socio-Demographic Characteristics

Variables	Frequency N = 624	Percentage %
Sex		
Male	364	58.3
Female	260	41.7
Age group		
18 – 28	374	59.9
29 – 39	199	31.9
40 – 50	35	5.6
51+	16	2.6
Marital status		
Single	442	70.8
Married	172	27.6
Divorced/Separated/Widowed	10	1.6
Highest educational level attained		
FSLC	55	8.8
SSCE/Equivalent	283	45.4
OND/Equivalent	67	10.7
B.Sc./HND Equivalent	191	30.6
Master's Degree	28	4.5
PhD	1	.2
Religious affiliation		
Christianity	612	98.1
Islam	5	.8
Traditional	3	.5
Others	4	.6
Place of residence		
Rural	251	40.2
Urban	373	59.8
Occupation		
Unemployed	62	9.9
Student	201	32.2
Apprentice	8	1.3
Private Sector Employee	139	22.3
Public Sector Employee	95	15.2
Business/Trading	87	13.9
Farming/Artisan/Others	32	5.2

Table 2 shows the relationship between level of education and views on ICT based problems in banks. The table shows that about 84.9% of those with high education said there was problem with ICT in banks relative to 72% of those with medium education and 69% of those with low education. This means the higher the level of education the more people are able to conceptualize a problem with ICT in banking. The cross-tabulation is also statistically significant ($X^2=17.183$, $df=4$, $p=.002$) meaning that respondents

differed significantly on perception of ICT related problems across levels of educational attainment. What this suggests is that the literacy level/ educational attainment of clientele plays a role in determining the quality of services they expect from their bank as well as their awareness of ICT related problems experienced by banks.

Table 2: Distribution of Respondents by Level of Education and views on problems associated with ICT in banks

Level of Education	Are there problems associated with the use of ICT in banks			Total
	Yes	No	Don't Know	
Low Education	38 (69.1%)	8 (14.5%)	9(16.4%)	55 (100%)
Medium Education	252 (72.0%)	52 (14.9%)	46 (13.1%)	350 (100%)
High Education	186 (84.9%)	11 (5.0%)	22 (10.0%)	219 (100%)
Total	476 (76.3%)	71(11.4%)	77 (12.3%)	624(100%)

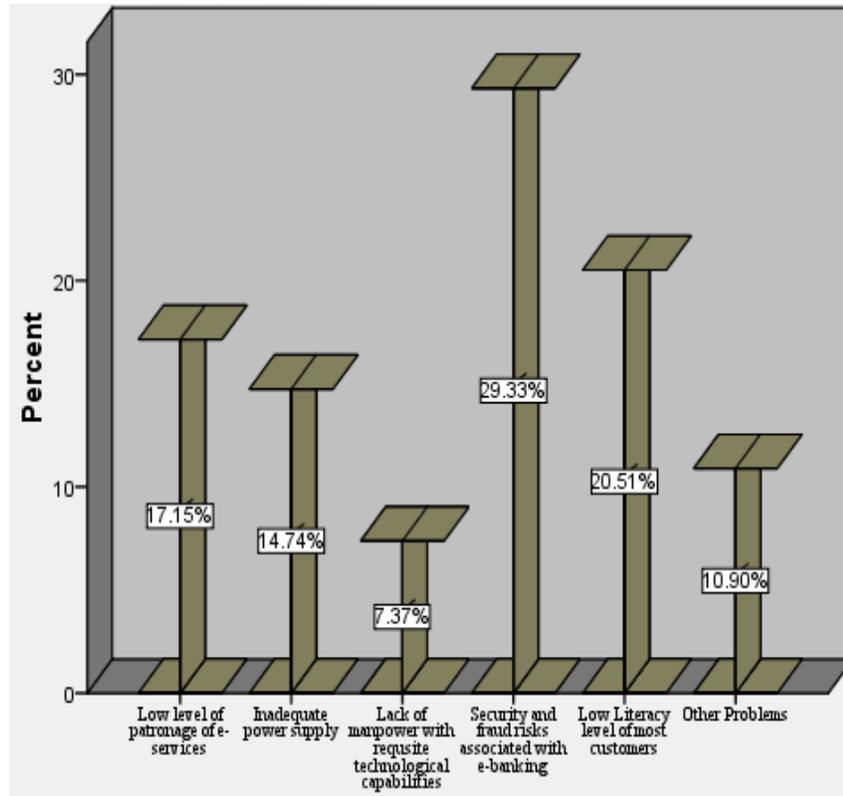
$$X^2 = 17.183, df = 4, p = .002$$

Figure 1 shows the distribution of respondents by views on major problems encountered by Nigerian banks in using ICT. The distribution shows that most respondents (29.33%) viewed security and fraud risks associated with e-banking as a major problem, 20.51% alleged that low literacy level of most customers is a major problem, 17.15% thought it is low level of patronage of e-services by customers, 14.74% contend that inadequate power supply is a major problem. Specifically, 28.8% of sampled bank employees perceived security and fraud risks as a major challenge.

The IDI results also revealed similar apprehension among interviewees as can be seen in the response of a respondent from the new generation bank:

How can the e-banking channels thrive in the proposed cashless economy when banking services are literally run on diesel powered generators?... How can POS terminals in retail outlets work without constant electricity?... The operating cost of fuelling power generating sets to power these ICT devices may undermine the entire process (Male, Operations Dept).

Figure 1: Respondents views on major problem encountered by Nigerian banks in use of ICT



Another respondent from the old generation bank while commenting on the fear of online fraud among bank clientele had this to say:

Some customers lose money to fraudsters because they are careless with information critical to accessing their accounts electronically, such as PIN, passwords or security questions... changing pin code or password periodically is one way of averting online theft {Male, ICT Specialist}.

An interviewee from the old generation bank opined thus:

...e-payment providers must have the wherewithal to change the culture of using physical cash to buy and sell goods or services (Male, Marketing Department).

The IDI results, beyond reinforcing the results from the quantitative data also provide a richer insight into the burden of ICT and e-banking based challenges in the Nigerian banking sector. As shown in related studies by Efinance (2004), Ehikahamenor (2003) and Ali *et al.* (2010), while ICT increasingly assumes the backbone of emergent alternative banking channels, it is imperative that

addressing obstacles to effective deployment of e-banking channels be taken very seriously, so as to maximize the gains accruable from ICT driven banking services. In a developing country like Nigeria this up-hill task may even be more difficult to accomplish, given the evident infrastructural deficit and shortage of efficient human capacity. Table 3 shows the challenges of ICT application by bank types.

Table 3: Challenges of ICT application by Generation of Bank

Major problem encountered by Nigerian banks in use of ICT	Bank		Total
	New Generation	Old Generation	
Low patronage of e-services	51 (15.8%)	56 (18.6%)	107 (17.1%)
Inadequate power supply	47 (14.6%)	45 (15%)	92 (14.7%)
Lack of requisite ICT capabilities	20 (6.2%)	26 (8.6%)	46 (7.4%)
Over-dependence on foreign software	9 (2.8%)	8 (2.7%)	17 (2.7%)
Online Security and Fraud risks	92 (28.5%)	91 (30.2%)	183 (29.3%)
High Cost of ICT hardware and software	12 (3.7%)	10 (3.3%)	22 (3.5%)
Monopoly of e-banking by stronger banks	4 (1.2%)	2 (.7%)	6 (1%)
Low literacy level of most customers	76 (23.5%)	52 (17.3%)	128 (20.5%)
Cultural and religious beliefs of customers	2 (.6%)	3 (1%)	5 (.8%)
Reluctance of bank employees to adapt to ICT	4 (1.2%)	2 (.7%)	6 (1%)
High Tariffs by Nigerian telecom operators	6 (1.9%)	6 (2%)	12 (1.9%)
Total	323 (100%)	301 (100%)	624 (100%)

$$X^2 = 6.572, df = 10, p = 0.765$$

Table 3 shows that views of respondents on the major problem encountered by the two categories of banks in using ICT is almost evenly distributed between security and fraud risks associated with e-banking, (28.5% and 30.2% respectively), inadequate power supply (14.6% and 15% respectively), over-dependence on foreign software (2.8% and 2.7% respectively), high cost of ICT hardware and software (3.7% and 3.3% respectively) and monopoly of e-banking business by stronger banks (1.2% and 0.7% respectively). There are however slight variations in views from both banks, with regards to the problem of low literacy level of most customers (23.5% and 17.3% respectively). There is however no significant difference ($p = 0.765$) in the views of respondents from the two categories of banks on problems

encountered by Nigerian banks in use of ICT. The implication of this finding is that problems of ICT use in Nigerian banks may not occur with specific regard to a particular generation of banks; rather the challenges are pervasive and cut-across the different generations of banks.

Conclusion/Policy Implications

The affirmation of the existence of numerous ICT related challenges confronting Nigerian banks is an “early warning sign” of pitfalls that may be experienced if the cashlite policy comes into full effect without redressing some of these problems. The importance of literacy level of bank clientele in enabling maximal benefits from emergent self-service e-banking channels also came to the fore in this study. This is consistent with the findings of the Efinance (2004) and ITU (2011). Furthermore, findings show that security and fraud issues associated with e-banking closely followed by low literacy level of most customers, low patronage of e-banking services and inadequate power supply, ranked highest as major challenges encountered by Nigerian banks in use of ICT. This finding agrees with earlier findings such as those of Agboola (2002), CBN (2010), Ali *et al.* (2010), Maldeni and Jayasena (2010), and Patriche and Bajenaru (2010) who among other things, found in their separate studies, that security and fraud risks were closely linked to e-banking apathy observed among bank clientele. Accordingly, Patriche and Bajenaru (2010) maintain that users’ fear of being exposed to online privacy, security and financial risks could have a powerful social and psychological impact.

This study shows that currently, even as Nigerian economy sits on the verge of a major transition from a cash-based to a cashlite society, e-banking apathy stemming from the fear of losing hard earned finances to online fraudsters may pose a major challenge. Findings from the study, also mirror the UNDP (2013) Nigerian Human Development Report for 2012 which still places Nigeria on a low ranking in the global human development index and as particularly, contending with issues like low literacy level among the populace. In this study a significant relationship has been found between educational attainment and views on problems associated with use of ICT in banks. Implicit in this finding is the possibility that whatever bank clientele perceive to be an ICT based challenge in banking services is largely a function of their literacy level and consequently determines their patronage of such ICT driven alternative banking channels. Simply put, a more enlightened banking population will be able to comprehend better the real challenges confronting ICT driven services in banks, as well as make more informed patronage of these alternative banking channels which consist the fulcrum of the proposed cashlite Nigerian society, in order words the literacy level of the banking population and even the unbanked population, who are potential bank clientele may impede the success of the proposed cashless Nigerian economy given the extant poor literacy level in Nigeria.

Again, since both new and old generation banks do not differ statistically by ICT based challenges, it may be inferred that the ICT related problems are

pervasive in the Nigerian banking industry, rather than being peculiar to any generation of banks. These findings affirm the expositions of the McDonaldization theory on the inherent defects of an otherwise 'rational' McDonaldized system. Furthermore these findings are noteworthy because the success or otherwise of the proposed cashlite Nigerian society may be contingent upon effectively tackling these challenges. Moreover, the vibrancy and resilience of the Nigerian banking sector is tied to keeping pace with international best practices and innovations in the global banking system. As such, all stakeholders in the banking sector must synergize to prevent online security breaches. In addition, emergent self-service e-banking channels should be customized to suit the literacy level of the average Nigerian so as to boost patronage. Government on its part must stabilize power generation and distribution to facilitate deployment and use of ICTs for e-banking services. Finally, beyond the policies currently being implemented by the CBN to encourage use of e-banking channels, both the banked and unbanked Nigerian population must be adequately sensitized by relevant stakeholders through multiple channels, on the benefits of patronizing emergent self-service e-banking channels, as this would facilitate the success of the cashlite Nigerian society drive.

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