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Francis Andoh-Baidoo  
*State University of New York at Brockport*

Babajide Osatuyi  
*State University of New York at Brockport*

Muhammadou Kah  
*ABTI American University*

Emmanuel Aidoo  
*High Point University*

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An Assessment of Electronic Banking Initiatives in Nigeria

Francis K. Andoh-Baidoo
State University of New York at Brockport
fandohba@brockport.edu

Babajide Osatuyi
State University of New York at Brockport
bosa0824@brockport.edu

Emmanuel S. Aidoo
High Point University
aidoo_04@yahoo.com

Muhammadou Kah
ABTI American University
mkah@american.edu

Abstract

The importance of internet banking in developing countries cannot be overemphasized as the cost of information and communication technologies are becoming cheaper while the problem of digital divide in these nations continue to be resolved. The Central banks of several developing nations have encouraged their financial institutions to incorporate electronic banking services to broaden their delivery systems and to remain competitive. While some banks in Nigeria provide online banking products and services, there is lack of research on the specifics. However, it is only by providing strategic products and services can a bank remain competitive. In this paper, we survey some banks in Nigeria to identify the different products and services that they provide. We discuss the implications of our findings and suggest appropriate strategies that will enable banks provide competitive products and services.

Keywords

Electronic banking, Online, ICT, financial institutions, web site features, value creation

1. Introduction

The availability and use of Information and Communication Technologies (ICT) enhance efficient delivery of basic amenities, which facilitates social, economic, cultural and political condition of developing countries (Deliktas 2002, Färe 1994, Jalavaa and Pohjolab 1999). Certain international organizations including the World Bank, the United Nations and the International Telecommunication Union (ITU) have argued that investments in ICT are rudiments for development in the information age. Several developing nations have taken heed to the call and increased their investments in ICT infrastructure to provide enhanced economic and social services to their citizens. UNDP report states that at the end of 2003, over 90 developing nations had formulated information and communication policies to simulate the development of ICT infrastructure (UNDP 2004). The banking institutions in many developing countries amongst other facets of the economy, have taken advantage of their countries’ ICT infrastructure to improve services to customers. ICT infrastructure currently used in Nigeria include: Very Small Aperture Terminal satellite (VSAT), telephones, facsimile, telegraphy and computer systems (Ugwu, 1999). Although ICT infrastructures has potential to transform the banking sector in the nation, social, technical and economic challenges could prevent the banks from taken advantage of those services and products.

Quite recently, Southard and Siau (2004) developed a framework for assessing the kinds of online services provided by banks in the United States. The list of services includes Informational, Administrative, Transactional, and Portal. Our research question is to determine the specific services presented in Southard and Siau’s (2004) framework that Nigerian banks provide. We use extant literature to provide enhanced understanding of the findings. We propose some strategies that could enable Nigerian banks utilize available services to boost their competitiveness. These strategic formulations are made based on the technical, economic and social challenges in Nigeria (e.g., Ahiakwo 1998).

The rest of the paper is presented as follows. First, a literature review on electronic banking is discussed. We also discuss the theoretical models upon which Southard and Siau’s (2004) framework was built. Following we briefly present an overview of the banking environment in Nigeria and the benefits that online banking promises. In section 4, we present our research methodology. Here we present the details of the categories of the features used in assessing the online banking sites. We also describe how we selected banks and classified the banks’ web features into the categories of the framework. The results of the study and discussions are presented in chapter five. Finally, the paper is concluded suggesting strategies that financial
institutions in Nigeria can employ to enhance their competitiveness. These strategies take into consideration the economic, technical and social challenges of the nation.

2. Literature Review

Some developing countries have attended to the digital divide problem by investing extensively in ICT infrastructures (Ngwenyama et al., 2006, Ugwu, 1999). Consequently, financial institutions in these countries have taken advantage of available ICT infrastructure to provide online services to their customers. However, online banking in underdeveloped countries has yet to receive any significant attention among researchers. This assertion is in agreement with the general lack of information systems research on Sub-Saharan nations (Mbarika et al. 2005).

Several models have been employed to study electronic banking. Ainin et al. (2005) identify different products and services provided online by banking institutions. The category of services and products are savings account, checking account, current account, fixed deposit account, transfer of funds, and balance inquiry. Southard et al. (2004) used a broader set of categories to study electronic banking services for large and small banks in the United States. The services are informational, administrative, transactional, portal and other services such as wireless capabilities and provision of search functions. This set of categories enable inquiry into the products offered such as short and long term financial instruments, availability of internal customer information management such as internal and external funds transfer. It also identifies the bank’s social and economic networks and other activities that make a bank different. The paper concluded that while small community banks focus on external portal (links to community information, local businesses and financial information), large banks seek to maximize internal information services. Southard and Siau’s (2004) framework is based on theoretical models on electronic banking (Crane and Bodie, 1996, Sannes, 2001). Sannes suggests that electronic banking can best be viewed as value network with the basic logic of linking customers. Value network uses mediating technology to link customers. According to this model, the web site should support the primary activities of a value network. Three primary activities are proposed: network promotion and contract management, service provision, and infrastructure operation. These activities are needed to support three important online banking functions: transactions, customer service and self-help for the customer. Southard and Siau (2004) redefined the customer service and self-help areas as informational and administrative areas respectively. Crane and Bodie (1996) developed a framework that looked at six core functions: payment methods, mechanisms for pooling resources, approaches for transferring economic resources, risk management methods, price information, and ways for handling incentive problems. These theoretical models discuss how electronic banking should create value for the customers as well as the banking institutions. Thus a bank’s strategy for online banking can be guided by this model.

Idowu et al. (2002) surveyed a sample of banks to assess the quality of technology-enhanced banking services in Nigeria. The paper revealed that IT has significant positive effects on the banks’ operational efficiency but that banks experience certain problems such as lack of customers’ trust in the new technology, security, and inadequate electric supply. Efficient deployment of ICT infrastructure requires a reasonably reliable electricity supply, which ironically is an issue of national concern in Nigeria. Inadequate electricity supply as well as technical and other socio-economic issues such as security, trust, literacy of the customers, availability of internet infrastructure, and cost of internet use may prevent certain banks from effectively implementing electronic banking. This paper uses Southard and Siau’s framework to examine the kinds of services provided by banks in Nigeria. It also identifies the challenges with electronic banking implementations in Nigeria and provides strategies for addressing those challenges.

3 Banking System in Nigeria

In recent times, Nigerian banks have realized the importance of prompt and effective customer service as a result of the increase in the number of customers flocking the banks to make transactions mostly in the form of transfer, withdrawal and depositing on their existing accounts (Idowu et al. 2002). Banks have realized that technology enhances the delivery of quality services to their customers, hence an increased rate of ICT adoption in banking activities. Recent research found that customers associate the quality of services provided in a bank to the possession of an online banking system (Idowu et al. 2002, Simpson 2002). Hence, for a bank to gain the trust and acceptance of its customers, the assurance of the use of IT to deliver those services in a timely, warm and considerate manner, at no additional charge to the customer are necessary (Idowu et al. 2002). A few financial institutions in Nigeria automated some activities early in the 1980s and not until recently did such banks introduce intra-branch financial networks. Automation and the intra-network facilitated the incorporation of electronic banking, which used the established networks to further enhance transactions between branches. Banks that offer such services are mostly in large cities.
Electronic banking presents benefits such as anywhere banking, anytime banking and elongated banking hours to customers. These benefits provide comfort, convenience and ease with bank transactions. Before the advent of electronic banking, customers could only make transactions on the physical lobby of the bank’s branch office. Electronic banking has facilitated the integration of the functions of some large banks that have several branches around the country on a centralized network so that transactions can be carried out at any branch on the network without being physically present in the branch. In addition, the inception of electronic banking in Nigerian banks enables customers to access their accounts and perform online transactions anytime of the day, as they would on the physical floors of the bank at their own comfort and pace without any human intervention. The omission of middlemen in the electronic banking operation is also beneficial to the bank in terms of reduced labor cost.

4. Research Methodology

This research uses Southard and Siau’s (2004) framework to evaluate online banking services provided by banks in Nigeria by collating website features, which can be used to study functionalities and internet strategies of the banks (Chung and Payter, 2002). Figure 1 shows the framework which includes broader categories as well as the sub-categories that depict the specific features or functions provided on the website.

![Figure 1: Generic list of website features adapted from (Southard and Siau, 2004)](image)

The information category represents online documents which are general bank information typically available to customers in print form. This information includes the bank’s background information and the services that it provides to customers which may include both online and branch services. As noted in figure 1, seven sub-categories labeled I1-I7 are identified in this category. Features in this category do not require the bank to provide interaction with its internal network and therefore are simple, and do not facade security and privacy problems. The administrative category, with three sub-categories A1-A3, provides features which allow customers to perform routine activities like ordering check and obtaining account balance. Features in this category utilize the bank’s infrastructure in terms of interaction with databases and the network to fulfill the required tasks. Although this interaction is minimal, it requires some measure of security to protect customer’s privacy. The transactional category contains the “back bone” features of the bank that enable customers to manage their accounts with capabilities to pay bills, and perform internal and external funds transfer. This category therefore, requires a high level of security as a result of the interaction with the bank’s network and databases, which accesses and mutates both the customer’s and the bank’s financial statements. The portal category includes features that enable the customer to link to other websites.
from the bank’s website. Customers can view information such as stock market quotes or other valuable financial information deemed appropriate by the bank. Finally, the “others” category are other miscellaneous features which do not appropriately fit into any of the previous four such as the search function and wireless capabilities.

4.2 Bank Selection

Nigeria is a federal nation with thirty-six states. The economic activities in the different states are fairly similar. We selected five large banks in Nigeria that have presence in several cities in almost all the states. Due to the financial requirements for implementing several of the features present in Southard and Siau’s framework, we believe that banks with large presence are more likely to have financial resources and are more likely to benefit from online services. Some of these banks have also been used in similar studies (Idowu et al. 2002).

4.3 Classification of Banks

We searched each bank’s website and identified the kinds of products that are provided. For the Informational, Portal and “other” categories, we primarily identified the presence or absence of the specific feature on the web site. However, we use both physical as well as information provided on the web site to identify the specific features available on the site for the Administrative and Transactional categories.

5. Results and Discussion

5.1 Results

Table 1 shows the results of the assessment of the web features provided by five banks in Nigeria. It reveals that banks in Nigeria are not taking advantage of the full spectrum of electronic banking features available to them. None of the banks provide all the features even in a single category. Within the informational category, all the banks included in this study provide I1-I3, and I7 features. Typically, organizations announce online presence through the provision of informational features. While most of the banks provide account information access in the administrative category, none provides personal finance software applications. The category with least available features is the transactional. Here only three banks provide account transfer services. Unlike the United States where almost every bank encourages its customers to use its free online bill-pay services, none of the banks in Nigeria provides this service. Online insurance services, online brokerage services, and online trust services are also not provided by any bank. Only two banks are socially and economically connected through their links to other local and non-local businesses as well as providing community information. Finally, two banks provide search functions but none provides wireless capabilities.

<table>
<thead>
<tr>
<th>Banks</th>
<th>Informational</th>
<th>Administrative</th>
<th>Transactional</th>
<th>Portal</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I1</td>
<td>I2</td>
<td>I3</td>
<td>I4</td>
<td>I5</td>
</tr>
<tr>
<td>Bank 1</td>
<td>X</td>
<td>X</td>
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<td>Bank 2</td>
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<td>Bank 3</td>
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<td>Bank 4</td>
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<td>Bank 5</td>
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5.2 Discussion

In spite of all the benefits that electronic banking provides banking institutions and their customers, several banks continue to use the brick and mortar services while those who provide online services use only a fraction of the spectrum of the available electronic banking services. It is plausible that banks do not provide the full spectrum because the benefits that are expected are not realized because of the problems that the banks and their customers face. Sannes notes that customers would prefer self-service (ability to perform service independent of direct service employee involvement) only when it convenient to the customer and also enhances efficiencies and effectiveness. Thus any online products and services that banks provides to
support online banking strategies should allow customers to do more with less efforts. Idowu et al (2002) have also identified other factors that prevent customers from using online banking. Thus, we can explain the lack of web features on the website of the banks with respect to the factors that hinder the effective implementation of the electronic banking in Nigeria. The use of economic, social and technical challenges in explaining the findings also enable a well formulated strategies relevant to Nigerian banks.

It is surprising that the banks do not provide information on interest rates and current bank’s news. This should be critical as online banking is expected to allow the customer to compare a bank’s operational data with other competitors to make informed decision. While it may sound that not providing this information could prevent customers from switching to the competitors, it is likely to frustrate the customer’s online experience which could motivate them to avoid the use of online service altogether. Not providing the necessary information would encourage customer to contact customer service which is rather more expensive for the banks.

Some of the variables that have been cited as impediments to effective delivery of online banking in Nigeria are: cost of surfing on the web, insufficient electricity/telecommunication infrastructure, computer unavailability/computer illiteracy, reluctance on the part of customer to attain new skills/fear of changing methods of performing banking transactions, security and trust concerns with the internet, and lack of internet banking in rural areas and places with poor road networks.

The electric and the main telephone company in Nigeria are owned by the government. Majority of the telephone services in Nigeria are analog, which are often unreliable as a result of obsolete equipment. Electricity supply is also insufficient in the country. It is difficult for ICT infrastructure to thrive under such inadequacies. Poverty level in Nigeria is very high, with a national minimum wage of US$42.80 per month (Library of Congress 2006). The cost of internet usage, which includes the cost of the personal computer (US$500), electricity charges, and about US$300 for telephone charges (excluding the cost of installing internet facilities) is more than an average Nigerian can afford (Ahialiko, C.O, 1998).

Computer literacy in Nigeria is very low. Records show that 5% of the total population is computer literate and only 3.1% of the population is internet literate. Of this percentage, 20% are in the high-income bracket, 30% are from National Companies and 50% from the multi-national companies (Population statistics 2006). It is difficult for a bank to reach its customers through online banking if majority of customers do not have computers and or are computer illiterate. Records show that about 75% of the total population in Nigeria resides in the rural areas (Library of Congress). Hence, lack of internet banking services in the rural areas may contribute significantly to the low usage of internet banking as the majority of the bank’s customer may not be able to use the service which invariable prevents the banks from realizing the promised benefits of online banking. Fear of change can significantly affect the acceptance of internet banking by Nigerians. Most people are used to making transactions physically and attributing feel and touch to the medium of exchange. The average Nigerian may not be comfortable yet with the digital form of transaction. They may be worried about others using their account information to perform unauthorized transactions. Change is a problem with almost every society. People are comfortable with what and how they do things. Getting people to change requires a great deal of change management. Since internet banking is in its infancy in Nigeria, majority of Nigerians have not come to embrace online as it is in most developed nations such as the United States, Europe, and Japan.

### 5.3 Strategies for addressing online banking implementation challenges

Based on the discussion we proposed strategies that the government and banks in Nigeria may have to implement to improve the use of online banking activities in the nation. Some of these strategies may have to be worked together with other facets of the economy as well. Sannes observes that banks are low cost business model that have low margins. Hence a bank requires large volume self-service customers. Thus the strategies in the following section are focused on encouraging a large size customer based and presenting attractive package for them to use online services. In fact bundling and cross-selling are some of the strategies that have been proposed to enable banks enjoy competitiveness through differentiation. While similar strategies are useful for the Nigerian banks, here we provide specific products and services that are relevant to the nation.

**ICT Expansion**

Ngwenyama et al (2006) showed that complementary investment in ICT, health and education is key to significantly increasing the development of West African nations such as Nigeria. It may be appropriate for the government in Nigeria to partner with international institutions such as World Bank and International Telecommunications Union to develop effective strategies to balance investments in these three important areas. It is critical that the Nigerian government invests in the power supply and the telecommunication sector of the economy on which the ICT infrastructures depend. The government could privatize the telecommunication sector to improve efficiencies and productivities which are necessary to increase capacities in the sector.

**Literacy Improvement**

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It is incumbent on the federal and state governments to ensure that individuals are computer literates in the current information age. However, banks in Nigeria may participate in literacy improvement as they stand to benefit from such initiatives. For instance banks can organize computer training sessions for their customers, especially for those in the rural areas where 75% of the population resides. We echo Sannes (2001) who suggest that intuitive interface is critical to make it easy for customers to learn how to operate on the site.

**Provide Alternative Services**

In Nigeria, the cost of surfing the internet at the internet café varies from US$0.4 – US$1.1 per hour during peak time (Library of Congress 2006). The cost of owning a computer and having online internet services at home will even be higher. As few customers can afford such costs, banks may provide alternative means for online services for the customers. One such strategy would be to provide an in-house internet café in a bank or community centers where customers are allotted “reasonable” number of one hour timeslots during the week for their online banking transactions.

**Security/Change Management**

Banks in Nigeria have to disseminate information on security of online banking as well as the benefits of online banking to their customers on regular basis to enable them consider online banking as viable alternative to branch banking. Security issues are very critical if a bank seeks to implement online strategy that includes deployment of Administrative and Transactional features since this includes interactions with networks and databases and changes the customer’s as well as the bank’s financial statements.

**Incentives**

In the United States and other developed nations, customers are offered free online checking accounts for customers to have online banking. This strategy may be used by banks in Nigeria to attract customers to use online banking. It is when most customers use online services will banks reap substantial benefits from online banking services.

**Collaborative Banking**

Different banks may stand to benefit if they could together develop online banking systems so that the cost of online delivery may be shared. While some may consider this proposal to be “risky”, it is possible that banks can do this without sharing competitive information. Sannes (2001) and Southard and Siau (2004) have discussed cases where large banks had to form alliances to compete in several niche markets.

**6. Conclusion**

The study has illustrated that banks in Nigeria are not taking advantage of the full spectrum of electronic banking features. Some of the challenges to the electronic banking implementation are insufficient electricity supply, inadequate telecommunication, literacy of the customers, cost of surfing the internet, lack of understanding of the benefits of online banking and the security/trust issues with online banking. We have provided some strategies that banks in Nigeria can implement to enable them provide online banking services to enhance their competitiveness. These strategies take into consideration the economic, technical and social constraints of the nation.

Research has shown that complementary investment in ICT, health and education is key in significantly increasing the development of West African nations such as Nigeria. It therefore behooves the Nigerian government to invest in the power supply and the telecommunication sector of the country’s economy, on which the ICT infrastructures rely. It may be necessary for the government to privatize this sector to improve efficiencies and productivities which are necessary to increase capacities in the sector. While our sample may not be a representative of the entire banks in the nation, similar studies have used these banks. Besides we note that the selected banks are “large” and have presence in most states in the Nigeria. Lessons learned may become applicable to other banks that seek to use online services in the future. A more comprehensive study may be necessary to get more understanding about ICT use in the banking sector of Nigeria. This is a possible future research that may enhance research in online banking domain in general. Our framework is based on previous electronic banking value creation theoretical models. A possible future research would evaluate other theoretical models that may provide a more comprehensive business model concept.
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