

Assessing The Impact Of Electronic Banking On Commercial Banks' Profitability In Africa

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Abstract: Electronic banking basically refers to performing banking functions or transactions using a smart technologically inclined device or the internet. Information Technology has recently influenced banking operations, transactions and service delivery. It has provided a channel through which banking is done in convenience, thereby, reducing customer queues in banking halls, administrative expenses and the complexities associated with traditional banking. However, the disadvantages of electronic banking are quite significant. They include unauthorized data access, data loss and fraudulent activities. Using the internet, banks display all relevant information regarding their products on their website which is easily accessible to customers. The study assessed the impact of electronic banking on commercial bank's profitability by using the standard systematic literature review method. Various data bases were searched using set criteria. The literature search yielded 13 articles after applying inclusion and exclusion criteria. Results from the literature reveal that electronic banking has brought about many opportunities for the banking sector in Africa as regards profitability, partly due to the reduced number of tellers and front-line staff. On the hand, incidences of fraud have increased. The study concludes that electronic banking has a positive effect on the profitability of banks in Africa due to the streamlining of operations brought about by technology.

Keywords: Electronic Banking, Profitability, Modern Banking, Convenient Banking, Customer Satisfaction, Banking Services.

1. Introduction

The world in the past decade has witnessed the kind of revolution in IT that has affected all facets of life and has been characterised by changes globally especially in the banking sector. The evolution of electronic banking has altered and redesigned the practice of banking. It is a fact that technology in our modern times is viewed as one of the major contributing elements to firm's success as well as other essential competences. This rise of Internet banking is attributed to several forces like the expectation of consumers, technology push and economic benefits, etc. With the availability of digital devices, customers expect seamless multichannel delivery of banking services at the doorstep. Further, the technology push has made the banking industry highly competitive. In a competitive environment, banks require to invest in digital infrastructure because of strategic necessity (Kahveci and Wolfs, 2018). According to Romdhane (2021), the evolution of electronic banking began with ATMs and later evolved through telephone banking, direct bill payment, electronic funds transfer and the world-shattering online banking which has been elected to be the future of financial electronic transaction (Tchibozo and Roman, 2017). Electronic banking is often defined as the adoption and use of telecommunication networks and internet to offer a broad array of products that value-laddered to commercial bank customers. This also include internet banking. Internet banking potentially involve access and or importation of data to individual accounting software. A study undertaken by Yaklef (2001) discovered that electronic banking enhances cost minimization, a crucial gain that commercial banks acquire from the use of technology in banking. (Kiragu, 2017). The drive world

over for adoption of electronic banking has been influenced by the need to reduce operational cost, administrative cost, enhanced efficiency, as well as improved profitability (Kingoo and Aduda, 2012). Electronic banking composition has influenced the cost reduction resulting from commercial bank's placement of dispensing Automated Teller Machines (ATM), internet banking, mobile banking, point of sale and electronic funds transfer (EFT), respectively. Thus, electronic banking composition has removed the human element, thereby effecting a cost reduction on commercial banks (Asia, 2015). However, it is equally factual that the success in cost minimization can only be achieved through enhanced adoption of technology linked to mobile banking to commercial banks consumers. Tchouassi (2012), agreed that Mobile banking really work to extend banking services especially to the unbanked consumers. On the other hand, electronic banking has proven to be a lucrative source of income for the bank resulting from the user fees charged on customers (Selase, 2019). Ndeyati, et al (2017), Electronic banking or complementary service delivery channels enables makes it possible for bank customers to monitor their own account activities from the bank to other places.

2. Methodology

The study was conducted as a Systematic Literature Review (SLR) based on the guidelines as proposed by (Turner et al., 2008).

2.1 Research Questions

In conducting the SLR, the following questions were addressed:

- i. What is the impact of ATMs on Commercial Bank’s profitability?
- ii. How has internet banking affected Commercial Bank’s profitability?
- iii. What is the effect of Mobile banking on commercial bank’s profitability?
- iv. How has the effect of Point of Sale affected Commercial Bank’s profitability?
- v. How has electronic funds, transfer affected Commercial Bank’s profitability.

2.2 Search Process

The search process included a detailed search process of various databases from which relevant journal articles were picked. The journals were selected because they contained empirical studies or literature surveys.

2.3 Inclusions and Exclusion Criteria

The inclusion and exclusion were based on the criteria displayed in table 2.1 below:

Table 2.1 Inclusion and Exclusion Criteria

Inclusion	Exclusion
a) Journal articles published between 2015 and 2022	a) Journal articles published before 2015
b) Articles based on the African continent	b) Articles not based on the African continent
c) Articles written in English	c) Articles not written in English

Using the above inclusion and exclusion criteria, the following results were obtained as displayed in table 2.2:

Table 2.2 Inclusion and Exclusion Criteria

I-LIBRARY	NUMBER OF PAPERS	INCLUSION	EXCLUSION
GOOGLE SCHOLAR	32	18	14
EBSCO	2	0	2
EMERALD INSIGHT	0	0	0
JSTOR	0	0	0

2.4 Quality Assessment

The journal articles were assessed for relevance and quality. Articles that were deemed not to be of high quality and that did not address the topic of electronic specifically were dropped.

3. Results

Technology has gained prominence in African banks. Banks traditionally have always sought medium through which they would serve their clients more cost-effectively as well as augment the benefit to their clientele. Their core concern has been to serve clients more conveniently, and in the process increase profits and competitiveness hence embracing the influx of ebanking. Electronic banking can be defined as the deployment of banking services and products over electronic and communication networks directly to customers (Singh & Malhotra, 2014). Improvement in Information and Communication Technology in Africa are rapidly changing the way business is conducted. These improvements in technology

have resulted in new delivery systems for banking products and services such as Telephone Banking, PC-Banking, and Electronic Funds Transfer at Point of Sale (EFTPoS), Automated Teller Machines (ATMs) etcetera. Coombs in 2018 stated that innovations in information processing, telecommunications, and related technologies – known collectively as “information technology” (IT) – are often credited with helping fuel strong growth in the many economies. It seemed apparent then that, technological innovation affects not just banking and financial services, but also the direction of an economy and its capacity for continued growth. At the ape of these technologies are the following:

3.1 Automated Teller Machine (ATMs)

Okofo (2018) describes ATM which stands for automated teller machine, as a specialized computer that makes it convenient to manage a bank account holder's funds. It allows a person to check account balances, withdraw or deposit money, print a statement of account activities or transactions, and even purchase stamps. ATMs are the most commonly used bank innovation in recent times. Almost all the universal banks in Africa have this facility available for their customers. On most contemporary ATMs, the client is identified after inserting a plastic ATM card with magnetic stripe or a plastic smart card with a magnetic stripe or a plastic smart card with a chip, that contains a unique card number and some security data, such as cessation date and personal identification number (PIN). Computer terminals accounting records and the cash vault in one unit, allows clients to go into the bank’s record keeping system with a plastic card containing a personal identification number (PIN) or by punching a special code number into the computer terminal linked to the bank’s computerized records 24 hours a day. Once entrance through the usage of the set PIN inscribed on the card is done and successfully attained, it grants a lot of retail banking services to clients. ATMs are generally situated outside of the bank’s halls, and could also be located at filling stations, airports mall, supermarkets and places far from the branches of a bank. They were established initially to work as cash generating, transferring, depositing and or dispensing devices. However, because of advancement in technology ATMs are capable of offering a variety of banking services, for example withdrawing cash, cash transfers from one account to another and bill payments, checking account balances, making deposit and printing account statement. The relationship between banking efficiency and the use of ATM (Automated Teller Machine) is a complex one. This is because the overall levels of efficiency and productivity do influence the organization overall success. This explains why most modern banking sectors develop ways of increasing organization and workers’ efficiency. Some of these ways include goal setting, job enrichment, adoption information technology, globalization, training and development (Karen, 2010). All these represent several practical ways of increasing banking sector’s performance, which could also reflect institutions efficiency. However, as with every other technological breakthrough the ATMs have generated astronomical challenges and problems for the beneficiaries of financial services in most countries. Most users of ATM have encountered the problem of scam. Apart from epileptic

services rendered by the machines, faceless crooks steal from the accounts of hundreds of bank customers via the ATM technology. The fraudsters perpetrate this financial crime by stealing the personal identification number, PIN, a special secret code that grants access to the usage of the cards, and consequently, getting hold of the funds of the susceptible ATM users.

3.2 Mobile Banking

A more current e-banking development is wireless internet applications of banking mostly called m-banking. With the combination of internet and mobile phone, a new service (mobile data service) is enabled and the first such wireless internet commercial transaction was performed by the banking industry (Barnes & Corbitt, 2003). This has proved to be one of the most popular transactional modes in Africa. However, like most innovations, it is prone to fraud. Fraud is however prevalent in most countries in Africa. For instance, Nigeria is the third highest ranked in internet 'money offer' frauds. As was reported in one of the national newspapers, frauds, and forgeries in Nigerian bank as at June 2005 stood at 329 or N1.15 billion monetary equivalents, against 222 cases or N1.47 billion monetary equivalent in April same year. There is even global suspicion that a Nigerian crime syndicate that coordinates global crimes such as money laundering, bank fraud and 419 seams exist today. These issues basically defeat the key ingredients of electronic banking, which includes confidentiality, integrity, and availability.

3.3 Internet Banking

Internet banking by its nature offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking. Service delivery is informational (informing customers on bank's products, etc) and transactional (conducting retail banking services). As an alternative delivery conduit for retail banking, it has all the impact on productivity imputed to Telebanking and PC-Banking. A number of empirical studies have been conducted to assess the impact of Internet banking on the performance of commercial banks. For instance, Young et al. (2006) observed the change in financial performance of banks in U.S. during 1999-2001. The results found that Internet adoption improved community banks' profitability, particularly through increased revenues from deposit service charges. Internet adoption was also associated with movements of deposits from checking accounts to money market deposit accounts, increased use of brokered deposits and higher average wage rates for bank employees. It found little evidence of changes in loan portfolio mix. The findings suggested that Internet adoption was associated with an economically and statistically significant improvement in bank profitability. In another studies, Ciciretti et al. (2008) evaluate the performance of Italian banks, which employ multichannel commercial strategy versus those that do not. They found that offering Internet banking services influenced the performance of the banks, measured by return on average assets (ROAA) and return on average equity (ROAE). Similarly, Hernando and Nieto (2007) analyzed the impact of Internet banking on the performance of Spanish banks. These authors found that Internet banking services, as an alternative distribution channel, reduced overhead

expenses and improved both ROA and ROAE over time. However, Onay and Ozsoz (2013) underline, in the case of Turkish banks, that after a period of two years since the introduction of Internet banking services, their overall profitability has decreased as a result of increased competition and a diminishing of the interest income.

3.4 Point of Sale (PoS)

POS terminals handle cheque verifications, credit authorization, cash deposit and withdrawal, and cash payment. This enhances electronic fund transfer at the point of sale (EFTPOS). EFTPOS enables a customer's account to be debited immediately with the cost of purchase in an outlet such as a supermarket or petrol station. It consists of the accumulation of electronic payment messages by the retailer, which are subsequently passed on to appropriate institutions for processing. The purchase price is debited on the buyer's account and credited on the seller's account.

3.5 Electronic Funds Transfer (EFT)

Electronic banking may be described as a means by which banking products and services are provided through electronic devices such as phones, iPods, etc. The nascent advances in technology seen around the world have eliminated the traditional manual banking system and brought about a paradigm shift in banking to the extent that banks are using internet technologies to improve efficiency and scale up the provision of a wide range of value-added products and services (Oyewole et al., 2013). Consequently, African commercial banks, now identify electronic banking as a unique means of differentiating themselves from their rivalries by investing in complicated expertise (Ovia, 2001; Ayo et al., 2007). By keeping clients out of bank branches due to usage of electronic funds transfer which clients can do in their comfort zone, banks are now able to reduce on man power in form of tellers, thereby increasing the bottom line which is profits. However, the flip side of electronic funds transfer (EFT) is that the process cannot be reversed if a sender should enter an incorrect account number. Further, the other disadvantages associated with EFT include the potential for hacking of personal banking details and periodic technical difficulties.

4. Discussion

This research examined the effect of electronic banking on profitability in the African banking sector. The study specifically looked into the impact of e-channels on the profitability of banks; the challenges experienced by the banks in its product offering of electronic banking, as well as the prospects of effectively applying those electronic channels to its customers to satisfy their banking customers. It is clear from the foregoing that electronic banking has brought about many opportunities for the banking sector in Africa as regards profitability emanating from the reduced number of tellers and other front office staff whose jobs have been swallowed by the usage of electronic banking. On the other hand, electronic banking has had its teething problems. Fraud has been the biggest challenge to the banking sector. Nigeria has been cited as the 3rd most electronic banking fraud prone country in the world. South Africa too has been leading the charts as regards electronic fraud

5. Conclusions

The introduction of e-banking has indeed had a positive effect on the profitability of the bank since it was introduced. It has also improved the banks customer relationship by rendering effective services. Network failure from internet connection and the break-down of ATMs, fraud and general infrastructure are major challenge facing customers using e-banking products in Africa. However, banks' profitability has been enhanced due to the streamlining of operations brought about by technology mainly driven by electronic banking platforms and the close association that the banks have fostered with FinTechs

References

- [1]. Barnes, S. J., & Corbitt, B. (2003). Mobile banking: concept and potential. *International Journal of Mobile Communications*, 1 (3), 273-288.
- [2]. Kahveci, E. and Wolfs, B. (2018), "Digital banking impact on Turkish deposit banks performance", *Banks and Bank Systems*, Vol. 13 No. 3, pp. 48-57
- [3]. Karen, F. (2010). *Internet banking: developments and prospects: Economic and policy analysis working paper*. Washington, DC: Office of the Comptroller of the Currency.
- [4]. Okafor, L., (2018): Nigeria payments system: The role of the banking industry. Paper Presented at the CBN Seminar on the Dynamics of Managing the Nigeria Payment System in the 21st Century
- [5]. Onay, C. and E. Ozsoz (2013), "The Impact of Internet-Banking on Brick-and-Mortar Branches: The Case of Turkey", *The Journal of Financial Services Research*, 44, pp. 187-204
- [7]. Ovia, J. (2001, September). Internet Banking: practices and potentials in Nigeria. In A paper presented at a Seminar organized by the Institute of Chartered Accountants of Nigeria (ICAN). Lagos Sheraton Hotel & Towers, Ikeja.
- [8]. Oyewole, O. S., Abba, M., El-maude, J. G., & Arikpo, I. A. (2013). E-banking and Banks performance:
- [9]. Evidence from Nigeria. *International Journal of Scientific Engineering and Technology*, 2(8), 766-771.
- [10]. Retrieved from https://www.academia.edu/4225378/E-banking_and_Banks_Performance_Evidence_from_Nigeria
- [11]. *Banking_and_Banks_Performance_Evidence_from_Nigeria*
- [12]. Young, M. A., & Birch, D. (2017). Financial Services and the Internet- What does cyberspace mean for the financial services industry? *Electronic Networking Applications and Policy*, 7 (2), 120-128.



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