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Awareness, Acceptance and Usage of Mobile Banking Services by Academic Librarians in Nigeria.

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Abstract

The purpose of this paper is to determine the extent to which academic librarians are aware and use mobile banking services in Nigeria. The study used the quantitative research design. Data was collected using online questionnaire designed using SurveyMonkey. The population of the study consisted of academic librarians in tertiary institutions in Nigeria who are customers to various banks in Nigeria. In total 210 academic librarians across Nigeria responded to the survey. The study found that the majority of the academic librarians are aware and mostly used mobile banking services such as buying airtime (self), transfer money, check account balance, get account statement, buy airtime for others, make transaction enquiry, and SMS alerts. Almost all the academic librarians agree and strongly agree that adoption of mobile banking services hasten funds transfer, makes enquiries on account faster, saves time of the customers, enhance prompt response, more convenient to customers, and saves cost. Network failure during transactions, chances of fraud, lack of information privacy, concerns related to non-delivery of transactions, system security is not guaranteed in case of loss of phone where identified as the challenges associated with use of mobile banking services in Nigeria. Adoption and use of mobile banking services will save the time of the customer by conducting their transactions quickly without having to queue up and to use paper documents. The study reported the present level of awareness, acceptance and use of mobile banking services by academic librarians who are customers to various banks in Nigeria.

Keywords – Mobile banking, Global System of Mobile communications (GSM), Financial transactions, academic librarians, Nigeria.

Introduction

With the advent of technology and increasing use of smartphone and tablet based devices, the use of mobile banking functionality would enable customers connect across entire customer life cycle much comprehensively than before. With this scenario, current mobile banking objectives of say building relationships, reducing cost, achieving new revenue stream will transform to enable new objectives targeting higher level goals such as building brand of the banking organization (Pathak, 2018). Mobile banking is the application of mobile phones to banking transactions like bank enquiry, payment of bills, short messages (SMS), among others (Ikpefan et al 2018). Mobile banking makes banking transaction possible at any time and in any place provided the customer has his/her mobile phone.

As use of the internet continues to expand, more banks are using the Web to offer products and services or otherwise enhance communications with customers. The mobile banking offers the potential for safe, convenient new ways to shop for financial services and products any day, anytime. With mobile banking, the customer may be sitting in any part of the world (anytime, anywhere banking) and hence banks need to ensure that the systems are up and running in a true 24 x 7 fashion (Ikpefan et al 2018). As customers will find mobile banking more and more useful, their expectations from the solution will increase. Recently in Nigeria, there has been a phenomenal growth in the use of mobile banking applications, with leading banks adopting mobile transaction platform and the central bank publishing guidelines for mobile banking operations (Inegbedion, et al 2020).

Activities in the bank have transformed from the manual ways of providing services to electronic banking. In time past, every transaction in banks was carried out manually in a banking hall over the counter where customers will spend long hours on queues to make deposits or withdraw cash. But after the introduction of e-banking in the country in 2003, provision of services improved and the competition between banks increased dramatically (Inegbedion, et al 2020). For example, Agboola (2006) examined electronic payment systems and tele-banking services in Nigeria. The study revealed that there has been a very modest move away from cash. Some payments are now being automated and absolute volumes of cash transactions have declined. Most developed countries such as the United Kingdom, Norway, Denmark, Sweden, and many others have adopted a modernized state which is cashless and this is promoted through e-banking devices (Inegbedion, et al 2020), unlike Nigeria that is lagging behind.

Issues of security with respect to financial transactions have always been of utmost concern to every banking customer; the daily news on both the electronic and print media attests to customers' fears. Even a lot of bank customers over the years have been defrauded because of the introduction of e-banking in the banking industry (Ololade & Ogbeide, 2017). Some members of the public have even consciously or unconsciously rescinded to the use of e-banking despite its attendant benefits. The major concerns to bank customers in Nigeria as far as electronic banking is concerned are network security and the security of the system in terms of privacy (Ikpefan et al 2018). Mobile phones are now ubiquitous and a standard aspect of daily life for a large percentage of the world population (Ovia, 2018). In addition, innovations in mobile finances offer the potential to change the way customers conduct financial transactions. Yet many banking customers all over the world remain skeptical about the mobile financial services and the levels of security provided with these services (Mittal, 2018). The question is, how many bank customers are aware, accept and use the mobile banking services in Nigeria? Therefore, the present study aims to investigate the level of awareness, acceptance and use of mobile banking services by academic librarians in Nigeria.

Research questions

RQ1. To what extent are the academic librarians aware and use mobile banking services?

RQ2. What are the perceptions of the academic librarians regarding benefits of adopting mobile banking services?

RQ3. What is the level of academic librarians' satisfaction with mobile banking services?

RQ4. What challenges are associated with use of mobile banking services? In Nigeria

Literature Review

Theoretical Framework

Technological Acceptance Model

This study is anchored on the technological acceptance model which was propounded by Fred Davis in 1993 suitable for investigating mobile banking acceptance and use. The theory of technological acceptance explains how individuals accept new technology and it leads to growth in an economy. In essence,

it shows how a user of a proposed technology welcomes and adapts to a new technology. He stated that two beliefs determine the complete acceptance of a technology. These beliefs are perceived usefulness and perceived ease of use. Perceived Usefulness is a factor that affects user's acceptance because it is based on how capable the new technology will help improve job performance (Davis,1989). The technology must be capable of producing an advantageous result and must also be able to generate a positive performance. As for perceived Ease of Use, Fred Davis defined it as how easy it is for users to make use of new technology. It means that the ability to employ the new technology should be effortless. Change is the only constant factor in this dynamic world and the banking sector is not an exception (Ikpefan & Agwu, 2015). Studies by Li and Yeh, (2010) and Zhou et al. (2010) showed the impact of trust and privacy, convenience and cost, user satisfaction, utility expectancy, effort expectancy and culture on user adoption of mobile banking.
Trust and Privacy: Trust plays an important role in providing satisfaction and expected outcomes for m-commerce users (Li and Yeh, 2010). User trust and privacy including security are required to ensure that users have their confidence in m-banking services (Li and Yeh, 2010).
Convenience and Cost: The cost of technology is important especially when it is for personal use such as the use of mobile devices in m-banking. The user should be able to afford the cost of using such technology (Min et al., 2008).
User Satisfaction: User satisfaction (US) is a paramount construct in behavioural research in information systems (Delone & McLean, 2003). The user satisfaction construct has been widely used in evaluating system success.

Nigeria's experience of mobile phone technologies

The Global System of Mobile communication, otherwise known as GSM was introduced into the Nigerian market in the year 2001 (Agwu & Carter, 2014). Since the introduction, the demand has rapidly expanded. Nigeria is one of the leading market players for m-banking applications in Africa with about 178 million subscribers and a penetration rate of 123% (Lancaster, 2020). In Africa, mobile phones are the most widely used form of communication technology (Lancaster, 2020). This has enabled the mobile market industry in Africa to be the fastest growing in the world when compared with other continents (ITU, 2011). Evidence from various researches, as well as published reports of the mobile service operators suggests that less than 7.5% of the population had access to the telephone in 2019 (Ikpefan, et al 2018; Inegbedion, et al 2020). The report further states that the numbers of subscribers are expanding at about 60% every year, and is forecast to continue over the next few years. The expansions of the mobile phone market in

Nigeria (Nigerian Communications Commission, 2019) are linked to the deregulation of the communication sector and interplay of market forces.

Mobile phones are increasingly becoming an essential part of the lives of the average Nigerian and other developing countries of the world (Medhi, et al., 2019) as well as playing a key role such as: a development tool; as a household expenditure that maintains social capital and contributes to economic management; as an infrastructure-for the improvement of efficiency of markets, and contributing to empowerment (Baro & Endouware, 2013); and as an economic tool for the Nigerian state-as the operators declare huge yearly profits and pay taxes for national development (Nigerian Communications Commission, 2019). Till recent years, Mobile/Cell phone used to be a status symbol or lifestyle product, and now it has become a necessary and inseparable with day-to-day life of the individuals irrespective of age, education and financial background. The reach of mobile to the remote areas and its usage by the common man has become order of the day. The swift growth in number of mobile users and wider coverage of mobile phone networks has made this channel an important platform for extending banking services to customers (Mittal, 2018). Regarding mobile phone diffusion in Africa, South Africa and Nigeria are in the pole position. More precisely, 89% of South African and Nigerian adults owned a mobile phone as of 2016. This 89% is subdivided into 34% smartphones in South Africa, 27% smartphones in Nigeria and 55% mobile phones in South Africa and 62% mobile phones in Nigeria (Chigada & Hirschfelder, 2017).

Awareness and use of mobile banking services.

The increasingly competitive environment in the financial service market has resulted in pressure to develop and utilize alternative delivery channels such as mobile banking services. These banking services include retrieving an account balance, electronic money transfers, retrieving an account history electronically, and so on (Ikpefan, et al 2018). All over the world, banking industry is one of the industries that have adopted technology which helped in rendering better and quality services to customers (Inegbedion et al 2020). Inegbedion et al (2020) studied the exposure to and usage of e-banking channels, its implications for bank customers' awareness and attitude to e-banking in Nigeria and found that exposure to ATM, Internet banking and mobile banking has significant influence on customers' attitude towards electronic banking in Nigeria. Agwu and Carter, (2014) investigated the problems, benefits and prospects associated with mobile telephone banking services in Nigeria. The study found that mobile phone banking was more established than internet banking and ATM services, it also found that customer awareness influences adoption and usage of mobile banking services. Quick (2009) stressed that the social

uses of mobile phones currently drive the usage among the poor and low incomes earners. This is because it is used for chatting and keeping in touch with friends and families. Another important key factor driving the growth of mobile phones is that they are indeed "mobile" and very much suited to remote areas with poor infrastructures (Baro & Endouware, 2013).

Crabbe, et al. (2009) examined the reasons for the adoption and non-adoption of mobile banking in Ghana. The study found that social and cultural factors in the form of perceived credibility, facilitating conditions, and demographic factors do play a significant role in adoption decisions. Inegbedion (2018) examined factors that influence customers' attitude toward electronic banking in Nigeria with a view to ascertaining the extent to which certain factors influence customers' adoption of electronic banking in Nigeria. The study found that Customers' knowledge of the internet, customers' perceived ease of use of the internet; customers' perceived riskiness of the internet and nature of transactions was found to have significant influence on customers' adoption of electronic banking in Nigeria.

With regard to 89% mobile phone diffusion 2014 in South Africa (Poushter & Oates 2015), the acceptance of mobile technology is high. However, because of the progressive improvement of mobile technology, 60.8% of all households in South Africa, with 24,7% of rural households, go online using mobile devices (Statistics South Africa, 2018). In order to compete, almost every South African bank provides online banking and mobile banking applications. Besides this well-developed banking system, South Africa's financial system provides similar money transfer systems to M-Pesa for the unbanked. The findings from Chigada & Hirschfelder, (2017) study revealed that both Kenya and Zimbabwe have recorded success stories in the areas of mobile banking, whereas the South African M-Pesa story is a sad note to discuss. The authors added that the failure of the South African project should be the basis for developing user-friendly and effective mobile banking platforms. In Kenya, Bengelstorff (2015) reported that two weeks after introducing M-Pesa in Kenya in 2007, Safaricom reported 20, 000 active users. M-Pesa only requires a mobile phone with a Safaricom number to 'move cash' virtually over long distances, including transnationally. This success story continued, exhibiting 20 million customers and 83 000 agents by 2015. On this basis, M-Pesa enables customers to pay electricity and water bills, obtain cash from an ATM, buy airline tickets, pay taxi drivers and take out small loans (Bengelstorff 2015). The utilization of mobile technologies for commercial activities initiates the concept of mobile commerce in India (Mittal, 2018). The mobile market is one of the fastest growing markets in the

world (Gupta, 2005). Financial institutions have seized this opportunity to gain market advantage by offering a variety of value added services to customers through the use of mobile banking (Gupta, 2005).

Advantages of using mobile banking services

No doubt, e-banking has numerous advantages such as speedy delivery, reliability of transactions, safety and convenience (Onodugo, 2015), among others. The use of mobile technologies is thus a win-win proposition for both the banks and the bank's customers. The biggest advantage that mobile banking offers to banks is that it drastically cuts down the cost of providing services to the customers (Mittal, 2018). Additionally, banks are increasingly using the complexity of their supported mobile banking services to attract new customers and retain old ones. The bank can remind customers of outstanding loan repayment dates, dates for the payment of monthly installments or simply tell them that a bill has been presented and is up for payment. The customers can then check their balance on the phone and authorize the required amounts for payment. The customers can also request for additional information. They can automatically view deposits and withdrawals as they occur and also pre-schedule payments to be made or cheques to be issued (Pathak, 2018).

Similarly, one can also request for services like stop cheque or issue a cheque book over one's mobile phone. Yet another benefit is the anywhere/anytime characteristics of mobile services (Agwu & Carter, 2014). As such it can be used over a vast geographical area. With the mobile banking services available, the customer does not have to visit the bank ATM or a branch to avail of the bank's services. As such with mobile services, a bank will need to hire even less employees as people will no longer need to visit bank branches apart from certain occasions. One of the major significance of mobile-banking services is improved efficiency and effectiveness of the operations so that transactions can be processed faster and most conveniently (Lancaster, 2020). Mobile banking services allows customers to save time by conducting their transactions quickly without having to queue up and to use paper documents. Laukkanen (2007) and Eckhardt, et al, (2009) summed up the benefits of mobile banking to include but are not limited to: portability; labour free; reduced cost; convenience; wider customer reach; high level of security; accessibility; and availability.

Challenges associated with use of Mobile Banking services

Telecommunication infrastructures

The telecommunication infrastructures to enable the mobile banking services are lacking in most rural areas (Baro & Endouware, 2013). The telephone cables, masts, and other telecommunications gadgets are installed and maintained within the cities and towns; however, the greater populations in the rural areas do not enjoy these privileges (Baro & Endouware, 2013). Ovia (2018), in his paper on the practices and potentials of Internet banking in Nigeria, stated that the technology is understandably a very important tool for every banks competitive strategy. He noted that Nigerian banks cannot immediately reap the digital dividends because of poor telecommunication infrastructure.

Security concerns with mobile financial transactions

The growing capacity of new technology for information processing, plus its complexity have made privacy an increasingly important issue. This fact is increasing consumer distrust as to how personal data is being gathered and processed in online transactions and, as a consequence, it is becoming a major obstacle to the spread of e-commerce (Flavian & Guinalıu, 2006), due basically to the loss of control perceived by the user over the use of personal information supplied. The lack of security as perceived by online consumers is another of the main obstacles to the development of mobile banking (Mittal, 2018).

Security of financial transactions, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by mobile application developers, wireless network services providers and the banks' IT departments (Pathak, 2018). According to Pathak, (2018) One-time password (OTPs) are the latest tool used by financial and banking service providers in the fight against cyber fraud. Instead of relying on traditional memorized password, OTPs are requested by consumers each time they want to perform transactions using the online or mobile banking interface. Several banks in Nigeria have lunched the mobile banking services that enable customers to carry out simple transactions based on short message service technology with customers' mobile phones serving as the terminals. Such transactions include account balance enquiries, funds transfers between customers' own accounts and to other accounts within the same bank, transaction tracking and third party payments such as bills payments, cheque book request and balance confirmation (Inegbedion et al 2020). Studies have shown that over the years, banks and the customers have expressed worries over incessant frauds that were occurring in the banking sector due to non-security of financial transactions, basically on the adoption of E-banking platforms and the fact that there have been records of hackers hacking into banks Website (Casalo, Flavian & Guinalıu, 2007; Ololade & Ogbeide,

2017). Casalo, Flavian and Guinalıu, (2007) showed that website security and privacy, usability and reputation have a direct and significant effect on consumer trust in a financial services website. The authors observed that trust is a key mediating factor in the development of relationship commitment in the online banking context.

Methodology

The study used the quantitative research design. The study population is made up of bank customers that consisted of academic librarians either practicing or lecturing in tertiary institutions in Nigeria. This population was chosen for two reasons. First, it is assumed that as a staff of any of the tertiary institutions, they have account with different banks in Nigeria through which their salaries are paid. The necessity of a bank account plays a significant role in mobile banking, particularly in the low-income class (Tobbin, 2012). And it is also assumed that, as a staff, they have mobile phone numbers in at least any type of mobile phone, reason being that it is a condition for account opening. No bank in Nigeria will open account for any customer without mobile phone number. Secondly, studies have shown that the academic librarians as information professionals are digitally literate and able to operate the mobile phone to fully utilize mobile banking services (Baro, Obaro & Aduba, 2019; Okeji, Tralagba & Obi, 2020).

Data was collected using online questionnaire designed using SurveyMonkey. To respond to the online questionnaire, the link to the questionnaire (see Questionnaire as Appendix 1) was forwarded to the various WhatsApp groups such as the CertifiedLibrariansConnect (A National WhatsApp group), Nigerian Library Association (NLA) online forum, other WhatsApp groups in the various states. Studies have shown that the Professional Librarians in Nigeria actively belong to at least three – four WhatsApp groups through which current information regarding the profession, links to research instruments are shared and so on (Adomi & Solomon-Uwakwe, 2019; Udem, Aghoghovwia, & Baro, 2020).

Data collection started in May 2020 and ended October, 2020. In total, 210 Academic Librarians from various institutions in Nigeria responded to the study. The quantitative data was analyzed using simple percentage and the results presented in Tables and Chart.

Results

Table1: Demographic Information of the respondents

Respondents Institutions	**No of respondents**	**Percentage**
Universities	56	26.7%
Colleges of Education	39	18.6%
Polytechnics	23	11.0%
Public Libraries	36	17.1%
Institute Libraries	13	6.2%
School libraries	28	13.3%
Special libraries	15	7.1%
Gender distribution		
Male	89	42.4%
Female	121	57.6%
Age distribution		
Less than 20 years	-	-
21-25 years	7	3.3%
26-30 years	43	20.5%
31-35 years	50	23.8%
36-40 years	67	31.9%
41-45 years	12	5.7%
46-50 years	19	9.0%
51-55 years	9	4.3%
56-60 years	3	1.4%
61 and above	-	-
Educational qualification		
Bachelor degree	49	23.3%
Master's degree	90	42.9%
Ph.D	71	33.8%
Staff designation		
Professors/University Librarians	9	4.3%
College/Polytechnic Librarian	16	7.6%
Deputy University Librarian	19	9.0%
Principal Librarians/ Senior Lecturer	47	22.4%
Senior Librarian/ Lecturer I	52	24.8%
Librarian I / Lecturer II	22	10.5%
Librarian II / Assistant Lecturer	34	16.2%
Assistant Librarians/ Graduate Assistant	11	5.3%

n=210

Results in Table 1 shows the demographic information of the respondents. Respondents were asked to indicate the institution they are working, 56 (26.7%) indicated as working in various universities, 39 (18.6%) indicated as working in colleges of education, 36 (17.1%) indicated as working in public libraries. Of the 210 respondents, 89 (42.4%) indicated as male, while, 121 (57.6%) indicated as females. Regarding age distribution of the respondents, those between the age bracket of 36-40 years (67: 31.9%) responded more, followed by those between the age bracket of 31-35 years (50: 23.8%), and 26-30 years (43: 20.5%). Respondents were asked to indicate their educational qualification, 90 (42.9%) indicated as Masters' degree holders, followed by those who indicated as Ph.D holders (71:33.8%). The respondents were also asked to provide information about their current designations. The highest number (52: 24.8%) that responded to the survey indicated as Senior Librarian/ Lecturer I, followed by Principal Librarians/ Senior Lecturer with 47 (22.4%) respondents and Librarian II /Assistant Lecturer with 34 (16.2%) respondents.

Mobile Banking Information

Respondents were asked to provide information regarding their mobile banking services. Results are presented in Table 2.

Table 2: Mobile Banking Information of the respondents

s/n	Mobile Banking Information	Yes	No
1	Do you own a bank account?	210 (100%)	-
2	Do you have a mobile phone?	210 (100%)	-
3	Do you use mobile banking services?	190 (90.5%)	20 (9.5%)
4	Do you access your bank account via the internet on a mobile device?	190 (90.5%)	20 (9.5%)
5	Does your bank provide mobile (or SMS) banking services?	210 (100%)	-

Results in Table 2 shows that, all the respondents (100%) own a bank account, have a mobile phone, and that their bank do provide mobile banking services. The majority (190: 90.5%) of the respondents claimed that they use mobile banking services, and the same number (190: 90.5%) claimed that they access their bank account via the Internet on a mobile device.

Awareness and use of mobile banking services

The academic librarians were asked to indicate whether they were familiar with some of the mobile banking services and whether they used them (see Table 3).

Table 3: Awareness and use of mobile banking services by the respondents.

s/n	Mobile banking services	I know (%)	I use (%)	I don't know (%)
1	Make transaction enquiry	176 (85.2%)	185 (88.1%)	34 (16.2%)
2	Buy Airtime (self)	190 (90.5%)	190 (90.5%)	20 (9.5%)
3	Buy airtime for others	182 (86.7%)	182 (86.7%)	28 (13.3%)
4	Transfer money	190 (90.5%)	190 (90.5%)	20 (9.5%)
5	Pay bills (Electricity bills, Cable bills, etc.)	34 (16.2%)	30 (14.3%)	176 (85.2%)
6	Internet data purchase	159 (75.7%)	135 (64.3%)	51 (24.3%)
7	Accounting opening	122 (58.1%)	107 (51.0%)	88 (41.9%)
8	Check account balance	186 (88.6%)	186 (88.6%)	24 (11.4%)
9	Get account statements	185 (88.1%)	162 (77.1%)	25 (11.9%)
10	Request for Cheque book	96 (45.7%)	85 (40.5%)	114 (54.3%)
11	Cheque enquiry and stop Cheque	96 (45.7%)	79 (37.6%)	114 (54.3%)
12	SMS alerts	210 (100%)	184 (87.7%)	- -

n-210

Results in Table 3 shows that buy airtime (self), and transfer money were the most popular mobile banking services with 190 (90.5%) respondents each, while 176 (85.2%) of the respondents indicated that they were not familiar with paying bills (Electricity bills, Cable bills, etc.), request for cheque book (114: 54.3%), and cheque enquiry and stop cheque (114: 54.3%). The majority (190: 90.5%) of the respondents indicated using mobile phone to buy airtime (self), transfer money (190: 90.5%), and check account balance (186: 88.6%), make transaction enquiry (185: 88.1%), SMS alerts (184: 87.7%), buy airtime for others (182: 86.7%), and get account statements (162: 77.1%). The study therefore revealed that the respondents mostly used mobile banking services such as buy airtime (self), transfer money and check account balance, make transaction enquiry, SMS alerts, buy airtime for others, and get account statements

Benefits of adopting or using mobile banking services.

Respondents were asked the extent to which they agree or disagree with the statements regarding the benefits of using mobile banking services. The results are presented in Table 4.

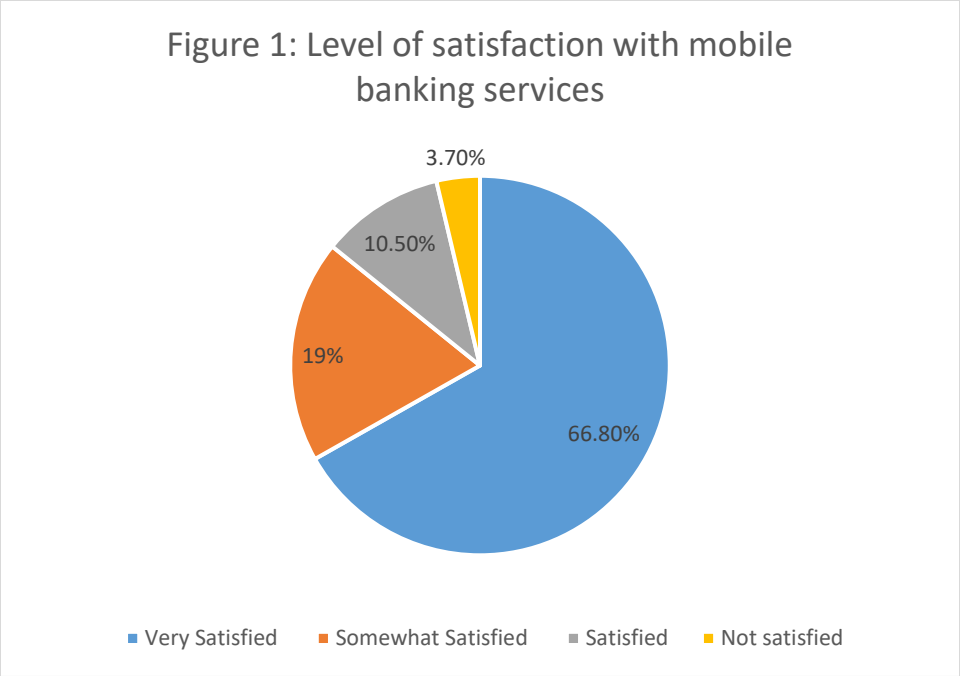
s/n	**Benefits of Mobile Banking services**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1	Adoption of mobile banking services hasten funds transfer	122 (58.1%)	88 (41.9%)	- -	- -
2	Adoption of mobile banking services makes enquiries on account faster.	145 (69.0%)	60 (28.6%)	5 (2.4%)	- -
3	It saves time of the customer	170 (81.0%)	25 (11.9%)	5 (2.4%)	10 (4.8%)
4	Adoption of mobile banking services enhance prompt response (SMS alerts)	139 (66.1%)	65 (31.0%)	4 (1.9%)	2 (1.0%)
5	Adoption of mobile banking services is more convenient to customer.	110 (52.4%)	49 (23.3%)	30 (14.3%)	21 (10.0%)
6	Adoption of mobile banking services saves cost.	132 (62.9%)	38 (18.1%)	19 (9.0%)	21 (10.0%)

n-210

Results in Table 4 shows that all the respondents (210:100%) agree and strongly agree that adoption of mobile banking services hasten funds transfer. Almost all (205: 97.6%) of the respondents agree and strongly agree that adoption of mobile banking services makes enquiries on account faster. The majority (195: 92.9%) of the respondents agree and strongly agree that adoption of mobile banking services saves time of the customer. Almost all (204: 97.1%) the respondents agree and strongly agree that adoption of mobile banking services enhance prompt response (SMS alerts). The majority (159: 75.7%) of the respondents agree and strongly agree that adoption of mobile banking services is more convenient to customer. The majority (170: 81.0%) agree and strongly agree that adoption of mobile banking services saves cost.

Level of satisfaction with mobile banking services available

To know the level of satisfaction with the mobile banking services, only responses from the 190 respondents that claimed to have actually used the mobile banking services were analyzed. The results presented in figure 1.



Results in figure 1 shows that, out of the 190 respondents who actually used the mobile banking services, the majority (127: 66.8%) indicated that they are very satisfied with the mobile banking services. Only 7 (3.7%) of the respondents indicated that they are not satisfied with the mobile banking services.

Challenges associated with using mobile banking services.

Respondents were the extent to which they agree or disagree with the statements regarding challenges associated with using mobile banking services. Results are presented in Table 5.

Table 5: Challenges associated with using mobile banking services.

s/n	**Challenges of using mobile banking services**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1	Network failure during transactions	80 (38.1%)	78 (37.1%)	34 (16.2%)	18 (8.6%)
2	Lack of awareness of the mobile banking services	48 (22.9%)	41 (19.5%)	101 (48.1%)	20 (9.5%)

3	Chances of fraud	107 (51.0%)	91 (43.3%)	12 (5.7%)	- -
4	Lack of information privacy	150 (71.4%)	30 (14.3%)	23 (11.0%)	7 (3.3%)
5	System security is not guaranteed in case of loss of phone.	136 (64.8%)	64 (30.5%)	6 (2.9%)	4 (1.9%)
6	Concerns related to non-delivery of transactions	201 (95.7%)	9 (4.3%)	- -	- -
7	Lack of skills to fully utilize mobile banking services	27 (12.9%)	40 (19.0%)	120 (57.1%)	23 (11.0%)

n-210

Results in Table 5 shows that 158 (75.2%) respondents agree and strongly agree that network failure during transactions is a challenge they encounter while using mobile banking services. More than half (121: 57.6%) of the respondents disagree and strongly disagree to the statement that lack of awareness of the mobile banking services is a challenge in using mobile banking services. The majority (198: 94.3 %) of the respondents agree and strongly agree that chances of fraud is a challenge associated with using mobile banking services. The majority (180: 85.7%) of the respondents agree and strongly agree that lack of information privacy is a challenge in using mobile banking services. All the respondents (210:100%) also agree and strongly agree that concerns related to non-delivery of transactions is a challenge associated with using mobile banking services. 143 (68.1%) respondents disagree and strongly disagree to the statement that lack of skills to fully utilize mobile banking services is a challenge. Almost all the respondents (200: 95.2%) agree and strongly agree that system security is not guaranteed in case of loss of phone.

A cross tabulation of age with actual use of mobile banking services

Age as demographic information was analyzed against actual use of mobile banking services. The results presented in Table 6.

Table 6: A cross tabulation of age with actual use of mobile banking services.

Age	No of respondents that actually used Mobile banking services	%	Total
Less than 20 years	-	-	-
21-25 years	5	2.6%	7
26-30 years	41	21.6%	43
31-35 years	50	26.3%	50

36-40 years	65	34.2%	67
41-45 years	10	5.3%	12
46-50 years	15	7.9%	19
51-55 years	4	2.1%	9
56-60 years	-	-	3
61 and above	-	-	-
Total	190	100%	210

Out of the 190 actual users of mobile banking services, the analysis shows that the majority of those that use mobile banking services are between the ages of 36-40 years (65:34.2%), followed by those between the age bracket of 31-35 years (50:26.3%), and those between the age bracket of 26-30 years (41:21.6%).

Discussion of findings

Mobile Banking Information

The results revealed that all the respondents own a phone and have a bank account they operate. Almost all the academic librarians claimed that they used mobile banking services, and that they access their bank account via the Internet on a mobile device.

Awareness and use of mobile banking services

Regarding awareness and use of mobile banking services, the study revealed that the majority of the academic librarians are aware and mostly used mobile banking services such as buying airtime (self), transfer money, check account balance, get account statement, buy airtime for others, make transaction enquiry, and SMS alerts. This shows that the mobile banking services is accepted widely by the users in Nigeria probably due to perceived usefulness and perceived ease of use (Davis, 1993) and has brought tremendous improvement to the banking sector. Even at night, in the comfort of your home, a customer can transfer money, buy airtime, data bundles, and so on. Through mobile banking services, the daily online buying and selling now takes place in platforms such as Amazon, Jumia, Alibaba, and so on, where buyers all over the world can order for the stock of their choice and get it within days after a mobile transfer of the money involved. According to Tiwari and Buse, (2017) the advent of mobile technology and its devices have brought about efficiency in the manner in which commercial and business activities are performed. Mobile devices show promise for the future, and the ability to reach larger customer

populations irrespective of their location, which in turn can lead to customer loyalty. Mobile banking has been said to have brought about a positive shift in customers' perception and this could be equally true for Nigeria (Alex 2010; Baro & Endouware, 2013).

Benefits of using mobile banking services.

Concerning the benefits of using mobile banking services, the study revealed that almost all the academic librarians agree and strongly agree that adoption of mobile banking services hasten funds transfer, makes enquiries on account faster, saves time of the customers, enhance prompt response (SMS alerts), more convenient to customers, and saves cost. These findings agree with the findings of Agwu and Carter, (2014) that convenience and portability of the phone devices was considered as an added factor for its adoption and usage by some bank customers within the Nigerian market. Many researchers have given proof of the advantages that can be derived from using mobile banking services, which customers can get the benefit of if they are willing to adopt the facility (ITU 2011; Ololade & Ogbeide, 2017).

Level of satisfaction with mobile banking services available

Regarding level of satisfaction of academic librarians with mobile banking services, the study revealed that majority of the academic librarians indicated that they are very satisfied with the mobile banking services. When a user perceives that mobile banking provides fast, convenient, anytime and anywhere transactions, it improves derived satisfaction. Thereby, encouraging users' adoption of mobile banking services. Medhi, et al (2019) believes that the cornerstone of M-commerce is built by M-banking and many banks have taken advantage of this innovation in order to increase customer satisfactions, manage costs, increase profits and bring positive transformation of payment system in the economy. Prompt service delivery has been described to be one of key performance indicators of corporate organizations including banks (Cain, 2004). The extent to which customers of banks are satisfied with the service rendered has impact on the overall performance and must be seriously taken by players of the industry (Cain, 2004). Mobile banking is expected to improve banks service delivery in a form of transactional convenience, saving of time, quick transaction alert and cost savings, ultimately customers' satisfaction.

Challenges associated with using mobile banking services.

No doubt, the introduction of mobile banking services despite the advantages that comes with it has brought some challenges.

Network failure during transactions

The majority of the academic librarians agree that network failure during transactions is a challenge to using mobile banking services. This shows that the networks are not reliable when making mobile banking transactions in Nigeria. Several studies communication services providers in Nigeria have report network failures with the different service providers, such as MTN, GLO, and many others (Ochonogor, 2006; Baro & Endouware, 2013; Ovia, 2018).

Lack of awareness of the mobile banking services

The study revealed that the majority of the academic librarians disagree and strongly disagree to the statement that lack of awareness of the mobile banking services is a challenge to using mobile services. The level of awareness of the availability of the various mobile banking services might be as a results of the awareness campaigns engaged by the various banks in Nigeria. This campaigns take the form of leaflets in every strategic points in the banks, and awareness campaigns on mobile banking services in Nigerian dailies. These awareness creation measures no doubt have led to massive adoption of mobile banking services in Nigeria.

Chances of fraud and lack of information privacy

The result of the study indicated that majority of the academic librarians agree and strongly agree that using mobile banking services might lead to chances of fraud and lack information privacy. These findings support previous findings as several authors have considered security and privacy to be two major prerequisites for online trust (Flavian and Guinalıu, 2006; Ikpefan et al 2018). User trust and privacy including security are required to ensure that users have their confidence in mobile banking services (Li & Yeh, 2010).

Concerns related to non-delivery of transactions

The study revealed that all the academic librarians agree and strongly agree that using mobile banking services might lead to non-delivery of transactions. It might be true that the academic librarians as bank customers have been facing challenge of performing financial transactions such as transferring money using the mobile phone and the transaction was not delivered but their accounts debited. This might be due network congestion. This finding agrees with Charles-Iyoha (2006) who in her study identified network congestion and the challenge of providing quality services with inadequate infrastructure as reasons for switching networks in Nigeria. In the same

manner, Ochonogor (2006) also in his study identified network congestion, network failure, and withholding of SMS as some challenges facing mobile phone users and operators in Obiaruku and its environ in Delta State, Nigeria.

System security is not guaranteed in case of loss of phone.

The majority of the academic librarians agree and strongly agree that using mobile banking services might lead to fear of unauthorized access to bank transaction details in case of phone loss. That means, the academic librarians are afraid that if the mobile phone is stolen, there is the possibility of the person having access to either password stored in the phone or bank details in the phone. The only way out is applying system security measures such as ID/Password measures, encryption and One-time password (OTPs) being the latest. Pathak, (2018) recommended that the following aspects need to be addressed to offer a secure infrastructure for financial transaction over wireless network. They are: security of any thick-client application running on the devices. In case the device is stolen, the hacker should require at least an ID/Password to access the application; authentication of the device with service providers before initiating a transaction. This would ensure that unauthorized devices are not connected to perform financial transactions; user ID/Password authentication of bank's customer; and encryption of the data being transmitted over the air.

Lack of skills to fully utilize mobile banking services

Interestingly, more than half of the academic librarians disagree and strongly disagree with the statement that lack of skills is a challenge to fully utilize mobile banking services. This finding is in contrast with previous finding by Adesina and Ayo (2010) who reported that more than 60% of the population lacks the requisite skills to fully operate most internet/mobile technologies. A cross tabulation of age with actual use of mobile banking services revealed that the majority of those that actually use mobile banking services are between the ages of 36-40 years, followed by those between the age bracket of 31-35 years. This age groups no doubt are technology friendly have the skills and interest to fully utilize mobile technologies for financial transactions than the older groups that are technophobic (Baro & Endouware, 2013; Ovia, 2018). The study by Crabbe, et al (2009) found that the ANOVA results for mobile banking users indicate significant differences in the mean of attitude ($p = .017$) based on age with older people being less positive.

Conclusion

Arising from the analysis, the study found that the majority of the academic librarians are aware and mostly used mobile banking services such as buying airtime (self), transfer money, check account balance, get account statement, buy airtime for others, make transaction enquiry, and SMS alerts. Almost all the academic librarians agree and strongly agree that adoption of mobile banking services hasten funds transfer, makes enquiries on account faster, saves time of the customers, enhance prompt response, more convenient to customers, and saves cost. Network failure during transactions, chances of fraud, lack of information privacy, concerns related to non-delivery of transactions, system security is not guaranteed in case of loss of phone where identified as the challenges associated with use of mobile banking services in Nigeria. The adoption of mobile banking services enables transactions to be done anywhere in the world and at the customer's convenience.

In an extremely fast-growing mobile market like Nigeria, customers in Nigerians should make innovative use of mobile phone technology to meet the need for a cashless system. Technological advancements have made the business environment of today witness rapid changes. Most businesses of today now carry-out their activities through mobile money transfer. It is therefore expected that with the right infrastructures and adequate financial laws promulgated to safeguard customers that mobile phone banking will in the nearest future be the most preferred and convenient medium for conducting banking transactions in Nigeria and most developing countries of the world

Recommendations

Based on the findings, the following recommendations are made:

- Banks on their parts must create adequate awareness especially among the non-users through either daily newspapers, leaflets in their various banks on the available mobile banking services and the need for its customers to key into it.
- Network service providers should endeavor to provide reliable network services in all areas to enhance mobile banking service operations.
- Banks, network service providers, and application developers should work out enhanced security measures to fight against financial crime.

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Appendix I

Online questionnaire on Mobile Banking services

Demographic Information (Please select as appropriate)

1. **Institution:**

Universities ----------[ ]
Colleges of Education ----------[ ]
Polytechnics ----------[ ]
Public Libraries ----------[ ]
Institute Libraries----------[ ]
School libraries ----------[ ]
Special libraries ----------[ ]
Others please specify ----------

2. **Gender:**

Male---------- - [ ]
Female----------[ ]

3. **Age:**

Less than 20 years-------- [ ]
21-25 years----------[ ]
26-30 years---------- [ ]
31-35 years----------[ ]
36-40 years ----------[ ]
41-45 years ----------[ ]
46-50 years---------- [ ]
51-55 years ----------[ ]
56-60 years---------- [ ]
61 and above---------- [ ]

4. **Educational qualification:**

Bachelor degree -----[ ]

Master's degree------[ ]

Ph.D ----------[ ]

5. Staff designation:

Professors/University Librarians ----------[ ]
College/Polytechnic Librarian ----------[ ]
Deputy University Librarian ----------[ ]
Principal Librarians/ Senior Lecturer----------[ ]
Senior Librarian/ Lecturer I----------[ ]
Librarian I / Lecturer II ----------[ ]
Librarian II / Assistant Lecturer ----------[ ]
Assistant Librarians/ Graduate Assistant ---------[ ]

6. Mobile Banking Information (*Please tick as appropriate*)

Do you own a bank account? ---------- Yes [ ] No [ ]
Do you have a mobile phone? ----------Yes [ ] No [ ]
Do you use mobile banking services?----------Yes [ ] No [ ]
Do you access your bank account via the internet on a mobile device? –----------
----------Yes [ ] No [ ]
Does your bank provide mobile (or SMS) banking services? Yes [ ] No [ ]

7. Awareness and use of mobile banking services by the respondents.

s/n	Mobile banking services	I know (%)	I use (%)	I don't know (%)
1	Make transaction enquiry			
2	Buy Airtime (self)			
3	Buy airtime for others			
4	Transfer money			
5	Pay bills (Electricity bills, Cable bills, etc.)			
6	Internet data purchase			
7	Accounting opening			
8	Check account balance			
9	Get account statements			
10	Request for Cheque book			
11	Cheque enquiry and stop Cheque			
12	SMS alerts			

8. **Benefits of adopting or using mobile banking services.**

To what extent do you agree or disagree with the statements regarding the benefits of using mobile banking services

s/n	**Benefits of Mobile Banking services**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1	Adoption of mobile banking services hasten funds transfer				
2	Adoption of mobile banking services makes enquiries on account faster.				
3	It saves time of the customer				
4	Adoption of mobile banking services enhance prompt response (SMS alerts)				
5	Adoption of mobile banking services is more convenient to customer.				
6	Adoption of mobile banking services saves cost.				

9. **Level of satisfaction with mobile banking services available**

Very Satisfied---------- [ ]
Somewhat satisfied ---------- [ ]
Satisfied ----------[ ]
Not satisfied---------- [ ]

10. **Challenges associated with using mobile banking services.**

To what extent do you agree or disagree with the statements regarding challenges associated with using mobile banking services.

s/n	**Benefits of Mobile Banking services**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1	Network failure during transactions				
2	Lack of awareness of the mobile banking services				
3	Chances of fraud				
4	Lack of information privacy				
5	System security is not guaranteed in case of loss of phone.				

6	Concerns related to non-delivery of transactions				
7	Lack of skills to fully utilize mobile banking services				