

The Impact of Mobile Banking On Service Delivery of Deposit Money Banks (DMBs) In Bauchi Metropolis of Bauchi State, Nigeria

Olalekan Olukemi Oluyemisi, Hamza Salihu Umar, Kasim Pate Lawal, Ayanwuyi Johnson

Abstract— The study investigated the Impact of mobile Banking on service delivery of Deposit Money Banks in Bauchi Metropolis of Bauchi State, Nigeria. Population for the study comprised of the customers of Deposit Money Banks in Bauchi Metropolis. The sample of the study is comprised of 125 customers of the Deposit Money Banks. Data for the study were sourced through Questionnaires administered to the customers that constitute the sample of the study. Data collected were analyzed using the mean method of data analysis. The result of the study indicated that mobile banking services are very efficient and has increased customer's loyalty in Bauchi metropolis.

Index Terms— Mobile banking, Efficiency, Deposit Money Banks, Customers.

I. INTRODUCTION

Every sector of the economy whether financial or non-financial organization is adopting computer based approaches to the services rendered. Mobile banking is becoming more popular in modern banking and as such has been a subject of interest among researchers. Mobile banking means a financial transaction conducted by logging on to a bank website using a cell phone and other devices for viewing account balances, making transfer between accounts, or paying bills. It is a term used for performing, balance checks, account transactions, payments, etc. via mobile device such as a mobile phone. In recent times mobile banking is most often performed via Short Message Service (SMS) or the mobile internet but can also use special programs called application package downloaded to the mobile device.

Combining the convenience of mobility with the rich multi-media content of the internet and with the integration of the mobile telephone with palm sized computers, cameras and content related information makes it almost inevitable that the ubiquitous access point to the electronic information is not the personal computer but rather some form of mobile appliance as observed (Wojuade, 2006).

Mobile banking involves the use of mobile phone or other mobile devices to undertake financial transactions. The banking industry no doubt has witnessed advancement in

technologies just like any other sector; the adoption of e-banking service is one of these as it affects banking operations entirely. With the adoption of self-service technology by the banks, e-banking has continued to service the populace, in which mobile banking is one of them. They offer convenience to customers and provide banking services well beyond the traditional service period. It therefore encourages a cashless society.

The emergence of Global System for Mobile communication (GSM) has led to improvements in efficiency and productivity, reductions in transactions costs, increased service innovation and better quality of life for rural and urban dwellers. Information Communication Technology (ICT) had moderated the constraints of time, space and information access in world trade and commerce as a whole. Emerging trends in socio-economic growth shows a high premium being placed on information and communication technology (ICT) by homes, organizations, and nations, (www.nigeriabusinessinfo.org, 2007). The business of banking is basically about efficient service delivery. Consequently, the introduction of facilities that enhance the delivery of banking services such as mobile banking, internet, ATM in an effective manner is always a welcome development. Mobile banking has become an important issue, not only to retain customers but also gaining a competitive advantage while maintaining and growing overall effectiveness. In the present banking system, excellence in customer service is the most important tool for sustainable business growth. Customer complaints are part of the business life of any corporate entity, this is more so for banks because they are service organizations. As a service organization, customer service and satisfaction should be the prime concern of any bank. The bank believes that providing prompt and efficient service is essential not only to attract new customers but also to retain existing ones. However, banks minimize instances of customer service delivery failure and review mechanism to ensure prompt redress of customer complaints and grievances. Service delivery has been described to be one of the key performance indicators of an organization. The extent to which customers are satisfied with the service rendered has great impact on the overall performance and must be taken seriously.

1.2 Statement of the Problem

Before the introduction of mobile banking services, bank customers had limited alternatives of accessing banking services. This in most cases lead to long queues in banking halls and long waits for the services. Growing demands for better services by customers has forced many organizations

Olalekan Olukemi Oluyemisi, Lawal, Department of Banking and Finance, Federal Polytechnic, Bauchi, Bauchi – State, Nigeria

Hamza Salihu Umar, Department of Banking and Finance, Federal Polytechnic, Bauchi, Bauchi – State, Nigeria

Kasim Pate Lawal, Department of Banking and Finance, Federal Polytechnic, Bauchi, Bauchi – State, Nigeria

Ayanwuyi Johnson, Department of Accountancy, Federal Polytechnic, Bauchi, Bauchi – State, Nigeria.

such as commercial banks to consider adopting mobile phone technology as one of the ways of providing better services to their customers. The mobile banking technology has enabled banks to affect self-service among their customers as well as customize various services (Adewoye, 2013).

Mobile banking is expected to improve bank service delivery in a form of transactional convenience, saving of time. Quick transaction alert and cost saving.

The extent to which the use of mobile banking by Nigerian commercial bank customers can improve service delivery is worth exploring. The impact of mobile banking on the banks service delivery has not been greatly explored in Nigeria. Few studies in Nigeria focus on mobile and internet banking adoption and more on ATM banking. This is because mobile banking is just gaining wider acceptance in Nigeria.

1.3 Objective of the Study

This research work has the following objectives:

- i. To examine the impact of mobile banking on service delivery of deposit money banks.
- ii. To examine the challenges faced by Nigerian deposit money banks in providing mobile banking services.
- iii. To proffer recommendations to the challenges faced by Nigerian deposit money banks in providing mobile banking services.

1.4 Research Questions

- i. What are the impact of mobile banking on service delivery of deposit money banks?
- ii. What are the challenges faced by deposit money banks in providing mobile banking services?
- iii. What are the possible recommendation to the challenges faced by Nigerian deposit money banks in providing mobile banking services?

1.6 Significance of the Study

The findings of this study will be beneficial to the bankers and researchers who are interested in exploring more on the effect of mobile banking on service delivery. It will also shed more light on the relationship between mobile banking and service delivery.

The study will also be of value to policy makers (top management) of banks. The findings will assist them to understand how mobile banking services affect service delivery, based on the findings from the study, they will be able to align mobile banking policies with the market so as to have greater positive effect on service delivery.

The result of this study will also assist other organizations that are not in the banking industry to understand how leveraging on mobile phone technology can enhance service delivery, and the customers will also be able to understand how mobile banking technology could affect service delivery they enjoy from banks.

1.7 Scope of the Study

The study focuses on the impact of mobile banking on service delivery by deposit money banks (DMBs) in Bauchi state, using First Bank Bauchi Branch as case study. The study will cover the period of five years that is from 2014 to 2018.

II. LITERATURE REVIEW

2.1 Introduction

In this chapter, the literature review related to mobile banking and service delivery is reviewed. Among the issues that are covered in this discussion include definition of mobile banking, banking sector in Nigeria and the adoption of mobile banking, its benefits, challenges and the services offered through it, the impact of mobile banking on service delivery among others are also examined.

2.2 Definition of Mobile Banking

Mobile banking otherwise known as M-banking is one of the e-banking services which refers to the provision of banking and other forms of financial services with the help of mobile telecommunication device such as the smart phones, androids etc. according to Kassim (2005), This technology revolution has produced new developments in banking industry. Laukkanen, (2007) stressed that mobile banking allows bank customers to conduct their financial services such as alerts i.e. receipt of short message service (SMS).

Segun, (2011) defines mobile banking as one occurrence when customers access a bank network using cellular phones or similar devices through telecommunication wireless networks. Akpan (2009) viewed mobile banking as an application of mobile commerce that enable customers to access bank services virtually at any convenient time and place.

2.3 Mobile Banking Service Adoption

Sohail and Shanmughan (2003) assert that the rapid improvements that have been experienced in the area of information communications technology (ICT) have fueled the technological revolution that is being experienced in many bank across the entire globe today. There is credible evidence that the way financial services are delivered has greatly changed due to advancements that have been made in the ICT sector. The environmental complexity and high level of competition that is experienced in the global banking environment has necessitated the adoption of various types of technologies in order to remain competitive. The technological advancement has so far assisted banks to effectively respond to the business environmental challenges by adopting new strategies that shift focus to building customers satisfaction through offering better product and services and at the same time to minimize operational costs. Mobile banking service adoption has been broadly utilized by a number of banks around the globe and has proved to be a better competitive tool (Sohail and Shanmughan, 2003). Poushchi and Schurig (2004) assert that one of the most thriving businesses to customer applications in electronic commerce is mobile banking, several researchers such as, Filitto Etal. (1997) have carried expansive research in mobile banking focusing on a variety of delivery options, measuring the attitude of consumers towards mobile banking and Automated Teller Machines. Others such as Black et al. (2002), Enders et al (2006), Gerrad and Cunningham and Yu (2003) have also focused on issues of adoption and quality of services using internet banking with a rapid increase in usage of smart mobile phones in most countries around the globe and diffusion of Wireless Application Protocol(WAP) enabled phones, the transformation of banking applications to

mobile devices has been a significant development in mobile banking. Mobile banking has emerged as a wireless service delivery channel providing increase value for customers banking transaction, Pouschi and Schurig, (2004). According to Mathew, Alexandra, and Mcmillan(20013), there has been increased usage of mobile banking by customers to carry out a number of transactions. Most bank customers use mobile banking to be able to carry out a number of payments including point of sale payments;it is further asserted that more and more customers are engaged in using mobile banking to conduct transfers. They also indicate that the increase in the number of people who use smart phones has facilitated rapid adoption of mobile banking service in most countries around the globe. This is an indication that as more people adopt the use of smart phones there is a high potential that mobile banking service users are likely to continue increasing. A survey carried out by Mathew et al (2013) in the United States of America supports that the most common mobile banking activities that are prevalent among users include checking financial account balances or transaction inquiries where 27 percent of mobile banking users were found to have performed this function in duration of 12 months. The use of mobile banking to transfer money between accounts was also found to be one of the activities that are rapidly increasing among the users of mobile banking service. There are also a number of mobile banking users who prefer to receive text messages alert from a bank whenever there is a transaction. However, the users of this service seem to be declining as more activities that can be performed in a

real time. The other activity that most mobile banking service users use frequently is making online bill payments from a bank account using a mobile phone. The mobile banking services users also prefer using the system to locate an ATM whenever they are not sure of the location. The mobile baking function that has seen the greatest increase in use by far is depositing a check by phone, known as remits deposit capture. In Nigeria, according to a survey carried out by Felix O B, omolola O B, and Irvin B, (2011) mobile banking services consist of mobile accounting services, mobile financial information and other mobile services such as SMS bundles, air ticket payments, etc. The respondents showed that they use mobile accounting services infrequently. 20.8% used money transfer.10% use third party payments, 7.4% used standing orders (bill payments), 3.5% used insurance policies and 12.6% used order cheque book. The majority of the mobile accounting services in Nigeria are never or seldom used. The mobile financial information services were infrequently used by the Nigeria respondents. SMS alert for account transactions accounted for 82.2% of the use of the service monthly, balance enquiries accounted for 78.3% of respondents while statements enquiries accounted for 85.2%. The least used service by the respondents was stock enquiries and reports. No respondents in the sample data used payments of traffic fines, purchase of lotto tickets, and applying for loan services. The total number of respondents that used SMS and data bundles services was 69.7% and 68.4% respectively. The mobile banking usage profile is shown below.

Mobile Banking Services Usage Profile
Percent

Mobile Accounting Usage	
Money transfer	20.8
Third party payment	10.0
Bill payment	7.4
Order cheque book	12.6
Insurance Policies	3.5
Mobile Financial Information	
Balance enquiries	78.8
Statement request	85.2
SMS alert	82.2
Enquiries	8.7
Other Mobile Banking Services	
SMS bundles	69.7
Data bundles	88.4

Source; Felix et al(2011)

2.4 Overview of Mobile Banking (M – Banking)

According to Lenart, (2008) M – banking is the term we use

to describe financial services delivered via mobile network using mobile phones. Normally, such services include depositing, withdrawing, sending and saving money as well as making payments.

	Push	Pull
Transaction		<ul style="list-style-type: none"> • Fund transfer • Bill payment • Share trade • Check order
	<ul style="list-style-type: none"> • Minimum balance alert • Credit/ debit alert 	<ul style="list-style-type: none"> • Account balance inquiry • Account statement inquiry

	<ul style="list-style-type: none"> • Bill payment alert 	<ul style="list-style-type: none"> • Check status inquiry • Transaction history
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The scope of offered service may include facilities to conduct banking transaction, to administer accounts and to access customized information. M – Banking today can be performed through SMS. It is usually implemented through the use of special software called client (application packages) that can be downloaded to the mobile phone. These services may or may not be defined as mobile banking by the regulator, hence we may refer to an initiative as m – banking services even though it would not fall into the banking definition under that particular country’s regulatory regime. Lennert,(2008).

According to Porteous, (2008) m-banking can be separated into two categories: addictive, where the model uses M – banking as an extra access channel for existing clients and transformational is where it is categorized by a new type of services that could attract users from rural areas and poor segments of the market, and hence can have a transformational effect. A number of enabling technologies are being used in the delivery of M – banking service applications. According to Abunyang (2007) such services include Interactive Voice of Response (IVR), Short Messaging Service (SMS), wireless Access Protocol (WAP) and stand-alone mobile client (MAC).

SMS banking uses text messaging and work in either a push or a pull mode. In pull mode, the bank sends a one-way text message to alert a mobile subscriber of a certain accounts situation or to promote a new bank service. In push mode the mobile subscriber sends a text message with a predefined request code to specific number. The bank then responds with a reply SMS containing the specific information Lennert, (2008).

A summary showing various Mobile Banking Services Source; lennart(2008)

2.5 Mobile Banking Services in Nigeria

The internet service was ushered into Nigerian market in 2001 (Agwu, 2012) and have gradually gained acceptance among the elites. However, mobile banking came after several years of trials and errors as well as wait-and-see attitude by customers. Since then mobile banking has grown at rapidly across many parts of Nigeria. The earliest mobile banking services were offered through SMS (Short message service). Until recently most services were often performed via mobile web, and have grown rapidly and have led to increasing use of special clients programs called applications.

Despite the high penetration rate, the use and adoption of mobile banking service remain low. But with the advent of new mobile technologies, which serves as catalyst for mobile banking, draw millions of new users with the world teeming population, Agwu (2012).

2.5.1 Services offered through M-banking

Mobile banking offers a wide variety of services ranging from account information which has to do with alerting the customers on the updates and transactions on their account through their mobile phones, payment (utility bills), withdrawals, transfers, purchase of airtime, request of bank statement. Lennart, (2008).

- Fund transfer between accounts/ e-funds transfer:

E-funds transfer is defined as the movement of money or credit from one account to another through an electronic medium. Although ATMs are widely used in transfer of cash, the use of mobile phones is slowly gaining popularity, there are positive results noted in the use of e-funds transfer.

- Bill payment: the use of technology in settling utility bills is taking root, saving consumers time and money. In Nigeria, bill payment have been made simple with the use of mobile banking application on making payment of electric, water bill, etc.
- Statement of account: customers receives statement of account daily, weekly or monthly depending on your preference outlining the transactions that have taken place during the period and that have been processed by the bank by that date through their mobile phones.
- Account balance enquiry: The clients can access inquiry services like bank balance and mini statements using their mobile phones, Abunyang (2007). All these services mentioned are just few among others.

2.5.2 Benefits of Mobile Banking

i. Offering innovation: Personalized mobile services can also assist banks to attract and retain customers. Mobile banking offers financial institutions the opportunity to target and acquire new customer segments that value mobility and real time control of their finances, leading to increased customer growth and revenue.

ii. Reduced customer support costs: Mobile banking solutions also offer a full range of benefits for financial institutions, ranging from reduced customer support cost to improved customer satisfaction and retention as well as revenue growth.

iii. Offers more cost effective channel: Mobile banking offer more cost effective channel and hold greater promise for making financial services. It is the most cost effective service suitable for a developing country, (Abunyang, 2007).

iv. Mobile banking extends the convenience of existing online services: such as account balance information fund transfer, bill payment and mini statements by making them accessible from any mobile device.

v. Drastically cuts down the cost of providing service to the customer: This is the biggest advantage that mobile banking offers to banks.

vi. M-banking enables anywhere banking: customer now don’t need access to a computer terminal to access their banks; they can now do so when they are traveling or when waiting for their orders to come through in a restaurant.

2.5.3 Challenges of Mobile Banking in Nigeria.

i. Insecurity caused by malicious persons: if the user of the mobile banking is not conscious about security, then chances that unauthorized transfer of money to other accounts or withdrawal of cash from a user’s

account might be carried out by a malicious person.

ii. **Finding talented mobile developers for a bank:** “Mobile talent is incredibly scarce”, said Matt Lehman, mobile business leader at progressive insurance, during a panel. This calls for the need by the bank to look externally for raw development talent.

iii. **Discoverability of M-banking is still plaguing the industry:** in other words, consumers are not even aware of their ability to use their phones to bank.

2.6 Financial Performance

Financial soundness is a situation where depositor’s funds are safe in a stable banking system. The financial soundness of financial institutions may be strong or unsatisfactory varying from one bank to another. The objective of financial statement is to provide information about the financial position, performance and the changes in the financial position of an organization that is useful to a wide range of users in making decision.

There are external factors that can cause bank failure which may include lack of information, deregulation. Some useful measures of financial performance are coined into what is referred to as CAMELS (Capital adequacy, asset quality, management earnings, liquidity and sensitivity referring to the six components of a banks condition that are assessed. CAMEL’S framework regulates the banking sector by giving a guide on governance (Mugambe, 2008).

Capital adequacy: this can ultimately determine how well financial institutions copes with shocks to their balance sheet of a company. Capital adequacy in commercial banks is measured in relation to the risk weight assigned to the different category of asset held both on and off the balance sheet item (Bank of Uganda, 2002).

Asset Quality: according to Mugambe (2008), the solvency of financial institutions typically is when their assets become impaired. So it’s important to monitor indicator of quality, assets of financial institutions in Nigeria in terms of over exposure to specific risk trends in non-performing loan, the profitability and health of bank borrowers especially the corporate sector.

Earnings: ability to earn an adequate refrain on its assets and capital is depended on the continued viability of a bank (Bank of Uganda, 2002). Good earnings performance enables a bank to fund its expansion hence remain competitive in the market and replenish and generally expand/increase on its capital.

Liquidity: initially solvent financial institution may be driven toward closure by poor management of short term liquidity, indicators should cover funding sources and capture large maturity mismatches (Mugambe, 2008). An unmatched position potentially enhances profitability but also increase the risk of losses, the key dimensions of measuring financial performance in the commercial banks are capital adequacy, asset quality, earnings liquidity.

2.6.1 Relationship between M-Banking and Financial Performance

The relationship between M-Banking and financial performances is to be contextually drawn from the relationship between indicators of M-banking and financial performances. Money transfer across accounts, balance

inquiries, payment (utility bills).

Money transfer across accounts and financial performance

Funds transfer between accounts e-funds transfer means the availability and usage of e-cheques with reference to cash deposit and cash withdrawal. These have led to increase transactions through the bank. Hence, customer depositing heavily with the bank, leading to high liquidity of the bank which the bank uses to make profit.

Balance inquiry and its effect of financial performances

Under this service the client sends a request in plain text format to the bank server giving instruction to the bank and the server respond with the required information. The clients can access inquiry service like bank balance and mini statement using their mobile phone (Abunyang, 2007).

This has enhanced convenience of the bank expand and also expand on its activities which also the bank uses to raise revenue leading to increased profits.

Payments of utility bills and its effect on financial performances

The latest application is the partnership between utility operators such like, water and electricity corporations and even satellite corporations and Nigerian telecoms, in which consumers directly pays for their bills using a mobile application or instruct their banks to remit money to such utilities providers from their account. This has made things easy for customers and therefore encouraging them to bank money.

2.7. Customer service delivery

Schindler (2012) argues that customer service delivery is one of the most important tools of success in any business. He argues that the level of customer service determines how loyal customers will be and whether they will be able to do a repeat purchase. One of the ways through which an organization can enhance customer service delivery is through creating business to customer loyalty. A business need to know its customers well and have a close relationship with them. This makes customers feel part and parcel of the business. Personalized customer service is very important in ensuring enhanced business to customer loyalty.

According to Hanks (2010) customer service delivery may be easily measured using four basic attributed the first attributed that can be used to measure customer service delivery is service accessibility. Accessibility of services can be enhanced through the use of information communications technology such as mobile applications and use of customer flow management technology. The other measure of customer service delivery is quality of service. The quality of service will be determined by value addition and accuracy of the service being provided. The quality of services will be determined by value addition and accuracy of the services can be enhanced through integration and enhancement of internet and web enable applications.

Effectiveness is also among the measures of customer service delivery. The cost involved in delivery. The cost involved in delivery timely and useful service is important. Customers are more interested in accessing timely services as and when they need them.

Hanks (2010) further assert that customer’s service experience involves the measurement and ensuring

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improvement of five main areas. The first area is the identification of the product or service the customer seeks to buy or access from the organization or business. Business need to enhance and improve their products in order to meet customer's needs. The other area is the person or team that is involved in providing the service. The process used to deliver the service is also very important in ensuring better service delivery. The atmosphere and location of the service is also important to the customer as far as service delivery is concerned. The last area relates to the confidence and reassurance felt by customers whenever they access services.

2.8. Mobile banking and customer service delivery

According to Fiserv (2013) adoption of mobile banking service by financial institutions has far reaching effects in many aspects. Mobile banking service adoption has the potential of greatly improving the level of service delivery in any financial institution. This happens as a result of the short time it takes a customer to complete a transaction using a mobile phone than walking to the bank to have the payment effected. This improvement in service delivery due to adoption of mobile banking has the potential of capturing approximately 20% online customers who prefer better service delivery through mobile banking. An increase in the number of customers is also likely to lead to higher revenues and increased profits for the bank. However, there are concerns from customers that although service delivery greatly improves with adoption of mobile banking, security of mobile banking service still remains a challenge that need to be addressed in order to enhance service delivery.

A study carried out by Adewoye (2013) on impact of mobile banking on service delivery in the Nigerian commercial banks reveals that mobile banking improves banks service delivery in many ways such as transactional convenience, time saving, quick transaction alert and save of service cost which has recuperate customers relationship and satisfaction. The study recommends that the management of commercial banks should create awareness to inform the public about the benefits derived on the mobile banking service collaboration among banks should perfectly maintain, skilled man power and computer wizard should be employed by every bank in order to prevent fraudulent personnel and backers from manipulating the banks data and stealing money from the banks accounts. Adewoye (2013) further recommends that provision and maintenance of public network system such as telephone is fundamental to the efficient functioning of the mobile banking service. some scholars also assert that mobile banking has significantly transformed traditional banking practices to the extent that it has created a pattern shift in marketing practice resulting in positive performance in the banking sector. This is an indication that efficient delivery of quality customer service in the banking industry is to a greater extent facilitated by adoption of appropriate information technology. Similarly, mobile banking provides an important channel through which commercial banks can market their products and services and thus is more of a necessity for commercial banks that anticipate financial and customer service delivery success. It is evident too that the quality and efficiency of service

delivery within the banking industry has improved significantly in the global market as a result of integrating information communications technology in to a number of banking activities. According to the findings of an investigation on electronic payment system and mobile banking in Nigeria carried out by Agboola (2006), it was established that there has been a very significant change from the use of cash to electronic payments. It was clear from the study findings that the automation of payment systems had significantly reduced the volume of cash transactions handle by commercial banks. It was also evident that mobile banking has great potential of broadening the customer relationship; improve customer service delivery which will result to high rate of customer retention and customer loyalty. This will in turn enable commercial banks to gain a large portion of market share. However this can only be possible if challenges such as ineffectiveness of telecommunications services, epileptic supply of power high cost, fear of fraudulent practices and lack of facilities necessary for their operation were taken care of.

Agboola (2006) further asserts that mobile banking has also changed service delivery patterns of banks completely by radically reducing the volume of direct cash transactions.

Stevens (2002) indicates that rapid changes in business activities in the contemporary environment in the form of technological improvement require banks to serve their customers electronically. The traditional banking environment focused on harnessing technology to improve on products and services. However, the 21st century banking industry environment is more turbulent, complex and more competitive than ever before. It has therefore become more important for commercial banks to adopt information and communication technology in order to cope with the complex business environment that has more informed customers. This drive to transform the operations of commercial banks may not be successful without the adoption of appropriate ICT such as mobile banking since it affects quality of products and services and the way they are delivered to customers (Gupta, 2008). Information communication technology such as mobile banking service has been found to lead to improvement in business efficiency and service quality and hence attract and retain customers.

RESEARCH METHODOLOGY

III. RESEARCH DESIGN

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The research design for this study will a descriptive survey through questionnaire. The purpose of using descriptive surveys will to collect detailed and information that describe an existing phenomenon. From a review of literature, a survey questionnaire was developed to collect data for the study the primary data was collected through this form of questionnaire and was hand delivered to the target sample. The questions were filled by the participating and were returned. After that, the results were further analyzed using descriptive statistical analysis method to find out how mobile banking impact on the service delivery of Deposit Money Banks (MDBs). This study is a descriptive survey because it adopted the use of questionnaire aimed at finding answers to the research questions.

3.1 TARGET POPULATION

The population of the research covers the customers of deposit money banks (DMBs) in Bauchi metropolis, for convenience purpose which the result of the study will generalize.

3.2 SAMPLE SIZE

Sample size has to do with how many people should the research consider in order to arrive at a reliable representative result of the entire population. The population covers the entire customers of Deposit Money Banks(MDBs) in Bauchi metropolis, because of the large and disperse number of the population the study will be restricted to a manageable sample

size of one hundred and twenty five (125), which will be selected randomly from the population, that means everyone have the chance of being chosen.

3.3 SAMPLING TECHNIQUES

The sampling techniques to be used in this research work include simple random and stratified sampling techniques. A random sampling technique is imposed in each stratified population to respond to the research questionnaire interviewed. The method is applicable on populations which are too large to investigate

3.4 METHODS OF DATA COLLECTION

The research methods used for the data collection are both primary and secondary data. The collection of data is important because it refers to the actual investigation to draw valid conclusion and result at the end of the research project. The primary method of data collection are, questionnaire, and observation method while the secondary method include, Web-based information, international papers etc.

3.5 SOURCES OF DATA

The main sources of data for this research work are:

Primary source of data: these are data collected through personal interview and questionnaires. They are usually generated from the field using various survey and sample methods.

The methods used in collecting primary data in this research work include questionnaire and observation.

Questionnaire method: questionnaires are techniques used for securing data. Joshua (2012). Defined questionnaire as a list of pre-set questions to which respondents are

Table: Impact of mobile banking

	N	Minimum	Maximum	Mean	Std. Deviation
Mobile banking services are highly efficient and will improve quality of services delivery	90	3	5	4.08	.747
Great value on the improved quality of life, inter relationship and other personal gains can be achieved from using of mobile banking services	90	1	5	4.41	1.192
Mobile banking service is very flexible and comfortable to use	90	2	5	4.08	1.235
Mobile banking service increase customer loyalty part	90	3	5	4.44	.700
Mobile banking helps customer in attaining personal satisfaction	90	1	5	4.04	1.346
Mobile banking does not positively influence service delivery of commercial banks in Nigeria	90	2	5	3.83	1.162
The introduction of electronic payment products such as m-banking, Atm, internet, etc has increased the level of economic activities?	90	2	5	3.98	1.066
Valid N (listwise)	90				

asked to provide answers. The researchers designed questions in such a way that the questionnaire appeared in a statistical table which relates to the topic that the researchers are searching on. The respondents are required to answer by ticking the appropriate option in case of close ended questions and answering the questions by writing their views in the case of open ended questions.

Observation method: observation involves watching and listening to other people's conversation and behavior. Example: recording the findings in such a way that permits a degree of analytical interpretation.

Secondary source of data: these are data collected through the use of past records. Secondary data is any information that has been collected, researched or published.

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The sources of secondary data include internet, textbook, journals, newspapers, company respondents and publications, past project work and so on.

3.6 METHODS OF DATA PRESENTATION AND ANALYSIS

Data collected from respondents and analysis will be categorized using the statistical tools below. For data presentation, tabular presentation will be used to show the data collected from respondents and others is stratified in the questionnaire for easy understanding and final analysis to be drawn from it.

Table 4.2 : Challenges of Mobil banking

	N	Minimum	Maximum	Mean	Std. Deviation
Security concern is one of the major problem affecting well patronage of mobile banking service in Nigeria banking sector	90	1	3	1.89	.909
Network problem is also one of the contributory factors that hinder the effectiveness of mobile banking service in the Nigeria banking sector	90	1	5	3.71	1.402
There is no relationship between mobile banking and service delivery in the Nigeria commercial bank?	90	1	5	2.12	1.342
Valid N (listwise)	90				

Field Survey, 2019.

The data on table 1 above shows that, the statement Mobile banking services are highly efficient and will improve quality of services delivery have a mean score of 4.08 and standard deviation 0.747, great value on the improved quality of life, inter – relationship and other personal gains can be achieved from using the mobile banking services have a mean score of 4.41 and standard deviation of 1.192, Mobile banking service is very flexible and comfortable to use have a mean score of 4.08 and standard deviation 1.235, Mobile banking service increase customer loyalty part have a mean score of 4.44 and standard deviation of 0.700, Mobile banking helps customer in attaining personal satisfaction have a mean score of 4.04 and standard deviation of 1.346, Mobile banking does not positively influence service delivery of commercial banks in Nigeria have a mean score of 3.83 and standard deviation 1.162, and The introduction of electronic payment products such as m-banking, Atm, internet, etc has increased the level of economic activities have a mean score of 3.98 and standard deviation of 1.066 were all accepted as none of the statements falls below our 3.0 which is our level of rejection.

Data from table 2 above shows that the statement, Security concern is one of the major problem affecting well patronage of mobile banking service in Nigeria banking sector have a mean score of 1.89 and standard deviation of 0.909, Network problem is also one of the contributory factors that hinder the effectiveness of mobile banking service in the Nigeria banking sector have a mean score of 3.71 and standard

For data analysis, the statistical tools that will be used is by using simple percentage method. This method will be used to show each question and its respective responses. However, the use of simple percentage (%) method by the researchers will serve as a comparison between each alternative responses with aggregate number of respondents to each questions based on the number of sample size. Example:

deviation of 1.402, There is no relationship between mobile banking and service delivery in the Nigeria commercial bank have mean score of 2.12 and standard deviation of 1.342. The statement Network problem is also one of the contributory factors that hinder the effectiveness of mobile banking service in the Nigeria banking sector was accepted with a mean score of 3.17 while Security concern is one of the major problem affecting well patronage of mobile banking service in Nigeria banking sector and Security concern is one of the major problem affecting well patronage of mobile banking service in Nigeria banking sector were rejected because their mean falls below 3.0 which is our rejection level.

IV. TEST OF HYPOTHESES

The hypotheses statements are:

H_0 There is no significant relationship between mobile banking and service delivery of money deposits banks (MNBs).

H_1 There is no significant relationship between mobile banking and service delivery of money deposits banks (MNBs).

We are going to use six (6) questions that are directly related to our subject matter for hypotheses testing; these questions are 1, 4, 5, 8, 9 and 10.

Questions	Strongly agreed	Agreed	Undecided	Strongly disagreed	disagreed	Total
1	20	45	25	0	0	90
4	45	35	10	0	0	90
5	50	15	5	10	10	90
8	0	0	35	11	44	90

9	41	17	10	10	12	90
10	5	5	0	25	55	90
	161	117	85	56	121	540

$$Fe = \frac{CT \times RT}{GT}$$

Where Fe = Expected Frequency

CT = Column Total

RT = Row Total

GT = Grand Total

$$Fe (SA) = \frac{161 \times 90}{540}$$

$$Fe = \frac{14,490}{540}$$

$$Fe (SA) = 26.8$$

$$Fe (A) = \frac{117 \times 90}{540}$$

$$Fe = \frac{10,530}{540}$$

$$Fe (A) = 19.5$$

$$Fe (U) = \frac{85 \times 90}{540}$$

$$Fe = \frac{7,650}{540}$$

$$Fe (U) = 14.2$$

$$Fe (SD) = \frac{56 \times 90}{750}$$

$$Fe = \frac{5,040}{540}$$

$$Fe (SD) = 9.3$$

$$Fe (D) = \frac{121 \times 90}{540}$$

$$Fe = \frac{10,890}{540}$$

$$Fe (D) = 20.2$$

Variables	Fo	Fe	Fo - Fe	(Fo - Fe) ²	(Fo - Fe) ²	
					Fe	
SA	20	26.8	-6.8	46.24	1.73	
SA	45	26.8	18.2	331.24	12.36	
SA	50	26.8	23.2	538.24	20.08	
SA	0	26.8	-26.8	718.24	26.80	
SA	41	26.8	14.2	201.64	7.52	
SA	5	26.8	-21.8	475.24	17.73	
A	45	19.5	25.5	650.25	33.35	
A	35	19.5	15.5	240.25	12.32	
A	15	19.5	-4.5	20.25	1.04	
A	0	19.5	-19.5	380.25	19.50	
A	17	19.5	-2.5	6.25	0.32	
A	5	19.5	-14.5	210.25	10.78	
U	25	14.2	10.8	116.64	8.21	
U	10	14.2	-4.2	17.64	1.24	
U	5	14.2	-9.2	84.64	5.96	
U	35	14.2	20.8	432.64	30.47	
U	10	14.2	-4.2	17.64	1.24	
U	0	14.2	-14.2	201.64	14.20	
SD	0	9.3	-9.3	86.49	9.30	
SD	0	9.3	-9.3	86.49	9.30	
SD	10	9.3	0.7	0.49	0.05	
SD	11	9.3	1.7	2.89	0.31	
SD	10	9.3	0.7	0.49	0.05	
SD	25	9.3	15.7	246.49	26.50	
D	0	20.2	-20.2	408.04	20.20	
D	0	20.2	-20.2	408.04	20.20	
D	10	20.2	-10.2	104.04	5.15	
D	44	20.2	23.8	566.44	28.04	
D	12	20.2	-8.2	67.24	3.33	
D	55	20.2	34.8	1211.04	59.95	
TOTAL					407.25	

$$\text{Degree of freedom (df)} = (R - 1) (C - 1)$$

Where; R = 5

$$C = 5$$

$$DF = (5 - 1) (3 - 1)$$

$$DF = (4) (2)$$

$$DF = 8$$

With a degree of freedom of 8 at 0.08 of confidence = 13.362

Table value = 13.362

Calculated chi – square value = 407.25

4.1 FINDINGS

H₀ There is no significant relationship between mobile banking and service delivery of Deposit Money Banks (DMBs).

Decision: Since the chi-squares calculated are greater than chi-square tabulated which makes all the figures to be highly statistically significant. Collectively; we reject the null hypotheses stated earlier: there is no significant relationship between mobile banking and service delivery of deposit money banks (DMBs) in Nigeria due to the result. Thus, we accept alternative hypotheses that: There is significant relationship between mobile banking and service delivery of deposit money banks (DMBs banks in Nigeria).

V. SUMMARY, CONCLUSION AND RECOMMENDATION

The research examined the impact of mobile banking on service delivery by money deposit banks (MDBs) in Bauchi, in which it is aim at determining the significance of the relationship between mobile banking and service delivery, many literature related to the subject matter were reviewed, the entire banking society are the population for this research work, that include both the staffs and customers of deposit money banks (DMBs),but due to the large number of the population a sample size of ninety (90) is use to draw a valid conclusion that can be generalized on the entire population, using questionnaire as an instrument for data collection. The result were analyzed using simple percentage, and hypotheses was been tested using chi-square, the result shows that there is a significant relationship between mobile banking and service delivery of deposit money banks (DMBs).

VI. CONCLUSION

The mobile banking services provided by Deposit Money Banks in Nigeria generally cover information- push where customers can access banking information and make transaction such as Account information, Payments, transfers and Investments using mobile phone as terminal. The results of the findings and the hypotheses tested showed that Mobile banking improve banks service delivery in a form of transactional convenience, saving of time, quick transaction alert and cost saving, Thus customers have been able to save considerate among of banking time with relatively leaser costs to the customers. Also the introduction of electronic payment products such as m-banking, ATM, Internet, etc has increased the level of economic activities. It also reveals that money deposit banks in Nigeria that have implemented mobile banking are chalking-up some successes even with the problems that come with it. These challenges include network problem and Security which are major contributory factors that hinder the effectiveness of mobile banking service in the Nigeria banking sector. Finally the research findings indicate that mobile banking positively influence service delivery of deposit money banks (DMBs) in Nigeria.

VII. RECOMMENDATION

In view of the above finding the following recommendation were made:

- i. Creating awareness to inform the public about the benefits derived on the mobile banking service product.
- ii. Skilled manpower and computer wizard should be employed by every Bank, in other to stop, prevent fraudulent personal and hackers from manipulating the Banks data and stealing money from the Banks accounts, Provision and maintenance of public network, system such as telephone (Nitel) the availability of these basic infrastructures is fundamental to the efficient functioning of the mobile banking services.
- iii. Collaboration among banks should perfectly be maintained. Electronic payment system as a result of its huge financial involvement requires that banks must jointly set and manage a network system such as Mobile fund transfer; ATMs v-cards etc. collaboration helps to spread and reduce the initial costs of setting up the electronic Banking system.

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