

EFFECT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON SERVICE QUALITY OF DEPOSIT MONEY BANKS

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ABSTRACT

Past studies have suggested that Information and Communication Technology (ICT) has a significant influence on bank performance, growth, productivity and customer satisfaction. However, recent studies have indicated that apart from these factors, the automated services from ICT may also have a significant effect on service quality of Deposit Money Banks (DMBs) and ultimately their growth and survival. This study examines whether automated teller machine, mobile banking and internet banking affect service quality of DMBs in Nigeria. Using a cross-sectional survey, data was collected from 141 bank customers. Results from the Pearson Product Moment Correlation, Multiple Regression Result and Analysis of Variance suggest that automated teller machines, mobile banking and internet banking services have a significant influence on service quality of DMBs in Nigeria. The study's findings have implications to DMBs, bank regulators and researchers. It will also serve as a reference material and empirical evidence for DMBs in restructuring their ICT technologies and the study limitations provide a stepping stone for further research.

Keywords: Automated Teller Machine, Mobile Banking, Internet Banking, Service Quality

1. INTRODUCTION

The growth of business organizations and advancements in the information and Communication Technology (ICT) has given incentive to the development of banking sector (Alabar & Agema, 2014). Today's banks need a variety of products in order to satisfy their customers and meet their diverse needs. Over the years, several reforms have been undertaken by successive governments to safeguard depositors and potential investors, the most recent being the July 2004 restructuring

and consolidation reforms (Sanusi, 2012). The reform required commercial banks in Nigeria to raise their minimum paid-up share capital to twenty-five billion naira (₦25billion) by December 31st 2005 (Osabuohien, 2008). The main objective of the reform was to strengthen the capability, efficiency and effectiveness of commercial banks in Nigeria. These reforms gave rise to advances in Information and Communication Technology (ICT) thereby forcing the seller's market and arm-chair banking of yesteryears to inevitably give way to fierce competitive pressure (Ezekiel, 2008).

Deposit Money Banks (DMBs) in Nigeria have experienced significant transformations in terms of structure, size and mode of operations over the years (Osabuohien, 2008). The objective of any commercial bank includes among others, the provision of efficient and effective financial services to its numerous customers at profit. Prior to the reforms, commercial banks generally operated a manual banking system which was characterized by use of bulk papers, poor service delivery, time consuming and growing distress in the sector (Omotoso, Dada, Adelowo & Siyanbola, 2012). However, with the advancements in technology, DMBs quickly adopted the e-banking system. The e-banking system not only enhanced service delivery, it also provided various avenues of providing wide ranging products such as electronic funds transfer, internet banking, automated bill payment (ABP), automated teller machines (ATM), point of sales (POS) payment systems and mobile applications that enable customers perform transactions without necessarily coming to the bank (Kolodinsky, Hogarth & Hilgert, 2004). Recent technologies assist not only DMBs but also their customers because customers spend less waiting time in the banking halls, access faster and more efficient services, convenience banking and an array of sophisticated products tailored towards meeting their needs (Omotoso, Dada, Adelowo & Siyanbola, 2012). However, with the disruptive technologies comes the attendant risk and challenges of security, safety of operations, growing demands and expectations from various stakeholders such as customers, shareholders, employees, labour unions government and the society at large (Kabue, 2015; Kimani, 2011). Banks now have to compete by excelling in service delivery in order to retain existing customers and attract new customers in order to survive in the ever-competitive banking environment.

Customer Service Delivery has received much scholarly and public interest following the concern for product quality improvements globally (Munusamy, Chelliah & Mun, 2010). This is more evident in the banking industry where customer service has been influenced by ICT advancements, deregulation, globalization and intense competition. As such, Deposit Money Banks are compelled to implement recent technologies and become innovative in order to survive. One of such

innovativeness is the online banking which enables customers to access banking services not only in their domiciled branches but also various other branches of the bank (Al-Hawari, Hartley & Ward, 2005). Hence, providing effective service delivery to customers is not only important, it is a necessary marketing strategy to retain customers and survive in the turbulent and competitive banking industry

Statement of the Problem

The introduction of ICT has revolutionized global banking operations (Sumra, Manzoor, Sumra, & Abbas, 2011). DMBs had to shift from traditional banking system to an electronic based system. DMBs are making significant Investments in ICT in order to enhance service delivery, ease banking operations and meet customers' needs so that service quality and financial performance can be enhanced (Adewoye, 2013; Hassan & Mukhtar, 2012). Some studies have suggested that the adoption of ICT in DMBs have had a tremendous impact on the quality service delivered (Kevin, Benard & Roland, 2013). Yet, ICT has come with its own peculiar challenges and problems ranging from Internet security, fraudsters using ICT to hack into the system, employees devising smarter ways to manipulate records and misappropriate cash and other organizational assets and scammers duping bank customers (Kabue, 2015; Kimani, 2011). Although the Central Bank of Nigeria in Collaboration with the National Deposit Insurance Corporation (NDIC) have been holding series of workshops and seminars for DMBs on Cyber Security, new fraudulent means are always devised (Sanusi, 2012). Thus, the management of DMBs and regulatory organs of Government have to be a step ahead of scammers in order to ensure they protect their customers and reap the benefits of ICT.

Additionally, most studies on ICT in the banking industry focus on various aspects such as ICT adoption (Al-Jabri & Sohail, 2012) consumer behavior such as customer satisfaction (Alabar & Agema, 2014; John & Rotimi, 2014), customer loyalty (Emmanuel & Adebayo, 2011; Luka & Frank, 2012), Total Quality Management (Al-Hawari, Hartley & Ward, 2005;) or in relation to performance benchmarks such as Return on Investment, Return on Asset and other measures of profitability (Agbolade, 2011; Agboola, 2007; Omotoso, Dada, Adelowo & Siyanbola, 2012). There are very few studies on how this ICT has influenced service delivery in DMBs in Nigeria and none in Borno State. This is important because the quality of service determines if a customer is satisfied, becomes loyal, and thus adds value to the bank by being retained. Hence, as service providers, DMBs ultimate survival may depend on the continued customer patronage which is built on service delivery. Moreover, of the few studies conducted, none has been carried out in Maiduguri, Borno state. This is why this study intends to fill this gap.

Research Objectives

The main objective of the study is to examine the effects of Information and Communication Technology (ICT) on the service quality of selected Deposit Money Banks (DMB) in Borno State. The specific objectives are to:

- i. Investigate the effect of ATM on service quality in selected Deposit Money Bank's (DMB) in Borno State.
- ii. Examine the effect of mobile banking on service quality of selected Deposit Money Bank's (DMB) in Borno State.
- iii. Assess the effect of Internet banking on service quality in selected Deposit Money Bank's (DMB) in Borno State.

Research Questions

In line with the research objectives, the study seeks to answer the following questions

- i. What effect does ATM have on service quality of selected Deposit Money Bank's (DMB) in Borno State?
- ii. To what extent has mobile banking affected service quality in selected Deposit Money Bank's (DMB) in Borno State?
- iii. What is the effect of Internet banking service on service quality in selected Deposit Money Bank's (DMB) in Borno State?

2. LITERATURE REVIEW

Information and Communication Technology (ICT)

Khalifa (2000) explains that ICT refers to the computerization of procedures, controls and production of information through computers, telecommunication and other supplementary equipment in order to enhance operations and decision processes in order to meet set objectives. In other words, ICT deals with how organizations employ computer technology to provide information needs for decision making. Laudon and Laudon (2001) also assert that ICT refers to the hardware and software tools that allows the computer system to function and transfer information from one place to another for management use. Automated facilities include automated teller machines, debit and credit cards, mobile phones, applications, tokens and point of sale (POS) machines. These facilities have transformed banking operations such as opening of accounts, processing and recording of transactions, customer withdrawals and payments, bank transfers and

internet banking. This is because they provide various means of delivering and accessing services through electronic means. For example, the ATM which is the most frequently used electronic facility allows customers perform transactions such as deposits and withdrawals at any time of the day or night. Customers can also use telephone banking to issue instruction on their account to their account officers, make account balance enquiries and permit payments (Al-Hawari, Hartley & Ward, 2005). Mobile banking allows customers to perform banking transactions such as balance enquiry, account transfers, cheque books or withdrawal requisitions and mobile top-ups using their mobile phones. Furthermore, customers can also use internet banking to check their account balances, conduct credit card payments, transfer funds, shop online or settle utility bills (Jun & Cai, 2001).

ICT and Service Quality in Deposit Money Banks

Bloemer, Ruyter and Peeters (1998) assert that customers evaluate services delivered by comparing their expectations of the service prior to its delivery, to their perceptions of the service delivered. Aliyu and Tasmin (2012) explain that there are two important points; the first being when the customer relies on their expectations to assess services before coming in contact with a service provider, and secondly, depending on how the service is delivered, the customer forms his/her own perceptions which they compare with the actual service received. Hence, customer expectations affect the customer's assessment of the quality of service delivered and their satisfaction with the service. Gronroos (2001) classified customer services along two lines; high-touch and high-tech services. While high-touch services refer to those services that are provided by people, the high-tech services refer to services that are provided by electronic devices such as computers and other accessories.

Therefore, since DMBs provide both computerized services and customer support services, it can be said that Nigerian banks provide both high-tech (computerized) and high-touch (physical customer support) services. However, assessing customer service is often very difficult. This is because the recipient of the service (customer) is in a better position to evaluate the service whereas the service provider (bank) is in a better position to evaluate the service content (Zeithaml & Bitner, 1996). Before the ICT revolution, banking services were characterized by long queues, human processing errors, unnecessary bureaucracy and poor customer services (Mattos, 2013). However, with the dawn of ICT, increased competition and customer sophistication, banks had to adapt to globalization in order to compete effectively and survive. Aliyu and Tasmin (2012) note that the use of ICT to conduct transactions has caused a gap between banks and their customers so that very little contact is needed.

Additionally, most of the earlier problems such as long queues, bureaucracies and poor customer service have been substantially reduced, paving way for more comfortable, flexible and efficient services. However, the expansion and revolution of banking services has brought with it attendant issues of service delivery such as location safety and security, convenience and access to facilities (Dick, 2003). For example, perceptions of customers at ATMs waiting on long queues, poor service connection or inability to dispense cash does impact negatively on automated service delivery. Thus, it is imperative for DMBs to consider what the customer seeks and expects of automated services in order to keep them satisfied. According to Birch and Young (1997) customers look for good location and banking convenience, choice products, reasonable costs and modest returns, efficient and timely services. Keeton (2001) as cited in Aliyu and Tasmin (2012) also note that electronic banking ensures timely services, banking convenience and facilitates access to financial services in remote locations. Despite the numerous advantages, ICT has also introduced a lot of risks and problems. For instance, Kabue, (2015) assert that advancements in ICT presents attendant risks and challenges for governance and development. Kimani (2011) also note that the challenges are further escalated by the universality of the internet and information accessibility. Cheung and Liao (2003) report that banks may face challenges such as constantly evolving ICT applications and business models, obscured market boundaries, new entrants, stringent regulations and breaching of business barriers. In the face of these challenges, DMBs need to appreciate and adapt to these transformations in banking, innovation and customer sophistication.

Review of Empirical Studies

Studies on the use of ICT in banks include those related to consumer behavior, bank performance and Service Quality. For example, John and Rotimi (2014) examined the impact of electronic banking on customers' satisfaction in Nigeria. The study employed a cross sectional survey of 100 Guaranty Trust Bank (GTB) Customers in Lagos. Results from the Chi square test revealed that e-banking has a significant positive effect on profitability, general banking services and corporate customer satisfaction. However, individual customers felt e-banking has significant disadvantage such as increased banking cost, infrastructural deficiency and e-fraud. Agboola (2007) investigated the effect of ICT on banking operations by surveying 216 bank customers, 180 heads of system units and 36 management staff of selected banks. The findings show that bank customers were happy with the significant improvement in terms of account statement generation, reconciliation and balance enquiries. Unit heads and management officers also asserted that implementation of ICT has improved the image of banks and led better quality of banking operations. Alabar and Agema (2014) assessed the effect of ICT on customer satisfaction in the

Nigerian Banking Industry. Four hundred questionnaires were issued to customers of six selected banks in Lagos, Port-Harcourt, Onitsha, Kano, Yola and Abuja. The customers were randomly sampled as they came to transact business in the banks. The study used regression analysis to test the hypotheses proposed. The findings revealed that ICT has a significant relationship with banking development in Nigeria and many banking operations such as e-payments, deposits and withdrawals are now largely dependent on ICT. The results also show that bank performance has been enhanced by the adoption of ICT.

Agbolade (2011) investigated the impact of ICT on the profitability in three selected banks in Ogun state, Nigeria. Ninety (90) respondents were surveyed using structured questionnaires and simple regression was used to analyze the data collected. The study results show that ICT is positively correlated with bank profitability; greater investments and adoption of ICT was associated with higher profit levels. Osabuohien (2008) examined how demographic variables influenced ICT use in banks. The findings reveal that employees' gender does not affect the likelihood and efficiency of ICT use, whereas age, educational qualification, computer literacy and type of ICT gadgets, are significant predictors of employees' intention to use ICT and efficiency of ICT usage. The study also found ICT positively enhances speed of service delivery, employee productivity and bank profitability.

Additionally, Kevin, Benard and Ronald (2013) evaluated the impact and Challenges of ICT adoption on the banking sector in Tanzania. The study surveyed 52 respondents comprising bank employees from the IT department and managers using purposive sampling technique. Data was analyzed using descriptive statistics (mean and standard deviation). Findings from the descriptive study show that ICT has a positive impact on the banking sector through the provision of digitalized financial services. However, the study established that bank employees required frequent retraining and capacity building in order to use evolving technologies. Adewoye (2013) also investigated the impact of mobile banking on service delivery in Nigerian commercial banks. The study surveyed 125 senior and junior bank employees in Lagos and data collected was analyzed using Chi Square test. The findings indicate that mobile banking significantly improves service delivery in banks by providing transaction convenience, timelier and more efficient services, quick transaction alerts and reduced cost of service which contribute to customer satisfaction.

Furthermore, Omotoso, Dada, Adelowo and Siyanbola (2012) examined the effect of ICT on service delivery in a Nigeria banking firm. The cross-sectional survey randomly selected 100 respondents comprising bank staff and customers in Ile Ife.

The study employed descriptive statistics (pie charts, frequencies and histogram) to analyze the data collected. The study results show that ICT enhances the productivity of the bank even though affordability of ICT equipment, high installation and maintenance cost, cultural factors, capability factors, inadequate skilled manpower, network connectivity, cybercrime and response to ICT dynamism presented significant challenges to ICT use in banks. Similarly, Evans (2008) assessed the impact of ICT and banking reforms on operations of three selected banks in Lagos. Data was sourced from 152 respondents purposely selected and analyzed using regression analysis. The findings show that employee gender does not affect their efficiency and likelihood of using of ICT while age, educational qualification, computer literacy and type of ICT gadgets employed influenced efficiency of ICT use. The regression results provides empirical evidence that ICT usage has a positive and significant influence on banking operations, productivity and profitability of banks.

Al-Hawari, Hartley and Ward (2005) proposed a model of automated service quality in banks by capturing the unique attributes of service delivery channel (ATM, Telephone banking and internet banking) and other dimensions that influence service quality (perceived price and core service). The study undertook a survey by administering a 22-item instrument measuring automated service and service quality aspects adapted from prior literature. Data was collected from 442 randomly sampled respondents who had used at least one type of bank automated services. Confirmatory factor analysis (CFA) was used to validate the model using perceptual data collected from customers of banks, building societies, and credit unions in Queensland, Australia. The results from the CFA show all the five factors of automated banking service quality exhibit strong unidimensionality, reliability, convergent, discriminant, and criterion validity. The results imply that automated service quality in banks can be measured by five-factors: ATM service quality, telephone banking service quality, internet banking service quality, core service quality and price quality.

Moreover, Al-Jabri and Sohail (2012) examined various factors (relative advantage, complexity, compatibility, observability, triability and perceived risk) affecting mobile banking adoption in Saudi Arabia by surveying 330 mobile banking users and 136 potential mobile banking users. Data was collected from 496 target participants in Jeddah, Riyadh and Central Province. Results were analyzed using exploratory factor analysis and regression analysis. The findings show that while relative advantage has a positive effect on mobile banking adoption, Compatibility is the most significant predictor of mobile banking adoption. In addition, though Observability has a significant influence on mobile banking adoption, Complexity

and Trialability have an insignificant effect on mobile banking adoption. Conversely, Perceived risk has a negative and significant effect on mobile banking adoption, suggesting risk is a major obstacle to mobile banking adoption.

Luka and Frank (2012) investigated the effects and trends of ICTs (productivity, market structure, Innovation and value chain) in selected banks. Two hundred and eighty questionnaires were administered to employees of four selected banks and two other banks were used as case studies. The study results show that investment in ICT infrastructure has enhanced productivity and growth of banks. In addition, ICT implementation has resulted in the absorption of highly skilled employees which has had a positive effect on output in the banks. The findings also show basic ICT infrastructures such as computer and peripherals, local area networks, and ATMs are fundamental for greater productivity and growth in market share. The case studies reveal new government policies are needed in order for banks to compete effectively in the dynamic and constantly evolving industry. Furthermore, Samuel and Adebayo (2011) reviewed 20 empirical papers on ICT adoption, service delivery and operational performance of Nigerian banks that were published on line. Their content analysis revealed the Nigerian banks have virtually adopted ICT in their banking operations. Furthermore, the main factors driving the increased reliance on ICT are globalization, advancements in ICT and more informed customers. The results also show the increased adoption of ICT has a positive impact on banking operations and performance.

Put together, though many scholars have examined ICT and performance in banks, few studies actually relate ICT to service quality, most of which are from other countries. This is why this study will focus on the effect of ICT on service quality in selected banks in Maiduguri, Nigeria. In addition, majority of the empirical studies indicate that ICT has a significant and positive effect on consumer behavior, bank profitability, productivity and operations. Therefore it is also likely that ICT as measured by automated services will have a positive effect on service quality. Hence, in line with these studies, this study proposes the following hypotheses:

H₀₁: ATMs have no significant effect on service quality of selected Deposit Money Bank's (DMB) in Borno State.

H₀₂: Mobile banking no significant effect on service quality of selected Deposit Money Bank's (DMB) in Borno State.

H₀₃: Internet banking has no significant effect on service quality of selected Deposit Money Banks (DMB) in Borno State.

3. METHODOLOGY

The study is a survey research that utilized cross sectional data. Four banks were selected in Maiduguri, the capital of Borno state because they are at the fore front in recent ICT adoption and implementation. These are Guaranty Trust Bank PLC, Zenith Bank PLC, Access Bank PLC and Fidelity Bank PLC. Because of difficulties in obtaining the sampling frame of bank customers, a convenience sampling technique was employed to select a sample. Another reason for this was that information was sought from only customer respondents that had knowledge and experience using ICT. Two hundred (200) questionnaires were administered to bank customers of the selected banks randomly as they came to transact business in the bank. Out of these, only one hundred and forty (140) were retrieved and found useful for further analysis, representing a response rate of 70%. The questionnaire was adapted from prior literature (Adewoye, 2013; Al-Hawari, Hartley & Ward, 2005; Parasuraman, Zeithmal & Berry, 1988).The questionnaire consisted of questions relating to three major types of ICT commonly used such as Automated Teller Machines (ATM), Mobile Banking and Internet Banking. Respondents were required to assess the quality of service delivery from the ICT types. Responses were captured on a five-point Likert scale with anchors from 1 “Strongly Disagree” to 5 “Strongly Agree”. Data collected was coded and input into the Statistical Package for Social Science (SPSS) software version 16 for analysis.

4. DATA PRESENTATION AND RESULTS

Demographic Profile of Respondents

The demographic data of respondents on Table 1 shows that there were 73 (52%) female respondents and 121 (85%) were within the 18-45 age bracket. In terms of educational qualification, 78% of the respondents had attained their first degree. Most of the respondents (32%) were into business, 20% were civil servants, and 21% into professional practice and 14% were students. About 20% of the respondents visited the bank as often as required daily and another 20% visited daily while 28% said they visited the bank weekly. Regarding frequency of ICT use, about 57% said they used ICT weekly while 19% said they used ICT monthly. Regarding the type of ICT used, majority (35%) said they used all three (ATM, mobile and internet banking) while ATM only users were 34% and mobile banking users were 22%. About 59% of the respondents said they had used ICT between 1 to 5 years. Regarding purpose of bank visit, majority of the respondents 57% (81) said they visited to make deposits while only 8% went there to make cash withdrawals.

Table 1: Respondents Demographic Profile

Items	Frequency	Percentage (%)
Gender		
Male	68	48.2
Female	73	51.8
Age Category		
18-25	27	19.1
26-35	47	33.3
36-45	47	33.3
46-60	20	14.2
Educational qualification		
Postgraduate	26	18.4
First degree	85	60.3
O' levels	30	21.3
Occupation		
civil servant	28	19.9
business man/woman	45	31.9
professional practice	30	21.3
student	20	14.2
Others	18	12.8
Frequency of Bank Visit		
Daily	28	19.9
Weekly	40	28.4
Fortnightly	20	14.2
Monthly	25	17.7
As needed	28	19.9
Frequency of ICT use		
Weekly	80	56
Monthly	27	19.1
Fortnightly	6	4.3
As needed	28	19.9
Type of ICT used		
ATM	48	34
Mobile Banking	31	22

Internet Banking	12	8.5
All of the above	50	35.5
ICT Experience		
Less than 1 year	21	14.9
1-5 years	83	58.9
6-10 years	21	14.9
over 10 years	16	11.3
Purpose of Visit		
make deposit	81	57.4
Investment advice	33	23.4
Bill/Utility Payment	16	11.3
Cash withdrawal	11	7.8

Reliability Test

The Cronbach alpha coefficient on table 2 shows items measuring each construct are reliable and hang together (ATM .729, Mobile banking .711, Internet banking .642 and Service quality .650). This meets Hair et al (2013) minimum benchmark of 0.60 for exploratory studies.

Table 2: Reliability Test	Cronbach's Alpha	No. of Items
ATM	0.729	8
Mobile banking	0.711	8
Internet banking	0.642	9
Service quality	0.65	9

Correlation Analysis

The Pearson product-moment correlation was executed using the four variables; ATM Service (Matmsd), Mobile Banking Service (Mmbsd), Internet Banking Service (Mibsd) and Service Quality Tangibility and Reliability (Msqtr).

Table 3: Pearson Product Moment Correlations

		Matmsd	Mmbsd	Mibsd	Msqtr
Matmsd	Pearson Correlation	1			
	Sig. (2-tailed)				
Mmbsd	Pearson Correlation	.861**	1		
	Sig. (2-tailed)	0.000			
Mibsd	Pearson Correlation	.809**	.845**	1	
	Sig. (2-tailed)	0.000	0.000		
Msqtr	Pearson Correlation	.665**	.678**	.655**	1
	Sig. (2-tailed)	0.000	0.000	0.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows the results of the Pearson Correlation coefficients for variables. The correlation between Matmsd and Mmbsd (.861) is significant ($P < .01$). In addition, Matmsd is also positively correlated with Mibsd (.809) and Msqtr (.665) both significant at 1%. Mmbsd is also positively correlated to Mibsd (.845) and Msqtr (.678) and significant ($P < .01$). Msqtr is also found to be positively correlated with ATM service (.665), Mobile banking service (.678) and Internet Banking Service (.655) all at 1% significance. This shows there is a high degree of association between the variables as shown in table 2.

Regression Analysis

The regression results on Table 3 show an R square of 49.8% and an adjusted R square of 48.7% meaning that the independent variables (ATM service, Mobile

banking and Internet banking service) predict variation in the dependent variable (Service Quality) by 49.7% while other variables outside the scope of this study account for the remaining 50.3% of the variation. Furthermore, the F statistic is positive (45.233) and significant at 1% (P=.000) indicating that the model is fit and reliable. The standard errors are also small (.203).

Table 4: Multiple Regression Analysis Results

Model Summary^b

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin-Watson
.705 ^a	0.498	0.487	0.20314	45.233	0.000	1.976

a. Predictors: (Constant), Mibsd, Matmsd, Mmsbd

b. Dependent Variable: Msqtr

Table 4 shows the t value of Matmsd (1.986) is significant at 5% (P=.045). This result shows that ATM service is a significant predictor of Service Quality in banks. This provides the basis to reject H01 which states that ATM service has no significant effect on service quality of money deposit. The alternate hypothesis that ATM service has a significant effect on service quality of Deposit Money Banks stands accepted. In addition, Mmsbd t value of 2.032 is also significant with P-value of .044 suggesting that mobile banking service is a significant predictor of service quality of Deposit Money Banks. Hence, this provides the basis for rejecting H02 which states that mobile banking service has no significant effect on service quality of Deposit Money Banks and accepting the alternate hypothesis that mobile banking service has a significant effect on service quality of Deposit Money Banks. Thirdly, Mibsd has a t value of 1.848 which is also significant 10% (P=.067) suggesting that internet banking service is a significant predictor of service quality of deposit money banks. Hence, this provides the basis for rejecting H03 which states that internet banking service has no significant effect on service quality of deposit money banks. The alternate hypothesis which states that internet banking service has a significant effect on service quality of deposit money banks is accepted.

Table 5: Regression Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Zero-order	Partial	Partial	Tolerance
(Constant)	1.044	0.317		3.298	0.001					
Matmsd	0.283	0.142	0.248	1.986	0.049	0.665	0.167	0.12	0.236	4.245
Mmbsd	0.27	0.133	0.279	2.032	0.044	0.678	0.171	0.123	0.194	5.142
Mibsd	0.207	0.112	0.219	1.848	0.067	0.655	0.156	0.112	0.26	3.839

a. Dependent Variable: Msqtr

Table 6: ANOVA^b

Model	Sum Squares	of df	Mean Square	F	Sig.
1 Regression	5.6	3	1.867	45.233	.000 ^a
1 Residual	5.654	137	0.041		
Total	11.254	140			

a. Predictors: (Constant), Mibsd, Matmsd, Mmbsd

b. Dependent Variable: Msqtr

In assessing the robustness of the model, the tolerance value is less than one (<1) and the Variance Inflation Factor is less than 10 (<10) are reasonably within limits and rule out the existence of Multicollinearity in the model. Similarly, the Durbin-Watson statistic of 1.976 indicates no auto correlation. Overall, the results show that the model is fit and robust. The ANOVA result also shows the F value of 45.233 is significant implying that the independent variables are significantly different from each other in predicting the dependent variable.

5. DISCUSSION AND CONCLUSIONS

The study adds to existing knowledge in several respects. Firstly, the study extends Al-Hawari, Hartley and Ward (2005) study that automated service quality (hi-tech services) in banks encompasses unique attributes of service delivery unlike hi-touch services which are rendered directly by bank officers. Therefore, DMBs should strive to keep in tide with advancements in ICT so that they can satisfy and retain their customers. Secondly, the results concur with Mwenda (2015) study which found that investment on Service Delivery Technologies has significantly enhanced productivity and growth of banks through the provision of variety of services to customers. Empirical evidence (e.g. Aliyu & Tasmin, 2012) has shown that electronic banking ensures timely services, banking convenience and access to financial services in remote locations. Hence, DMBs can use efficient ICT products as competitive tools to increase their market share. However, Management of DMBs should not lose cognizance of the fact that ICT implementation presents new challenges. For example, poor network connection at ATMs, mobile banking or internet banking may hamper customers' continuous use of ICT services.

In addition, the challenges of evolving ICT applications and business models, obscured market boundaries, new entrants, stringent regulations and breaching of business barriers as mentioned by Cheung and Liao (2003) need to be factored in strategic plans so that DMBs can derive anticipated benefits from ICT implementation. Thirdly, of the three modes, mobile banking and ATM service have the most significant impact on service quality with Pvalues of .044 and .045 respectively. This finding is in line with prior studies (e.g. Adewoye, 2013; Omotoso, Dada, Adelowo&Siyanbola, 2012). This is perhaps because customers can access banking services at their fingertips by simply using their mobile phones. This also implies that management of DMBs should consider safety seriously so that customers are not prone to spammers and fraudsters. Internet banking is significant

at 10% ($P=0.0655$) perhaps because not everyone has access to internet facility. This finding is also in line with Al-Hawari, Hartley and Ward (2005) study. In sum, the results show that ICT services have significant effect on the service quality of Deposit Money Banks.

Even though the study contributes to knowledge, it is not without limitations. First, the study relied on data generated from a cross-sectional survey which is prone to several limitations. Second, the study did not also examine differences in perception among the various respondent groups nor test for non-response bias among the respondents sampled. Third, the study focused on selected banks in Maiduguri, hence affect generalization of results to other DMBs. The study limitations provide avenues for further research on ICT and service delivery in DMBs. Future studies could combine surveys with qualitative research methods for more insight and support for empirical results. Finally, the R^2 of 48.7% suggests that other variables outside those considered here also need to be examined. Despite these limitations, the study results have important implications to DMBs, academics and bank regulatory agencies.

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