

Impact of Automated Teller Machine on Customer Satisfaction and Profitability of Commercial Banks

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Abstract

Technology has made service delivery faster and as a result it has been introduced into commercial banks as they are considered very relevant to the growth of the financial industry in recent times. Indeed, automation is necessary for a well-balanced economy as it plays a very important role in the functioning of financial industry in general and commercial banks in particular. Automation in banks have contributed immensely to the missing link between customers and commercial banks by facilitating services and operational advantages. However, previous experience shows that most customers of banks suffer delays in transaction due to system failures, incompetence of staff members and other reasons. The main aim of this study is to investigate the impact of automated teller machine (ATM) on customer satisfaction and profitability of commercial banks in Nigeria. The study used a quantitative approach to data collection to gather information from selected customers and workers of commercial banks in Maiduguri, Borno state, Nigeria. In this study, a well-structured closed ended questionnaire was designed and distributed to participants in the responding organizations to elicit information pertaining to their adoption of ATM in conducting financial transactions with commercial banks. The data obtained were analyzed and presented in tabular form with the aid of descriptive statistics. This study found that the

generality of the concept of electronic automation has in the past few decades accorded great acceptance and relevance in almost all organizations, institutions and especially the banking institutions. In addition, automation has from its inception contributed immensely to the development of the banking activities, customer satisfaction and profitability of commercial banks in Nigeria. Future researchers could use a qualitative method of data collection to find out real life experiences of commercial bank workers and customers as regards the impact of using ATM in conducting financial services.

Keywords: *Automated Teller Machine, Customer Satisfaction, Profitability, Commercial Banks, Nigeria.*

1.0 Introduction to the Study

According to Sesebo and Alasa (2000), technology has substantially motivated increased network and range of service products offered by commercial banks in recent times. Most services of commercial banks, such as electronic payments, loans, deposits, or securities have become highly reliant on information and telecommunications technology (ICT). Solomon and Ajagbe (2014) argued that this could be perceived as the reason commercial banks are the highest adopters of latest technology equipment. However, as a result of the complication of banking services, the urge to hasten organizational performance and enable them more accessible to customers are welcomed by banks. In another dimension, Koyejo (1995) posited that with enhanced standard of services, the essential query that appear is whether this process can provide the economic values required in the financial sector. Regrettably, some authors think that not every rise in the satisfaction of clients will automatically result to increased profitability for commercial banks, particularly, in circumstances where very expensive investments in technology (Ajagbe et al., 2015a) like automated teller machines are involved. Koyejo (1995) submitted that automation is a significant fact of all human endeavours and should not be underrated. Nonetheless, commercial banks with automated services are likely to offer quicker and more efficient services. In addition, the computer is an important and most advanced example of automation. Hence, it is fast becoming an occurrence in business arena both in Nigeria and the world in general. The computer has been variously defined by many authors based on their point of views. According to Gray and Thomas (1983), the computer is a high speed electronic mechanism which can carry out computation including arithmetic and logical activities without human intervention. Chukwudi (2010) defined the computer as a piece of electronic device which accept inputs in the form of data and uses predefined instructions known as programme to execute tasks in order to produce output. In order words, technology has made service delivery quicker and as a result it has been introduced into banks as they are considered the engine of any economy (Ajagbe et al., 2015a; Solomon et al., 2014). Commercial banks also consist the main financial institution in the economy whose role is to gather capital from excess spending economic units for lending to deficit entities. In view of this, customers of commercial banks are the pivotal areas in the banking business, hence, because of the strength of the customers to decide which among the banks they want to patronize, there is need for the adoption of technology (Solomon et al., 2014) in banks to attract customer-based services in order to create a bigger degree of customer patronage, satisfaction and generation of more profit. Sesebo and Alasa (2000) described automation as the application of latest technology to day to day organizational operations. Office automation nevertheless, implies the adoption of word processor, relevant for preparing reports that may require to pass through one or more amendments and for fabricating standard documents. It is relevant for a well-structured financial economy as it plays a significant part in the functioning of commercial banks and the financial sector as a whole. Solomon and Ajagbe (2014) added that the proper functioning

of banks is dependent on among other things on how well and quickly business clients could be attended to. This could be in areas of client satisfaction or otherwise. Furthermore, this is useful for the creation of ever increasing customer satisfaction that customers and financial experts have often asked for. Chukwudi (2010) suggested that a bank with more efficient strategy of delivering banking services to customers find itself in a position to realize better profits than its competitors.

1.1 Objectives of the Study;

- I. To assess the performance of automation in the banking sector as perceived by its customers.
- II. To ascertain the usefulness of automation in the banking sector with regards to banking operations.
- III. To identify the factors that militates against effective adoption of automation in the banking sector.
- IV. To identify the problems encountered by banks as a result of adoption of automation.

1.2 Research questions

- I. How do bank customers perceive the performance of automation?
- II. What is the usefulness of automation in the banking sector with regards to banking operations?
- III. What are the factors that militate against effective adoption of automation in the banking sector?
- IV. What are the problems encountered by banks as a result of adoption of automation?

2.0 Review of Extant Literature

2.1 Background History of the Computer Generation

Many studies have reported Charles Babbage in 1933 was the first scientist that made serious effort at building the computer using the analytical engine (Anderson, 2003; Canals, 1993; Chukwudi, 2010; Easingwood and Mahajan, 1989). The scientist suggested a compound mechanical engine that demonstrated a traditional decision making capacity, input mechanism, memory unit or store automatic unit, automatic print out, sequential programming control with the ability to perform up to twenty places of accuracy. Correspondingly, in 1897, Herman Hollertith (1860-1929), built the punch cards that was used in the America Census Bureau. This mechanism became widespread in transacting businesses since 80 decades ago. The development of the electronic computer was witnessed in the 1940s and this was used as a replacement relays with vacuum tubes. However, the introduction of the electronic computer helped increase the speed of calculation in business organizations. Neumann (1945) recommended a technique of encoding commands in the same language adopted for data management. This made it possible to store commands within the computer. Hence, Neumann proposal was simplistic in such a way that it became a framework of the design of technologies until date. Anderson (1993), grouped computer into 5 main generations. The author mentioned that computers in the 1st generation was invented between 1946-1959. The engine delivered an enormous computing power of about 2000 calculations per second. Computer in the 2nd generation was built to use transmission rather than of vacuum tube which was powerful and cheaper in cost. In this group, the computers included larger instruction sets and interval memories (Baltzan and Phillips, 2008; Beck and Demirgüç-Kunt, 2006). The introduction of the 3rd generation computers enabled individual buyers to procure a computer from a particular seller and reconfigure same to a more

powerful computer. However, the advancement in electronics and subsequent development of Integrated Circuits (IC) resulted to the introduction of the 3rd generation computers. This solid state commercial technology with small scale integrated circuits (SSIC) provided few logical elements that were melted together on a chip. The 4th generation computer comprise of microcomputers with additional development of storage, input and output devices (Kuisma et al., 2007). A microprocessor is a central processing unit on a semiconductor chip typically comprised of silicon chips. The period of the 4th generation computers was acknowledged between 1971-1988. An example of 4th generation computer is the IBM 370 system. The 5th generation of computers flooded the market in 2001. The architecture of the 5th generation computers is data driven rather than control driven as with the previous generation (Lacovou et al., 1995; Longman, 2008; Ogbari et al., 2016). As suggested by Kuisma et al. (2007), the latest discipline of artificial intelligence would play a conspicuous role in the advancement of 5th generation computers which is referred to as Pentium.

2.2 History of Automation

The prehistoric man used his knowledge to make instruments that aided him lessen the physical labour required at breaking and reshaping things. During that era, the instruments still required full human control (Lacovou et al., 1995; Longman, 2008). For instance, the trip hammer invented by the Chinese more than 2000 years ago and powered by flowing water and wheels was an advancement on the voyage towards automation. Kuisma et al. (2007) posited that the journey of man in acquiring knowledge to harness energy sources, led him to discover that there was the need for progressively multifaceted controlling devices. The improvement of automation continued as different attempts were made by inventors to advance their working instruments and thus, in 1801, Jaequad created an automatic loom that was proficient in generating complete partners of textile by automatically controlling the motors of many shuttles of various colored threats. The engine was designed to generate anticipated partners by steel cards in which holes were punched (Kuisma et al., 2007; Ogbari et al., 2016; Lacovou et al., 1995; Longman, 2008). These cards were the fore runners of the paper cards and tapes that controls modern automatic machinery.

2.3 The Application of Automation

Having reflected on the concept of automation and the evolution of the computer, it is essential to enumerate some areas of importance of automation to the society. Baltzan and Phillips (2008) cited the transport industry as one of the first area of importance where automation is highly useful. The authors mentioned that the application of automation in this sector ranges from the control of automobile traffic to the control of ships. In addition, the most updated application of automation have been made in aviation and astronautics' mission such as Apollo B project (Sesebo and Alasa, 2000; Solomon and Ajagbe, 2014; Jones et al., 2000; Beck and Demirgüç-Kunt, 2006). Also, the standard of ticketing, flight control, and automatic update of reservation files and booking of passengers would not have been possible without automation. Huy and Filiatrault (2006) stated that automation has also aided in the performance of boilers, turbines, diesels and other parts of the ship as well as providing operating data and alarms to engine officer and pilots.

2.3.1 Power and Utilities: In the energy and utility industry, the generation and distribution of electricity similarly adopts the principle of automation. Electrical fittings have become sophisticated and vital as power systems from most geographical regions have been inter-linked to pull the generating ability of various utility infrastructure. Extraordinary emphasis have been given to automated control mechanism structured to guarantee continuous power service and to prevent area blackouts.

2.3.2 The Communication Industry: The latest telephone system can tactically transfer calls to various numbers. Users can be called back when lines that were busy become free and perform customer services in response to simple dialed codes. The huge volume of telephone service would not have been so if it had not been for automation. Recently, satellites, cellular and cordless phones are also adopted as a result of the introduction of automation.

2.3.3 Payrolls Accounting: Conceivably, automated payroll accounting method is one of the initial and most recognized application in which monthly or weekly pay slips are arranged for personnel of all classifications. There are often different proportions for basic hours, overtime pay and host of variable, credits and deductions from repayment of loans and advance.

2.3.4 Research and Libraries: Automation is also useful in research organizations and libraries for retrieval and referencing purposes. However, the introduction of the internet services would substantially boost the task of searching and accessing for current journals, periodic books among others.

2.4 Application of Automation in the Banking Industry

Office automation implies the application of current technology infrastructure to everyday office operations. It includes the use of stand-alone word processor useful for both clerical and secretarial duties. Word processors are useful for preparing reports that may need to go through one or more revisions and for producing standard letters and documents (Ikedrala, 1993). Whereas, desktop publishing programme is used for publication of books, magazines, and newspapers. Other forms of office automation available are teleconferencing, internet electronic funds transfer, etcetera. Doyle (2001) concluded that it is important to say that the adoption of automation has substantially enhanced the amount of organizational outputs within the last few years. Canals (1993), also emphasized on the relevance of computer technology to an establishment. Nonetheless, proper management and improved productivity are often achieved in a computerized environment.

Chukwudi (2010) argued that the computerization in the Central Bank of Nigeria was aimed at providing senior managers with up to date information in a timely, secure and cost efficient manner. The researcher argued further that the main obstacle banks encounter include the need to quickly read and transform policy decisions of the government into suggested actions. He went further to say that government decision were flexible and usually require prompt response. Since the provision of large financial capital for economic development is one of the major roles of banks, the importance of banks to any economy cannot be over emphasized (Chukwudi, 2010; Beck et al., 2006; Doyle, 2001). However, not only do banks perform the role of intermediary by connecting required financial investors with numerous depositors, commercial banks also provide the desired finance for the many sectors of the economy (Dubrin, 2010; Fraser et al., 2000).

Since the introduction of the computer machine, its use has been viewed as the most sophisticated automatic device in use in business organizations world over. Huy and Filiatrault (2006) stressed that the adoption of automation in banks' operations vary from administration to the control of manufacturing activities. The capability of computers used by banks can continually carry out multiple tasks without being tired. That however, the machine is also much faster and more accurate than human beings. Additionally, considering the nature of operations carried out in banks, such as sorting of cheques and the verification of banks balances and so forth. Jones et al. (2000) posited that the computer device such as the ATM provides a number of services some of which include; bill payments, cash deposits, cash withdrawals up to some pre-stated limits, provision of balance of payments, and so on.

Ikechukwu (2000) added that automation of customer services is beneficial not only to the customers but also to the bank, because it expedites the discharge of their duties to customers. In fact, adoption of automation has substantially reduced the time spent to obtain cash and the waiting time of customers, hence, enabling the cashiers to devote time to other customers who may urgently require their attention (Ajagbe et al., 2015a; Afolabi and Efunwoye, 1996; Baltzan and Phillips, 2008). The use of the computer in the banking industry presents opportunities which some writers have referred to as “cashless society” where money would no longer be used but only cards and other devices would be used for transactions amongst people. Beck and Demirgüç-Kunt (2006) concluded that with the adoption of computer automation in banks, the volume of business transactions have greatly increased. This has led to more customers making more deposits in banks instead of keeping their cash at hand or home, a situation that has eventually increased the total amount of deposits in the economy.

2.5 Automated Teller Machines (ATM)

In today’s business environment, globalization and international experience has become critically important, hence, Ayo et al. (2011) posited that the banking industries can no longer get away with operating loosely connected groups of businesses that happen to be located around the world, but must tactically synchronize their operations. Ramas (1998) added that only the banks, businesses, industries, and any segment of the community that clearly understand the new rules of doing business in a global business economy will succeed. In view of this, global competition in the banking sector has forced management and executives to recognize that they must think differently about banking and management operations. Studies have shown that universal banking operation needed that the only avenue to prosper is to develop an effective global bank management mechanism with staffs with the ability to structure multinational business techniques through the adoption of modern technology such as automated teller machines (Mahmood et al., 2014; Pavlou, 2003; Ramas, 1998). The automated teller machine (ATM), also regarded as automated banking machine (ABM) or cash machine (CM) and by several other names, is a computerized technology infrastructure that provides clients of financial institutions with access to financial transactions in a public space without the need for a human personnel. Characteristically, a user inserts into the device a special plastic card that is encoded with information on a magnetic strip. The strip contains an identification code that is transmitted to the bank’s central computer by modem. To prevent unauthorized transactions, a personal identification number (PIN) must also be keyed in by the user with the aid of a keypad. However, after this operation, the computer permits the machine to complete the transaction (Okwute, 2007; Solomon and Ajagbe, 2014; Anup, 1997). In most cases, the device can dispense cash, accept deposits, transfer funds, and provide information on account balances. Solomon and Ajagbe (2014) stressed that banks have formed national and global linkages that enable them universally serve their customers better. These linkages are multiplied when banks share their ATMs by allowing customers of other banks access their account through other partner bank’s automated teller machines (Anderson, 1993; Msheliza, 1996; Ajagbe, 2014). Though every commercial bank’s activity require certain degree of technology adoption, researchers differ on the terms of the relationship between the level of ATMs adopted, and the value of the increase in efficiency of the banking services. Nonetheless, they are unanimous on the essentials of ATMs for the development of the banking industry, but some of them have found lack of proportionality between increase in the scale of technology utilization and the increase in banks profitability.

2.6 Competition, Automation in the Banking Industry

The term competition in the banking industry can be referred to as a condition in which a particular commercial bank tries to outperform another in the banking industry. Kotler (1996)

opined that as there is no patent right or trade mark in the service industry, products get easily copied. This situation makes competition to be very fierce in the service industry. In the same vein, competition in the banking industry is also very stiff as more banks have come into the industry and each is aggressively striving to capture its share of the market (Koyejo, 1996; Msheliza, 1996; Okwute, 2007). Additionally, non-bank financial institutions are also providing banking services for their customers. Hence, when all banks begin to promote their products by advertising, become customer friendly, engage in segmentation, service innovation, their operations begin to look similar. Kotler (2006) argued that on this basis they are forced to discover new basis for competition. They begin to understand that no bank can offer all products and be the best for all customers. A bank must examine its opportunities and take a position in the market. Brand positioning is an effort to differentiate the bank from its competitors. Competitiveness in the banking industry can be measured by the number of companies in that industry especially where it is not regulated. Canals (1993) suggested that the economic attraction which an industry has for a firm depends to a certain extent on the degree of rivalry between the companies that operates within the industry. In principle, the more competitive it is, the less attractive the industry will be as its profitability declines. On the other hand, if the degree of competition is low, the industry will be more attractive. However, where an industry is regulated, then the number of companies in the industry and its attractiveness might not be the best measure of competition. In this case, branch network might be a better measure of competitiveness in the said industry (Agu, 1988). According to Sesebo and Alasa (2006), adopting the underlying benchmark to determine organizational performance (total assets, profit before tax, return on equity, return on assets, and overall performance), commercial banks such as First Bank of Nigeria PLC, United Bank for Africa PLC and Afri Bank PLC have maintained their traditional positions. Mahmood et al. (2014) stressed that when performance of assets are measured the same banks may not score too well given the fact that their asset are somewhat huge for the kind of profit they declare. In this vein, the huge commercial banks for example have realized that they are not competing with themselves but with the new generation commercial banks with compact size, speed, technology and proactive nature to service delivery. Pavlou (2003) suggested that for those large commercial banks to remain afloat, many of the organizations have started making banking services more convenient, and less time consuming through technology automation. Essangbedo (1993) argued that though automation is very useful, there are certain weaknesses that the technology might be prone to. Aside, the side effects of automation, the technology has also brought about innovations in banking services such as ATM services, credit cards, electronic funds transfer, point of sale, smart cards, home banking, internet banking and universal banking.

2.7 Strategies Adopted By Banks

Some of the strategies adopted by banks to withstand competition or compete favorably according to Easingwood and Mahajan (1989) are;

- (i). Offering a tangible representation of the intangible benefit for example a credit card.
- (ii). Service augmentation; providing extra service to go with the product such as home banking, electronic funds transfer and point of sale services.
- (iii). Better accessibility; such as free calls to the bank and better branch network.
- (iv). Customization; that is designing the service to match the user's needs, for example arranging standing orders and payment of phone, rent, electricity bills and overdraft facilities in the months they are required e.t.c.

2.8 Weaknesses of Automation

Several advantages has accrued to users of computer automation over the years. Ikechukwu

(2000) mentioned that serious reduction of time wasted on daily business transactions is among the main merits of computerization of business organizations. However, some disadvantageous impact as well has been observed by organizations as well as in other areas of its adoption. Solomon et al. (2014) and Solomon and Ajagbe (2014) pointed out that the implementation of computer automation in the banking industry has led to frequent reduction of personnel with the believe that technology is capable of handling more task in a shorter period of time than human labour. In another dimension, the penchant to mix up information is eradicated because the automated device can distinguish between wrong and correct information (Ajagbe et al., 2015a; Agu, 1988; Esangbedo, 1993. However, the possibility could arise for automated machines to run amok and leave all the passengers helpless, such as in the case of speed train on rail tracks. In addition, lift and elevators have been known to stop unexpectedly, thus, leaving people trapped in them for hours. Pavlou (2003) nonetheless, concluded that there is no amount of technology automation that can entirely replace the need for human labour.

3.0 Research Methodology

This study was designed by the researcher through the use of structured questionnaires to a randomly selected group of bank staff and customers in First Bank Maiduguri main branch. In this study, 30 structured questionnaires were administered to the bank staff and 30 to the bank customers and were all completely returned by the respondents (100% response rate). The researcher used simple percentages, descriptive statistics and chi-square to analyze and present the result of the study. The target population of this study is the entire staff and customers of First Bank Plc Maiduguri Main Branch who indicated their willingness to partake in completing the questionnaires. This branch was chosen as a case study in the distribution of questionnaires in full awareness of the fact that this branch is represented or representative of other branches of the bank especially the urban branches. The research will be used to draw logical conclusions which should be valid for all other First Bank branches nationwide. The sample size is the collection of some of the element of the target population (Joseph and Glenn, 1980; Ajagbe et al., 2015b). Size of 30 randomly selected members of staff and thirty customers (in total 60 participants), equally form part of the parent population. It is not always possible to use every member of a targeted population in a research. Therefore, an appropriate sampling techniques has to be used to obtain unbiased sample for the study (Creswell, 2007; Creswell, 2012). The sampling technique used for this study is the simple random sampling. Banelom sampling is a technique by which each member of the targeted population has the same chance of being selected to participate in the exercise without prejudice to their gender, social status, profession, religion affiliation and so on (Dana and Dana, 2005; Joseph and Glenn, 1980). The major instruments employed in collecting data for this study include questionnaires, and observation. The questionnaire is a method used to collect data through administering some structured questions that was answered by the participants. For the purpose of this study, 15 structured questions were compiled and distributed to 60 customers and staffs of First Bank Plc. All the returned questionnaires were thoroughly analyzed. The technique of the observation is a process whereby the researcher goes to the target population to observe and record events or to study the behavioural patterns of interest for cashing cheques on the counter (Sekaran, 2003). The method used in data sourcing greatly depends on the type of research project being carried out. The researcher used two methods of data collection. Primary data or sources, and secondary sources. The primary sources was used to collect information from banking staff as well as from customers (Dana and Dana, 2005). The secondary sources are the method used to collect data from already published materials such as handbooks, annual reports, newspapers, journals and textbooks. For the purpose of this research, the materials referred to

included publications on First Bank Plc, annual reports and accounts as well as other printed materials relating to the research. Statistics are used to make reference on the basis of the sample population, the number of people who agree, disagree or are indifferent as well as those who simply refused to respond altogether (Ogbemudia, 2009; Ajagbe et al., 2015b). The statistical technique allows the researchers to determine which of the hypothesis recorded a greater occurrences upon which will be classified in the section on the bio-data, an exercise that should ultimately reveal to the researcher what kind of respondents they were. For this study, the data collected was analyzed with the use of Chi-square (X^2) statistical method (Creswell, 2007; Creswell, 2012). This method helps to test whether more than two population can be considered equal, the Chi-square (X^2) test allows us to do a lot more like determining whether the two attributes are dependent on each other, than just for the equality of several proportion. The hypothesis was tested at 5% level of significance.

4.0 Result and Interpretation of Data

The main aim of this research is to investigate the relevance of automation in service delivery and the level of profitability in banks which is here exemplified by First Bank Plc. The questionnaires served to First Bank Plc customers were directed towards proving that automation has actually improved service delivery and increased profitability of commercial bank. A total of 60 copies of the questionnaire were distributed and all of them were returned. Apart from the results obtained from the questionnaire, the profit figures of First Bank Plc for 5 consecutive years were also used. Other data collected were also based on the service bench time of the banks for cashing cheques on the counter and is presented in a simple tabular form.

4.1 Presentation and Analysis of Data

The statistical method used to present the data is the percentage (%) analysis method. As stated earlier, all the sixty (60) questionnaires were returned.

Table 1: Gender of Respondents

Gender	Frequency	Percentage (%)
Male	20	33.4
Female	40	66.6
Total	60	100

Source: Field Survey 2016

Interpretation

The above table 1 shows that out of 60 respondents, 20 are males representing 33.4%, whilst 40 are females representing 66.6%. It is also evident from the table that most of the respondents are females, an indication of the possibility that, in recent times women have risen up in position as a result of their having acquired better education. We must, of course not forget the fact that women are believed to be better and more trustworthy at handling monetary matters.

Table 2: Respondent's Profession

Profession	Frequency	Percentage (%)
Civil Servants	20	33.3
Bankers	10	16.7
Businessmen	13	21.7
Businesswomen	4	6.7
Students	8	13.3

Politicians	5	8.3
Total	60	100

Source: Field Survey 2016

In table 2 above shows that civil servants are 20 in number representing 33.3%, bankers are 10 in number representing 16.7%, businessmen and women are 17 in number representing 28.4%, students are 8 in number representing 13.3% and politicians are 5 in number representing 8.3%. However, from the result most of the bank customers are civil servants. This may be due to the fact that most parastatals pay their staff through the bank. Businessmen and women constitute the next largest number making a total of 13 out of 60 respondents and representing 28.4%. These are mostly First Bank Staff. Next come students who receive money through the bank via bank drafts, telegraphic transfers etc.

4.2 Testing of Hypothesis

The chi-square technique was used to test the research hypothesis. This technique was used essentially to find out whether there is a significant level of association of fit to the frequency distribution. The selected level of significance is 5% of 0.05. The formula commonly used for this technique is:

$$X^2 = \frac{(O-E)^2}{E} \text{ OR } \frac{(OF-EF)}{E}$$

Where:

OF = Observed Frequency in each cell

EF = Expected Frequency

The appropriate degrees of freedom is calculated using the following formula (R-1) (K-1)

Where:

R = Number of rows

K = Number of columns

Table 3: Automation and Profitability

Responses	Frequency	Percentage (%)
Positively	40	66.7
Negatively	20	33.3
Total	60	100

Source: Field and Survey 2016

In table 3 above, 40 respondents representing 66.7% indicated that introduction of automation has contributed to banks profitability, while 20 respondents representing 33.3% hold contrary opinion about the contribution to profitability as a result of automation.

4.2.1 Restatement of Hypothesis

Ho: Automation does not increase bank's profit.

Hi: Automation do increase bank's profitability.

Table 4: Contingency Table for the Observed Frequency

Responses	Frequency	Percentage (%)
Positively	40	66.7
Negatively	20	33.3
Total	60	100

$$\text{Expected Frequency} = \frac{\text{Grand Total}}{\text{Responses}}$$

$$EF = \frac{60}{2} = 30$$

4.2.2 Testing Hypothesis One

Table 5: Degree of Freedom

Respondents	OF	EF	OF-EF	(OF-EF) ²	$\frac{(OF-EF)^2}{EF}$
Positively	40	30	10	100	3.33
Negatively	20	30	-10	100	3.33
Total	60		0		X² = 6.66

$$\begin{aligned} \text{Degree of freedom} &= (R-1) (K-1) \\ &= (2-1) (2-1) \\ &= 1 \times 1 \\ &= 1 \end{aligned}$$

Level of Significance for this research work is 5% or 0.05 confidence interval.
 X² Critical value = 3.84

In table 5 above, the computed value 6.66 is greater than the critical value 3.84. Hence, the null hypothesis (Ho) is rejected. This means that automation does not increase bank's profit and the alternative hypothesis (Hi) is accepted, meaning that automation do increase bank's profitability.

Table 6: Contingency Table for Observed Frequency

Responses	Frequency	Percentage (%)
Fast	30	50
Average	20	33.4
Slow	10	16.6
Total	60	100

$$\text{Expected Frequency} = \frac{\text{Grand Total}}{\text{Responses}}$$

$$EF = \frac{60}{3} = 20$$

4.2.3 Testing Hypothesis Two

Table 7: Degree of Freedom

Respondents	OF	EF	OF-EF	(OF-EF) ²	$\frac{(OF-EF)^2}{EF}$
Fast	30	20	10	100	5
Average	20	20	0	0	0

Slow	10	20	-10	100	5
Total	60		0		X² = 10

$$\begin{aligned}
 \text{Degree of freedom} &= (R-1)(K-1) \\
 &= (3-1)(2-1) \\
 &= 2 \times 1 \\
 &= 2
 \end{aligned}$$

Level of significance for this research work is 5% or 0.05 confidence interval.

$$X^2 \text{ Critical value} = 5.99$$

In table 7 above, the computer value 10 is greater than the critical value 5.99. Hence, the null hypothesis (Ho) is rejected, which means that automation has no effect on the speed of banking transactions and the alternative hypothesis (Hi) is accepted, meaning that automation has great effect on the speed of banking transactions.

5.0 Conclusion and Recommendations

This research was designed to review the importance of automation to customer satisfaction and profitability of commercial banks in Nigeria. The generality of the concept of electronic automation has in the past few decades recorded great acceptance and relevance in almost all organizations, institutions and particularly the banking institutions. This study reported that automation has from its inception contributed immensely to the development of banking activities. This study found that delays and queues witnessed in the banking halls and other slow attendance to customers have reduced drastically in such a way that cheques that were previously cashed in a matter of days could be cashed within a few minutes. Automation has also eased the stress of staff from walking about in the offices to cross-check customers' accounts. This is because of the internet system operation which unveils every customer's transaction on the screen of every computer in the bank. In other words, one can establish that automation has enhanced customer and staff satisfaction and also profitability of banks. This study suggested that the adoption of technology automation should be considered unavoidable to the banking industry as it has been found to ease the pace of work. This study is therefore, a replica of customers and staff of banks response to electronic automation and how it has improved their dealings with the banks despite some situational system failures. Nonetheless, the reform delivered through electronic automation, the following recommendations are necessary for consideration. Banks should employ expert hands that would handle the technical and systems control units to avert system failures during operations. Attractive and customer oriented staff should be employed to deal directly with customers. Professionals in the field of banking with acute computer knowledge should be the most preferable to handle the banking activities. Since customers sometimes feel unsatisfied because of systems failure, the management of the bank should device an alternative manual approach that can serve as substitute in cases of systems failure.

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