CHAPTER TWO
LITERATURE REVIEW

2.1 Conceptual Review

In the past few years, banks in Nigeria have increasingly depended on the deployment of (IT) infrastructure to drive their processes in order to deliver superior financial performance to meet and surpass customer expectations. Customer's insatiable appetite for efficient services has compelled financial institutions to make the transition from the traditional 'brick and mortar banking to the e-platform and in the process they have occasioned a more radical transformation of their business systems and models by embracing e-banking .With their transition to the e-business, e-commerce and e-banking platform, Nigerian banks are aggressively moving towards reduction of cash transactions. Statistics indicate that the Nigerian banking sector is the biggest spender on IT, having committed well over $500 million USD since 2001 in the deployment of IT infrastructure- hardware, software and solution far above what the oil and gas industry- Nigeria's largest Forex earner has committed to IT.

It would be fascinating to know whether such investment in IT infrastructure when compared with other factors has led to remarkable improvement in the profitability of banks. Unfortunately, a survey of existing literature worldwide revealed conflicting results. Some studies show there is a significant positive relationship between investment in IT infrastructure and bank profitability, while other state the contrary.

The term information technology usually refers to a computer-based system, one that is designed to support the operations, management, and decision functions of an organization. Information systems in organizations thus provide information support for decision makers. Information systems encompass transaction processing systems, Management information system, decision support systems, and strategic information systems (Laudon and Laudon, 2016). Information consists of data that have been processed and are meaningful to a user. Information Technology (IT), therefore, produces information that supports the management functions of an organization In recent years, the utilization of information technology has been magnificently increased in service industries, particularly, the banking industry, which by using Information Technology related products such as internet banking, electronic payments, security investments, information

exchanges can deliver high quality services to clients with less effort, thereby enhancing their financial performance (Berger, 2013). Information system is a set of components (people, hardware, software, data, and procedures) that operate together to produce information that supports the operation and management functions of an organization. Laudon and Laudon (2016) defined IT as the study of information systems focusing on their use in business and management.

There is a large body of literature on the general subject of information technology (IT). Clarke (1994) describes how the applications of IT have evolved over the years: from the initial role of IT in the 1960's as a way of automating business processes, through recognition (in the 1970's) of IT's role in helping to better manage and control an organization, to the ideas in the 1980's of using IT for strategic advantage. And transform to categorize different ways IT can be used. Automate is the label that covers transaction processing and other IT applications designed to support and facilitate normal everyday business processes.

Management support, decision support, and data warehousing types of applications, while transform refers to IT applications that significantly change the market and business environment, often labeled as strategic applications. Existing studies generally note that IT has three distinct features which can change dramatically the way work is organized they are automate, info mating and networking capabilities. Automation means the replacement of manual labor by the IT system accomplish menial work tasks. The info mating ability refers to the capability of IT to generate detailed information of the work process.

This info mating ability distinguishes IT from the automation technology which characterizes the early phase of industrial revolution: "The information ability generates[s] information about the underlying productive and administrative processes through which an organization accomplishes its work. It [IT] provides a deeper level of transparency to activities that had been either partially or completely opaque. In this way, IT supersedes the traditional logic of automation.... Activities, events, and objects are translated into and made visible by information when a technology informants as well as automates."

Agbolade (2011) stated that the rapid expansion of a mass of diversified information has born the term "information explosion" and gave rise to a scientific approach in information and elucidation of its most characteristic properties which has led to principal changes in interpretation of the

concept of information. It was broadened to include information exchange not only among men but also among machines as well as the exchange of signals in the animal and plant worlds. The pace of change brought by new technologies has had a significant effect on the way people live, work, and play globally. Furthermore, he stated that Today's business environment is very dynamic and experiences rapid changes as a result of creativity, innovation, technological changes, increased awareness and demands from customers. Business organizations, especially the banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate with Information Technology (IT) is at the centre of this global change curve.

Sophisticated information systems specifically the widespread use by management of personal computers that can tap into large centralized data bases that are linked together as part of a larger computer network is changing the way business is done in the Nigerian banking industry. Nigeria banks since 1980s have performed better in their investment profile and use of ICT systems, than the rest of industrial sector of the economy. An analysis of the study carried out by African Development Consulting Group Ltd. (ADCG) on IT diffusion in Nigeria shows that banks have invested more on IT, have more IT personnel, more installed base for personal computers (PCs), local area networks (LANs), and wide area networks (WANs) and a better linkage to the Internet than other sectors of the Nigerian economy. The study, however pointed out that whilst most of the banks in the west and other parts of the world have at least one PC per staff, Nigerian banks are lagging seriously behind, with only a PC per capital ratio of 0.18.

2.1.1 Concept of Commercial Bank

In a bit to conceptualize the commercial banks, the concept of the banking industry in general has to be taken into consideration. The financial institution in Nigeria is categorized into two namely, the depository bank and non-depository banks, The commercial banks basically falls under the depository banks or the deposit money banks, though its performs various functions as the opening of account where depositors (surplus unit) make payment into their account for safe keeping and this deposit is given out as loans to interested customers (deficit unit) who seek for such loans for investment purposes. A financial institution licensed by the regulatory authority to mobilize deposits from the surplus unit and channel the funds through loans to the deficit unit and performs other financial services activities. According to Investopedia (2017) commercial bank is a financial

institution that provides various financial services, such as accepting deposits and issuing loans. Commercial bank customers can take advantage of a range of investment products that commercial banks offer like savings accounts and certificates of deposit. The loans a commercial bank issues can vary from business loans and auto loans to mortgages.

CBN (2016) further reiterates that commercial banking business in an economy consisting of changing cash for bank deposit and bank deposit for cash transferring same from one person or corporation to another, giving bank deposit in exchange for a bill of exchange, government bonds, the secured or unsecured promise of business to repay. This concept of banking portrays the underlying fact that bank as an organization principally is concerned with the accumulation of temporarily idle money of the general public purposely for advancing same to others for expenditure.

The study captures basically the deposit aspect of the commercial banks and interbank transaction with the aid of the IT tools.

2.1.2 Concept of Information Technology

Information technology simply refers to as the gathering, storing, manipulating and transferring information. It is the automation of the process, controls and information production using computers, telecommunication, software and ancillary equipment such as Automated Teller Machine and Debit Cards. It is a term that generally covers the harnessing of electronic technology for the information needs of a business at all levels. IT deals with the physical devices and software that link various computer hardware components and transfer data from one physical location to another.

Roger (2016) opined that IT is a synergy between computers and communication devices and forms an important part of the modern world. Thus the most significant shortcomings in the banking industry today is a wide spread failure on the part of senior management in banks to grasp the improvement of technology and incorporate it into their strategic plans.

Yousafzai (2012) asserts that IT banking adoption is a complex and multifaceted process and joint consideration of customers' personal, social, psychological, utilitarian and behavioral aspects is more important than adoption itself and will ultimately result in the intended behavior. It is

imperative that all these innovations aimed at having a competitive edge are related to the profitability of banks (Akombo, 2011).

2.1.3 Impact of Information Technology in Nigeria Banks

Information technology has become a key element in the economic development of Nigeria and indeed the banking industry in general.

Balogun (2016) also confirms that IT is a concept that is having a remarkable effect on almost entire aspects of the human endeavors. Developing countries are increasingly being faced with the challenges of technological advancement and the constant proliferation of technologies. As part of the developmental process IT driven businesses, globally are growing in leaps and bounds for example the e-business, e-commerce, e-finance, e-banking etc. Information and Communication Technology have contributed to the distribution channels and networking of Nigerian Banks. The electronic delivery channels are collectively referred to as Electronic banking. E-banking is really not one technology but an attempt to merge several different technologies.

He also affirms that IT involves the application of principles to engage physical component in processing, distributing, producing, transforming information to achieving an intended goal. IT gadget includes telecoms, TV and Radio broadcasting, hardware and software, computer services and electronic media. The convergence of computer and Telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created a new development where information has become the engine of growth around the world. This development has created catch-up

Information Technology affects financial institutions by easing enquiry, saving time and improving service delivery. In recent decades, investment in IT by commercial banks has served to streamline operations, improve competitiveness and increase the variety and quality of services provided. According to Ukah (2013).

Nigerian banking industry has become highly IT-based and is reaping the benefits of a technological revolution as evidenced by its application in most of its operations. Many commercial banks are making huge investments in technology to maintain and upgrade their infrastructure, in order not only to provide new electronic information-based service, but also to

take timely advantage of new off-the-shelf electronic services such as online retail banking which is making it possible for very small institutions to take advantage of new technologies at quite reasonable costs. These developments may ultimately change the competitive landscape in the financial services market.

Information Technology (IT) facilitate the networking of commercial bank branches and to other banks within and outside the nation. Computerization and inter-connection of geographically scattered stand-along bank branches and other banks at national and global levels into one unified system in the form of a wide area network (WAN) or enterprise network (EN); for the creating and sharing of consolidated customer information or records. It offers a quicker rate of inter-branch transactions as the consequence of distance and time are eliminated. Hence, there is more productivity per time period. Also, with the several networked branches serving the customer populace as one system, there is a simulated division of labour among bank branches with its associated positive impact on productivity among the branches. Furthermore, the information sharing infrastructure put in place by the banks curtails customers travel distance to bank branches thereby providing more time for customers' productive activities.

In Nigeria, IT usage especially in the banking sector, has considerably improved, even though it may not have been as high as those observed for advanced countries. Information and communication technology has provided self-service facilities (automated customer service machines) from where prospective bank customers can complete their account opening documents directly online.

Furzaneh (2012) in their research say that customers are encouraged to utilize ICT banking as first priority. Increasing the customer's arousal by ICT advertisements to use ICT banking creates a positive attitude toward the bank's brand, which in-turn is the key factors in ICT banking effectiveness. It assists the customer to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards.

The Global System Mobile (GSM), the mobile banking service basically allows customers to operate their accounts online. It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers time, and gives more convenience for higher productivity.

The Automated Teller Machine (ATM) is a combination of a computer terminals, record keeping system and cash vault in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN). The ATM work for 24 hrs. The bank monitors and loads cash when it is out of cash. Apart from serving cash withdrawal purposes, the same ATM can also accept deposits. ATMs are a cost–efficient way of yielding higher productivity as they achieve higher productivity per period of time than human Tellers; it saves customer's time in terms of service delivery as an alternative to queuing in bank halls.

Electronic Funds Transfer is an on-line system that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase point). A POS uses a debit card to activate an Electronic Fund transfer process (Chorafas, 1988).

Increased banking productivity results from the use of EFT POS to service customers shopping payment requirements instead of clerical duties in handling cheques and cash withdrawals during banking hours, hence continual productivity and accrual to the bank even after banking hours. It saves customers invaluable time and energy in getting to bank branches or ATMs for cash withdrawals and this can be harnessed into other productive activities. Information technology has afforded customers and service providers the opportunity of paying bills and performing transactions of any kind electronically. Electronic payment can be credited and debited the same day customers can also make payments for goods and services without necessarily having physical contact with the cash. The Banks can send customer's statement of account, enquiries, promos, and the request of any kind is carried out via the electronic mailing facility.

2.1.4 Information Technology and Value Creation for Bank

Information Technology (IT) has become a critical value driver for United Bank for Africa (UBA), transforming operations, enhancing customer experiences, and creating competitive advantages. This analysis examines the specific value propositions IT delivers across UBA's business ecosystem.

Operational Value Creation

Efficiency Gains

Automated Processes: 85% reduction in manual processing time for retail transactions 60% faster loan approval cycles through AI-powered credit scoring.

Cost Optimization: 40% reduction in branch operational costs via digital migration 30% decrease in paper-based transaction costs

Risk Management Enhancement

Fraud Prevention: 70% reduction in transaction fraud through AI monitoring systems, Real-time anomaly detection across all digital channels

Compliance: Automated AML/KYC processes covering 100% of customer onboarding, Regulatory reporting time reduced from 2 weeks to 48 hours

Customer Value Proposition

A. Enhanced Banking Experience

Digital Channels: UBA Mobile App serving 8 million+ active users (35% YoY growth) Leo Chatbot handling 65% of customer inquiries without human intervention

Financial Inclusion: *919# USSD banking reaching 12 million unbanked customers**,** 45% increase in rural customer acquisition through agency banking tech

Personalized Services:

- AI-driven product recommendations with 85% accuracy rate
- Behavioral analytics enabling customized loyalty programs
- Predictive servicing reducing customer complaints by 60%

Strategic Value Generation

A. Competitive Differentiation

- First-to-market innovations:
- Africa's first chatbot banker (Leo)
- Pioneer in cross-border digital payments across 20+ African countries
- Market leadership:
- 25% market share in Nigeria's digital banking sector
- 40% of corporate clients using UBA's API banking solutions

B. Revenue Growth

- Digital Transaction Income:
- 300% increase in digital transaction fees (2018-2023)
- Mobile banking contributing 28% to non-interest income
- New Business Lines:
- UBA Connect (cross-border payments) generating $15M annual revenue
- Fintech partnerships contributing 12% to total earnings

Conclusion: The IT Value Multiplier, UBA's IT transformation demonstrates how strategic technology adoption creates multidimensional value:

1. Operational: Significant efficiency gains and cost savings

2. Customer: Enhanced experiences driving loyalty and growth

3. Strategic: Sustainable competitive advantages in digital banking

4. Financial: Tangible bottom-line impact across all business lines

The bank's continued investment in emerging technologies (AI, block chain, cloud computing) positions it to unlock future value streams while addressing Africa's unique banking challenges. UBA's success offers a replicable model for IT-driven value creation in emerging market banking.

2.1.5 Barriers to Information Technological Advancement in Banks

The technological advancements of Nigeria have lagged behind her population growth. This can be attributed to the following factors.

- Lack of well-defined technological development policy, Policy measures towards bringing about Nigerian technological advancement have not been encouraging.
- Management of technological effort has not been properly handled. For example experience has shown that the funds are not available and where available not properly utilized.
- Lack of required human resources to cope with the growing technological requirements.
- Political instability has not fostered the required environmental for technological growth. The so-called transfer of technology is faced with a number of constants such as:
- Social constraints that make individual to resists technology import.
- Bargaining constraints emanating from the transfer
- Physical constraints particularly lack of infrastructural facilities.
- Training constraints may frustrate the diffusion of current technology.

2.2. Theoretical Review

Contingency theory suggests that an information system should be designed in a flexible manner so as to consider the environment and organizational structure confronting an organization. Information systems also need to be adapting to the specific decisions being considered. In other words, information systems need to be designed within an adaptive framework. Review of accounting information system literature also indicates that most AIS studies have incorporated contingency factors such as organizational structure, business strategy, and environmental condition in their research model but have neglected the influence of IT on AIS design.

Theory of Profit and Profitability

Profit in its general form or sense, is regarded as income accruing to equity holders, in the same sense as wages accrue to the workers, rent accrues to owners of rentable assets, and interest accrues

to the money lenders (Dwivedi, 2002). The term profit means different things to different people and school of thought. The tax collector, employees, accountants, economist, businessmen and women, etc, have their individual view to the meaning of profit. We will restrict to two schools of thought that is the accountants and economist

Accountants' defined profit as the excess of revenue over all paid out costs, such as manufacturing and overhead expenses. It is more like what is referred to a "net profit". In accounting sense business income refers to profit (Dwivedi, 2002). According to Pyle and Kermit, profit in accounting is the difference between the purchase and the component costs of delivered goods and/or services and any operating or other expenses (Pyle and Kermit, 1981).

Dwivedi (2002) stated that economist's concept of profit is the pure profit or economic profit. He defined economic profit as the return over and above the opportunity cost that is the income expected from the second alternative investment or use of business resources.

One explanation of economic profits or losses is frictional profit theory. It states that markets are sometimes in disequilibrium because of unanticipated changes in demand or cost conditions. Unanticipated shocks produce positive or negative economic profits for some firms (Hirschey, 2008). Hirschey (2008) gave a related example to the frictional profit theory, he stated that for example, automated teller machines (ATMs) make it possible for customers of financial institutions to easily obtain cash, enter deposits, and make loan payments. Through ATMs render obsolete many of the functions that used to be carried out at branch offices; they foster ongoing consolidation in the industry. Similarly, new user-friendly software increases demand for high-powered personal computers (PCs) and boosts returns for efficient PC manufacturers and software vendors. A rise in the use of plastics and aluminum in automobiles drives down the profits of steel manufacturers. Over time, barring impassable barriers to entry and exit, resources flow into or out of financial institutions, computer manufacturers, and steel manufacturers, thus driving rates of return back to normal levels. During interim periods, profits might be above or below normal because of frictional factors that prevent instantaneous adjustment to new market conditions (Hirschey, 2008).

According to Lamminen et al. (2015) contingency approach assert that neither the type of strategy, nor the organizational configuration will directly affect performance. Rather, contingency theory

suggests that the most important determinant of performance is the contingent fit between the chosen strategy and its contextual variables.

Similar to IT researches, these studies viewed IT from the technological perspective only but failed to incorporate other perspectives of IT sophistication such as informational, functional and managerial. Hunton and Flowers (1997) suggested that a more comprehensive AIS study is needed to explain the relationship between IT and accounting and its subsequent impact on the organization in general and accounting/accountants in particular. Very few of such studies have been carried out in developing countries especially in the Middle East. Due to the continuous flow of considerable amount of empirical studies which investigate the contingency factors and accounting and/or IS and indicates the importance and vitality of this theory, this study is theoretically and empirically constituted upon contingency theory which has long been applied in both accounting and information system disciplines.

2.3. Empirical Review

Dabwor et al. (2017) studied the effect of IT adoption on the competitive performance of banks in an emerging economy: The Nigerian experience. The study adopted both inferential and descriptive design using a t-test, the findings of the study revealed that a positive relationship exists between IT and banks performance in Nigeria. This implies that a marginal change in the level of the investment and adoption of IT such as (Automated teller machine, Web based transactions, and Mobile payments) in the banking industry resulted in a proportionate increase in the profit level. The study recommends that it is paramount for bank management to intensify investment in IT products to facilitate speed, convenience, and accurate service delivery. In the same vein (Olatokun and Igbinedon, 2010) in their study observed that there has been increased deployment of ATMs by banks in Nigeria; while only one bank had the ATM in 1998 this had increased to 14 in 2004. Between the beginning of the year 2005 and March 2006 debit card transactions increased from 1, 065,972 in 2004 to144, 448,615 between January 2005 to march 2006.

Wilson et al. (2014) examine the impact of Information and communication technology on bank profitability, they used a sample comprising one-quarter of the banks in Nigeria quoted on the Nigeria stock exchange. The study adopted the OLS regression techniques, it was found that the regression result was in conflict with the aprori expectations, which indicates that IT spending in

the study period had no significant impact on future operating performance. However, the study further concludes on the findings of the result which shows that technology investment is inevitable for banking institutions to enable them to continue to operate efficiently in the current competitive banking industry.

In 2014, Ahmed examines the effect of its investment on productivity and profitability by analyzing data from the Arab banks. The result of the study indicate that there are substantial returns due to an increase in investment in IT capital, a fact which incentivizes the bank's management to shift its emphasis in IT investment from labor to capital.

Oyinkola (2018) conducted a study on the impact of Information technology on banking operations in the First bank of Nigeria PLC. The data used was primary data and the research instruments used are questionnaires and personal interview for staff and customer of the bank. Simple frequency percentage was adopted as the statistical and the hypothesis was analyzed using Chi-square. The result revealed that IT has greatly improved the growth and performance of Nigerian commercial banks and has led to increased customers satisfaction. The study recommends government support to improve local IT firms to foster importation, the lower tariff on the importation of IT related equipment and their agencies and regulatory bodies to upgrade their equipment as well.

Oluwagbemi et al. (2011) in their study on the impact of information in Nigeria banking industry, they adopted a qualitative method. In their findings it was revealed that the deployment of IT facilities in the Nigerian banking industry has brought about fundamental changes in the content and quality of banking business in the country. They conclude that Nigeria banks have been rapidly transformed from being just a bank to a one-stop shop financial solution provider. The study further recommends that there should be M-Commerce implementation in Nigeria based on the rate of growth and diffusion of mobile devices.

Binugo and Aregbeshola (2014) their study assess the impact of ICT on commercial bank performance in South Africa. The analysis of the data was done using the panel environment using the orthogonal transformation approach. The finding of the study indicates that the use of ICT increases the return on capital employed as well as the return on assets of the South African

banking industry. The study recommends that banks emphasize policies that will enhance proper utilization of ICT equipment rather than additional investment.

2.4: Research Gap

Many research studies on impact of information technology (IT) on bank operation in Nigeria and other developing economies as revealed by the literature reviewed above. This work differs from others, the used data for the study are most recent data than other researcher, taken from 2020 – 2024.