

# Information Communication Technology (ICT) and Organizational Efficiency: A Study of Access Bank Plc.

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## ABSTRACT

This study focused on ascertaining the effect of Information Communication Technology (ICT) on organization efficiency in Access Bank, Plc. The aim was to provide empirical evidence justifying the extent to which the introduction, adoption, and use of ICT in the banking sector in Nigeria and enhance the operational efficiency and profitability of Access bank compared to the era of traditional banking.

In achieving the objectives of the study, a structured questionnaire was used to obtain the relevant data. A sample size of 120 was taken through a simple random sampling method, out of which 92 respondents appropriately filled and returned the questionnaires which generated a response rate of 71 percent. The obtained data were analyzed using Statistical Packages for Social Science (SPSS), while the hypothesis was tested using Chi-Square. Findings revealed that ICT has a momentous effect on the efficiency of organizations in Nigeria, especially the banking sector. It was recommended that organizations should build in house capacity to handle ICT systems, policies, and procedures that would retain ICT staff and develop backup plans. Organizations should fund ICT and emphasize the efficient utilization of ICT tools while embarking on more campaigns and orientation of clients and customers to utilize their ICT facilities.

(Keywords: bank communication, efficiency, information communication technology, ICT, financial sector)

## INTRODUCTION

Since the early years of the 20th century, the world has been experiencing a revolution known as information technology. Some consider it to be the most fascinating development since the industrial revolution around the mid-18th Century

(Tom, 1991). This revolution is changing our daily lives at home and at work, in shops and banks, in schools, colleges and universities. It is changing the way people think, communicate, and behave.

Today, the world has become a global village with the internet, mobile phones and satellite networks shrinking time and space, bringing together computers and communications, resulting in new ways of communication, processing, and storing and distributing enormous amounts of information (UNDP, 2001). Advancements in chip, satellite, radio, and optical fiber technology have enabled millions of people around the world to connect electronically regardless of national or international boundaries. This explosion in connectivity is the latest and the most important wave in the information revolution (Evans and Wurster, 1997).

Information Technology (IT) is clearly considered as a key growth area in this century, specifically, in a dynamic and highly competitive business environment which requires utilizing advanced IT tools to prove efficiency, cost effectiveness, and deliver high quality products and services to customers (Allen and Morton, 2004). IT is also considered as a tool of marketing, contacting and looking for possible customers, as well as presenting IT services as distinguished potential services for customers (UNDP, 2001).

Organizations are increasingly using information technology to develop solutions to business problems, to improve both the efficiency and effectiveness of the decision-making process, to enhance productivity and service quality, to achieve dynamic stability, and compete for new markets (Attewell and Rule, 1984). According to Cerere (1993) organizations have always sought and adopted technologies that enhance efforts of their manpower in production and management. Indeed, he noted that although it has evolved over a considerable period of time, information

technology has emerged as an important tool in management of organizational operations.

Information technology refers to anything related to computing technology, such as networking, hardware, software, the Internet, or the people that work with these technologies. According to Daft (1997), IT can be defined as the hardware, software, telecommunications, database management, and other information-processing technologies used to store, process, and deliver information. Information technology is commonly used to assist managers with direct control over business functions, personnel and other resources. As managers oversee resource coordination and allocation, it can be difficult to coordinate business functions across various projects. Information technology is one of the key innovations that are frequently implemented to assist in this process (Hobday, 2000).

Peansupap and Walker (2005) maintain that IT is often implemented as it is believed to facilitate communication, improve integration, enhance productivity and service delivery (Bjork, 1999).

As organizations grow and change, they depend more and more on information technology for their survival (Feeny and Willcocks, 1998). Companies today implement and use information technology to find solutions to business problems, to improve management decision-making, enhance productivity and quality, and compete for new markets in our global and aggressive business environment (Porter and Millar, 1985).

Moreover, IT can be seen as a powerful force that opens exciting opportunities for organizations to achieve their missions and goals in an effective way. Therefore, leaders in organizations must obtain an overall appreciation of the potential of IT and link the acquisition and utilization of IT to the organizational mission (Hacker and Saxton, 2007).

IT has been defined by many ways by many authors. William and Sawyar (2005), however, give a comprehensive definition of IT in a way that "IT is a general term that describes any technology that helps to produce, manipulate process, store, communicate, and/or disseminate information".

Shelly, (2004) extended this definition by including hardware, software, databases, networks, and

other related components in it which are used to build information systems.

IT is revolutionizing all the living ways and it has given a new meaning to the word "convenience". It is not possible now to do business without computer. Long and Long, (1999) demonstrate IT as a major contributor to the progress both for developing and developed countries. It has drastically changed the business landscapes all over the world and word "IT" has become the "Catchword" of the modern life today.

According to Matthew (2004), ICT strengthens banks to maintain their competitive position in rapidly changing/emerging economies, environmental, organizational and technological in which customer are the focal point, it affects all processes associated with modern day banking. The information revolution started number of years ago and the impact has been tremendous. This revolution has brought about the consequence of ICT, which have remained at the center of global, social, and economic transformations.

Many organizations heavily rely on to carry out their business transaction, which is more efficiency in terms of speed, service and security (Ajayi, 2003). Ojo (2007), stated that today's organization environment is very dynamic and undergoes rapid changes because of technological innovations, increased awareness and demands from customers. Business organization, especially the banking industry of 21st century operate, functions and develop products as well as deliver reputable services in a complex environment, characterized by these changing conditions and highly unpredicted economic climate.

## LITERATURE REVIEW

From prior research, the relationship ICT and organizational performance was established. To determine the extent of influence of information technology on the Nigerian banking sector, Ibikunle and James (2012), conducted a case study of Skye Bank. Their study sought to determine how information technology adoption affects commercial bank operations in terms of effectiveness, efficiency, competitiveness, customer base, and globalization. The analysis included a review of the bank's present network architecture and a comparison to the suggested

network design solution. According to the design and simulation results of the work, information technology raised customer satisfaction, improved operational efficiency, reduced transaction time, increased competitive edge, slashed operating costs, and ushered in a quick response in service delivery. As a result of their findings, they were able to conclude that the use of information technology had improved banking operations.

While technological advancements have their drawbacks, their beneficial influence cannot be overstated. Security dangers are increasing as technology improves, necessitating the implementation of ever-improving IT solutions. This research offered a network design technique to accommodate existing bank network gaps.

Today, the strength of a financial institution's information technology has a significant impact. Banking is no longer limited to the branch that has the account holder's information as a result of networking. When using online banking, a bank with locations all over the country seems to be housed in the same building. Any financial institution's network architecture must meet three criteria: secrecy, availability, and redundancy, all of which are met by today's bank networks. According to their findings, innovations in network architecture result in lower costs, more security, lower network latency, and better service delivery.

The main goal of Kristina, Marina, and Igor's (2009) study, "Influence of ICT on the Structural and Contextual Organizational Element", was to look at the relationship between ICT deployment and the structural and contextual components of organizations, particularly in government. A total of 9 people were asked to participate in a 28-item survey on ICT usage among organizational unit staff. The study's main flaw was the small number of participants, yet it is still an important source of information on the research topic at hand. Nine of the twelve offices and agencies had data collected, with one being sorted out owing to inaccuracies. In their respective departments, all of the respondents were top-level executives.

The impact of information and communication technology on contemporary organizations (commercial and non-profit) is a topic of public interest, and projections of growing ICT expenditures in the majority of global organizations demonstrate the study's relevance. They stated that creating organizational elements and cooperating strategies would help the

appropriate organizational form achieve its objectives.

Matthew (2012) looked into the Impacts of ICT on Banks to see how ICT can enhance their customer service delivery, methods of business operations, executive decision-making strategies, and cooperation amongst work-group, bolstering their competitive positions in today's dynamic business world. His research concentrated on the influence of information technology on the banking business in the twenty-first century, as well as its tendencies. Bench-marking was done using the following criteria: productivity, market structure, innovation, and value chain. A random sample strategy was used to poll customers at the chosen banks. Because of their extensive branch networks, four commercial banks were chosen. Customers were given 400 questionnaires to fill out at the bank. A total of 280 questionnaires were received by the researchers, indicating a 70% response rate. He concluded that ICT investment did not result in increased company productivity on its own. However, a company's capacity to reinvent its labor processes and business routines using ICT determines how technology is employed in business operations. It was found that combining ICT investment with complementary investments in working practices, human capital and organizational re-organization resulted in a significant performance gain.

Agboola (2003), looked at the use of ICT in Nigerian banking operations - a review of recent experiences. The aim of his research was to examine the impact of ICT gadget use on bank operations. As of the end of 2005, the poll included 36 of the country's 89 banks. From the 36 banks chosen, 216 questionnaires were issued to workers, customers, and Heads of System Units. All were recovered, except for 92 percent of those provided to workers, 77.78 percent of those supplied to customers, and 97.22 percent of those given to heads of system units. His efforts, which included considerable advances in statement creation, account reconciliation, and balance inquiry, were well received by customers.

According to all indicators, computerized information systems had supplanted manual recording techniques such as ledgers and cash books, ICT has had an impact on the content and quality of banking activities, and ICT offers a lot of potential for re-engineering the business

operations of Nigerian banks. To maintain maximum performance, bank operators need to make significant investments in information and communication technology. Additionally, there is need for managers of these institutions to invest more on ICT goods to aid efficient services to have good competitive edge. He further noted that the banking sector in Nigeria provides an ideal chance for ICT companies to publicize their accomplishments. However, their being able to personalize their answers to the quest of various stakeholders of these industries is critical to their success in this market.

## METHODOLOGY

The descriptive technique was used to organize this study. The primary goal was to define the degree to which organizational efficiency was optimized via the use of ICT technologies. This research strategy was adopted to gather firsthand data from respondents to create sensible and solid findings and suggestions. The descriptive technique used allowed for the successful collection of information from respondents using a well-structured questionnaire.

The study's demographic includes Access Bank. Plc. employees and customers. The scope of the

research included the bank's headquarters on Victoria Island. The whole population consisted of over 243 workers and consumers, with 120 constituting the sample size. This is because this corporation is one of the forerunners in terms of having top-tier ICT using equipment with maximum reaction to customer service relationships as well as optimizing outputs. The demographic sample consisted of Access Bank Plc employees and customers who were chosen at random. It was composed of a sample of one hundred and twenty (120) persons, fifty (50) workers, and seventy (70) clients drawn from the public using a simple random selection approach. The source of data used for this study was primary data, which gave reliable information. Primary data was collected through a well-structured questionnaire from the respondents.

In general, the performance of the organization was evaluated for this study in order to determine whether its delivery and competitive strategy through ICT implementation were efficient or not. The questionnaire was well structured to elicit the required responses. Correlation analysis was used to estimate the relationships between the two (2) variables; ICT and organizational efficiency.

## RESULTS AND DISCUSSION

**Table 1:** Distribution of Respondents by Gender.

| Respondents |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------|--------|-----------|---------|---------------|--------------------|
| Valid       | female | 61        | 66.3    | 66.3          | 66.3               |
|             | male   | 31        | 33.7    | 33.7          | 100.0              |
|             | Total  | 92        | 100.0   | 100.0         |                    |

Source: Authors' Computation (2022)

From Table 1, the percentage of female was 66.3, while the male were 33.7 percent, indicating that there were more female in the survey.

**Table 2:** Distribution of Respondents by Age.

| Respondents |          | Frequency | Percent |
|-------------|----------|-----------|---------|
| Valid       | 21-30    | 58        | 63.0    |
|             | 31-40    | 15        | 16.3    |
|             | 41-50    | 14        | 15.2    |
|             | 51 above | 4         | 4.3     |
|             | Total    | 91        | 98.9    |
| Missing     | System   | 1         | 1.1     |
| Total       |          | 92        | 100.0   |

Source: Authors' Computation (2022)

The table above reveals that 63% were from 21 to 30 years old and the remainder were between the ages of 31 and 40 (16.3%). The data also indicated that the remainder were between the ages of 41 and 50 (15.2%) and above 50 (4.3%), with one participant failing to reply.

**Table 3: Qualification of Respondents.**

| Respondents |         | Frequency | Percent |
|-------------|---------|-----------|---------|
| Valid       | OND     | 23        | 25.0    |
|             | HND/BSc | 37        | 40.2    |
|             | MBA/MSc | 25        | 27.2    |
|             | Others  | 4         | 4.3     |
|             | Total   | 89        | 96.7    |
| Total       |         | 92        | 100.0   |

Source: Authors' Computation (2022)

As shown in Table 3, most of the respondents were graduates having a percentage of 67 out of which 40% were B.Sc. graduates, 27% had Masters Degrees, while 25% had one certificate or the other. It simply reveals that educated respondents with proper training were used for the study.

**Table 4: Work Experiences of Respondents at Access Bank, Plc.**

| Respondents |            | Frequency | Percent |
|-------------|------------|-----------|---------|
| Valid       | 1-5years   | 41        | 44.6    |
|             | 6-10years  | 40        | 43.5    |
|             | 11-15years | 6         | 6.5     |
|             | 21 above   | 1         | 1.1     |
|             | Total      | 88        | 95.7    |
| Missing     | System     | 4         | 4.3     |
| Total       |            | 92        | 100.0   |

Source: Authors' Computation (2022)

The table above reveal that 45% of the respondents had worked for Access Bank, Plc. for 5 years and below, 44% worked between 5 to 10 years, and 7% worked between 11 and 15 years. As a result, the majority of respondents possessed the necessary experience to reply to the questions.

**Table 5: Response to ICT Development and Usage in the Organization.**

| S/N | Statement  | Rating Summary (%) |    |    |    |    |
|-----|--|--------------------|----|----|----|----|
|     |  | SA                 | A  | UD | D  | SD |
| 1.  | The internet has evolved as a vital channel for the distribution of banking goods and services.  | 19                 | 48 | 11 | 10 | 2  |
| 2.  | If information technology is used efficiently, traffic in bank premises will be considerably decreased without necessarily affecting transaction profit. | 28                 | 44 | 17 | 8  | 3  |
| 4.  | The use of ICT assures the customer's security and the confidentiality of their financial information and transactions.                                  | 16                 | 51 | 22 | 3  | 2  |
| 5.  | The impact of ICT on retail banks' ability to create and sustain intimate connections with their clients has been substantial.                           | 21                 | 54 | 16 | 4  | 0  |
| 6.  | The adoption of ICT will enable the smooth and lucrative operations of banking   | 27                 | 44 | 19 | 4  | 5  |
| 7.  | There is a need to build on a framework of a well-trained information technology workforce in Nigeria's banking sector.                                  | 17                 | 52 | 22 | 3  | 4  |
| 8.  | The rise of internet commerce has heightened concerns about the use of electronic means to launder money.  | 25                 | 48 | 20 | 4  | 2  |

Source: Authors' Computation (2022)

Because the majority of respondents believed that the Internet has emerged as a significant means of delivery of banking goods and services, the different analyses found that the Internet has become a necessary tool for the delivery of banking products and services. The investigation also showed that if information technology was used appropriately, traffic in the banking hall could be considerably decreased without jeopardizing transaction profit.

However, 16% of respondents strongly agreed that the use of ICT guaranteed the customer's security and the confidentiality of their financial data and transactions were preserved, 51% agreed, and 5% disagreed. Furthermore, the majority of respondents thought that ICT had brought about a significant shift in the method of relationship between the retail banks and their clients. Invariably, the use of ICT would allow for the seamless and profitable functioning of banking. This was consistent with the results of Agboola (2003), who researched the effect of information and communication technology on Nigerian banking operations and discovered that the use of ICT has altered the content and quality of banking operations.

The analysis also revealed the need to build on a foundation of a well-trained information technology workforce in the Nigeria banking sector, with 69% of the target population agreeing to that fact, as well as the notion that the growth of electronic commerce has increased concern about the use of an electronic medium to launder money.

In terms of the impact of ICT on the company, 80% of respondents believed that 'Growth' was the most essential measure of operational efficiency. Furthermore, in the banking industry, it is difficult to establish an efficient quantity of resources required to provide intangible service outcomes. Furthermore, 60% of respondents agreed that technical efficiency represents a firm's capacity to maximize output from a set of inputs, whereas 17% disagreed.

The majority of respondents (88%) agreed that bank insufficiency is directly related to economic output, while just 8% disagreed. 79% of the target audience strongly agreed that investment in information and communication technology should be one of the banks strategic ingredients to guarantee successful delivery.

In conclusion, 80% of respondents felt that information and communication technology had a beneficial influence on organizational efficiency.

On the test to determine the impact of ICT on organizational efficiency, the chi-square p-value was 0.002, hence,  $0.002 < 0.005$ , Therefore, it will be concluded that there is a relationship between ICT and organization efficiency which is in line with the findings of Ibikunle, et al. (2012) that ICT enhances organizational efficiency. The Karl Pearson (R) correlation value was 0.940, we can therefore say that there was a very strong positive correlation or relationship between ICT and organization efficiency. It can also be concluded that ICT has a strong influence on the efficiency of Access Bank, Plc.

### Test of Hypothesis

#### **Hypothesis 1**

H<sub>0</sub>: Information Communication Technology does not have impact on organizational efficiency.

**Table 6: ANOVA**

|                | Sum of Squares | df | Mean Square | F     | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 11.196         | 4  | 2.799       | 3.268 | .016 |
| Within Groups  | 66.804         | 78 | .856        |       |      |
| Total          | 78.000         | 82 |             |       |      |

Source: Authors' Computation (2022)

**Decision:** Since  $0.06 < 0.05$ , we therefore reject H<sub>0</sub>. We can then conclude that Information Communication Technology has impact organizational efficiency

#### **Hypothesis 2**

H<sub>0</sub>: There is no relationship between ICT and organization efficiency

**Table 7: Chi-Square Tests.**

|                              | Value               | df | Asymptotic Significance (2-sided) |
|------------------------------|---------------------|----|-----------------------------------|
| Pearson Chi-Square           | 31.610 <sup>a</sup> | 12 | .002                              |
| Likelihood Ratio             | 30.820              | 12 | .002                              |
| Linear-by-Linear Association | .006                | 1  | .939                              |
| N of Valid Cases             | 85                  |    |                                   |

Source: Authors' Computation (2022)

**Table 8:** Symmetric Measures.

|                      |                      | Value | Asymptotic Standardized Error <sup>a</sup> | Approximate T <sup>b</sup> | Approximate Significance |
|----------------------|----------------------|-------|--|----------------------------|--------------------------|
| Interval by Interval | Pearson's R          | -.008 | .125                                       | -.076                      | .940 <sup>c</sup>        |
| Ordinal by Ordinal   | Spearman Correlation | .187  | .122                                       | 1.733                      | .087 <sup>c</sup>        |
| N of Valid Cases     |                      | 85    |  |                            |                          |

Source: Authors' Computation (2022)

The chi-square p-value is 0.002, hence,  $0.002 < 0.005$ , we will reject  $H_0$ . Therefore, we will conclude that, there is relationship between ICT and organization efficiency

Our Karl Pearson (R) correlation value is 0.940, we can therefore say that there is a very strong positive correlation or relationship between ICT and organization efficiency. It can also be explained that, ICT has a strong influence on organization efficiency in Access Bank, Plc.

## CONCLUSION AND RECOMMENDATIONS

The purpose of this research was to evaluate the impact of information and communication technology on organizational efficiency at Access Bank Plc. It employed a cross-sectional survey research approach with randomly chosen members of the organization's workforce and consumers.

The findings indicated that all respondents agreed that the company had implemented ICT to a substantial degree and that the usage of ICT services had considerably enhanced the organization's performance. According to the survey results, the majority of respondents said that the usage of ICT has assisted in the creation of a new business environment at Access Bank Plc, as well as allowing their operations to thrive and grow. It had also increased the organization's accountability and the level of service it provided to its consumers. In addition, ICT has dramatically altered the way retail banks create and maintain intimate ties with their clients.

In terms of the impact of ICT on organizational efficiency, the research found that investment in information and communication technology might be a significant factor of the overall strategy of banking operators to guarantee effective delivery.

According to the findings, the use of ICT has enhanced the accuracy of monitoring and

reporting goals, the achievement of organizational objectives, and the inclusion of quantitative targets at the planning stage.

As a result, management may keep a close eye on their employees' activities in order to make the best use of available resources and, to a large extent, eliminate fraud by internal and external forces.

Organizations should embrace IT tools and services to obtain a competitive edge and better service delivery to consumers, have more self-service enabled, and automate all important operations to achieve improved efficiency, dependability, and control in the organization.

Organizations should also develop in-house capabilities to manage ICT system rules and procedures, as well as backup plans, in order to retain ICT personnel. Organizations should also invest in ICT and provide space for innovative ideas. Access Bank Plc's achievement in terms of the positive association between ICT use and efficiency might be used as a model for other businesses throughout the country.

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