EFFECTS OF INFORMATION TECHNOLOGY ON ORGANIZATIONAL CULTURE AND MANAGEMENT IN A BANKING SECTOR – A CASE STUDY

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Purpose: The article deals with the analysis of the use of information technology (IT), and its effects on organizational culture and management within the banking sector, with a particular emphasis on First City Monument Bank in Nigeria. Today, information technology plays a part that is becoming increasingly significant in organizations, especially in their mode of operation, and structure. The study focuses on the impact that information technology has on the structure of organizations and how that impact affects cultural perspectives, values, hierarchies, and norms. A method of research that forms the basis for analyzing the effects of information technology on organizations has been developed on the basis of a framework for the analysis that is composed of four areas in which IT was used.

Design/methodology/approach: A method of research that forms the basis for analyzing the effects of information technology on organizations has been developed on the basis of a framework for analysis that is composed of four areas in which IT was used. The study adopted the models of: Technology Acceptance Model (TAM), According to the Trade-Off Matrix (TAM), a system's Perceived Usefulness (PU) is the extent to which an individual think that using that system, improves his or her job performance, while its Perceived Ease of Use (PEOU) is the extent to which an individual thinks that using that system requires no effort on his or her part (Davis, 1989). Technology-Organization-Environment (TOE) framework, according to their logic, these three factors must be taken into account in any decision regarding the adoption and implementation of technological innovations within an organization. Formal and informal approaches, linking structures, communication processes, scale, and wiggle room are all mentioned as components of the organizational context.

Findings: The study gives the recommendations that due to globalization, no financial institution can afford to ignore the importance of customer satisfaction, a productive workplace enabled by information and communication technology (ICT), and keeping up with the competition. Commercial banks could miss out on these advantages if workers resist the change. In order to achieve a positive effect of information technology on organizational culture and help foster a culture of learning, some suggestions have been elaborated. The recommendations are grounded in research and real-world examples.

Research limitations/implications: The research limitations are due to a banking sector in Nigeria, which is known for its cumbersome bureaucracy and lengthy decision-making processes. This issue made it more difficult to collect appropriate set of data in a timely manner.

Another limitation is insufficient prior research studies on the selected topic. This limitation prevented the authors from citing previous research studies, which would have provided a solid foundation for the literature review of this study and would have been helpful in laying the groundwork for an understanding of the underlying research topic that was addressed.

Practical implications: The undertaken analysis enabled to formulate recommendations that FCMB needs to establish more regional IT hubs to decentralize its operations. That helps in improving network efficiency and relieve load on their primary server, resulting in fewer system link disruptions typical of banking operations. FCMB needs to find ways to make their online services more available to the general public. Because of this, concerns and feedbacks regarding electronic banking services from customers could be addressed.

Originality/value: The value of the research is the identified elements concerning the significance of electronic commerce in light of the fact that the globe as a whole is embracing e-commerce interfaces of all kinds in commercial establishments of all sizes brought about by globalization. Not only banks are crucial in commercial activities, but also as key players in the development of new jobs in Nigeria, and as a result they play such an important role in the national economy.

Keywords: information technology, organizational culture, banking sector, project management.

Category of the paper: research paper, case study.

1. Introduction

Today, information technology (IT), plays a very important role in most organizations, especially in their mode of operation, and structure. Researchers give different meanings on the concept of IT as how it is used or interpreted from one organization to the other. This paper focused on the impact of IT on organizational culture which by extension, also includes its structure and how IT is adopted and implemented, affects the cultural outlook, values, hierarchy and norms. Furthermore, all organizations and businesses, regardless their size and scope of operation, currently face severe competitive challenges now more than ever. In order to cope with this phenomenon, business owners, executives and managers are turning to information technology and other digitally powered tools in their respective organizations to help them stay afloat with current happenings, meet up with competitions, maximize profit and ultimately remain in business without losing the purpose and vision for starting the business in the first place and maintain organizational structuring, communication amongst and with staff at all levels within the organization as well as external stakeholders.

Corporate culture is usually created with the founders of the company. The founders' actions and behaviors typically set the stage for the future culture coupled with its mission and vision for the organization. That is not to say that cultures do not change over the years, they definitely do. Implementing new techniques and methods for getting things done within an organization will re-shape existing corporate culture (Erdurmazlı, 2020). This study aimed at analyzing and explaining the use of IT and its effect on organizational structures and cultures in a banking sector, with a focus on First City Monument Bank (FCMB), a leading Bank in Nigeria.

The use of IT alters the way in which businesses function, as well as the way in which customers make purchases from those businesses and the way goods are distributed. The study's goals are to shed light on the factors that contribute to successful IT integration into an organization's culture, and to explain how such integration impacts the business and its leadership. These effects, which can have either a positive or a negative impact, are examined using First City Monument Bank (FCMB), which is located in Nigeria.

The originality of the research is the identified elements concerning the significance of electronic commerce in light of the fact that the globe as a whole is embracing e-commerce interfaces of all kinds in commercial establishments of all sizes brought about by globalization.

2. The characteristics of issues concerning organizational culture and management

The advancement of information technology necessitates a reevaluation of investment decisions for the effectiveness of project management. Before implementing an organizational innovation, it is necessary to acknowledge the obstacles of an Information Technology project (Fonseca, Letouzé, Pompeu et al., 2017). The adoption of IT service management processes can be challenging for businesses of any size due to a number of factors, most notably the network of diverse players with divergent objectives and conceptions of the function of services within the organization (Gottschalk, Karlsen, 2005). Knowledge barriers and varying degrees of involvement from supply-side institutions, according to Alharbi and Saad (2013), are responsible for the disparate opportunity to adopt technologies. They identified three distinct types of informational hurdles:
- technology-related knowledge barrier: caused by a lack of familiarity with the required hardware and software architecture, technological capabilities, security measures, and industry standards in light of the unique business environment in which the company operates,
- lack of project-related knowledge, such as the amount of (financial and human) resources needed to develop technology, the time the development process takes, who shall lead the project and what roles each team member is to play,
- an application-related knowledge barrier: To what extent the application is to be integrated with existing IT applications; what effects the application is to have on the future of the business; the value of the various technology features for the adopting unit; what key business assumptions are required for deploying the technology.

The culture of a firm can be influenced by the founders' business goals and operating principles. Wanyama, et. al (2022) hypothesized that the founding team's assumptions may have resulted from their own histories and perspectives. A company's culture is a driving force behind its success and a long-term competitive advantage (Abbasi et al., 2021).

3. The characteristics of IT tools and methods applied in a banking sector

The corporate world is changing fast as a result of technological advancements. The literature on organizational culture, (Flamholtz, Randle, 2011; O'Reilly et al., 2014), provides information on how company managers may employ effective tools and technologies to increase performance and productivity. In the corporate sector, managers tend to see a productive company culture as an advantage and a dysfunctional one as a liability (Flamholtz, Randle, 2011). According to Eaton and Kilby (2015), in order to maintain order and harmony throughout the company, managers rely on technological means of communication, particularly information and communication technologies (ICT) that improve the organigram of the company's culture. According to Hartnell and Kinicki (2011), successful IT is facilitated by a company's culture:

1. Shape employee attitudes. Share messages and other useful information faster, simultaneously, and spontaneously.
2. Improve operational and cross departmental effectiveness. Operational effectiveness contains information on how management uses an effective organizational culture to introduce and innovate new products and to improve process and service.
3. Increase financial performance in the organization. Financial performance includes information regarding the achievement of profitability, productivity, and growth in the organization.

4. The brief characteristics of a selected bank's activity

First City Monument Bank (FCMB) is a wholly owned subsidiary of FCMB Group Plc., a Nigerian financial services provider located in Lagos (Obaseki, 2021). FCMB Group Plc.'s nine companies are divided into commercial and retail banking, investment banking, mortgage banking, asset and wealth management, and the relatively new microfinance service. FCMB Group PLC annual report and accounts (2020) showed that the group's entire assets were valued US $5 billion (NGN: 2 trillion). When IFC, the private investment arm of the World Bank, heard about FCMB in November 2010, they committed $70 million and invested into First City Monument Bank to foster development, Small and Medium Enterprise (SME) Funding 2021.

First City Monument Bank (FCMB) and FinBank, another undercapitalized Nigerian commercial bank, both made announcements in the same month that FCMB was interested in acquiring stock and becoming FinBank's strategic investor. Funding from the International Finance Corporation (IFC) helps First City Monument Bank provide loans to small and

medium-sized businesses. In February 2012, FCMB purchased all of Finbank's outstanding shares and, following regulatory permission, began integrating Finbank into its current operations. As of 2017, FCMB operated out of 220 branches and through a UK banking affiliate. It has 4.3 million clients that it helped. In 2021, the bank catered to around 8 million clients.

A single standard for open Application Programming Interface (API) in the Nigerian financial ecosystem is being promoted by the non-profit group Open Banking Nigeria, which the bank joined in October 2020. FCMB was named best SME Bank in Africa and best SME Bank in Nigeria at the 2021 Asian Banker Middle East and Africa Regional Awards.
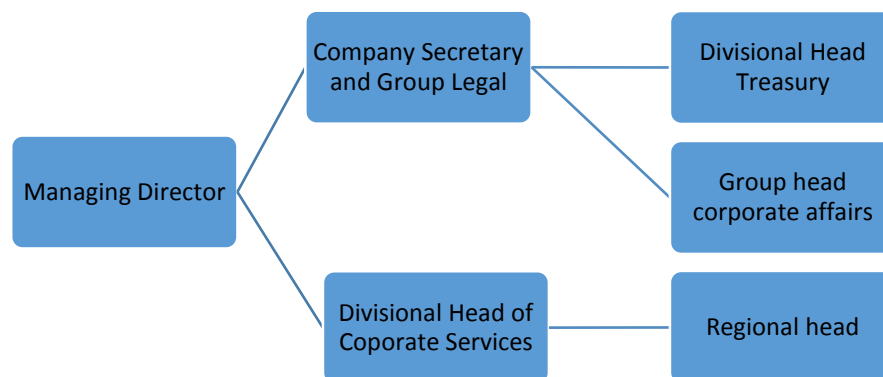

Figure 1. The organigram of First City Monument Bank (FCMB) Ltd.
Source: (Information Nigeria, 2022).

5. The research analysis on the effects on organisational culture and management in FCMB

As in the rest of the world, Nigeria's banking system has benefited from the development of more advanced forms of communication. However, things did not look like this 10 years ago. Banking has undergone a gradual transformation in the wake of the impact that IT has had on the financial services industry (Daily Post Nigeria, 2010). The best part is that the adjustment has been made cheaply. It was not until the 1990s that IT began providing backend support for banks. Nigeria's banking sector was reformed with the help of IT to promote banking sector self-sufficiency, competency, and flexibility and to raise the quality of Nigerian banking on the global market (Shemi, 2012). In recent years, thanks to advances in technology and the consolidation of previously separate banking services, new opportunities and revenue streams have emerged in the banking sector. Therefore, it is not inappropriate to think of the new banking sector as the financial supermarket for its clients. However, there are both benefits and drawbacks to implementing IT in financial institutions.

Some of the benefits, as described by Alharbi and Saad (2013) are discussed below:

1. The introduction of IT to the banking sector in Nigeria was the catalyst for the country's most significant digital revolution. The country's banking system has improved in both speed and reliability. Even the process of retrieving and updating documents has been simplified and accelerated by advances in IT.

2. As a result of advancements in IT, the core banking system has become more unified, and all of a bank's branches now share some centralized data.

3. Bank customers can now anticipate that their checks are cleared and funds credited to their accounts at a more expedited rate thanks to the MICR cheque processing system.

4. Information can be shared, problems solved, and facilitated trainings improved at a lower cost and in a shorter time.

5. Customers can now check their balances and make other banking-related transactions online, thanks to the rollout of Unstructured Supplementary Service Data (USSD).

6. Every bank nowadays provides its customers with the option of doing their banking online. With the help of an internet connection, customers of a bank can view their entire account history and conduct any necessary transactions without ever having to set foot inside a bank branch.

7. Every business deal is now more open and honest.

8. Bank fraud risk is better managed when two-factor authentication and passwords are used for online transactions.

9. Better and more efficient customer service is one result of the increased competition between banks made possible by advances in IT.

10. Mobile banking has made it possible for customers of financial institutions to access their accounts from virtually any mobile device, at any time. All banks are now able to provide better and faster services to their customers thanks to innovations like automatic cheque book printing, cash deposit machines, cheque deposit machines (Alharbi, Saad, 2013).

Nevertheless, there are some negative impacts IT poses to banks and organizations in general (Arbussà i Reixach, 2001) highlights them thus:

1. A major drawback of the IT-enabled banking system is the loss of jobs that has resulted from its widespread adoption. As a result of widespread automation, fewer bank jobs are available across the country, increasing the workload for the remaining employees. Many banking industry jobs have been eliminated due to automation.

2. The vulnerability of the banking system to cyber-attacks is a growing source of concern in today's digitally driven economy. If security is mismanaged, millions of records are at risk and could be lost in the blink of an eye.

3. As a result, some employees have been let go.

4. While these technologies do save time, they can also make users — whether they are IT professionals, customers, or employees — lax about protecting sensitive information.

5. IT flaws frequently lead to the theft of debit card information from major banks.

6. Because most IT gear requires access to the web, people living in remote areas of developing countries may be unable to use online banking services.

5.1. Methodology and models of the study

The models reviewed were chosen for their relevance to the study's goals and because they are among the most common model frameworks used in studies of the adoption of IT generally and of IT in businesses with an eye toward preserving corporate culture. The Technology Acceptance Model (TAM), the Technology-Organization-Environment (TOE) framework, the model developed by Edgar Schein, and the competing values framework (CVF) are discussed in light of the study's objectives.

The Technology Acceptance Model (TAM) and its relevance to the study

The Technology Acceptance Model (TAM) is a prominent theory that has been studied extensively in the field of IT adoption. Davis created TAM in 1986 to shed light on why and how people adopt technology in the workplace. According to TAM, the main determinants of system usage in organizations are perceived usefulness and perceived ease of use (Taylor, Todd, 1995; Davis, 1989) cited in Shemi (2012) organizational cultural contexts.

The Technology-Organization- Environment (TOE) framework and its relevance to the study

Organizational context, technological context, and external task environment are the three factors that Tornatzky and Fleischer (1990) identified as having an impact on technological innovation (industry). According to their logic, these three factors must be taken into account in any decision regarding the adoption and implementation of technological innovations within an organization. Formal and informal approaches, linking structures, communication processes, scale, and wiggle room are all mentioned as components of the organizational context.

Edgar Schein's model of organizational cultural change and its relevance to the study

A useful framework for this sort of inquiry is Edgar Schein's theory of organizational culture. The model was introduced initially by Schein (2010). The model is meant to explain the nuances between cultures. Experts in the field have studied and praised Edgar Schein's theory of organizational culture. Edgar Schein researched company culture and subsequently wrote extensively on the subjects of business management and leadership. Other authors and institutions have investigated Edgar Schein's ideas and work on culture as a tool to mold an organization.

The competing values framework (CVF) and its relevance to the study

The Competing Values Framework (CVF) is commonly used by organizational and management experts to assess the impact of a company's culture on factors including quality improvement initiatives, employee and customer happiness, and effective teamwork (Ostroff, Kinicki, Tamkins, 2003). Most commercially available CVF instruments boast of the validity and reliability of their summated scales.

5.2. Research methodology

Research method

Researchers need to be well-versed in the various research methodologies and designs because each method takes a slightly different approach to the study process (Yin, 2014). Choosing the right research method for a study requires an understanding of the reasons behind the various options available. It is acknowledged that comparing and contrasting different research strategies is crucial for understanding the merits and limitations of each strategy. Different methods - quantitative, qualitative, and mixed make up the trifecta of primary research techniques. According to Welch, Piekkari, Plakoyiannaki, Paavilainen-Mäntymäki (2011), a quantitative approach is most useful when testing hypotheses about the relationship between multiple variables.

Population of the study

The sample for a qualitative study needs to be representative of the population of interest (Poortman, Schildkamp, 2012; Cleary, Horsfall, Hayter, 2014). The intended population is represented by a statistically valid sample (Poulis et al., 2013). According to Frels and Onwuegbuzie (2012), researchers should base their sample size on the characteristics of the topic and the amount of data that is readily available. FCMB, currently has two hundred and twenty (220) branches with 3610 employees nationwide (FCMB Ltd, 2020). The study's data was collected from four different locations' senior managers, IT and operation staff in the corporate group and, more specifically, the operations unit. Quality data is important for getting to data overkill (O'Reilly, Parker, 2013).

Sample size

The sample population for this study consisted of 150 members of staff of FCMB out of 3610 employees of the bank. The branches of focus study were: Lekki Admiralty, Ajah, Lekki Jakande and Surulere branches, all in Lagos, in the commercial hub of Nigeria. This group entails both the managerial branch heads, senior and operation's staff, cutting across all ages, and includes males and females in the survey.

Sampling technique

This study selected its participants using a method of purposive sampling. Purposive sampling was crucial for determining the appropriate sample size and accurately representing the target population (Cleary, Horsfall, Hayter, 2014).

5.3. Results and discussions of survey findings

Overview of the study

This part contains findings and their respective discussions. Examination of FCMB's empirical and statistical findings and data analysis. Next, the relevant hypotheses are presented. All empirical findings are consistent with the research questions and objectives of the study. The researcher sampled a total of 150 respondents; 120 questionnaires were returned, representing 80% response rate. Included among the respondents were the branch manager, relationship officers, branch IT support staff, customer service managers, customer service representative officers and support, the branch head of operations, in-branch operations control, marketers, and tellers. The analysis was therefore conducted using the completed questionnaires. The Statistical Package for the Social Sciences (SPSS) was used to analyze the valid study copies returned for analysis. Each branch has a distinct mode of operation based on the types of customers who live or work nearby and the size of the location. When discussing the analyzed data, the researcher also employed descriptive methods for better comprehension.

Questionnaire distribution and response rates per branch

Table 1.
Copies of questionnaire distributed (N = 150) and retrieved (N = 120)

S/N	Branch location	Total staff population sampled per branch	Number of questionnaires distributed per branch	Number of questionnaires retrieved par branch
1.	Lekki Admiralty	24	24	17
2.	Ajah	36	36	27
3.	Lekki, Jakande	45	45	37
4.	Surulere	45	45	39
5.	**Total**	**150**	**150**	**120**

Source: Field Survey (2023).

Table 1 displays the copies of the questionnaire distributed to respondents and returned by them. With the assistance of a research assistant, 150 questionnaires were distributed digitally and physically to all respondents. Lekki Admiralty received 24 copies, Ajah branch received 36, lekkiJakande received 45 copies as well as Surulere also received 45 copies. After the respondents had completed the questionnaire, a total of 120 copies were recovered, which represents 80% response rate. They were appropriately populated and deemed useful for analysis.
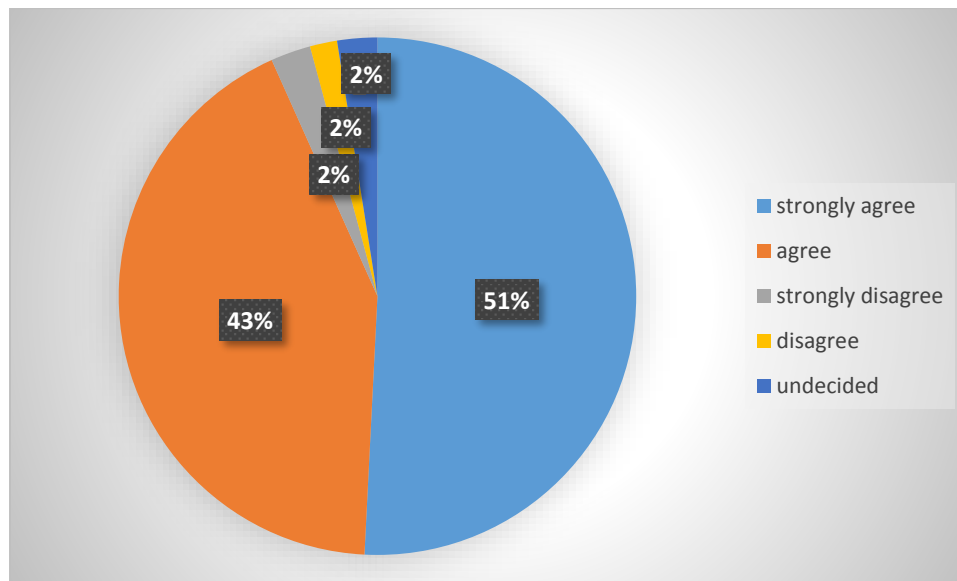
Figure 2. IT implementation in the bank has resulted to increase in the efficiency and productivity of the employees as it has enhanced better teamwork, enhanced swift decision making.

Table 2.

Effect of technical change and automation through information technology in bank's organization culture

Statement	SA strongly agree (%)	A agree (%)	SD strongly disagree (%)	D disagree (%)	U undecided (%)
The use of Banking Automations Technology like artificial intelligence, Chat bots, etc. has led to improvements and efficiency in the quality of work output, especially as it concerns with dealing with customers' requests and minimizing complaints.	83 (69.2%)	15 (12.5%)	1 (0.8%)	10 (8.3%)	11 (9.2%)
IT implementation in the bank has resulted to increase in the efficiency and productivity of the employees as it has enhanced better teamwork, enhanced swift decision making.	61 (50.8%)	51 (42.5%)	3 (2.5%)	2 (1.7%)	3 (2.5%)
Customer satisfaction or otherwise are easily tracked with the Bank's approved Know Your Customer (KYC) software and this has helped customer retention.	71 (59.2%)	40 (33.3%)	2 (1.7%)	7 (5.8%)	0 (0%)
Technological change and ICT tools I work with has resulted in reduction in error rate.	71 (59.2%)	40 (33.3%)	2 (1.7%)	7 (5.8%)	0 (0%)
I am able to effectively process and control my workload and other work process due new technologies.	60 (50%)	47 (39.2%)	3 (2.5%)	8 (6.7%)	2 (1.7%)
The rate of successive and interconnected activities under on job title (Complex duties) has improved with IT implementation	49 (40.8%)	39 (32.5%)	5 (2.5%)	9 (7.5%)	20 (16%)
Customer waiting time and queues have drastically reduced in the banking halls since adoption and changes in technologies	71 (59.2%)	40 (33.3%)	2 (1.7%)	7 (5.8%)	0 (0%)
Service quality has improved with ICT adoption.	47 (39.2%)	60 (50%)	3 (2.5%)	8 (6.7%)	2 (1.7%)

Cont. table 2.

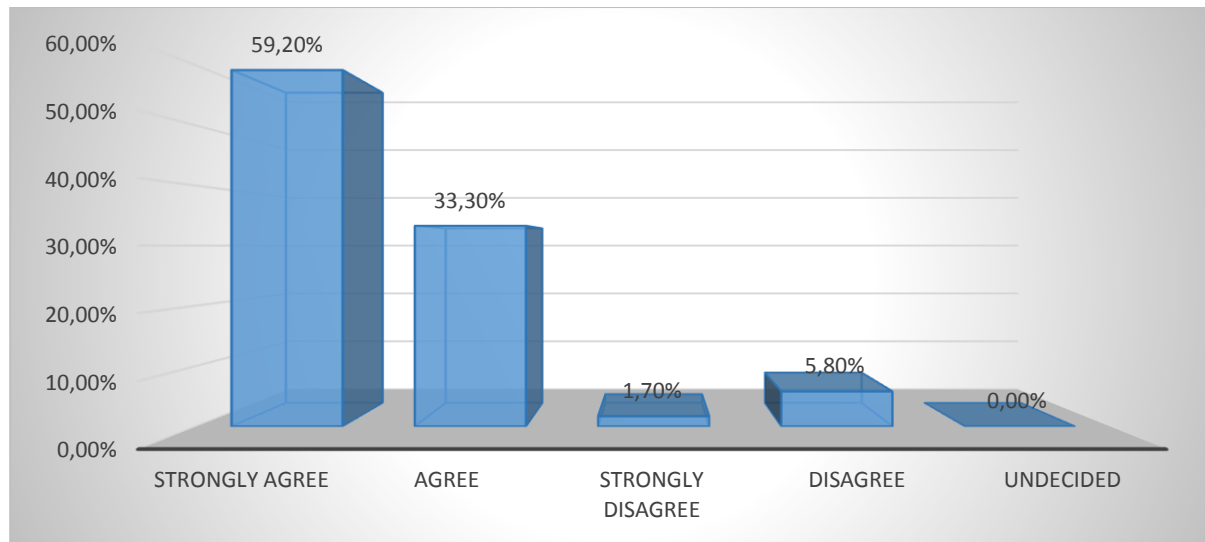|					
FCMB holds its place in the banking industry and inspires the competitive landscape of the financial services market given its embrace of new Technologies.	51 (42.5%)	61 (50.8%)	3 (2.5%)	2 (1.7%)	3 (2.5%)
Technologies improves teamwork, bridges hierarchy gaps and effectively improves branch and bank organogram	39 (32.5%)	49 (40.8%)	20 (16%)	9 (7.5%)	5 (2.5%)

Source: Field Survey (2023).

Figure 3. Technological change and ICT tools I work with has resulted in reduction in error rate.

Results discussion

Significant findings of this study are discussed in this section. The effects of Information Technology on organizational culture and management have been analyzed. From the table 2, it can be deduced that the majority of respondents, which are 83 people, (69.2%) strongly agree that the use of Banking Automations Technology has led to improvements and efficiency in the quality of work output, especially as it concerns with dealing with customers' requests and minimizing complaints.

61 respondents (50.8%) are in strong agreement that IT implementation in the bank has resulted in an increase in the efficiency and productivity of the employees as it has enhanced better teamwork, enhanced swift decision making.

71 respondents (59.2%) agree with IT implementation increasing customer satisfaction or otherwise are easily tracked with the Bank's approved Know Your Customer (KYC) software and this has helped customer retention same percentage agrees with Technological change and ICT tools resulting in reduction in error rate.

This corroborates the findings of a study by (KadianWanyonyi Wanyama, Ruth Mitalo, 2022) which indicated that technological change in organizations had statistically significant effect on overall employee's performance in commercial banks. The majority of the respondents were also in strong agreement that Customer waiting time and queues have drastically reduced in the banking halls since FCMB adopted and made changes in technologies, 71 respondents, (59.2%) agree.

The majority of respondents also agree and strongly agree that service quality has improved with ICT adoption. Technologies improves team work thereby bridging hierarchy gaps and effectively improves branch and bank organogram.

This finding also supports a report of a work from (Arbussa Reixach, 2001) that indicated that a great majority of participants (86%) reported that ICT use in the workplace improves their work and reduced banking hall congestion. Her findings also indicated that error rates reduced drastically.

5.4. Recommendations dedicated to the analyzed bank

FCMB should prioritize the following findings in the use of ICT to provide banking services:

1. The bank needs to find ways to make their online services more available to the general public. Because of this, concerns and feedbacks regarding electronic banking services from customers could be addressed.
2. The bank must ensure that they have a stable network system and, if possible, adopt the best and fastest network system in the country for their operations. It should also adopt the most up-to-date versions of the mobile system of banking in order to serve customers better and reduce dispense error complaints and overcrowded branches.
3. The bank should encourage its customers to adopt a habit of banking online rather than visiting a branch, as the latter often experiences long queues and delays due to the high volume of customers waiting to complete their transactions. Zugeldar et al. (2000), noted that consumer protection is the most pressing legal concern in internet advertising.
4. The bank needs to establish more regional IT hubs to decentralize its operations. That helps in improving network efficiency and relieve load on their primary server, resulting in fewer system link disruptions typical of banking operations.
5. The bank needs to carry out periodic marketing research studies on FCMB's own customers, such as creating a database containing both demographic and psychographic profiles of its customer base, would help FCMB's management. Having such a database would help management determine the optimal mix of personnel and technology resources to provide consistent, high-quality service at all times. Despite the need for extensive further research to be done to fill in the gaps in knowledge in this area, the current study hopefully provides future researchers with some basic areas in which to begin.

6. Conclusions

The undertaken research shows that the study of the effects of information technology on organizational culture and management, which focused on Nigeria's First City Monument Bank (FCMB) results in the following conclusions:

1. The customers are able to confirm their account numbers and get information on when and how to pick up their credit cards, debit cards, point-of-sale services, and other financial services made possible by information and communication technologies.
2. The employee productivity could rise as a result of better handling of technological developments like mobile banking, mobile money transfer, automated teller machine use, online banking, service automation, marketing automation, Real-Time Gross Settlement (RTGS), block chain technology, and social media platforms.
3. The organizational loyalty is influenced by employees' shared values and beliefs as well as their individual contributions to the company. Internalizing cooperative connections is made easier by the organization's culture, which in turn allows for the administration of efficient organizational processes.
4. According to the research, a bank's entire business plan should include spending money on IT. Bank management must enhance spending on information and communication technology goods to boost service speed, convenience, and accuracy. They would boost Nigerian banks' productivity, income, and competitiveness, making them more resilient to the opportunities and threats of an ICT-driven globalized economy.
5. The study suggests that each bank in Nigeria should not only invest heavily in ICT, particularly POS, but also in a research team specializing in informatics and business management, as well as periodic surveys.

The research limitations are due to a banking sector in Nigeria, which is known for its cumbersome bureaucracy and lengthy decision-making processes. This issue made it more difficult to collect appropriate set of data in a timely manner. Another limitation is insufficient prior research studies on the selected topic.

The future research should be focused widely on the global banking system to determine key success factors concerning the synergy effects of information technology and organizational culture and management.

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