

Effect of Information and Communication Technology on Organizational Performance in Nigeria

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ABSTRACT

Information and communication technology has long been recognized as a key factor in helping businesses maximize profits, ensure customer satisfaction and reduce costs. Therefore, this study determines the impact of ICT on the performance of Nigerian breweries organizations. The major objective of this study is to examine the impact of Information Communication and Technology on Nigeria Brewery's organisational performance, while the specific objectives are to: examine the impact of internet access on organisational performance. . It is to investigate and judge the extent of The data was collected by staff at the Nigerian Brewery located in Lagos Statetem Southwest, Nigeria. A total of 2,740 Nigerian brewery workers participated in the survey. Due to the relative size and clarity of the study area, the collected data were analyzed using multiple regression. This fact shows that information and communication technology (ICT) is having a significant impact on the performance of Nigerian breweries organizations. The results also show that Internet access has a positive impact on business performance with an R2 value of 0.738, and a statistically significant factor with a 95% confidence level and a Sig of 0.033 is associated with cloud computing and corporate performance. It also shows that there is a significant association between The study recommends that organizations use Internet access to effectively plan, execute, and communicate better to reach customers and beneficiaries.

KEYWORDS: *Information and Communication Technology, Organizational Performance, Information Technology and Organisations*

INTRODUCTION

Over the past few decades, the Earth has witnessed a revolution known as Information and Communication Technology (ICT). People's daily lives are being transformed by this revolution in their workplaces, organizations, schools, universities and even homes (Ali, Ibrahim, Mohammed & Bizi, 2020). Both the international economy and business processes have evolved from low growth to high growth, and production processes have moved from simple to modern and complex (Agbolade, 2011). A competitive environment characterized by changing conditions and a highly unpredictable business environment. ICT is at the top of the change curve, changing the way people think, interact and act (Agbolade, 2011). Internet access, cloud computing, mobile phones, satellite networks, and outer space

have turned the world into a global village, where computers and communications converge to create new ways to communicate, process, store, and distribute vast amounts of data. A means was born (UNDP, 2001). Advances in chip, satellite, wireless and fiber optic technology have enabled millions of people around the world to be electronically connected across and across borders (Onobrakpeya, Nana, & Odus, 2018) .

Loukis, Sapounas, and Milionis (2007) found that organizations invest more in information and communication technology (ICT) to improve performance. Gartner (2014) found that organizations are investing more in their information systems (IS) to improve efficiency, performance and quality.

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Gerald and Anderson (2012) argue that organizations that leverage supply chain relationships through information technology have been able to improve performance through integration. According to Schroeder, Pennington-Gray, and Donohoe (2013), logistics is the seamless movement of goods from one point to another while minimizing or eliminating inefficiencies, while Logistics performance is the process of meeting customer needs, reducing transit time, managing costs, product/service differentiation, and customer or supplier relationships.

Loukis, Sapounas, and Milionis (2007) found that organizations invest more in information and communication technology (ICT) to improve performance. Gartner (2014) found that organizations are investing more in their information systems (IS) to improve efficiency, performance and quality. Gerald and Anderson (2012) argue that organizations that leverage supply chain relationships through information technology have been able to improve performance through integration. According to Schroeder, Pennington-Gray, and Donohoe (2013), logistics is the seamless movement of goods from one point to another while minimizing or eliminating inefficiencies. Performance is the process of meeting customer needs, reducing transit time, controlling costs, product/service differentiation, and managing customer or supplier relationships.

Nigeria faces major challenges in accessing information. These problems, especially low phone penetration and uneven access, seem insurmountable. Penetration in Nigeria in the 20th century was less than 1 line per 1000 people despite efforts by successive Nigerian governments to improve penetration and communication technology (ICT) related management and telecommunications infrastructure. This has resulted in mostly negative gains for the economy and society as a whole.

It is clear that Nigeria currently lacks innovation, competence and skills in information technology (IT) management and hardware maintenance. Nevertheless, the country continues to import and use a wide range of durable consumer electronics, computers and communications equipment. So we need to start building our skills to restore and maintain these vintages. To ensure that Africa does not fall behind in global trade and development, it must be able to acquire certain basic ICT skills. Moreover, the rate of technological obsolescence of ICT is likely to be much faster than that of natural technologies (steel, textiles, petrochemicals, etc.). Therefore, African technology successors may face difficulties in sourcing parts, components and peripherals unless they start building component manufacturing capacity.

The technology available is mostly obsolete electromechanical switching systems. Some countries are currently undertaking large-scale modernization efforts. For example, Nigeria currently has about 500,000 lines, with an ongoing digitization program adding about 160,000 lines. Technology absorption and mastery requires more than technology imports. Learning that requires explicit investment is a prerequisite for building technical and managerial skills.

These are some of the key questions at the heart of this study. The study also examines the impact of ICT in the light of these variables, starting with services and manufacturing. While the importance of manufacturing is widely recognized, the service sector has not necessarily received as much attention. There are several reasons why ICTs affecting services are easier to systematically study and easier to reform (telecommunications and financial services are good examples). Second, due to their mundane nature, producer services such as accounting, banking, and finance are also easily 'programmable' and therefore subject to ICT (particularly computerization). Third, services are undergoing tremendous technological change through the use of management-based, information-intensive technologies.

In the airline industry, computerized reservation systems (CRS) are increasing productivity by handling high volumes of freight, complexity and heavy traffic. Computer-aided signaling systems in rail transport have improved safety and increased traffic.

There are few systematic studies on the impact of his ICT adoption on these sectors in Nigeria. Therefore, the decision was made to examine how ICT was adopted and pervasive in the two sectors. In manufacturing, the focus is on mineral oils, pharmaceuticals, textiles, food and beverages, and metalworking sectors, all of which contribute significantly to value creation.

Objectives

The major objective of this study is analysis of the impact of Information Communication and Technology on Nigerian Brewery's organisational performance, while the specific objectives are to examine the impact of internet access on organisational performance.

Literature review

Information Technology

Information technology refers to anything related to computer technology. B. Networks, hardware, software, the Internet, or people who work with these technologies. According to Peansupap & Walker

(2005) IT can be defined as hardware, software, telecommunications, database management and other information processing technologies used to store, process and deliver information. Information technology is often used to enable managers to directly manage business functions, human resources, and other resources. As managers oversee the coordination and allocation of resources, it can be difficult to coordinate business functions across different projects. Information technology is one of the key innovations he often implements to support this process (Hobday, 2000). Peansupap and Walker (2005) argue that IT is widely deployed because it is believed to facilitate communication, improve integration, and improve productivity and service delivery.

As organizations grow and change, they become increasingly dependent on information technology to survive (Olaoye, Olaofe-Obasesin & Akanni, 2019). Organizations today rely on information technology to find solutions to business problems, improve managerial decision-making, increase productivity and quality, and compete for new markets in a global and aggressive business environment. (Peansupap, & Walker 2005). Moreover, IT can be seen as a powerful force that opens up exciting opportunities for organizations to achieve their mission and goals in an effective way. Therefore, organizational leaders must be holistically aware of the potential of IT and relate the acquisition and use of IT to the organization's mission (Hacker & Saxton, 2007).

Organisation Performance

Information technology is at the core of many business functions, processes, products and services. Today, companies around the world spend more than 50% of their new investment capital on IT and related communications. How an organization manages these large investments is critical to its efficiency and effectiveness. Additionally, IT is often the link between business models and key success factors. Many organizations fail in their IT-based investments due to poor alignment between IT and the business.

A number of studies have investigated the impact of information technology on organizational services and performance (Ali, Ibrahim, Mohammed, & Bizi, 2020). Most of these studies suggest that IT plays an important role in improving information quality and quantity, but its adoption and innovation potential is often uncertain (Mano, 2009). . Different companies have different ways of allocating resources to maximize their goals. Also, firms that allocate more IT resources outperform those that allocate less (Peansupap & Walker, 2005). Achieving high performance also requires a good IT infrastructure

supported by good IT management practices (Mwania & Muganda, 2012).

Information Technology and Organisations

Non-Governmental Organizations (NGOs) have traditionally contributed greatly to the future of the country, but to effectively continue this work in today's technological age, it is necessary to leverage not only technology but also the application of these technologies. You also need the skills to extract value from In addition, timely access to the 'marketplace' is required to enable sharing and dissemination of the information received. Non-governmental organizations are often based at the grassroots level. These organizations support communities at the local level through locals and the general public. Grassroots NGOs are a lifeline for many people in developing countries to strengthen their skills, knowledge and support from outside their small and isolated communities.

Historically, organizations, especially non-governmental organizations, have lagged their peers in adopting IT and have been relatively slow to take advantage of new developments in information technology UNDP (2001). Most NGOs follow traditional (manual) methods, using computers for word processing, spreadsheets, and accounting applications, managing a patchwork of old and new elements that often don't work well together. NGOs, unlike their corporate counterparts, face several limitations that hinder IT adoption. These obstacles include lack of budget to invest in the latest and greatest systems and IT tools, lack of sustainable capital for IT investments, inability to pay competitive salaries to technical staff, It includes the inability to build the necessary technical skills.

Organizations have factors such as expected benefits and barriers that influence enterprise IT adoption. Organizations adopt new technologies when they expect increased input, overall efficiency, profits, flexibility, and improved product quality (Brynjolfsson et al., 2002). Firms feel they face unfavorable financial conditions, human capital constraints (such as shortages of IT specialists and multi-skilled labor), information and knowledge barriers, and administrative barriers such as resistance to management. When they do, they often don't adopt new technology. Companies face new technologies (Heinz, 2002).

Information Technology and Business Processes

Recent advances in information technology are critical to an organization's operations, structure and strategy. (Evans & Wurster, 2007), the competitiveness of the future economy will largely depend on both the development and application of

these technologies. The proliferation of the World Wide Web has forced most organizations to rethink the way they do business. How business processes can be redesigned As businesses are now able to collaborate more effectively, effective businesses are digitized and connected, facing a variety of new opportunities and challenges (Dennis, 2007).

According to Bocij et al. (2003), technology is already revolutionizing a wide range of functions, including business functions, monitoring the external environment, communicating with partners, and communicating with consumers in general. A prerequisite for the development of e-commerce strategies and the development of websites and other technical solutions. Emerging mobile technologies and mobile commerce are expected to dramatically transform many industries and force companies to rethink their strategic management (Evans & Wurster, 2007).

The Role a Information Technology in Organisations

In the international community, the collective technical infrastructure of hardware, software and telecommunications is often referred to as Information and Communication Technology (ICT) and can be considered an extended synonym for IT. Many companies see IT as a key tool for streamlining operations and sharing information.

Information technology can provide organizations with powerful strategic and tactical tools. Properly applied and utilized, these tools can have great benefits in promoting and enhancing competitiveness (Porter, 2001). IT can be a means of facilitating communication, information sharing, and knowledge sharing among various departments and functions within an organization. With this in mind, IT can serve as a networking tool between employees, customers, and partners to foster collaboration and remove barriers to real-time communication and effective information sharing (Scott, 2001).

IT helps organizations to innovate by integrating new technologies with society and business and generating new knowledge and discoveries (Daniel, 2007). Businesses use IT to improve performance and communication, motivate employees, increase competitiveness, improve market dynamics, reposition companies against competitors, and enter new markets. (Hagen, 2010).

Information & Communication Technology and Organisational Performance

In today's competitive environment, company performance is critical to shareholder welfare and the economy. ICT has emerged as a competitive weapon

capable of transforming industry structures and as a tool for processing data and recording transactions (Olaoye et al, 2019). ICT can be used to increase the management efficiency and effectiveness of an organization. These programs can also be used to improve task organization and provide managers with more information (Garcia-Sanchez & Garcia-Morales, 2018).

Many authors and researchers in the organizational field believe that ICT has a significant impact on the performance of organizational activities. (Okeke, 2021; Ali et al. 2020 and Onobrakpeya et al. 2018). As Olaoye et al. (2019) emphasized that ICT is central to business processes, functions, goods and services. ICT and other forms of communication consume enormous amounts of investment capital every day. Given the links between business and success variables, how an employee manages the large amount of money invested in her ICT is critical to the effectiveness and efficiency of business operations in Nigeria.

Information Tecnology and Performance of Organisations

Today, information technology is not only a tool for processing data and recording transactions, but also a competitive weapon that changes the structure of the industry. Evans & Wurster (2007) argue that rapid technological advances and the impact of information technology on the changing competitive landscape require organizations to critically assess the management of their information and technology assets in order to achieve their strategic goals. suggests there is.

One of the strongest evidences for the impact of IT comes from firm-level analyzes supported by many developed countries (OECD, 2003). Most of these studies combine growth accounting techniques with econometric models to study a sample of industries and companies.

Theoretical Framework

This study uses theoretical models to determine the impact of information technology on business performance. The study is therefore based on: The organizational model (Leavitt, 1965) and the technology acceptance model (Davis et al., 1989).

The Technology Acceptance Model

New information technology cannot improve the effectiveness of an organization unless it is accepted and used by potential users. The Technology Acceptance Model (TAM) is one of the most successful tools for effective computer use among practitioners and academics (Davis, 1989). TAM is consistent with the (Rogers, 1983) theory of diffusion

of innovation. Relative advantage and ease of use. The

TAM addresses two specific beliefs. Perceived usefulness and perceived ease of use. Perceived usefulness is defined as the degree to which an individual believes that using the system will improve their performance. Perceived ease of use refers to the degree to which an individual believes a system is easy to use. The TAM aims to provide explanations and predictions that help researchers and practitioners identify why a particular system is unacceptable and take appropriate action.

Model of the Organisation

The research paradigm used in this study is based on a model of organization (Leavitt, 1965). He proposed that an organization consists of four interconnected components: structure, mission (strategy), people, and technology related to communication systems, authority systems, and workflow systems. An organization's strategy can be defined as establishing fundamental long-term goals for the company, adopting courses of action and committing resources aimed at achieving those company goals (Chandler, 1962). People refers to people who work within an organization. Technology can be defined as the tools, techniques, and actions used to transform organizational inputs into outputs (Daft, 1995). Leavitt (1965) reported that when one of the four components changes, the other three must also change. It is the interplay of these four elements that determines the fate of an organization. This framework was chosen for this study because it covers many important issues leading to a comprehensive understanding of the relationship between information technology and organizations. This research focuses on the impact of information technology on the organization and organizational characteristics that are part of the technology component.

Methodology

A descriptive survey design was chosen for this study. Descriptive survey are used to describe the behavior of a particular person. Information for this study was obtained from two different perspectives: primary and secondary. A total of 2,740 Nigerian brewery workers participated in the survey. Due to the relative size of the study area and convenience, in-depth research, and cost considerations, the study area was limited to southwestern Nigerian breweries. Researchers limited their research to organizational executives and executives because the operation and

strategic management of information and communications are carried out by organizational executives and executives. However, due to the large study population, a formula was used to determine the sample size. As a result, 262 questionnaires were distributed. Questionnaires are the primary data collection tool for research and are designed to make data easier to understand, collect and analyze.

Results and Discussion

Hypothesis

Internet access does not have a significant effect on organizational Performance

Table 1: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738 ^a	.626	.686	2.52619

a. Predictors: (Constant),

Table 1 shows that the model summary gives an R2 value = (0.738). This demonstrates that the Internet access variable has a positive impact on the organizational performance of Nigerian breweries. Therefore, a model that predicts 81.9% of Internet access distribution (organizational performance) improves organizational performance. This means that Internet access reflected in the Nigerian brewery model can predict 82% of the variance in organizational performance (organizational performance).

Table 2: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	651.102	25	605.102	14.078	.033 ^b
Residual	228.950	237	42.983		
Total	754.051	262			

Dependent Variable: Organisational Performanceb.

Predictors (Constant), ICT

As shown in Table 2, organizational performance levels were significantly predicted by Internet access variables. The overall regression model is statistically significant for goodness of fit because the values of $F_{tab} > F_{cal}$. $F=14.078$, $p < 0.033$ The F statistic indicates that the overall regression model is highly statistically significant for goodness of fit. As a result, the null hypothesis is rejected. The study concluded that Internet access had a significant impact on the performance of selected Nigerian bottling companies, Nigerian organizations.

Table 3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.721	2.388		0.704	0.053
IT use	.848	.263	.908	3.752	0.033

a. Dependent Variable: Organizational Performance

Table 3 is the coefficient table that shows how the Internet access (IA) influence or contributed to the prediction of the dependent variable which is organisational performance (OP). The standardized coefficient showed that Internet access contributed 81.9% (positive) to the performance of Nigeria Brewery, and this is significant at $P < 0.033$. This suggests that increasing the independent variable by one unit will result in a performance improvement of 0.908. Therefore, the study can be concluded that Internet access provided by the Nigeria Brewery has contributed significantly to their performance.

Discussion of Findings

The primary goal of this research work is to look into the impact of information and communication technology on the Nigeria Brewery's organisational performance. As part of the process of achieving this aims, some analysis based on the data collected in accordance with the study's hypotheses was carried out. The findings revealed that Internet Access variables in a Nigerian brewery have a positive impact on organisational performance. Meaning that internet use has improved project planning and execution activities in reaching customers, that internet access has facilitated better communication with beneficiaries and service delivery partners, that the internet is used to collaborate with others/team, and that internet access has led to more formalization of communication and procedures. Moreover, the findings on whether if relationship exist between cloud computation and organisational performance of Nigeria Brewery the study discovered that cloud computing and organisational performance had a significant relationship. Meaning that the manufacturing companies should make use of cloud computation to improve the data collection process by field officers, improve target monitoring and reporting and to facilitate better management of departmental data needs.

Conclusion

The study concluded that there is a positive association between information technology use and organizational performance. This was evident in all operational information technology use variables analyzed, including data management, accountability, goal attainment, and service delivery.

Recommendations

Based on the results, the following recommendations were made based on the conclusions and results.

- Organizations should use Internet access to effectively plan, execute, and communicate better to reach customers and beneficiaries.

- In addition, an organization may wish to establish an in-house cloud computing capability to improve data collection processes by field workers, monitoring and reporting to improve data management.

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