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The Impact of Information, Communication, and Technology (ICT) on Coca-Cola Industry Performance in Enugu, Nigeria: What Role Does **Performance Counseling Play?**

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Abstract

This research looked at the impact of information and communication technology (ICT) on the performance of the Coca-Cola Industry in Enugu, as well as the role that organizational counseling might play in ensuring adequate growth in this period of global ICT revolution. A total of 260 employees from the Enugu Coca-Cola Industry participated in the survey. The study was conducted using a descriptive survey research approach. Respondents were drawn from the various units of the industry using purposeful random sampling. Pearson's moment correlation coefficient and simple linear regression statistical methods were used to evaluate three hypotheses. The study discovered that availability of ICT infrastructure influenced Coca-Cola Industry Performance in Enugu positively, whereas inadequate ICT usage abilities and competencies of personnel influenced Coca-Cola Industry Performance in Enugu adversely. In addition, the Coca-Cola Industry in Enugu's performance was significantly impacted by corporate customers' poor use of ICT. Based on the findings, this study suggests that organizations deploy appropriate ICT and use it effectively to gain a worldwide competitive edge, as effective ICT use has a significant impact on organizational performance. The study also suggested that the Coca-Cola Industry in Enugu, Nigeria, form strategic alliances with other international industries in the areas of staff abilities and competencies in effective ICT use in order to gain new and practical knowledge on upgrading their technology, new programs, and new methods of production and delivery, as well as make effective use of organizational counseling and be open to embrace new emerging technological industrial innovations to enlarge their market share.

Keywords: Counselling, impact, industry, Information, Communication, and Technology, and Performance

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Introduction

The world has been undergoing a transformation known as information technology since the early twentieth century. Some consider it to be the most exciting development since the mid-eighteenth-century industrial revolution (Tom, 1991). At home and at work, at stores and banks, in schools, colleges, and universities, this revolution is transforming our daily lives. It's affecting how individuals think, talk, and act. With the internet, cell phones, and satellite networks decreasing time and distance and bringing computers and communications together, the globe has become a global village. This has resulted in new means of communicating, processing, storing, and disseminating massive amounts of data (UNDP, 2001). Advances in chip, satellite, radio, and optical fiber technology have enabled millions of individuals all over the world to connect electronically across national and international borders. The most recent and most significant wave of the information revolution is the expansion in connection (Evans & Wurster, 1997). Information Technology (IT) is widely regarded as a key growth area in the twenty-first century, particularly in a dynamic and highly competitive business environment that necessitates the use of advanced IT tools to improve efficiency, cost effectiveness, and deliver high-quality products and services to customers (Allen & Morton, 2004). IT can also be used for marketing purposes, such as contacting customers and identifying potential customers, as well as presenting IT services as distinct potential services for clients (UNDP, 2001; Werthner & Klein, 2005). Organizations are increasingly turning to information technology to solve business challenges, increase decision-making efficiency and effectiveness, boost productivity and service quality, attain dynamic stability, and compete for new market share (Attewell & Rule, 1984; Molloy & Schwenk, 1995; Boynton, 1993). Organizations have long sought and implemented technology that boost the efforts of their workforce in production and administration, according to Cerere (1993). Indeed, he stated that information technology has emerged as an important tool in the management of organizational activities, despite the fact that it has evolved over a long period of time.

The Coca-Cola company has grown from a single-product manufacturer of bottled beverages to a multifaceted enterprise. The industry is a significant part of the food and beverage sub-sector, accounting for half of the manufacturing sector's growth in 2013, which was 22% compared to 14% in 2012. The growth of the food and beverage sub-sector, in particular, rose to 12% in 2013 from 7% in 2012. The industry, which has evolved into a key economic driver, is currently developing at a higher rate than the telecommunications, oil & gas, and agriculture industries combined (Aderinokun, 2015).

In 2013, the manufacturing sector contributed 9% to GDP, up from 4% the year before. The improvement in the manufacturing sector was ascribed primarily to activity in the food and beverage sub-sector, which includes the Coca-Cola Company (Aderinokun, 2015).

The Coca-Cola industry is highly capital intensive, which explains why the industry's technology, replacement parts, and experienced technicians are not readily available in the country, making it highly reliant on foreign exchange. Due to a ban on the importing of barley in 1987, the industry had no choice but to use local replacements as raw materials. The upkeep of equipment and machinery is one of the industry's primary challenges. To stay competitive, the participants invest a significant amount of money on technology and upgrades (Aderinokun, 2016). In light of the foregoing, the purpose of this research is to look at the impact of information and communication technology on the performance of manufacturing businesses in Enugu State, Nigeria (A Case Study of the Coca-Cola Industry in Enugu, Nigeria).

The Problem Statement

Human components (managers and non-managers) in the Coca-Cola sector in Enugu are terrified of losing their jobs because of the current emergence of information and communication technology in the environment (Nelson, 1991). According to Nwagu (2017), the Coca-Cola Industry in Enugu, Nigeria, has been hampered by several restricting issues, including weak administrative failures and administrative facilities, such as evidence of a manually produced client database. The use of files/folders for data storage is required for manual compilation. When data are held in this manner for an extended amount of time, retrieving them can be difficult, resulting in problems such as a lack of proper records, official corruption and mismanagement, and a lack of effective mechanisms in the Coca-Cola Industry, Enugu, and Nigeria as a whole (Niebel and Freivalds, 2003).

Nonetheless, when effectively applied in a company, information and communication technology leads to increased productivity, profitability, market share, and simple flow of information, as well as successful production of services to customers (Nwachukwu, 1988).

However, ICT has been identified as a solution to most of the Coca-Cola Industry's restricting challenges. The Integrated Pays Administration System (IPAS) is being used to modernize the industry, allowing it to file returns electronically and allow customers to pay for products online, among other things.

Despite the adoption of ICT as an organizational strategy, inadequate administration remains a concern. Corporate clients in Enugu State have not completely embraced the usage of Information and Communication Technology for commercial transactions and are not utilizing the existing ICT platforms. The central question is whether the use of ICT has improved the performance of the Coca-Cola Industry in Enugu, Nigeria. This is the main issue that the researcher wants to investigate.

Examining relevant literature

Information and Communication Technology (ICT) is a term that refers to a set of technologies (ICT) Information and communication technology (ICT) is a broad phrase that refers to a variety of technologies that are used to gather, store, edit, and transmit data in various formats. Education is one of the most important components in national growth and global competitiveness. ICT has been employed extensively in recent decades to translate ideas into attainable goals and to turn those goals into concrete accomplishments. It should be emphasized that information and communication technology (ICT) is widely used in agriculture, engineering, medical, law, architecture, aviation, commerce, insurance, banking and finance, and maritime industries (Oviawe, 2009). In its most basic form, information and communication technology can be defined as an electronic medium for creating, storing, modifying, receiving, and delivering data from one location to another (liman, 2019). It facilitates communication delivery by making it more convenient, accessible, understandable, and interpretable. Cell phones, the Internet, wireless networks, computers, radios, televisions, satellites, base stations, and other devices are used. Information is created, stored, communicated,

transmitted, and managed using these resources. Anything linked to computing technology, such as networking, hardware, software, the Internet, or the individuals who work with these technologies, is referred to as information and communication technology. ICT is described as the hardware, software, telecommunications, database management, and other information-processing technologies used to store, process, and deliver information, according to Daft (1997). Managers frequently employ information and communication technologies to gain direct control over corporate activities, personnel, and other resources. It can be tough to integrate company processes across multiple projects as managers supervise resource coordination and allocation. One of the most common improvements used to help with this process is information and communication technology (Hobday, 2000).

ICT Infrastructure is a concept that has been around for a long time.

ICT infrastructure, as defined by Perrison and Sunders (2006), is everything in an organization that enables the movement and processing of information, including hardware, livewire, software, data, and network components. The composite hardware, software, network resources, and services required for the presence, operation, and management of a business IT environment are referred to as ICT infrastructure. It enables a company to provide IT solutions and services to its employees, partners, and/or customers, and is often installed within owned buildings. ICT Infrastructure, according to Zakareya and Zahir (2005), consists of hardware and software that will offer citizens with secure electronic services. For example, a LAN, a dependable server, and an internet connection.

The term "ICT Capacity" refers to the ability to use information and communication technologies.

Capacity refers to the skills, information, relationships, beliefs, and attitudes that enable governments, organizations, groups, and individuals to carry out functions and achieve their development objectives throughout time, as well as many other traits such as health and awareness (Matachi, 2006). As a result, ICT capacity can be defined as the set of ICT skills, knowledge, relationships, values, and attitudes that enable an individual or an organization to carry out ICT functions and meet their long-term development goals. In a study of Ugandan local governments, Kyakulumbye, Muhenda, and Namanya (2009) concluded that it is critical for an organization to determine its employees' ICT knowledge or abilities since such information or previous experiences may impact the organization's decision to embrace and use ICT. The latest ICT skill for Life Curriculum included a highly intuitive idea of "purposeful use" in its definition of ICT capacity. The construction of conditions that allow individuals to engage in the process of learning and adapting to change is referred to as capacity building. Infrastructure provision, maintenance of ICT equipment, and personnel training are examples of such situations. Everyone today requires a basic understanding of ICT and how to use it effectively. Organizational staff must consequently possess the necessary ICT skills to provide customers with ICT-mediated teaching.

Utilization of ICT is an idea that has been around for a long time.

ICT use, according to Yusuf (2005), is the presentation and dissemination of instructional content via a web environment or systems that provide an integrated set of tools (stand-alone computer instruction, CD ROM, and so on) to aid learning and communication. Utilization is the use of a tool. It is also the most effective and efficient use of a tool. As a result, ICT utilization is the up-to-date and precise application of ICT to improve utility and value. According to Bamiro and Liverpool (2002), the use of ICT and computers has already infiltrated and dominated organizations in the developed world, however progress has been excruciatingly sluggish in Nigeria. A report claiming that no meaningful effort has been made in ICT development at both the individual and corporate levels, and that most universities still process results manually, is like this (the Guardian Editorial, 2006). More importantly, most academics have yet to learn the necessary ICT skills, and when opportunities to do so arise, they pass them up due to their ICT fear. Lecturers may only pass on knowledge and skills to their pupils if they are experts in their field (Bamiro & Liverpool, 2002) Dependence, a lack of planning, overuse, ineffective use, and a lack of basic skills can all contribute to restrictions in ICT use. Studies have proven that faculty members at Nigerian colleges lack computer capabilities, according to (Aniebonam, 2008). As a result, they are unable to use computer technology to enhance their teaching, research, or service to the university community. Digital content is found in only about 12% of Nigerian academic curricula. However, since ICT has advanced in the previous two years, most organizations and institutions now have access to a wide range of ICT facilities, materials, and texts to help them improve their content knowledge and instructional pedagogy.

Organizational Performance is a term used to describe how well an organization performs.

From theoretical, empirical, and managerial perspectives, the importance of organizational performance may be seen (Greenspan, 2000). The theoretical lens examines the efficiency of ICT in influencing the degree of performance it causes, while the practical lens examines the numerous constructs that have been used to measure performance (Fernandez and Borias, 2008). The management perspective is concerned with the quality of managers' day-to-day decisions (Evans, 1999). Despite this relevance, research on performance outcomes remains unclear, and numerous arguments have been proposed for the indecisive results, including methodological flaws, ignoring organizational aspects in performance correlations, and related model application (Due,1994). Measuring performance is one of the most difficult aspects of any organization's ICT study. The failure to incorporate non-financial and less tangible variables such as staff morale, quality, client satisfaction, and so on into performance measurement is the fundamental issue (Dovey, 2002).

Organizational Roles of Information and Communication Technology

The aggregate technological infrastructure of hardware, software, and telecommunications is commonly referred to as information and communications technology (ICT) within the international community, which can be considered as an extended synonym for ICT. Many businesses see ICT as a critical instrument for streamlining operations and conducting information exchanges. Information technology may give organizations with significant strategic and tactical tools that, if correctly deployed and used, can help them promote and strengthen their competitiveness (Porter, 2001). ICT can be used to improve communication

and 10 functions. Because technology removes the hurdles to real-time communication and effective information exchange, ICT can operate as a facilitator of cooperation and a networking tool among employees, customers, and partners (Scott, 2001). IT enables the generation of new knowledge and discovery by assisting organizations in innovating through the merging of new technology with society and business (Diem, 2007). Organizations utilize ICT to improve performance, communication, employee motivation, competitiveness, market dynamics, and repositioning the company against its competitors, as well as to facilitate entry into new markets (Hagen, 2010).

Information, Communication, and Technology (ICT) Challenges in Nigerian Organizations

Several obstacles to the application of ICT and knowledge integration for social development in Nigeria have been identified. Among them are the following:

- **a. Inadequate facilities:** The usage of ICT facilities in Nigeria for integrating ICT knowledge for economic and social development requires sufficient financing to remain running (Haliso, 2011).
- b. Lack of finances: According to Hooker (2010), the most fundamental obstacle confronting the digitization of African economies is a lack of cash for acquisition, maintenance, and training/retraining of ICT employees of enterprises. The government has continued to pay close attention to ICT system funding in general. As a result, Nigeria's ICT system continues to deteriorate unabatedly.
- c. Lack of technical know-how: According to Haliso (2011), human resources, vendors, maintenance culture, education, and training are all important elements influencing the utilization of ICT facilities in Nigeria, particularly for economic purposes. According to him, the use of unskilled and untrained human resources leads to the hiring of expatriates, whose remuneration provides a new difficulty for the government, rendering the program unsustainable? Furthermore, the primary objective of the sellers is profit. Maintenance and training aren't given any thought. Users of the facilities may be hampered in integrating knowledge based on the ICT facilities due to a lack of sufficient training on how to use software and other applications.
- **d. Culture:** When a product made in a developed country is shipped to a developing country like Nigeria, culture becomes a problem. The application may be very relevant to the producer-culture countries and environment, but it may not be appropriate for the consumer-country. As a result, the machine would not be used to its full potential. The task also falls to system strategists and programmers to consider the local mindset, cultural context, degree of education, and awareness.

Performance Coaching as a Concept

Performance counselling refers to the method through which an organization's directors assist and educate its employees to achieve maximum productivity. According to Atul (2020), performance counseling assists employees in overcoming flaws and reinforcing strengths. It is a learning process in which the superior and the subordinate review the subordinate's previous performance to help the subordinate improve and become better in the future. A manager's assistance in objectively reviewing his or her subordinates' performance is referred to as performance counseling. Atul (2020) outlined three ways in which performance counseling

aims to assist the employee: Aiding the employee Knowing his or her own talents and weaknesses. Giving him comments on his actions to improve his professional and interpersonal competence. Setting objectives and developing action plans to achieve them. Performance counseling is very important since it focuses on achieving effective results in any organization. Any performance counselling procedure should consider three steps or phases of performance therapy. According to Atul (2020), these three stages are as follows:

- (a) Establishing a Climate of Acceptance, Warmth, Support, Openness, and Mutuality: During the rapport building phase, a skilled counselor tries to generate a climate of acceptance, warmth, support, openness, and mutuality. This phase entails instilling confidence in the employee to speak openly about his perceptions, difficulties, concerns, and feelings, among other things. It is necessary to make the subordinate feel liked and that his superior is truly interested in his advancement.
- **(b) Exploration:** The counselor should try to assist the employee understand and accept his or her own strengths and flaws during this phase. He should also be aware of his own circumstances, issues, and requirements. Questions that help the employee focus on his problem should be asked.
- (c) Action Planning: Counseling interviews should conclude with precise action plans for the employee's growth. The superior's key contribution during this phase is to assist the employee in considering different solutions to a problem. Finally, the superior may provide a hand in assisting the employee in carrying out the agreed-upon action plan. Due to a lack of follow-up, many good therapy sessions fail to achieve beneficial benefits.

Performance Counseling's Objectives Among the objectives mentioned by Atul (2020) are the following:

Counseling on performance Employee conduct has a wider range, more flexibility, and is more successful. Managerial effectiveness in terms of planning, organizing, leading, making decisions, and other job-related activities has improved. Social and psychological abilities are being improved. Increased ability to deal effectively with change or turmoil. Progression in your career. Increased capacity to strike a balance between personal and professional obligations. Increased ability to influence the organization in a positive way. Performance Evaluations: It's critical to provide feedback to your staff to let them know how they're performing. Employees tend to assume that their performance is satisfactory in the absence of feedback. A major performance problem can occur if they continue to make incorrect assumptions over an extended period. Positive and negative feedback are the two sorts of feedback. If you want to show your staff that you care about them, you should provide them regular feedback. It's also another approach to make the performance evaluation process a continuous one. Discussion of Feedback Is Critical

- i. Assisting employees in realizing their full potential as managers or leaders, for example.
- ii. Assisting others in recognizing their own strengths and flaws.
- iii. Allows people to gain a better understanding of their own conduct and evaluate the dynamics of that behavior.
- iv. Assisting people in gaining a better grasp of their surroundings.
- v. Improving one's own and professional effectiveness.
- vi. Encouraging the development of alternate solutions to diverse issues.
- vii. Establishing a sympathetic environment.

Review of the Evidence

Prior research was evaluated to meet the study's objectives.

Organizational Technology as an Imperative for Knowledge Management at Selected Universities in the Southeastern Part of Nigeria was investigated by Okafor, Onyeizugbe, and Orogbu (2015). The investigation was conducted in the form of a survey. The research used a sample size of 368 people from a population of 4535. The data was analyzed using multiple regression analysis with a significance threshold of 0.05. The findings reveal that ICT-based KM has a considerable impact on professors' research outputs. According to the findings, Nigerian universities should form strategic alliances with other international universities, share best practices in research technique, and ensure that leadership commitment to ICT is maintained.

Ayantoyinbo (2015) conducted research on the impact of information and communication technology (ICT) on freight distribution performance. A study of 77 ICT users from 22 firms was undertaken, with six manufacturers, five third-party logistics, four freight forwarders, five warehouse operators, and eight wholesalers and retailers participating. The data was analyzed using descriptive statistical analysis such as mean, standard deviation, and percentage. The impact degree of ICT uses by freight industries in Lagos and Ogun State, which has a modest impact on their performance because most of them only employ low technology for information collection, is one of the primary conclusions of the study.

Miller (2008) investigated the impact of organizational information, communication, and technical knowledge on brewing efficiency in Dublin, Ireland. In the Brewery he researched, he discovered that organizational information, communication, and technical expertise had a substantial impact on efficiency in terms of executing the correct things at the lowest cost.

Kyle and Muhammad (2015) conducted research on the impact of ICT infrastructure on freight industry performance. They used online anonymous questionnaires to conduct a cross-sectional study with a population of 28 staff members (both management and employees). ICT is a two-way process that plays a vital part in employees' working lives, according to both management and employees. The upward-feedback results revealed that there is still potential for development. ICT was deemed effective by both management and employees. Management must strive to establish an environment that encourages good communication. Williams (2008) investigated the influence of increased ICT on profitability at a brewery in Awo Omama, Imo State. Williams (2008) surveyed 340 people at the Brewery he was researching. He went with a survey and an oral interview as his research design. He gathered information from both secondary and primary sources. He utilized SPSS to examine his data, which included both percentages and valid percentages, as well as the chi-square distribution to test his hypothesis. In the brewing industry he researched, he discovered that increased ICT has a beneficial impact on profitability.

Ijeh (2008) investigated the impact of an information and communication technology (ICT) system for production and operations management on productivity in a brewery in Onitsha, Anambra State, Nigeria. In the Brewery he researched, he discovered that ICT systems of Production and Operations Management had a favorable and considerable impact on Productivity, which is defined as the extent to which total output surpasses total input.

Adekunle and Rafiu (2014) conducted research in South Africa on the impact of ICT capacity building on commercial bank performance. The orthogonal transformation approach was used to analyze the data in a dynamic panel context. Residual co-integration regression analysis utilizing both Pedroni and Kao methods confirmed the results' robustness. According to the study's findings, the deployment of ICT capacity building boosts the South African banking industry's return on capital employed and return on assets. The study discovers that ICT capacity building makes a greater benefit to performance. According to the study, banks should prioritize policies that promote proper ICT capacity building.

Abubakar and Haruna (2014) looked at a study that looked at the impact of ICT on finance and economic growth in Nigeria from 2001 to 2011. The information includes the specified banks' net profit, total assets, total equity, ATM machines, and e-banking services. The ordinary least squares (OLS) model was utilized, which is one of the most often used models for evaluating panel data. According to the study's findings, the usage of ICT does not increase bank performance in Nigerian commercial banks, based on a random effects model. Increased profitability and total equity, on the other hand, revealed significant links between bank performance and, as a result, economic growth in the country.

Fernandez (2008) investigated the impact of information and communication technology (ICT) on organizational performance in a brewery in Dublin, Ireland. The study used a survey design and a sample of 300 respondents from five Brewing departments, including Brewing, Engineering, Marketing, Distribution, and Safety. He employed a structured and unmasked questionnaire in the survey. Likert scale responses were generated in response to assertions about the impact of ICT use on organizational performance. The hypotheses were tested using chi-square. In the Brewing he analyzed, ICT usage had a good and significant impact on organizational performance, according to the study.

Theoretical Foundation

The impact of information communication and technology on organizational performance will be determined using theoretical models. As a result, the following theories will be used in the research:

Theory of Technology Acceptance

The Technology Acceptance Model (TAM) tries to investigate how individual perceptions influence both intentions and actual use of information technology. When consumers are introduced with new technology, TAM claims that a variety of factors influence their decision on how and when to use it. The adopter's attitude toward adoption will determine whether they will behave positively or negatively in the future when it comes to new technologies. Perceived usefulness refers to "the degree to which a person believes that utilizing a specific system will improve his or her job performance," while perceived ease of use refers to "the degree to which a person believes that using a particular system will be painless" (Davis, 1989).

The Technology Acceptance Model (TAM) is significant to this study as a theoretical framework since successful deployment of Information and Communication Technology is heavily dependent on adopters' positive or negative behavior toward new technology.

TAM explains and predicts attitudes toward the use of technology systems using two theoretical constructs: perceived usefulness and perceived ease of use. The availability of ICT infrastructures, ICT capacity in terms

of ICT skills, knowledge, values, attitudes, and relationships, and ICT utilization, as identified in this study, are all dependent on the user's willingness and attitudes toward using the new technology. The variables in this study are related to the constructs of the Technological Acceptance Model, which are perceived usefulness and perceived ease of use, and could also be seen as some of the elements that make up the entire process of ICT implementation in Coca-Cola. This theory best explains the fundamental concerns covered in this study that led to the adoption of ICT. The organization believed that implementing ICT would boost productivity, job performance, and effectiveness, as well as make work easier and faster.

Reasoned Actions Theory (TRA)

The Theory of Reasoned Actions was the second most popular theory (TRA). The Theory of Planned Behavior (TPB) is a particular instance of the Theory of Planned Behavior (TPB) (Ajzen, 2010). TRA was established by Fishbein and Ajzen (1975) to define the relationships between people's beliefs, attitudes, norms, intentions, and behaviors. According to the theory, a person's behavior is determined by his or her behavioral intention to perform it, which is governed by the person's attitudes and subjective norms about the behavior. The subjective norm is "a person's opinion that the majority of key individuals in his life believe he should or should not practice the action in question" (Fishbein & Ajzen, 1975).

Theory of Premeditated Action (TPB)

The Theory of Planned Behavior was the fourth most popular theory (TPB). TPB is a theoretical paradigm proposed by Ajzen (1991) that focuses on cognitive self-regulation. It is quite similar to the TRA model, with the exception that it includes a new concept, called perceived behavioral control. The perception of control over the performance of a specific behavior is referred to as perceived behavioral control. Individual choices and behaviors are determined by rational considerations in TRA, and individual intents determine behavior. Individuals' plans and reasons to commit a given behavior are referred to as intentions. Individual attitudes and the extent to which individuals see a given conduct as desirable or favorable are also reflected in intentions. According to the notion, human behavior is influenced by personal views as well as social forces and a sense of control. According to Ajzen (1991), the theory was used in studies looking at problem drinking or leisure activity, where it gave important information for understanding these behaviors or implementing effective interventions to change them.

Unified Technology Acceptance and Use Theory (UTAUT)

The Unified Hypothesis of Acceptance and Use of Technology was the sixth most popular theory (UTAUT). Venkatesh et al. (2003) established the unified model by analyzing eight approaches that explain ICT usage: TRA, TAM, the motivational model, TPB, a model integrating TAM and TPB, the PC utilization model, DOI, and the social cognitive theory. The goal of UTAUT is to explain how a user's intentions to use ICT and subsequent behavior are related. Performance expectancy, effort expectancy, social influence, and facilitating factors are all considered direct predictors of user acceptance and usage behavior in the model. Gender, age, experience, and voluntariness of use are the four main moderating variables. According to the authors, UTAUT is a tool that managers can use to assess the chances of technology introductions succeeding

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and to understand the determinants of acceptance in order to create interventions such as training or marketing. Users who are less willing to embrace and use new technologies are the focus of UTAUT.

The Study's Objectives

The overall goal of this research is to determine the impact of information and communication technology on the Coca-Cola Industry in Enugu, Nigeria. The study's specific objectives are to:

- 1. Examine how the lack of ICT infrastructure affects the Coca-Cola Industry's performance in Enugu, Nigeria.
- 2. To determine how low personnel abilities and competence in the usage of ICT effect the Coca-Cola Industry's performance in Enugu, Nigeria.
- 3. Examine how the improper use of ICT by corporate customers affects the Coca-Cola Industry's performance in Enugu, Nigeria.

Research Questions

The goal of the research is to find answers to the following questions:

- 1. How does the lack of ICT infrastructure affect the Coca-Cola industry's performance in Enugu, Nigeria?
- 2. How do employee abilities and competencies in the use of ICT impact the Coca-Cola Industry's performance in Enugu, Nigeria?
- 3. How can the Coca-Cola Industry's performance in Enugu, Nigeria, be affected by corporate customers' poor use of ICT?

Hypotheses for Research

- Ho₁: The Coca-Cola Industry's Performance in Enugu, Nigeria is unaffected by the lack of ICT infrastructure.
- The Coca-Cola Industry's Performance in Enugu, Nigeria is unaffected by poor personnel talents and Ho₂: competency in the use of ICT.
- The Coca-Cola Industry's Performance in Enugu, Nigeria is unaffected by corporate customers' poor Ho₃: use of ICT.

Design of the Study

The study used a survey research design as its research method. Based on the responses to a sample drawn from the entire population, the researcher inferred information about a population of interest. This approach was chosen because it aids the researcher in describing, examining, recording, analyzing, and interpreting variables found in the study. Respondents from the Coca-Cola industry in Enugu, Nigeria, who made up the study's sample size, were given questionnaires to fill out. The study's sample size was 250 employees. Staff from each department of the Coca-Cola Industry in Enugu who are knowledgeable about the impact of ICT on organizational performance were chosen using purposeful random sampling. Production has a population of 25 (16.8%), Human Resources has a population of 25 (10.7%), Sales and Marketing has a population of 25 (19.2%), Accounts has a population of 25 (22.6%), and Store has a population of 25 (22.6%). (30.7 percent). As a result, the study's overall population is 250 people. The researchers created a four-Likert-scale questionnaire titled "Information and Communication Technology Effect on Performance of Coca-Cola Company Enugu" (ICTEPCCE). The instrument was handed to management and industry specialists at Veritas University Abuja's Faculty of Management Sciences, and the researchers then updated and corrected the instrument to assure its validity.

Results

Research Question 1: How does lack of availability of ICT infrastructure affect the performance of Coca-Cola Industry in Enugu, Nigeria?

Table 1: Mean analysis showing ways in which lack of availability of ICT infrastructure affect

performance of Coca-Cola Industry in Enugu, Nigeria

S/	Lack of Availability of ICT Infrastructure	Leve	el of A	green	Mean	Decision	
N		SA	A	D	SD		
1	Manually compiled database of customers	89	68	45	48	2.79	Agreed
2	The use of manual files and folders for data storage	102	78	34	36	2.98	Agreed
3	Difficulty in retrieving manual documents or records	95	81	40	34	2.95	Agreed
4	Manual documentation encourages mismanagement	99	84	39	28	3.02	Agreed
	in organization						
5	Manual documentation encourages corruption in an	87	75	43	45	2.82	Agreed
	organization						
6	Our industry uses Intergraded Pay and	35	42	80	93	2.08	Disagreed
	Administrative System (IPAS)))
7	There is inadequate ICT facilities	97	84	32	37	2.96	Agreed
8	The entire accounts department of the industry is	50	34	87	70	2.18	Disagreed
	electronically digitalized						<
9	All financial transactions in the industry presently	56	35	88	71	2.30	Disagreed
	are online transactions					~ NA	
10	Our industry has digital CCTV cameras for adequate	18	43	97	92	1.95	Disagreed
	security monitoring twenty-four hours daily		_	1			
11	There is steady electricity in the industry for	51	38	98	63	2.31	Disagreed
	effective ICT services twenty-four hours daily						
12	The industry has free access to internet to enable	36	46	78	90	2.11	Disagreed
	every staff interact on various media platforms with						
	customers						
	Sectional Mean					2.54	Agreed
	Scale Mean 2 50						

Scale Mean 2.50

From Table 1, it could be observed that the mean values of 2.79, 2.98, 2.95, 3.02, 2.82 and 2.96 respectively were in agreement with items 1, 2, 3, 4, 5 and 7 while the mean values of 2.08, 2.18, 2.30, 1.95, 2.31 and 2.11 respectively were in disagreement with items 6, 8, 9, 10, 11 and 12. The sectional mean of 2.54 indicated that some of the respondents agreed that manually compiled database of customers, the use of manual files and folders for data storage, difficulty in retrieving manual documents or records, manual documentation encourages mismanagement, manual documentation encourages corruption in an organization and inadequate ICT facilities as lack of availability of ICT infrastructure while the remaining respondents

Coca-Cola Industry in Enugu, Nigeria?

disagreed with the industry uses Intergraded Pay and Administrative System (IPAS), the entire accounts department of the industry is electronically digitalized, all financial transactions in the industry presently are online transactions, the industry has digital CCTV cameras for adequate security monitoring twenty four hours daily and there is steady electricity in the industry for effective ICT services twenty four hours daily as lack of availability of ICT infrastructure. Thus, there was inadequate availability of ICT infrastructure. Research Question 2: How do staff abilities and competencies on the use of ICT affect the performance of

Table 2: Mean analysis showing ways in which staff abilities and competencies on the use of ICT affect performance of Coca-Cola Industry in Enugu, Nigeria

S/N	Staff Abilities and Competencies on Use of ICT		el of A	Agree	ment	Mean	Decision
	-	SA	\mathbf{A}	D	SD		
13	Poor staff abilities in utilizing ICT facilities of the	89	91	43	27	2.97	Agreed
	industry						
14	Staff have no adequate training on ICT competency	99	87	52	12	3.09	Agreed
	in the use of ICT						
15	The staff of the industry have access to free internet	56	45	87	62	2.38	Disagreed
	for transaction in their offices						
16	All the staff of the industry have email addresses	43	34	85	88	2.13	Disagreed
17	All the staff of the industry have android phones	39	46	97	68	2.22	Disagreed
	and can effective use such for online transactions				4		
18	Every staff of the industry is trained effectively on	35	47	87	81	2.14	Disagreed
	ICT usage in their departments						
19	The staff of the organization have benefitted a lot	35	45	78	92	2.09	Disagreed
	from the activities of organizational counseling in						~
	the industry					10	
20	The activities of organizational counseling have a	80	96	41	33	2.89	Agreed
	great positive impact on the staff who have	1	_			U.	
• •	emotional problems at work place	\.	a second	1	UJ	• • •	
21	Organizational counseling brought tremendous	10	86	38	25	3.05	Agreed
	positive progress on staff attitudes to work in the	1					
22	industry	2.5		0.7	5 0	2 22	5
22	There is great encouragement from the	35	56	87	72	2.22	Disagreed
	management for staff capacity development in the						
	areas of specialization					2.52	A 1
	Sectional Mean					2.52	Agreed

Scale Mean 2.50

From Table 2, it could be observed that the mean values of 2.79, 3.09, 2.89 and 3.05 respectively were in agreement with items 13, 14, 20 and 21 while the mean values of 2.38, 2.13, 2.22, 2.14, 2.09 and 2.22 respectively were in disagreement with items 15, 16, 17, 18, 19 and 22. The sectional mean of 2.52 indicated that some of the respondents agreed that poor staff abilities in utilizing ICT facilities of the industry, inadequate training on ICT competency, the activities of organizational counseling has a great positive impact on the staff who have emotional problems at work place and organizational counseling brought tremendous positive progress on staff attitudes to work in the industry were observed as staff abilities and competencies while the remaining respondents disagreed with the staff of the industry have access to free internet for transaction in their offices, all the staff of the industry have email addresses, all the staff of the industry have android phones and can effective use such for online transactions, every staff of the industry is trained effectively on ICT usage in their departments, the staff of the organization have benefitted a lot from the activities of organizational counseling in the industry and there is great encouragement from the management for staff capacity development in the areas of specialization as staff abilities and competencies. Thus, the level of staff abilities and competencies in ICT was very low.

Research Question 3: How does corporate customers' poor utilization of ICT affect the performance of Coca-Cola Industry in Enugu, Nigeria?

Table 3: Mean analysis showing ways in which corporate customers' poor utilization of ICT affect performance of Coca-Cola Industry in Enugu, Nigeria

S/N	Corporate Customers' Po	of ICT	Leve	el of A	Agreei	nent	Mean	Decision	
				SA	A	D	SD		
23	Customers pay for products	<mark>online</mark>		98	85	51	16	3.30	Agreed
24	Corporate customers have	<mark>not ful</mark> ly embr <mark>a</mark>	aced the	42	54	78	76	2.25	Disagreed
	use of ICT for business tran	sactions					4		
25	Customers do not take adva	antages of the a	vailable	88	87	43	32	2.92	Agreed
	ICT platforms to ease their	transactions							
26	All administrative secretar	ies have ICT f	facilities	34	56	76	84	2.16	Disagreed
	like scanners, laptops et	c., for easy l	business						2
	transactions with cooperate	customers						//	
	Sectional Mean							2.66	Agreed

Scale Mean 2.50

From Table 3, it could be observed that the mean values of 3.30 and 2.92 respectively were in agreement with items 23 and 25 while the mean values of 2.25 and 2.16 were in disagreement with items 24 and 26 respectively. The sectional mean of 2.66 indicated that some of the respondents agreed that some customers pay for products online and some customers do not take advantages of the available ICT platforms to ease their transactions while the remaining respondents disagreed with corporate customers have not fully embraced the use of ICT for business transactions and all administrative secretaries have ICT facilities like scanners, laptops etc., for easy business transactions with cooperate customers as corporate customers' poor utilization of ICT that affects the performance of Coca-Cola Industry in Enugu, Nigeria. Thus, corporate customers' poor utilization of ICT affects the performance of Coca-Cola Industry in Enugu, Nigeria.

Research Hypotheses

The null hypotheses were tested at 0.05 level of significance.

H₀₁: Lack of availability of ICT infrastructure does not have a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

Table 4: t-test analysis showing impact of lack of availability of ICT infrastructure on the performance

of Coca-Cola Industry in Enugu, Nigeria

Variables	N	Mean	SD	df	t-cal	t- _{tab}	Sig (P-cal)	Remarks
ICT infrastructure	250	10.36	1.481					
				498	6.542	1.648	0.000	Reject H ₀₁
Coca-Cola performance	250	8.48	1.353					

Significant at df=498; P \leq 0.05, t-cal> t-tab

Table 4 showed t-test analysis of impact of lack of availability of ICT infrastructure on the performance of Coca-Cola Industry in Enugu, Nigeria. The t-cal value of 6.542 was found to be greater than the t-tab value of 1.648 given 498 degrees of freedom at 0.05 level of significance. The t-cal value was significant since it was greater than t-tab value, therefore, the null hypothesis was rejected. Also, P-cal of 0.000 was less than the P-set of 0.05. It implied that lack of availability of ICT infrastructure had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

H₀₂: Poor staff abilities and competencies do not have a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

Table 5: t-test analysis showing impact of poor staff abilities and competencies on the performance of Coca-Cola Industry in Enugu. Nigeria

Variables	N	Mean	SD	df	t-cal	t-tab	Sig (P-cal)	Remarks
Staff abilities and	250	9.39	1.487				11.77	
competencies				498	5.543	1.648	0.000	Reject H ₀₂
Coca-Cola performance	250	8.47	1.354					•

Significant at df=498; P≤0.05, t-cal > t-tab

Table 5 showed t-test analysis of impact of poor staff abilities and competencies on the performance of Coca-Cola Industry in Enugu, Nigeria. The t-cal value of 5.543 was found to be greater than the t-tab value of 1.648 given 498 degrees of freedom at 0.05 level of significance. The t-cal value was significant since it was greater than t-tab value, therefore, the null hypothesis was rejected. Also, P-cal of 0.000 was less than the P-set of 0.05. It implied that staff abilities and competencies had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

H₀₃: Corporate customers' poor utilization of ICT does not have a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

Table 6: t-test analysis showing impact of corporate customers' poor utilization of ICT on the performance of Coca-Cola Industry in Enugu, Nigeria

Variables	N	Mean	SD	df	t-cal	t-tab	Sig (P-cal)	Remarks
Corporate ICT utilization	250	6.42	1.491	498	7.593	1.648	0.000	Reject H ₀₃
Coca-Cola performance	250	5.44	1.365					-

Significant at df=498; P≤0.05, t-cal > t-tab

Table 6 showed t-test analysis of impact of corporate customers' poor utilization of ICT on the performance of Coca-Cola Industry in Enugu, Nigeria. The t-cal value of 7.593 was found to be greater than the t-tab value of 1.648 given 498 degrees of freedom at 0.05 level of significance. The t-cal value was significant since it was greater than t-tab value, therefore, the null hypothesis was rejected. Also, P-cal of 0.000 was less than the P-set of 0.05. It implied that corporate customers' poor utilization of ICT had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

Discussion

In hypothesis one, it could be observed that lack of availability of ICT infrastructure had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria. This agreed with (Nwachukwu,1988), who stated that, when effectively applied in a company, information and communication technology leads to increased productivity, profitability, market share, and simple flow of information, as well as successful production of services to customers.

In hypothesis two, it could be seen that staff abilities and competencies had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria. This corroborated Haliso (2011), who posited that human resources, vendors, maintenance culture, education, and training are all important elements influencing the utilization of ICT facilities in Nigeria, particularly for economic purposes. According to him, the use of unskilled and untrained human resources leads to the hiring of expatriates, whose remuneration provides a new difficulty for the government, rendering the program unsustainable.

Also, in hypothesis three, it revealed that corporate customers' poor utilization of ICT had a significant impact on the performance of Coca-Cola Industry in Enugu, Nigeria.

Conclusion

This study reveals that there was inadequate availability of ICT infrastructure at Coca-Cola Industry in Enugu, Nigeria. as shown in the result analysis of research question one. Also, the level of staff abilities and competencies in ICT was very low as obtain in the results analysis of research question two above. Moreso, corporate customers' poor utilization of ICT affected the performance of Coca-Cola Industry in Enugu, Nigeria.

Recommendations

Based on the findings of this research, the following recommendation are made

- That organizations deploy appropriate ICT and use it effectively to gain a worldwide competitive edge, as effective ICT use has a significant impact on organizational performance.
- That the Coca-Cola Industry in Enugu, Nigeria, should form strategic alliances with other international industries in the areas of staff abilities and competencies.
- That the management of the industry ensure periodical capacity buildings and effective ICT use training for all staff of the industry.
- The management of the industry to adopt other new and practical knowledge on upgrading their technology, new programs, and new methods of production and delivery.
- The management of the industry to make effective use of organizational counseling to improve staff mental health and productivity.
- The Organisation be open to embrace new emerging technological industrial innovations to enlarge their market share.

References

Adams, D. A., Nelson, R.R. & Todd, P. A. (1992). Perceived Usefulness, Ease of Use, and Usage of Information Technology. A Replication. *MIS Quarterly*, 16(2), 227-237.

Adekunle, O. B. & Rafiu, A. A. (2014). The Impact of Information and Communication Technology (ICT) on Commercial Bank Performance: Evidence from South Africa. *Problems and Perspectives in Management*, 12(3) 59-69.

Agbadudu, A. B. (2004). Statistics for business and the social sciences. Benin: Uri Publishing Limited.

Agbonifoh, B. A., Ehiametalor, E. T., Inegbenebor, A. U., Iyayi, F. I. (1999). The business enterprise in Nigeria. Lagos: Longman Nigeria PLC.

Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Ajzen, I. (2010). The theory of planned behavior. Retrieved March 4th, 2022 from http://www.people.umass.edu/aizen/tpb.html.

Amit, R., & Schoemaker, P. (1993). Strategic Assets and Organizational Rent. Strategic Management Journal (14) 33-46.

Anderson, R. (2002). Guest Editorial: International Studies on Innovative Uses of ICT in School. *Journal of Computer Assisted Learning*. 18(21), 381-386.

Asika, N. (2004). *Research methodology: A process approach*. Lagos: Mukugamu and Brothers Enterprises. Atul (2020), Performance Counselling and Performance Feedback

https://www.linkedin.com/pulse/performance-counselling-feedback-atul-chanodkar

Atul (2020), Competency based Performance Management

https://www.linkedin.com/pulse/competency-based-performance-management-atul-chanodkar

Bharadwaj, A. S., Sambamurthy, V., & Zmud, R. W. (1998). IT capabilities: Theoretical perspectives and empirical operationalization. Paper presented at the 19th international conference on information systems. Helsinki, Finland.

Bharadwaj, A. S., Bharadwaj, S & Konsynski, B. (1999). Information Technology Effects on Firm Performance as Measured by Tobin's Q. *Management Science* 45(7), 1008-1024.

Bock, G. W., & Kim, Y. G. (2002). Breaking the Myth of Rewards: An Exploratory Study of Attitudes about Knowledge Sharing. *Information Resources Management Journal*. 15(2), 14-21.

Campbell, J. P., McCoy, R. A., Oppler, S. H. & Sager, C. E. (1993). A theory of performance in Umemezia, E. I. Organizational learning: Its meaning and impact on performance. PhD seminar paper presented to the Department of Business Administration, University of Benin, Benin City.

Cardy, R. C. (2003). *Performance management concepts, skills, and exercise*. New York, M. E. Sharpe Publishers.

Carr, N. G. (2003). IT Doesn't Matter. Journal of Academy of Business and Economics. 1(2), 53-63.

Chong, C. W., Holden, T., Wilhelmij, P., & Schimdt, R. A. (2000). Where does Knowledge Management Add Value? *Journal of Intellectual Capital*. 1(4), 366-380.

Corici, M. (2009). The Impact of the Information and Communication Technology as a Factor of Influence on Organizational Performance. *Journal of Information Science*. 7(12), 22-42.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*. 13(3), 319-342.

DeLone, W. H & McLean, E. R. (1992). Information System Success: The Quest for the Dependent Variable. *Information Systems Research*. 3(1). 60-95.

Devan, S., & Min, C. (1997). The Substitution of Information Technology for other Factors of Production: A Firm Level of Analysis. *Management Science*, 43(12), 1660-1675.

Devaraj, S., & Kohli, R. (2000). Information Technology Payoff in the Health-Care Industry: A Longitudinal Study. *Journal of Management Information Systems*, 16(4), 41-67.

Devaraj, S., & Kohli, R. (2003). Performance Impacts of Information Technology: Is Actual Usage the Missing Link? *Management Science*, 49(3) 273-289.

Dewan, S., & Kramer, K. L. (1998). International Dimensions of the Productivity Paradox. *Communications of the ACM*, 41(8), 56-62.

Dierickx, I., & Cool, K. (1989a). Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science*, 35(12), 1504-1511.

Dierickx, I., & Cool, K. (1989b). Asset Stock Accumulation and the Sustainability of Competitive Advantage. Reply. *Management Science*, 35(12), 1504-1514.

Dimlong, R. R. (2016). Effect of information and communication technology on tax administration in Federal Inland Revenue Service, Jos, Plateau State. An M.Sc. thesis submitted to the school of Postgraduate studies, Ahmadu Bello University, Zaria.

Dimovski, V., & Skerlavaj, M. (2003). *Testing productivity paradox*: The Slovenian.

Domowo, F. A. (1999). Government incentives and strategies for business development. In Nigeria in introduction to business: A functional approach. (A.U. Inegbenelor and E. B. Osaze, Editors) Lagos: Mathouse Press Limited.

Dovev, L. (2002). The Competitive Advantage of Interconnected Firms: An Extension of the Resource-Based View. *Academy of Management Proceedings*, 1-6.

Du, R., Ai, S., & Ren, Y. (2007). Relationship between Knowledge Sharing and Performance: A Survey in China. *Expert Systems with Applications*. 32(7) 38-46.

Due, R. T. (1994). The Productivity Paradox Revisited. Information Systems Management, 4(1)74-76.

Enikanselu, S. A., Ojodu, H. O & Oyende, A. I. (2009). *Management and business research seminar*. Lagos: Enykon Consult.

Evans, B. (1999). A Culture of Innovation. *Information Week*, 725-735.

Fatunla, S. O. (1984). *Computers and mathematics in the modern society in computers and mathematics in the modern society*. Lagos: Macmillan Nigeria Publishers Limited.

Fernandez, F. G., & Borias, A. C. C. (2008). The Relationship between ICTies and New Organizational Forms: Reference of the Manufacturing Industry in the Area of Caraboba Venezuela, *Journal of Technology Management and Innovation*, 3(4), 152-165.

Fraser, J., Fraser, N., & McDonald, F. (2000). Insight from Industry: The Strategic Challenge of Electronic Commerce. *Supply Chain Management: An International Journal*, 5(1), 7-14.

Greenspan, A. (2000). The revolution in information and communication technology. The Federal Reserve Board documents presented in the Boston Conference on the New Economy, Boston, Estadors Unidos on 5th March, 1-10.

Gupta, A. K. (2007). Engineering management. New Delhi: S. Chand and Company Limited.

Gupta, R. K. (2012). *Equal employment opportunity commission*. Washington DC: Office of Federal Operations.

Hildebrand, C. (1994). Resounding maybe. CIO. February, 35-37.

Hitt, L. M., & Brynjolfsson, E. (1996). Productivity, Business Profitability, and Consumer Surplus: Three Different Measures of Information Technology Value. *MIS Quarterly*, 20(2), 121-142.

Hsu, I. C. (2006). Enhancing Employee Tendencies to Share Knowledge. Case Studies of Nine Companies in Taiwan, *International Journal of Information Management*, 26(4), 326-338.

Inkpen, A. C. (2000). Learning through Joint Ventures: A Framework of Knowledge Acquisition. *Journal of Management Studies*, 37 (7), 1019-1043.

Karahanna, E., D., Straub. W. & Chervany, N. L. (1999). Information Technology Adoption Across Time: A Cross-Sectional Comparison of Pre-Adoption and Post-Adoption Beliefs. *MIS Quarterly* 23(2), 183-213. Keen, P. G. W. (2000). The déjà vu effect. *Computerworld*, 34(24), 56.

Kevin, C., Gregory, B. M., & Stephen, K. C. (2007). More Bang for your Buck: Small Firms and the Importance of Aligned Information Technology Capabilities and Strategic Flexibility. *Journal of High Technology Management Research*, 17(2), 187.

- Kim, J. A. (2006). "Measuring the impacts of knowledge management" World Library and Information Congress: 72nd IFLA General Conference and Council 20-24 August, Seoul, Korea http://www.ifla.org/IV/ifla72index.htm
- Koontz, H. & Weihrich, C. (2000). Principles of management. New York: McGraw-Hill Book Company.
- Koontz, H., O'donnel C. & Weihrich, C. (2000). Management. Auckland: McGraw-Hill Book Company.
- Kyle, D. P. & Muhammad, H. (2015). Enhancing Communication between Management and Employees at a Storage Organization in the Freight Industry. *Problems and Perspectives in Management*, 13(2), 193.
- Laudon, K., & Starbuck, W. H. (1997). *Organizational information and knowledge. In the IEBM Handbook of organizational behavior* (a sorge and M. Warner, Editors). London: Thomson Learning.
- Lin, H. F. (2008). Determinants of Successful Virtual Communities: Contributions from Systemmechanisms on Organizational Innovation: An Empirical Study in Taiwan. *The Business Review-Cambridge*, 7(1), 295-301.
- Lin, W. T., & Lin, H. J. (2006). International Productivity Paradox of IT in Commercial Banking. A Cost Efficiency Analysis. *The Business Review, Cambridge*, 5(1), 246-252.
- Lin, W. T., & Shao, B. B. M. (2006). The Business Value of Information Technology and Inputs Substitution: The Productivity Paradox Revisited. *Decision Support Systems*, 42(2), 493-507.
- Mahmood, M. A., & Mann, G, G. J (2000). Special Issue: Impacts of Information Technology Investment on Organizational Performance. *Journal of Management Practice on IT Use in Large Organizations* (Working paper).
- Martinsons, M. G., & Martinsons, V. (2002). Rethinking the Value of IT Management. *Strategic Management Journal*, 18 (7) 509-533.
- Mata, F. J. Fuerst, W. L., & Barney, J. B. (1995). Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis. *MIS Quarterly*, December, 487-505.
- McClain, J. O., & Thomas, L. J. (1980). Operations management. Englewood Cliffs, New Jersey: Prentice Hall.
- Miller, J. J. H. (1984). The rise of information technology and its significance for Mathematics. In Computers and Mathematics in the modern society (S. 0. Fatunla, Editor). Lagos: Macmillan Nigeria Publishers.
- Moore, G. C & Benbasat, I. (1991). Development of an Instrument to Measure the Industry: A Longitudinal Study. *Journal of Management Information Systems*. 16(4), 41-67.
- Mozaffar, S. (2001). Leveraging the network economy for business, manufacturing and distribution. Retrieved March 4th, 2022 from http://www.lanka.net/ica/seminar/manufacturing.html.
- Mukhopadhyay, T. S., Kekre, S., & Kalathur, S. (1995). Business Value of Information Technology: A Study of Electronic Data Interchange *MIS Quarterly*, 19(2), 137-156.
- Nelson, K. M., & Cooprider, J. G. (1996). The Contribution of Shared Knowledge to IS Group Performance. *MIS Quarterly*, 20(4), 409-429.
- Nelson, R. (1991). The Role of Firm Differences in an Evolutionary Theory of Technical Advance, Science and Public Policy. 18(6), 347-352.
- Nelson, R., & Winter, S. (1982). An evolutionary theory of economic change. Harvard University Press, Cambridge, M.A.
- Niebel, B., & Freivalds, A. (2003). Methods, standards and work design. Boston: McGraw-Hill.
- Nigerian Breweries PLC. (2006). *Annual report and statements of accounts*. Lagos: Nigerian Breweries PLC. Nwachukwu, C. U. (1988). *Management theory and practice*. Onitsha: Africana FEP Publishers Limited.
- Nwagu, M. I. (2017). Impact of information and communication technology on organizational performance of brewing industry in South-East, Nigeria. Being a PhD thesis submitted to the Department of Management, Faculty of Business Administration, University of Nigeria, Enugu.
- O'brien, J. A. (2008). *Computers in business management: An introduction*. Homewood, Illinios: Richard D. Irwin Incorporated.
- Okafor, C. (2007). Organization culture characteristics, practices and performance, PhD thesis, University of Benin.
- Okafor, g., Onyeizugbe C. U., & Orogbu, L. O (2015). Information and Communication Technology as an Imperative for Knowledge Management: A Case of Selected Universities in Southeastern Part of Nigeria. *International Review of Research in Emerging Markets and the Global Economy*. 1(1), 208.
- Otoghagua, E. (2012). Trends and contemporary issues on regimes of Nigerian heads of state: Politics and policies, achievements and failures. Benin: Otoghagua Ent. Nig.
- Oviawe, J. I. (2009). Application of Information and Communication Technology to Teaching and Learning. *Benin Journal of Social Sciences*, 17(1) 246-257.
- Penrose, E. T. (1959). The theory of the growth of the firm. Oxford: Oxford University Press.

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Peteraf, M. A. (1993). The Cornerstones of Competitive Advantage. A Resource Based View. *Strategic Management Journal*. 14, 179-191.

Porter, M. E., & Millear, V. E. (1998). *How information gives you competitive advantage* in M. E. Porter (Ed.) On Competition (pp. 75-98). Boston: Harvard Business School Publishing.

Powell, T. C., & Dent-Micallef, A. (1997). Information Technology as Competitive Advantage: The Role of Human, Business and Technology Resources. *Strategic Management Journal*. 18(5) 375-405.

Prastacos, G., Soderquist, K., Spanos, Y., & Van Wassenhove L. (2002). An Integrated Framework for Managing Change in the New Competitive Landscape. *European Management Journal*. 20, 55-71.

Robinson, J. (1993). The Economics of imperfect competition. London: MacMillan Press.

Rogers, E. M. (1995). Diffusion of innovations. New York: Free Press.

Santhanam, R. & Hartono, E. (2003). Issues in Linking Information Technology Capability to Firm Performance. MIS Quarterly, 27(1), 125-153.

Sarkis, J. K., & Erik, R. (2006). Conceptual Model for Explaining the IT Investment Paradox in the Banking Sector. *International Journal of Technology Policy and Management*. 6(3), 309-326.

Skerlavaj, M., & Dimovski, V. (2006). Study of the Mutual Connections among Information Communication Technologies, Organizational Learning and Business Performance. *Journal for East European Management Studies*. 11(1) 9-29.

Sohal, A. S., Moss, S., & Ng, L. (2000). Using Information Technology Productively: Practices and Factors that Enhance the Success of IT. *International Journal of Technology Management*. 20(3 & 4) 340-353.

Strassmann, P. A. (1990). *The business value of computers*. New Canaan, CT: Information Economic Press. Tapscott, D., Lowy, A., & Ticoll, D. (1998). *Blueprint to the digital economy: Creating wealth in the era of e-business*. New York: McGraw-Hill.

Taylor, S. & Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*. 6(2), 144-176.

