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# ADOPTION OF ICT: A NECESSARY STRATEGY FOR SUSTAINABLE DEVELOPMENT IN THE TWENTY-FIRST CENTURY NIGERIA.

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**Abstract:** The worldwide economic system is increasingly becoming dependent on the ICT system. This article discusses ways in which ICT contributes to several aspects of global sustainability in the areas of E-government, E-learning, and E-commerce. The design employed in the study was a descriptive survey. The study was conducted in Aba North local government area of Abia State, Nigeria. Primary data was used for this research work. A sample size of 150 respondents was randomly selected for the study, covering the education sector using the Education Management Board Staff; commerce and industry, using a staff of the ministry; and government/public sector using the Local Government Staff; with each sector having a selected 50 respondents. The instrument used was a 12-item questionnaire on the adoption of ICT as a strategy for sustainable development using E-government, E-learning, and E-commerce as explanatory variables of ICT Adoption. The data collected for the study were analyzed using the appropriate percentage and the responses of the respondents were subjected to a rating scale using their boundary percentages as a basis for their score/rating. The finding revealed that E-government enhances the operations of the government and facilitates the effective delivery of government programs'-Learning provides convenient and flexible access to learning; whereas Commerce changed the way goods and services are produced, delivered, sold, and purchased. ICT has led to an ever-growing number of people and businesses connected digitally. Most Nigerians could participate in the International markets from the comfort of their offices and rooms. ICT adoptions have the potential to promote sustainability, productivity, and economic growth through job creation. We, therefore, conclude that ICT Adoption is a veritable

**tool for sustainable national development in Nigeria. We recommend among others, that Government and other stakeholders should mobilize resources for equipping businesses, education, and governmental sectors with ICT infrastructure and should also embark on Multi-level skill building (capacity improvement).**

**Keyword:** ICT Adoption, strategy, sustainable development.

## I. INTRODUCTION

Sustainable development is dependent on the actions of people from all walks of life, as well as our ability to evaluate one another's efforts and experiences (PCSD, 1997). The concept of sustainable development encompasses cross-sectoral entities, and its characteristics, such as environmental, economic, political, and social sustainability, are interrelated from a policy standpoint. The term "information and communication technology" (ICT) refers to all technical capabilities for processing and conveying data. Digital technological know-how and all of its applications and modifications, such as the computer, the Internet, the cellular telephone, the extraordinary digital purposes (e-banking, e-governance, e-commerce, and so on), digital media, and broadband technology, are all examples of ICT. ICTs are integrated in networks and services that influence the collection and flow of public and non-public information in local and global settings. However, it is fairly uncommon to come across ICT definitions that are interchangeable with information technology definitions (IT). IT, according to Duncombe and Heeks (2014), is a collection of technologies that are transforming information management. It's thought to represent a merging of interests in electronics, computer, and communication.



ICTs, according to Chowdhury (2000), are technologies that can handle many sorts of information (audio, video, text, and data) and facilitate various types of communications between human agents and information systems. ICT is defined as a "electronic potential for capturing, processing, storing, and transmitting information," according to Duncombe and Heeks (1999).

Information and communication technology (ICT) adoption is critical for an economy's socioeconomic development, particularly in developing countries. It aided in the enhancement of an organization's overall performance as well as the achievement of a competitive edge for businesses (Al-Debei & Al-Lozi, 2012). In the domains of education, governance, and commerce, ICT has been observed to have an impact on long-term improvement. ICT, for example, can improve mobility by allowing for the use of a smart thermostat. Teleconferencing and video conferencing can help to restrict travel desires, resulting in lower carbon emissions for the environment. Distance and online learning technologies can reduce the demand for brick and mortar buildings as well as transportation in the delivery of education. Finally, telemedicine and E-health have the potential to improve health-care delivery, these would aid in the reduction of poverty and climate change, as well as the improvement of literacy rates.

#### **STATEMENT OF PROBLEM**

Despite all efforts, the ICT sector and its acceptance in the economy are plagued by a number of issues. First, ICT policy development and execution are dispersed throughout a number of ministries, institutions, research centers, and private organizations. Conflicts and duplication of efforts are more likely as a result of this. Due to a lack of sufficient infrastructure, it is also difficult to make ICT accessible to a broad segment of the population in Nigeria, particularly for educational, governmental, and business purposes. The rapid advancement of ICT is resulting in the development of easily available and cost-effective protocols that may benefit everyone, as well as the capacity to provide chances for bridging the poverty gap. According to surveys and research, the rate of ICT adoption and use in many areas of the Nigerian economy is now below optimal levels. Given its arrival in the country and the rate at which it is being implemented in countries with similar economic circumstances to ours, one is concerned about the rate at which it is being implemented in various sectors of the economy. Furthermore, substantiating any of these statements requires determining the relationship between ICT adoption and the long-term development of Nigeria's economy. Has the use of ICT had any impact on the sustainable development of an economy or not? This is the essence of this study.

#### **OBJECTIVES OF THE STUDY**

The objective of this study is to determine the effects of ICT Adoption on the sustainable development of the Nigerian economy. Other specific objectives include

- To determine the effect of e-government on sustainable development of Nigeria
- To find out the extent e-learning affects the sustainable development of Nigeria
- To determine the effect of e-commerce on the sustainable development of Nigeria

#### **RESEARCH QUESTIONS**

The following questions are formulated and they serve as a guide to this study

- To what extent does e-government influence sustainable development in Nigeria?
- To what extent does e-learning influence sustainable development in Nigeria?
- To what extent does e-commerce influence sustainable development in Nigeria?

## **II. LITERATURE REVIEW**

### **The Concept of Information and Communication Technology**

ICT, as the name implies, is a three-word phrase that serves as a gateway to modern information skills. Taking a new look at the acronym ICT:

**Information:** It is defined as information or knowledge supplied, according to the Oxford Advanced Learner's Dictionary. Technically, information refers to data or facts that have been transformed into a form that the recipient can understand and use. It is genuine facts that can help individuals or groups make more informed, assertive, and profitable decisions.

**Communication:** This is the means through which ideas and imaginations are expressed in such a way that they can be realized and understood by the learner. Njoku (2016) defines communication as the system of sending and receiving information, citing Ijefkins and Ugboaja (2013).

**Technology:** is defined as a computer, ancillary equipment, software program and firmware (hardware), and smaller process services (including support services) and related aid of any tools or interconnected gadget or subsystem of equipment used in the computerized acquisition, storage manipulation, management, movement, transmission or reception of data or information, according to the National Policy for information technological know-how (2001, P. IV).

**ICT** should be defined as technology for collecting, storing, processing, communicating, and presenting information in the context of education. ICT, according to Ukaeje (2008), is a method of creating, processing, storing, retrieving, and disseminating information and facts through the use of computers and telecommunication.



## **ICT Adoption (The Various Components) and Sustainable Development**

### **E-Governance, a strategy for Sustainable Development**

(Adamali, Coffey, and Safdar, 2006) ICT is a powerful tool for improving governance and expanding democratic space, as well as increasing productivity, administrative effectiveness, and cost savings. As a result, it is no longer surprising that the use of ICT in governance is causing concern in many countries throughout the world.

The foundation for e-government in Nigeria was set in line with the admirable roles that the federal government of Nigeria has played in ensuring the full utilization of the potentials of ICTs in sustainable democracy (Aragba-Akpore, 2004).

E-government is a phrase that refers to the use of technology to make government operations and the delivery of government information and services more efficient. It should also include the use of information and communication technologies to improve public service access and delivery for the benefit of all. The automation or computerization of present paper-based systems to improve access to and delivery of government services to citizens is a frequent element of e-government. Its goals are to help strengthen the government's force and bring it closer to effective governance and increased transparency for better resource management, growth, and development. E-government also aims to bring together government ministries, departments, and organizations in a way that encourages them to connect online. . In addition to the Internet, mobile phones, and other electronic devices, e-government provides an even more convenient means for distributing government information. Governments can utilize text messaging to send out regional and specific emergency warnings, provide up-to-date information on demand, and make government accessible to people no matter where they are, at any time. Finding a way to implement electronic voting on everything from public measures to representative elections is one area of e-government that has sparked a lot of discussion and controversy.

Good governance achieves this in a way that is devoid of abuse and corruption, while still respecting the rule of law. It provides a framework within which political, social, and economic agendas are generally founded on widespread societal consensus, and the poorest and most disadvantaged voices are considered in decision-making processes. Furthermore, good governance has major implications for equity, poverty, and a good quality of life.

### **E-commerce a strategy for Sustainable Development**

B2B (business-to-business) refers to internet commerce transactions involving items, services, or information between two businesses or parties, as opposed to business-

to-consumer (B2C) . (Pleypys, 2002). This close-to-zero transaction model is the area where ICT has profoundly changed the way we do business as a digitized alternative.

From a sustainability perspective, this business model has enormous potential to reduce industrial emissions and waste through supply chains; boost storage and optimize transportation due to mass client delivery; reduce warehousing space; and so on. There are environmentally undesirable behavioral changes associated with e-commerce (Williams and Tagami 2001). For example, in e-commerce, purchase can be transferred to the distribution line to save money due to more environmentally friendly storage and reduced transportation, but this is not sustainable (WWF et al. 2008).

### **E-learning, as a strategy for sustainable development**

In the education sector, information and communication technology (ICT) plays a critical role in aiding powerful, environmentally friendly administration and administration. In an institution, technology can be employed effectively for everything from student administration to a variety of resource administration (Maki, 2008). First, ICT technology can process huge files swiftly, painstakingly, and excellently; second, ICT can generate reliable and consistent records; third, records and data produced are researchable and instantly retrievable, according to Clarke-okah et al. (2009). Fourth, ICT saves human resources by automating data entry and student admissions and registration. Completed application forms can be checked in databases in a matter of seconds thanks to advanced scanning technologies. Other software programs, such as Learning Management Systems (LMS), such as the open-source Moodle, allow students to register for courses online, pay online, and access course information online; fifth, technology can expand the geographical boundary for student intake and facilitate cross-border higher education. Using ICT in higher education administration is essentially about leveraging technical know-how for better planning, establishing standards, enacting change, and evaluating the outcomes of institutions' primary responsibilities (Krishnaveni & Meenakumari, 2010). As a result, information and communication technology (ICT) plays a critical role.

### **Parameters of Sustainable Development**

**Environmental sustainability** should be able to provide the most efficient use of natural resources for the benefit of the community through increased production, flexibility, and the preservation of bio-diversity through stable population dynamics. Economic development that is not environmentally sustainable, along with uneven population expansion, will draw exceptional lines in the global society.



**Economic sustainability** refers to policy stage start-ups at the national level that result in broad-based economic growth and improvement over time, as well as micro and macroeconomic structural adjustment, efficient resource mobilization at the sectoral level, equitable resource access, and increased productivity of marginal communities.

**Political sustainability** necessitates social consensus on appropriate means to resolving problems, common people's rights and obligations, and the government's proper role, as well as participatory, open, transparent, in charge, and efficient decision-making.

**Social sustainability** necessitates continued social growth, with greater income generation and equitable distribution, gross financing in the fundamental health and education sectors, and a focus on active stakeholder participation.

### **ICT and sustainable development**

ICT has beneficial effects on sustainable development. On the one hand, ICT may help achieve sustainable development with increased efficiency and effectiveness; ICT is increasingly being recognized as humanity's most powerful transformation capability. ICT has recently emerged as a critical component in the transition to a more efficient, low-carbon economy. ICT has continually produced breakthrough goods and services that have become an integral part of every aspect of human life. Indeed, ICT innovative solutions, which are becoming a vital and strategic concern of all financial institutions, are credited with and continuously pushed by a significant portion of economic growth. Power supply, transportation, and logistics, as well as structures, energy supply, and industry, are just a few examples. Furthermore, ICT has a significant environmental impact, serving as a vital driver and medium of exchange for a low-carbon economy. The implementation of ICT-based advancements has the potential to impact and revolutionize the way our society operates (GeSI 2008). ICT has a lot of potential for enabling novel solutions to environmental problems.

### **Theoretical Review**

#### **The Theory of Technology Acceptance Model**

The Technology Acceptance Model was once the most well-known concept (TAM). Davis (1989) developed a theoretical mannequin to anticipate and explain ICT adoption behavior, i.e., what motivates hypothetical users to accept or reject information technology. TAM is theoretically based entirely on the Theory of Reasoned Action (TRA). Two theoretical notions, perceived utility and perceived ease of use, are important predictors of system usage in TAM and determine attitudes toward system use, or the user's willingness to utilize the system. Perceived utility refers to "the degree to which an individual believes that using a unique gadget would enhance his or her job performance," while perceived ease of use refers to "the

degree to which an individual believes that using a unique gadget would enhance his or her job performance."

#### **Unified Theory of Acceptance and Use of Technology (UTAUT)**

The Unified theory of Acceptance and Use of Technology was previously another well-known theory (UTAUT). The unified model was developed by Venkatesh et al. (2003) after analyzing eight models that explain ICT usage, including TRA, TAM, the motivational model, TPB, a model integrating TAM and TPB, the mannequin of PC consumption, DOI, and the social cognitive theory. UTAUT's purpose is to provide an explanation for a user's intentions to utilize ICT and subsequent behavior. Performance expectancy, effort expectancy, social influence, and facilitating factors are four characteristics that the mannequin examines as direct determinants of consumer acceptance and use behavior. Gender, age, experience, and voluntariness of use are the four main moderating variables. UTAUT, according to the authors, provides a tool for managers to estimate the likelihood of science introduction success and to understand the determinants of acceptability to format interventions, such as education or marketing. UTAUT focuses on users who are willing to try new things and learn new systems.

#### **The Theory of IT Implementation Process model**

The Model of the IT Implementation Process was previously another concept. Cooper and Zmud (1990) expanded upon Kwon and Zmud's (1978) concept of the IT Implementation Process. Organizational transformation, innovation, and technological diffusion literature are the main sources of inspiration for the concept. The mannequin's purpose is to provide a framework for directing and conducting ICT implementation studies. The stage model proposed by Kwon and Zmud (ibid.) has six stages: initiation, organizational adoption, adaption, acceptance and adoption, reutilization, and infusion. As a result, the model covers the entire implementation process, from analyzing organizational needs to making full and extensive use of technological know-how in day-to-day practice. The model also outlines five contextual factors that influence tactics and products at each step of implementation: the characteristics of the individual community, the organization, the technology being used, the task, and the organizational environment.

### **EMPIRICAL REVIEW**

**Shihundu (2014)** studied the factors influencing ICT adoption among public secondary college teachers: a case of webuye sub-county, Bungoma County. The motive of the study was to determine the accessibility, utilization, and preparedness in the usage of ICT among public secondary school instructors in Webuye Sub-county, Bungoma County. Specifically, the study objectives were; to



determine the teachers' understanding in the usage of ICT, decide the tiers of ICT access of teachers examine the levels of preparedness of the teachers in the usage of ICT; and establish outcomes of teachers' educational historical past in the use of ICT in public secondary colleges in Webuye Division, Bungoma County. The study employed a correlation research design. Random, simple, and purposive sampling techniques have been used to attain 100 teachers in secondary college and 25 principals. Other key informants were 5 Ministry of education officials from the 5 divisions of the study area. Data was collected using questionnaires administered using random and simple techniques to the teachers and interview schedules to the principals and education officers. The questionnaire return rate was 90.77% which was adequate for generalization of the learn about findings. Collected data was organized, coded, and analyzed using Statistical Package for Social Sciences (SPSS 17.5) and presented in frequency and percentage tables. The findings revealed that for ICT to be high-quality adopted in public secondary schools, more emphasis ought to be put on developing the competence of teachers. The study recommends that teachers' ICT improvement should be stepped up with a corresponding provider of quintessential equipment and training.

**Aderonke, Adekunle & Victor (2016)** studied the Evaluation of E-Government Implementation in the Case of State Government Websites in Nigeria: This paper evaluated the extent to which the present-day reputation of e-government implementation in Nigeria conforms to the countrywide IT policy strategy. The study is based on content material analysis of the official websites of the thirty-six states and the federal capital territory of the country. It focuses on the content, functional, and development features of the websites. It was once discovered that, out of the thirty-six states, solely twenty-three (64 percent) had websites and normally provide textual information; few provide downloadable digital documents and useful online interactions. We recommend that, in addition to the National IT policy, the Nigerian government needs to have an established guiding principle for its e-government implementation and NITDA needs to be more proactive in its responsibility of monitoring IT policy implementation. The site designers should acknowledge the significance of government websites as the most important channels for records dissemination, facilitating citizens' interaction with authorities, and transforming government operations. Thus, the websites ought to be more than static notice boards but are function-oriented, dynamic, and interactive.

**Kessington(1994)** studied the adoption of Information and Communication Technology in Nigerian in the case of Small to Medium-Size Enterprises (SMEs). The cause of this multiple case study was to discover how SME leaders in Lagos, Nigeria, adopted information and communication

technology (ICT) as an enterprise strategy to extend profitability and compete globally. Organizational leaders have adopted ICT so that their corporations can grow to be more efficient, effective, innovative, and globally competitive. This finds out about worried four SMEs that had efficaciously implemented ICT. The contributors protected 5 SME leaders from each of the SMEs. The data collection approach included in-person semi-structured interviews of participants and assessment of present business enterprise data. Data have been analyzed using inductive statistics analysis, which included member checking to ensure the trustworthiness of interpretations and befell until theoretical saturation had occurred. The technology acceptance model (TAM), which specifies the relationship between perceived usefulness, perceived ease of use, attitude towards laptop use, and intention to use technology, was applied as a framework to explain the Nigerian SME's ICT adoption strategies. Four major issues emerged from the analysis of the facts: ICT adoption factors, ICT roles and benefits, function of government, and SME success factors. The paper revealed that E-commerce plays a quintessential function in a dynamic economy through job creation, poverty alleviation, and socioeconomic development in developed and developing countries. The findings of this study may help SME leaders and government leaders tackle many of the elements inhibiting the adoption of ICT in SMEs. The findings of this study can also positively affect social change by making sure that SMEs are profitable and able to create jobs, which in turn might also assist to alleviate poverty and promote socio-economic development through the adoption of ICT

**Mohammad, Shamsossadat, Abdorreza & Mohammad(2017)** studied the Analysis of the Impact of ICT on Sustainable Development using Sustainability Indicators. The aim of this study has been the investigation of the effect of ICT on sustainable development in the geographic vicinity of Iran using sustainability indices. After defining and presenting a short description of the areas of sustainable development and ICT, and identifying the indicators to measure them, the famous models in these two areas were introduced in this study. Reviewing the previous research on this difficulty has been followed. The proposed conceptual model, to investigate the interaction of these two areas, was viewed concerning the sustainability indices which have been derived from legitimate global sources, theoretical studies, and expert advice in these two areas. Using quantitative techniques and a sophisticated structured questionnaire, this model calculated the weight and the effect of each of the categories, and finally, the analytical framework was presented. The heuristic and the librarian methods were employed to become aware of the problem and to investigate the former information and records respectively in this study. Finally, the predominant factors to explain and design the basic model were identified through



interviews with experts. The quantitative technique was used for the verification and validation of the model. According to the model, the degree and the effect of ICT dimensions on sustainability symptoms were identified. In general, it can be concluded that ICT development will promote most symptoms of sustainability. For each indicator alone the degree of effect has been identified.

**III. METHODOLOGY**

The design employed in the study was a descriptive survey. The study was conducted in Aba North local government area of Abia state. Primary data was used for this research work. A sample size of 150 respondents was randomly selected for the study, covering the education sector using

the Education Management Board Staff; commerce and industry, using a staff of the ministry; and government/public sector using the Local Government Staff; with each sector having a selected 50 respondents. The instrument used was a 12- item questionnaire on the adoption of ICT as a strategy for sustainable development using E-government, E-learning, and E-commerce as explanatory variables of ICT Adoption. The data collected for the study were analyzed using the appropriate percentage. The responses of the respondents were subjected to a rating scale using their boundary percentages as a basis for their score/rating. The research questions earlier raised for the study were answered using this rating/scoring.

**Decision/Rating of Respondents' Responses (%)**

S/N	Boundary Percentages	Rating/Score
1.	80% - 100%	Very High Extent
2.	70% - 79%	High Extent
3.	60% - 69%	Moderate Extent
4.	50% - 59%	Low Extent
5.	45% - 49%	Very Low Extent

**Demographic Presentation of Respondents**

TABLE 1: Age distribution of Aba North local government participants, on the adoption of ICT as a strategy for sustainable development; using E-government, E-learning, and E-commerce as explanatory variables.

**Demographic Presentation of Respondents**

**TABLE 1: Age distribution of Aba North local government participants, on adoption of ICT as a strategy for sustainable development; using E-government, E-learning, and E-commerce as explanatory variables.**

Age Limit	Numbers of participant on adoption of ICT as a strategy for sustainable development using E-government, E-learning, and E-commerce as explanatory variables.	Percentage (%)
30- 35	70	46.67
36 - 40	45	30
41- 45	25	16.67
46 above	10	6.66
TOTAL	150	100

From the demographic table of respondents for the study above, 70 respondents were within the age bracket of 30 – 35 having 46.67%; 45 respondents within the age bracket of 36 – 40 having 30%; 25 respondents within the age bracket

of 41 – 45 having 16.67 % and 10 respondents within the age bracket of 46 above, having 6.66%.

**Research Question One:** To what extent does e-government influence sustainable development in Nigeria?

**TABLE 2: Respondents' Responses showing the effect of E-government as a strategy for sustainable development.**

Effect of E-government as a strategy for sustainable development

Δ Effect of E- government	Agreed	%	Disagreed	%
1. E- government reduces Administrative Burden	120	80	30	20
2. E- government increases Efficiency in government services	110	73.33	40	26.67
3. E- government helped to improve The image of government in growth And development	138	92	12	8
4. E- government helped in exchange and Utilization of information	115	76.67	35	23.33
<b>Total (%)</b>		<b>80.5</b>		<b>19.5</b>



**Decision:** From the respondents’ responses contained in the table above, the percentage of respondents with the agreed responses was 80.5% whereas the percentage of the respondents with the disagreed responses was 19.5%. On the basis of the percentage boundaries, 80.5% falls within the Very High Extent. We therefore conclude that e-

government, influences sustainable development of the Nigeria economy to a very high extent.

**Research Question Two:** To what extent does e-learning influence sustainable development in Nigeria?

**TABLE 3: Respondents’ Responses showing the effect of E-learning as a strategy for sustainable development.**

Effect of E-learning, as a strategy for sustainable development

B Effect of E- LEARNING	Agreed	%	Disagreed	%
1. E-learning provides a wider variety Of Learning/teaching resources	95	63.33	55	36.67
2. E-learning broadens ideas and Experience sharing between students	105	70	45	30
3. E-learning helps students to study at their Own pace	121	80.67	29	17.33
4. E-learning enhances Planning and improves Administrative/operational Monitoring	132	88	18	12
<b>TOTAL (%)</b>		<b>76</b>		<b>24</b>

**Decision:** From the respondents’ responses contained in the table above, the percentage of respondents with the agreed responses was 76% whereas the percentage of the respondents with the disagreed responses was 24%. On the basis of the percentage boundaries, 76% falls within the Very High Extent. We therefore conclude that e-learning,

influences sustainable development of the Nigeria economy to a very high extent

**Research Question Three:** To what extent does e-commerce influence sustainable development in Nigeria?

**TABLE 4: Respondents’ Responses showing the effect of E-commerce as a strategy for sustainable development.**

Effects of E-commerce as a strategy for sustainable development

C Effect of E-commerce	Agreed	%	Disagreed	%
9 E-commerce improves internal Efficiency and economic growth	119	79.33	31	20.69
10 E-commerce reduces cost and Increases Revenue	122	81.33	28	18.67
11 E-commerce acts as an aid for easy And quick Decision making	125	83.33	25	16.67
12 E-commerce helps in exchange of Information With citizen	102	68	48	32
<b>TOTAL (%)</b>		<b>77.99</b>		<b>22.01</b>

**Decision:** From the respondents’ responses contained in the table above, the percentage of respondents with the agreed responses was 77.99% whereas the percentage of the respondents with the disagreed responses was 22.01%.

On the basis of the percentage boundaries, 77.99% falls within the High Extent. We therefore conclude that e-commerce, influences sustainable development of the Nigeria economy to a high extent



#### IV. CONCLUSION

##### **Based on the findings the study made the following conclusions guided by the study Objectives**

**The first objective** was to determine the effect of e-government on the sustainable development of Nigeria. Citizens, businesses, and government bodies all benefit from e-government apps. People, businesses, and government sectors can access available government information 24 hours a day, 7 days a week through e-government applications, which increases the quality of these services. With the help of e-government, the value and degrees of organizational strategies are reduced. By streamlining and reorganizing work operations, the use of e-government technologies has also improved the overall performance of government organizations, allowing them to provide more efficient and effective service to all clients, as well as increased transparency for people.

**The 2nd objective** was formulated to determine the extent to which e-learning influences sustainable development in Nigeria. One of the primary benefits of eLearning in the corporate training setting is that it provides convenient and flexible access to learning. Courses can be viewed via a mobile device, a laptop, a tablet, or a desktop computer at any time and from any location. Everyone has a busy schedule; the student can access their mastering when they have free time and their energy ranges and center of attention are at their highest levels for retention. Instructors and students both register on the LMS right away while teaching and studying online. There are no pens, papers, or ring-back folders. Admin employees can access the system at any time and pull reports.

**The Third objective** sought to determine the effect of e-commerce on the sustainable development of Nigeria. The way goods and services are manufactured, distributed, offered, and acquired has all changed as a result of the Internet. ICT has resulted in an ever-increasing number of people and groups becoming digitally connected. The majority of Nigerians may want to participate in international markets due to the improvement of their workplaces and rooms, ICT facilities, and an enabling environment that encourages e-business. ICT strengthens vulnerable players in the economy by providing them with knowledge, communication, and understanding that they might not have had before. Small and medium-sized businesses (SMEs) benefit from ICT because they can create an online presence and use it to communicate with suppliers and consumers, search for commercial enterprise data, and advertise their products.

#### V. RECOMMENDATION

##### **From the results of the study, the following suggestions are made**

1. Nigeria's Science and Technology Ministry may make a significant contribution to long-term growth by

implementing fundamental changes and create beautiful collaborations with private companies such as Microsoft Corporation, Oracle Corporation, and Intel Corporation. This will allow educational, business, and government organizations to acquire both hardware and software at a lower cost.

2. Government and other stakeholders should mobilize aid for equipping business, schooling, and governmental sectors with ICT infrastructure

3. Federal government need to embark on Multi-level skill building (capacity improvement)

We hope that adoption of "ICT" as an effective strategy for sustainable development" on exploring emerging perspectives and policy strategies for sustainable development in Nigeria Will be a milestone in meeting these challenge

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