



AFRICA ECONOMY AND INFORMATION AND COMMUNICATION TECHNOLOGY

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Abstract

Information Technology (IT) which also wrapped up the communication aspect of technology could be regarded as most life changing and fascinating technology used by people to handle information. It aids activities relating to information to gather, process, store and presentation of data. Information technology refers to modern technology based on electronics and computing, which incorporates the technologies of electronics, computing, networking and telecommunications. Information technology has been a vital aspect of life for all and sundry. It provides the provision of information services as a means of increasing awareness, guidance, training, research, e.t.c., for economic purposes. The world today has become a small village, where anyone can link the other with just a dial or televue. This ease in access in the global world is not without Information and Communication Technology (ICT). This has become power to economic development in any world. In this wise, Africa, as part of the global world cannot be different in terms of her economy. She should fully utilize the effect of IT, to allow for the analysis and sending out of information in order to ensure smooth and efficient running of activities, provide self-service facilities which gives sustainable and economic security to her populace. The world of IT has made the entire nations a compact. Here, business organizations operate in a competitive environment, which is characterized by change and highly unpredictable economic climate, being leverage by IT. This paper takes a look at information technology to the economy of Africa, it is based on the principle/method of secondary data research for its compliment, by searching through the nets, books e.t.c.

Keywords: *Small Village, Information Technology, Economy. Africa*

Introduction

Information Technology (IT) is a technology that has to do with activities relating to information, in relation to gather, process, store and presentation of data. Increasingly, these operations also relate to collaboration and communication. Hence IT has become ICT: information and communication technology (Lovely Professional University, Punjab, India, 2012). This is also supportive of the fact that communication lies in information. The world is a global village and has become a jungle where Information and Communication Technology (ICT) has made it linear for a great idealness to man. ICT is regarded as a baseline computer advanced technologies for IT management. It supports activities involving information in relation to gather, process, store and presentation of data. Information technology refers to modern technology based on electronics and computing, which incorporates the technologies of electronics, computing, networking and telecommunications. Information technology has been a vital aspect of life for all and sundry. It provides the provision of information services as a means of increasing awareness, guidance, training, research, e.t.c., for economic purposes. The world today has become a small village, where anyone can link the other with just a dial or televue. This ease in access in the global world is not without Information and Communication Technology (ICT). This has become power to economic development in any world. In this wise, Africa, as part of the global world cannot be different in terms of her economy. She should fully utilize the effect of IT, to allow for the analysis and sending out of information in order to ensure smooth and efficient running of activities, provide self-service facilities which gives sustainable and economic security to her populace. The world of IT has made the entire nations a compact. Here, business organizations operate in a competitive environment characterized by change and highly unpredictable economic climate, leverage by IT.

The world as a globe is immersed in an information age leverage by digital information, which is an electronic information, aided by computer process. Information is the basis of all kinds of jobs/activities, using it, managing it, and relaying information from one point to the others. Computer systems make for efficient processing and storage of



information. The role of Information and communication technology in human life in the African economy cannot be put aside; people need information to carry out their decisions (Tiemo, 2006)

The capability of ICT enables expansion of the breadth and depth of economic activity in an economy like Africa and improve the delivery of a range of essential public services. ICT helps developing nations with respect to Africa, jumping traditional development stages. This could be related to the spread of mobile phones, allowing development of rapid build of modern communication infrastructure which require no installation of vast grids of fixed phone lines. Investment in ICT alone is not enough, though. While there is a strong link between access to ICT and development, it is not a panacea, but rather a powerful tool to tackle development (Tiemo, 2006).

Many areas of Africa's economy have witnessed rapid dynamic transformations as a result of innovative ideas, innovation, technology, increasing customer awareness, and customer demands. Business organizations operate in a competitive world marked by change and a highly uncertain economic climate, with Information and Communication Technology (ICT) at the heart of this global shift curve. ICT as a revolution has opened up practically all domains of human endeavor, altering economic and social life. This has resulted in a link known as "the ICT village," (Hawkrigde, 1983) which has connected the local areas together without the need for actual contact.

More people still lack basic literacy skills, even though the usage of information and communication technology (ICT) is soaring (Hawkrigde, 1983). Despite the enormous diversity of living environments, an unprecedented and uniting global media culture has emerged, challenging and frequently outperforming traditional modes of socialization such as family and school (Youth and Information and Communication Technologies, 2003). In this research paper, a look at information and communication technology and its usefulness to African economy shall be dealt with.

Methodology

Secondary research data shall be used to analyze this research work. These secondary data include textbook, journals, published conference papers. In this research work, secondary data is highly vital since it provides guidance and a preview of the job. It is also dependable, due to the strong belief that the persons whose thoughts were conveyed are experts in their respective professions.

Body

Africa and the World of ICT in Education

The need of using ICT into national education activities was emphasized by UNESCO (2008). ICT is an important educational tool, but it is also a means to a goal, in that it enhances pedagogical efficacy. Access to information and communication technology (ICT) for teachers and students can improve learning and teaching experiences (Collins, 1991; David, 1991). Effective ICT use broadens learning and knowledge at the local, national, and global levels. Many nations, including the United States, the United Kingdom, the Netherlands, South Africa, Chile, India, the Czech Republic, Korea, and Australia, have put in place standards and policies to encourage and integrate ICT into their educational systems (UNESCO, 2006; Zounek, 2005).

Education, being a repository of knowledge, defends its educational autonomy with all available means. The closed code of school can be contrasted with the open code of the Internet, for example. IT is a never-ending supply of information and pedagogical difficulties for the media-savvy teacher, because it allows school classes at different levels around the world to virtually connect. A vibrant and dynamic educational system necessitates the use of ICT to fulfill a core critical purpose: to generate debate across all barriers. Africa with her teeming populace, though at a level in ICT, must further enhance the level of ICT, so as to go per with other world in terms of education, in order to light up the feet of her people educationally (Dawson, 2008).

ICT allows for participation of various learning tasks up to completion level, whether formal or informal, such as the National Open University (NOU) system in Nigeria (Dawson, 2008). It's fascinating to explore the incredible range of ICT learning opportunities. The educational need for media culture ranges from the ability to read text to the ability to operate and understand the meanings provided by various devices such as CD and other music players, computers, mobile phones, and video equipment (Dawson, 2008). These are agents of light in learning facilities and



their surroundings all around the world. Its effect in the Nigeria library system in education cannot be over-emphasized. Rather than stocking the library with books these days, ICT has made a placement where books are linked online and accessed for reading. The ICT library online system has given room to online group discussion, it has created effective online reading environment both for teaching and learning. It has become a placement for finding knowledge by coordinating the all-round activities for the nourishment of the Nigeria economy.

ICT includes skills, software, applications, and systems. ICT education consists of four components: ICT/Digital Literacy; ICT Infrastructure and Support Applied Technologists; Specialized Business and Industry uses of ICT; and ICT Research and Development Scientists (Mid-Pacific ICT Center, 2014). ICT/Digital Literacy, ICT Infrastructure and Support Applied Technologists are important basic and advanced futures of ICT that should be integrated in teaching and learning to insure ICT sufficient spread through generations (Mid-Pacific ICT Center, 2014).

Africa and the World of ICT in Unemployment

Youth unemployment in Africa is close to the global average; nevertheless, it varies widely within sub-regions, ranging from more than 50% in southern Africa to less than 6% in eastern Africa (ILO, 2020). Working poverty among young Africans fell by 10.5 percentage points (just over 14%) between 2000 and 2020, and by 11% in Asia and the Pacific. The corresponding drop in youth working poverty was more than 65 percent (45.4 percentage points), compared to 67% and 66% in the Americas and Europe, where working poverty was already significantly lower. Betcherman et. al., (2010). Second-generation IT will enable a far larger number of developing countries to enter service export markets, potentially extending beyond the traditional BPO model (Frishtak, 2018). Outsourcing a certain corporate task to a third-party service provider is referred to as BPO. This applies to contact centers, human resources, accounting, and payroll outsourcing. Offshore work provided by the Internet, such as contact centers and bookkeeping, is an important source of employment in poor nations, particularly for women. This could also apply to activities that necessitate higher degrees of expertise and judgment.

Some African countries, such as Kenya and Rwanda, have joined the global call center business through foreign direct investment (FDI) (Frishtak, 2018). Kenya has a rapidly growing IT services industry as a result of its large mobile phone and internet connectivity, as well as its young and proportionally educated population. These advantages, combined with infrastructure development and a strategic location in the East African market, made Kenya a feasible investment in IT. Kenya now has 50 BPO enterprises offering services such as data processing, digitalization, transcription, and call centers. Similarly, an increasing number of organizations provide higher-end services such as software development, programming, research and development, and financial and accounting services (Frishtak, 2018).

In the case of Rwanda, a study found that the government's increasing programs on ICT employment will increase to roughly 100,000 jobs by 2035. In 2017, over 67 percent of the population owned a mobile phone and mobile money users climbed from over 200,000 in 2010 to over 4 million in 2019. (Betcherman et. al., 2010).

To this end, for Africa to emerge as a power to deliver her teeming population, especially the youth, in the hand of unemployment which has eating deep into the flesh of the continent, she must rise up to take advantage of the world of ICT, as in Kenya, Rwanda, create opportunities of employment for the unemployed.

Africa and the World of ICT in Infrastructure

Infrastructure wise, ICT is also progressive to Africa development, in this case, lack of infrastructural growth can be a merit to invest in digital services. To this end, there is a need to face oddity with access to the energetic sources and be aware of the accelerated urbanization. Moreover, institutions like Food and agricultural Organization (FAO) could grow their know-how at the local level, including their experience in IT application in the rural arena, to bring about the development of digital services and, more generally, IT infrastructures. This will lead to several benefits within the environment up to the economic areas of the continent (UNESCO, 2008).

Africa and the World of ICT in Telephony

Telephony, which is the ability to converse at a distance between two or more people, is a link to the Public Switched Telephone Network (PSTN), which is a component of ICT, a communication system available to the public that allows users to interface communication devices, has aided in many ways. Public telephone networks are standard



integrated systems of transmission and switching facilities, signaling processors, and associated operations support systems within countries and regions that allows communication devices to connect with each other (in tandem) when they operate (International Telecommunications Union, 2017). This contributes to the abolition of societal evils by providing quick access to security networking. In a nutshell, information and communication technology (ICT) has significantly boosted the number of jobs available to people all over the world and will continue to do so in the future (Federal Communications Commission 2017).

Africa and the World of ICT in Security

Security interprets the state of not being threatened, in this wise, physically, psychologically, emotionally, financially e.t.c. In a nutshell, it gives the ultimate rest of mind, development in all ramifications, to any society.

Africa has been experiencing a steady increase of violent extremism over the past decade. This escalation has been characterized in recent years by an upsurge of violence targeting civilians. In 2021, a quarter of all violent extremist attacks were on civilians. This compares to 14 percent in 2016. The frequency of attacks against civilians has varied in Africa's major theatres of violent extremism—the Sahel, Somalia, the Lake Chad Basin, northern Mozambique, and North Africa— underscoring the distinct drivers and strategies of these groups. In each context, the character of violence is a dynamic process that evolves with changes in the conflict environment. As contexts evolve, the levels, types, and choice of targets of violence evolve as well. In other words, the strategies of violent extremist organizations (VEOs) adapt to and align with the political, social, and strategic imperatives of the conflict environments in which VE actors operate (Africa Centre for Strategic Studies, 2022).

The case of Nigeria and some African states recently could be a note of reference. The clash between the herdsmen and the farmers has gotten to its pick, which has led to great insecurity in the lives of the people. Food security has been threatened, life security at low ebb, to mention few.

For this cause, Africa must rise to the challenge of insecurity, so that her people will be physically, psychologically, emotionally and financially stable. Security gadgets, such as CCTV should be installed in every nook and cranny of the African arena. The security personnel should be equipped very well.

Benefits of ICT and African Concept

Africa being the most backward continent in the world, can be liberated from the ills of her conceptual black idea, by fully make use of the benefits of ICT to human race. To this end, the leaders in Africa should rise up to embrace ICT facility to her advantage. Below are some notable benefits of ICT, which needs be embraced:

- IT in its field of mobilization; could gear up, people who are not previously interested in any form of political or social gathering could be sensitized and mobilized. Similarly, those never engaged in newspapers reading or listen to television news may get attracted by the opportunity to participate in societal debate via Internet.
- ICTs in the field of mitigation can help in reducing the effect of greenhouse gas emissions. It has been established by several associations, the possibility of reducing the emissions of Carbon Monoxide (CO) in a substantial way via ICTs, paving way for data transmissions, rather than transfer and making the African economy viable and sustainable. Also in the area of crime, could be very helpful, to determine and reduce crime to its lowest level viz-a-viz, the use of closed-circuit television (CCTV) system.
- Brought about more access to awareness to the market and transaction reduction cost to farmers and traders;
- Brought about more effectiveness, competition and market throughput;
- Make for enhancement in participation in world economy, also exploit relative advantage in factor cost;
- Brought about more adequate trained teachers IT enhance and distance trained teachers and network that links teachers to their colleagues;
- Make for widened availability in quality education materials;
- Could enhance good delivery of educational and literacy programme specifically targeted for women via IT;
- Can also bring about delivery of educational and literacy programme for girls of poor background;
- The opinions of gender equality in the public can be influenced through information programmes via the use ICTs;
- Encouraging basic in-house training programme for health personnel;



- Increase information shearing and monitoring on farming and diseases;
- Communication links allow for more effective monitoring, resource control, migration of environmental risks in remote areas via Infotech.

These benefits to African nations can only be achieved if the leaders can encourage the leadee by determination and galvanize them to the expected end. The progressive IT will definitely spur the development of Africa, if, exploited at its peak.

Conclusion

Is a well-known fact that it will take some time for the populace to gain access to the abundant opportunities of ICT, provision should be made as quick as possible to lunch ICT in every part where man live in the black race, so as to enable all to have a quick access to ICT in order to gain the opportunities promised by ICT. All finances meant for ICT development should be channeled into ICT, especially in the area of education. This observation is very relevance to the black man, due to ample reason to ask if the adoption of information technology, which lies on development strategies will produce results advantageous to Afrikind. Security should be given its optimum concern. Notwithstanding these caveats, there is reason to be cautious, with the ability of quality education materials hopeful, with assurance on the potentials of IT, especially to African need. In short, if ICT is well harnessed in the world known as Africa, it will enhance her economic viability, and thereby eliminate recession, as being happening now, in the system.

Reference

- Africa Centre for Strategic Studies (2022). Africa's Contemporary Security Challenges, Washington, D.C.
- Betcherman, G, Daysal, N. M & Pagés, C. (2010). Do employment subsidies work? Evidence from regionally targeted subsidies in Turkey, in *Labour Economics*, Vol. 17, No. 4, pp. 710–722. ILO (2020). Report on Employment in Africa (Re-Africa), Tackling the Youth Employment Challenge, International Labour Office – Geneva.
- Collins, A. (1991). The role of computer technology in restructuring schools. *Phi Delta Kappan*, 73(1), 28-36.
- David, J. (1991). Restructuring and technology: Partners in change. *Phi Delta Kappan*, 73(1), 37-40.
- Dawson, V. (2008). Use of Information Communication Technology by Early Career Science Teachers in Western Australia. *International Journal of Science Education*, 30(2), 203–219.
- Federal Communications Commission. (2017). Trends in Telephone Service. Retrieved @ www.fcc.gov/general/trends-telephone, 2017-05-04
- Frischtak, C. R. (2018). Telecommunication and ICT-based services trade” in Newfarmer, Page and Tarp (eds) *Industries Without Smokestacks: Rethinking African Industrialization* Oxford: Oxford University Press.
- Hawkrigde, D. (1983). New Information Technologies in Education, *Broom Relm*, London, 161.
- International Telecommunications Union. (2017); “Main Telephone Lines,” Retrived @ www.itu.int. 2017-09-01
- ILO (2020). Report on employment in Africa (Re-Africa), *NEET Rates*.
- Lovely Professional University, Punjab, India (2012). *Information and Communication Technology Applications*, New Delhi: Laxmi Publications (P) Ltd.
- Mid-Pacific ICT Center. (2014). What is ICT education and why is it important? Retrieved from http://www.mpict.org/ict_education_defined_importance.html



- Tiemo, P A. (2006). Impact of global system of mobile (GSM) communication services on rural communities in Delta State: In Iyoha, C. C (Ed) Mobile telephony leveraging strengths and opportunities for socio-economic transformation in Nigeria, *Ezcell Communications Ltd*, Lagos, 90-99.
- UNESCO (2006). Decenio de las Naciones Unidas para la Alfabetización. La educación para todos
- UNESCO (2008). Estándares TIC para la formación inicial docente: Una propuesta en el context chileno. Centro de Educación y Tecnología del Ministerio de Educación de Chile (ENLACES). Santiago de Chile.
www.unesco.cl
- Youth and Information and Communication Technologies (2003)’ *World YOUTH Report*
- Zounek, J. (2005). Information and Communication Technologies (ICT) and Learning-and Teaching-Friendly Environment in Contemporary Czech School. *Online Submission*.