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THE ROLE OF ICT IN REVAMPING NIGERIA'S ECONOMY

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Abstract

This paper examined the extent that ICT has contributed in the revamping of the Nigeria economy after the economic contraction of 2020. Data for the study are secondary data that were collected from World Bank, Nigeria Bureau of Statistics (NBS), Nigeria Information Technology Development Agency (NITDA), National Communication Commission, National Population Commission and Kepios digital services. The findings show that ICT has impacted positively on the Nigerian economy for the over the past years. Its impact can be seen in almost every sector: business, education, governance, health, agriculture, geology, etc. The study shows that the introduction of 5G network will increase speed of internet which will improve work activities. Nigeria should also invest more on Artificial Intelligence (AI), smartcity-technology and Internet of Things (IoTs) to reap more benefits. The government should also ensure that there is more Internet penetration in the rural areas to enable more populace involve in Internet use as only about half of the population has access to the Internet.

Keywords: ICT, Internet, Smart-city, Telecommunications, and 5G Networks

1.0 Introduction

Economy is a social domain that emphasizes the practices, discourses and material expression associated with the production, use, and management of scarce resources (James, Steger, Scerri & Magee, 2015). Economic agents can be individuals, businesses, organizations or governments.

The size of a country's economy can be measured using Gross Domestic Product (GDP). The GDP of a country, specifically, is a monetary measure of the market value of all the final goods and services produced (BEA, 2021). It is the total monetary or market value of all the finished goods and services produced within a country's border in specific time period (Fernando, 2022). The GDP of a country can be calculated using Expenditure as Income Approach. Expenditure approach which is more common is given by the formula:

GDP= C+G+I+NX

Where **C** = Consumption of all private consumer spending within a country including durable goods/items with a life span greater than three years, non-durable goods (food & clothing) and services.

G = Total government expenditure including salaries (government employees, road construction/repairs, public schools and military expenditures)

I = Sum of a country's investments spent on capital equipment, invention and housing; while

NX = net exports or a country's total exports less total imports.

A growth in GDP reflects increase in economic activities while a decline in GDP reflects a decrease in economic activities. Increase in economic activity reflects profits in production, high employment rate and increase in consumer spending while

decrease in economic activities show economic contraction that leads to unemployment, low profits and consumer cutting their spending. GDP however does not take into consideration illegal and underground activities such as sale of drugs, prostitution and activities undertaken to avoid tax (CFI, 2022).

When an economy contracts, there is low economic activities, and in such situation, there is need for revamping of the economy so that economic activities will improve.

1.1 Purpose of study

The purpose of this study is to examine the extent that ICT has contributed in the revamping of the Nigeria economy after the economic contraction in 2020 and explores ways that ICT can further revamp the economy.

1.2 Research Methodology

Data for the study are secondary data that were collected from World Bank, Nigeria Bureau of Statistics (NBS), Nigeria Information Technology Development Agency (NITDA), National Communication Commission, National Population Commission and Kepios digital services.

2.0 Current state of Nigeria economy

In 2020, because of the Covid-19 pandemic, Nigeria's economic contracted. From 2021, the economy is trajectory progressing, but the progress is sluggish. The first quarter 2022 growth rate further represents an improvement in economic performance. The observed trend since Q4 2020 is an indication of a gradual economic stability. The Q1 2022 growth rate was higher than the 0.51% growth rate recorded in Q1 2021 by 2.60% points and lower than 3.98% recorded in Q4 2021 by 0.88% points. Nevertheless, quarter-on-quarter, real GDP grew at -14.66% in Q1 2022 compared to Q4 2021, reflecting a lower economic activity than the preceding quarter. In the quarter under review, aggregate GDP stood at N45,317,823.33 million in nominal terms (source National bureau of statistics). This performance is higher when compared to the first quarter of 2021 which recorded aggregate GDP of N40,014,48274 million, indicating a year-on-year nominal growth rate of 13.25%. The nominal GDP growth rate in Q1 2022 was higher relative to the 12.25% growth recorded in the first quarter of 2021 and higher compared to the 13.11% growth recorded in the preceding quarter (NBS, 2022).

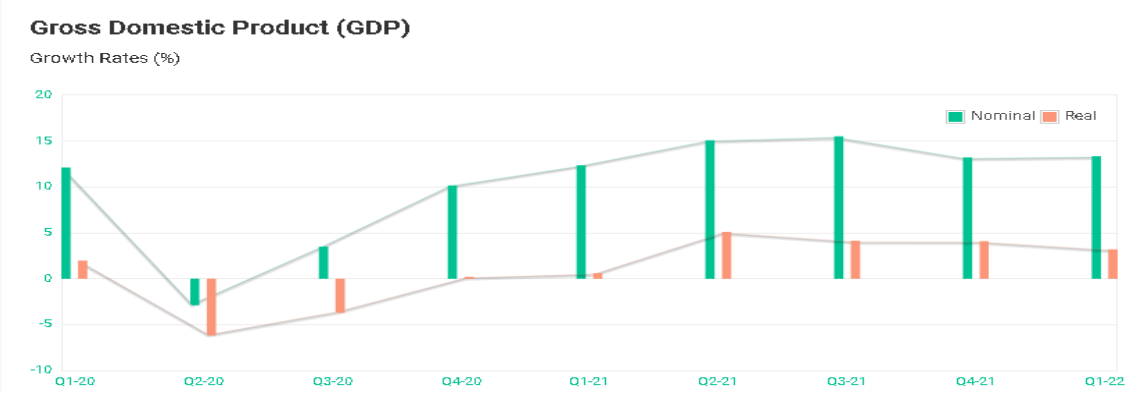

Fig. 1 Nigeria GDP 2020-1st Quarter 2022

Source: National Bureau of Statistics

Despite the growth in the GDP, the Nigerian economy still witnesses indicators of a low progressing state. The rate of unemployment is still high. Below is the unemployment statistics for the 1st quarter of 2022:

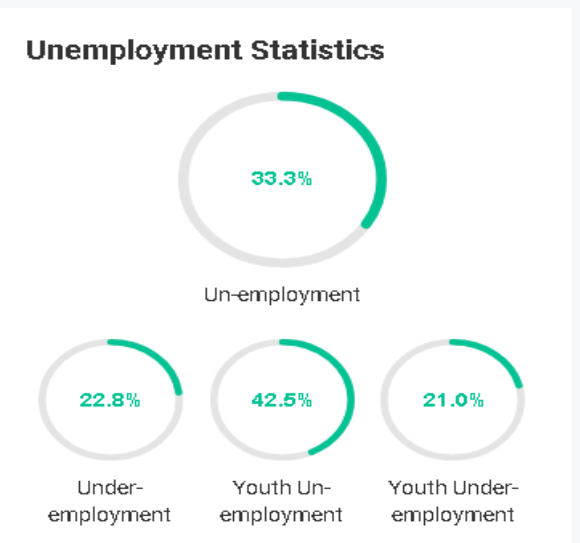

Fig. 2 Unemployment statistics 1st Quarter 2022

Source: National Bureau of Statistics

3.0 Contribution of ICT to Nigerian economy

ICT is an umbrella term that includes any communication device or application, encompassing; radio, television, cellular phones, computer, network hardware and software, satellite systems and so on, as well as the various services and applications associated with them such as video conferencing and distance learning (Isizoh, Anazia, Okide & Okwara, 2015).

ICT contributed 18.44% to Nigeria's real GDP in the second quarter of 2022. This is higher than its contribution in the same quarter of the previous year 2021 which represented 17.92% contribution that totals an input of 40 trillion naira in the country's GDP. The ICT sector is composed of four activities – telecommunications and information services, motion picture, sound recording and music production, and broadcasting. The ICT sector's growth was driven largely by activities in the telecommunications sub-sector, which contributed 9.49% to the GDP (NBS, 2022).

In 2021, the ICT Sector grew by 6.47 percent in Q1 2021 against Q1 in 2020 marking it is the fastest growing sector of Nigeria economy. This is achieved by policies such as National Digital Economy Policy for a Digital Nigeria, Nigeria National Broadband Plan and Revised National Digital Identity Policy for SIM card registration among others. The GDP reports show that ICT sector continues to serve as a catalyst for the growth and diversification of our economy (Aderamola, 2021).

3.1 Internet usage

As of January 2022, Nigeria registered approximately 109 million active internet users, which corresponds to about half of the total population of 217,767,788 (NPC,2022). This shows that internet penetration is increasing, but the increase is not across rural areas.

Characteristic	Number of users in millions
Jan 2017	97.2
Jan 2018	91.6
Jan 2019	98.39
Jan 2020	85.49
Jan 2021*	104.4
Jan 2022	109.2

Fig. 3. Internet penetration in Nigeria 2017 - 2022

Source: National Bureau of Statistics

4.0 Area where ICT are utilized in revamping the Nigeria's economy

4.1 Business

Connectivity brought businesses together creating online markets for easy transaction of services. It has enabled entrepreneurs to easily interact and set up joint research ventures that came up with results that improved their enterprise profits. Workers can operate from home especially in the areas of accounting, legal and administrative services. Telecommunication industry has recorded over $32billion investment, about 150milion subscribers and close to 100million internet subscription (NCC, 2021). Businesses are utilizing cloud computing to store their data.

The operation of the licensed telecommunication service provides in the country has created some well-felt macro-economic effect in terms of job creation, faster delivery services, reduced transport costs, greater security and higher natural output (Emmanuel and Adebayo 2011).

4.2 Governance

ICT enabled government to cut cost. Information on many programmes that will requires citizens travelling across a state are now done via social media platforms such WhatsApp, Instragram, Facebook, etc.

4.3 Security

ICT enabled security agents to trace criminals and keep an update on their activities. Modern devices are used in capturing, matching and interpretation of physical traits, for forensic analysis.

4.4 Banking

ICT is used in Fintech and different types of banking. These include mobile banking, online loan scheme, e-banking, etc.

4.5 E-learning

Schools use a diverse set of ICT tools to communicate, create, disseminate, store, and manage information. ICT involve the use of whiteboard, smartphone, laptop, zoom,

teleconferencing methods for teaching and learning. These practices have led to increase in learning which impacted positively on productivity and the economy.

5.0 Areas where ICT can be improved in revamping Nigeria economy

5.1 5G Networks

5G Networks are cellular networks where service area is divided into cells with 5G wireless devices connected to the Internet and telephone network by radio waves through a local antenna in the cell. The network has higher download speeds(10gb/s) with higher bandwidth that can connect more different devices. To successfully roll out 5G, the FG initiated a Proof Of Concept (POC) non-commercial technology trial in 2019. The selected stakeholder company is MTN Nigeria Communication PLC (MTN), the selected location are Abuja (FCT), Calabar, Lagos, Kano, Abeokuta and Ibadan. The selected frequency for the trial were the 3.5GHz and 26GHz frequency bands. (NTIDA, 2019). The trial was however concluded on August 25,2022 with 20,000 subscribers. 5G networks will improve connectivity and impacts positively on Nigeria's economy. It will allow streaming, download and upload of huge quantities of data at a much faster rate. That means higher definition videos, either from television or using video conferencing. Driverless cars and drones will be able to safely send and receive information about their surroundings. It will better connect rural communication allowing more people to start business from home and opening up opportunities.

5.2 Smart-city technology

The desire of a smart city is to improve the quality of urban services by utilizing technological innovations to solve the economic, social, and ecological challenges of a city. It contains the concepts of smart management, smart lifestyle, smart mobility, smart housing as well as smart economy. It involves the integration of devices like wireless sensor, camera, road sensor and GPS to sense and gather information like temperature, location and pollution (Arroub, Zahir, Sabir &Sadik, 2016). Smart city will reduce accident on the roads as there will be driverless cars, so there pollution will reduce with smart e-waste, etc.

5.3 Broadband penetration in rural areas

Broadband is a service that enables reliable, high-speed transfer of data, voice and video over the Internet. Approximately, 61% of Nigerians in rural areas are unconnected, compared to 40% in urban areas (Dataphyte, 2022). The implication is that most Nigerians who live in rural communities will not have the opportunity to contribute immensely to national economic growth. The high cost of renting residential buildings in urban areas are making workers who live in urban areas to shift to rural areas, however these workers may not be able to engage in remote work as rural communities lack adequate broadband penetration.

5.4 Artificial Intelligence (AI)

AI will increase the efficiency with which things are done and greatly improve decision-making processes by analyzing large amounts of data and giving predictive outcome within small amount of time. It will lead to the creation of new products and services, markets industries, thereby boosting consumer demand and generating new revenue streams (Szczepariski, 2019). AI will revolutionise health care because 5G would make it easier to determine potential

diagnosis and decide on the best treatment plan.

5.5 Internet of things (IoTs)

Vermesan et. al. (2011) defined Internet of Things as an interaction between the physical and digital worlds using a plethora of sensors and actuators. IoTs interconnects every device thereby making communication easy and simple. It will also improve security as tracking of activities will be more easier.

6.0 Conclusion

ICT has impacted positively on the Nigerian economy over the years. Its impact can be seen in almost every sector: business, education, governance, health, agriculture, geology, etc. The 5G network will increase speed of internet which will improve work activities. Nigeria should invest more on AI, smartcity-technology and IoTs to reap more benefits. The government should also ensure that there is more Internet penetration in the rural areas to enable more populace involve in Internet use as only about half of the population has access to the Internet.

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