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Remedy to Economic Recession in Nigeria: an ICT-Driven Model for a Sustainable Economic Growth



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ABSTRACT

This research paper develops a new ICT-based strategic model for Nigeria as a panacea for her current economic recession. Nigeria is currently in a recession with her GDP growth rate in the first and second quarters of 2016 at -0.36% and -1.5% respectively, and with a significant decline in economic activity spread across the economy, and visible in real gross domestic product (GDP), real income, employment, industrial production, and very high inflation rate. This research also established the perceptions of other researchers and experts in the IT sector with regards to the challenges and benefits of ICT diffusion in Nigeria. The model developed in this work shows the relationship among the various elements of the framework including Integration, Incentives, Challenges, and Direct Positive Effects, to ensure economic benefits to the Nigerian state via the following channels, an ICT policy, an entrepreneurial roadmap, a broadband policy, a local content development agenda, and an implementation of ICT component policy in all educational disciplines across the nation. The adoption of the new ICT-model will open many doors for socio-economic and political development in all developing countries especially Nigeria. This paper recommends a full implementation of the model for a quick recovery of the Nigerian economy and for her sustainable economic growth. The government should fully embrace the application and diffusion of ICT into the socio-economic and political life of the people by an adoption and implementation of ICT policies, including adequate investment in IT infrastructure. We have equally proved that ICT plays a complementary role in the development of industry, trade, farming, education, housing, health and financial institutions. We, therefore, recommend that government should link ICT planning to her national economic and social planning, especially now.

1.0 INTRODUCTION

Background of Study

Current statistics show that the ICT sector contributes 9.8 per cent to Nigeria's Gross Domestic Product (GDP), [1]. Researchers and experts have opined that the ICT industry can contribute in no small measure to national economic sustenance if given the proper attention that it deserves. If the government can focus on the industry and encouraged key players in the sector, Nigeria will come out of recession within the shortest possible time, especially now that the country needs to diversify its economy from oil. Telecommunication and ICT have been a major platform that drives most economies in developed nations of the world and can contribute to the growth of any economy if the government can remove all inhibiting barriers to IT-based organizations and corporate enterprises and provide digital configuration for all business processes. There is need to adopt business transformation procedures based on ICT-driven models that facilitate efficient manufacturing, development, and outsourcing base in our economic setup. There is no better time than now to diversify our economy and promote the ICT industry to play the major role in the recovery and sustenance of our ailing national economy.

The National Bureau of Economic Research (NBER) defined a recession as "A significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in a real gross domestic product (GDP), real income, employment, industrial production, and wholesale-retail sales". An Economic recession can also be defined as a negative real GDP growth rate for two consecutive quarters. In view of the above definition, Nigeria is currently in an economic recession since her GDP growth rate in the first and second quarters of 2016 were -0.36% and -1.5% respectively.

The International Monetary Fund (IMF), as well as the Central Bank of Nigeria, have agreed that the Nigerian economy has entered a recession and asserted that the economy may not regain stability too soon going by the low growth rate of 1.5%. Recessions generally occur when there is a widespread drop in spending. This may be triggered by various events, such as a financial crisis, an external trade shock, an adverse supply shock or the bursting of an economic bubble [3].

The recession will always show clearly in Macroeconomic indicators such as GDP (gross domestic product), investment spending, capacity utilization, household income, business

profits, and inflation. Other indicators may include bankruptcies and unemployment rate rise. Many researchers and scholars have tried to present remedy to the current economic recession in Nigeria. For example, [3] advocates a “return to agriculture” as the solution to the crisis when he states thus “The current economic realities not only require a return to agriculture, the future and well-being of generations of Nigerians yet unborn demands it.”, and concluded by calling on the government to revisit the river basin schemes in order to improve agricultural fortunes of Nigeria.

In the same vein, other researchers such as [6] have suggested heavy cut back on government spending as the remedy for economic recession. Other researchers, in their own wisdom, recommend to the government to respond to recessions by adopting expansionary macroeconomic policies, such as increasing the money supply, increasing government spending and decreasing taxation.

However, there is need to critically look into the case of Nigeria, with its peculiarities and current economic realities with a view to proffering lasting solution to this challenge. There is need to consider an ICT-driven economy and take a critical look at its potentialities and ability to create jobs for the teeming population. There are untapped areas of ICT such as cloud computing with data centers designed in such a way that data sovereignty is ensured and is kept within the country’s own jurisdiction, which leads to local employment for the youth and skills acquisition and development that fits Nigeria’s idiosyncratic environment.

There is the need for broadband development that creates new opportunities for SME(s) and a civic society to harness the new wealth looming in the digital space. Software development, Software Outsourcing, Expert Systems, and Artificial Intelligence (AI) is changing the way we interact with the environment and deal with new complexities in our societies. We need to quickly adopt e-Governance systems to transform the way we manage government procedures and the way government interacts with its citizens. There is need to build ICT infrastructure that ensures affordability, accessibility, and availability of communication infrastructure to all communities in Nigeria.

All these require human resources to be deployed in the roll-out, deployment, maintenance, and enhancement of all such systems, which ultimately leads to employment, the greater spending power of those engaged in these activities and the corresponding improvement in living standards and purchasing power of the citizenry.

It is possible to create an ICT-base society which creates an army of agents that are contributing taxes to the government's coffers and boost productivity to our national GDP. We can learn from Singapore, Dubai and other countries that built such Smart Cities where such initiatives have propelled the society into becoming a significant contributor in the digital race. Nigeria can afford to provide affordable access to broadband Internet for all her citizens as articulated in a Broadband4All Forum initiative of 2010.

According to [13], four strategic plans can be articulated for Nigeria, namely: an ICT Policy, a Broadband Plan, an Entrepreneurship Roadmap, and a Local Content Development Agenda.

There is, therefore, need to highlight the unique role that ICT diffusion can play in the economic transformation of this country and to remedy the ugly trend of economic recession in Nigeria. There is need to look into critical areas of the economy apart from Agriculture, considering the present economic realities in Nigeria, and to create an ICT-driven remedy for her sustainable economic growth.

1.1 Aim and Objectives of the Study

This research paper aims at developing an ICT-based strategic model for Nigeria as a panacea for her current economic recession.

Specific objectives include:

- i. To highlight the causes of current economic recession in Nigeria based on a theoretical study
- ii. To propose an ICT-driven model for a sustainable economic growth in Nigeria.
- iii. To make recommendations for a way forward.

2.0 LITERATURE REVIEW

2.1. Theoretical Framework

2.1.1 Economic Recession in Nigeria – An Overview

Just what is meant by the word “recession”? Wikipedia defines recession as: “...a negative economic growth for two consecutive quarters”. It is also a business cycle contraction which results in a general slowdown in economic activity. Macroeconomic indicators such as GDP

(gross domestic product), investment spending, capacity utilization, household income, business profits, and inflation fall, while bankruptcies and the unemployment rate rise. Recessions generally occur when there is a widespread drop in spending (an adverse demand shock). This may be triggered by various events, such as a financial crisis, an external trade shock, and an adverse supply shock. Governments usually respond to recessions by adopting expansionary macroeconomic policies, such as increasing the money supply, increasing government spending and decreasing taxation.

2.1.2 Causes of Economic Recession

Many factors contribute to an economy's fall into a recession, but the major cause is inflation. Inflation refers to a general rise in the prices of goods and services over a period of time.

Inflation is defined according to Investopedia as a sustained increase in the general level of prices for goods and services. It is measured as an annual percentage increase. As inflation rises, the money you own can only buy a smaller percentage of a good or service.

In the case of Nigeria according to [6], the low prices of oil, the volatile state of oil production in Nigeria, bad debts gathered over time, has led to lower purchasing power and foreign exchange scarcity.

In the same vein, [7] listed the following as the general causes of economic recession:

1. High inflation (a general rise in price of goods and services, leading to low purchasing power)
2. Accumulation of debt servicing, especially foreign debts
3. High-interest rate, discouraging investors
4. Fall in aggregate demand, due to falling in wages and income
5. Mass unemployment, and
6. General loss of confidence in government due to economic indices

Basically, the current economic recession in Nigeria is caused by a combination of factors including a dip in oil prices, and government spending, which has led to inflation.

According to [7], “Economic recessions are caused by a loss of business and/or consumer confidence”. This loss of confidence makes businesses and/or consumers stop buying and move into defensive mode. Once a critical mass moves toward the exit sign, panic sets in and creates a destructive downward spiral. As a result, what you get is mass layoffs and rising unemployment, which create a slowdown in retail sales. Manufacturers cut back in reaction to falling orders, further increasing layoffs.

A decline in GDP growth is a sign that a recession may be underway, but it is rarely a cause. The reason for this is that GDP is only reported on after the quarter is over. By the time GDP has turned negative, the recession may already be underway [7].

Existing literature has further identified the following five important causes and signs of an economic recession:

- a. High-interest rate: When rates rise, they limit liquidity or the amount of money available to invest.
- b. A stock market crash: The sudden loss of confidence in investing can create a subsequent decline in the stock market.
- c. Falling housing prices and sales. As homeowners lose equity, it forces a cutback in spending as they can no longer take out second mortgages. Over time, it will cause foreclosures. This was the initial trigger that set off the Great Recession, but for different reasons. Banks that lost money on the complicated derivatives based on underlying home values.
- d. A slowdown in manufacturing orders. This usually happens before recession finally hits.
- e. Massive swindles. The 1990 recession was caused by the savings and loans crisis. More than 1,000 banks (total assets of \$500 billion) failed as a result of land flips, questionable loans, and illegal activities.

2.1.3 Contribution of ICT to Improvement of National GDP

Researchers and experts in the field of Information and Communication Technology have opined that the ICT industry can do more if the government can prioritize the sector. For example, [2] in their article titled “How ICT can Improve Economy, by Experts” they stated

that calls have again gone to the Federal Government to prioritize the Information and Communications Technology (ICT) sector.

According to the President of the Association of Telecommunications Companies of Nigeria (ATCON), Olushola Teniola, telecommunications and ICT, in general, can contribute to the economy if government can remove all inhibiting barriers to organisations, corporates, and enterprises, adopt business transformation to their business models, and provide a digital configuration for all business processes, which integrates with best practices that facilitate an efficient manufacturing, outsourcing, and development base in our economic setup.

From an international perspective, the Managing Director of Huawei Nigeria, Frank Li, observed that “to fast-track the nation's development through ICT, governments should lead by example in digital transformation for enterprises and citizens, and increase spending on ICT infrastructure to benefit the public”.

Li said countries need to introduce and train a skilled ICT workforce to unleash the full potential of a digital economy, adding that capacity building is a key. The government can encourage ICT professional training and encourage more talented Nigerians to go into the ICT sector and train a more skilled workforce, which will benefit the industry eventually. It will clearly be an incentive for growth for the industry if the market has more talented and skilled ICT people who have the understanding and deeper knowledge of its working principles. This can help the industry to develop.

Nigeria should partner with more stakeholders to lay a solid digital foundation, encourage cross-domain cooperation, and collaborate with the private sector and financial institutions to create an ecosystem for digital transformation.

For the Director-General, Delta State Innovation Hub (DSIHUB), Chris Uwaje, moving forward, in both government and the business worlds, the understanding is that the organizations, which will benefit most from the transformative role of IT are those which treat IT as a key strategic resource for achieving organisational goals rather than as a purely technical input. Uwaje opined that there should be infinite passion and commitment to deploying science; inventions and technology for national development and that wealth creation should be the highest priority of government and stakeholders without boundaries. He suggested that “The foot-dragging or better ‘mind-dragging ‘attitude at the desk of policy

makers are probably not backgrounded on a lack of good intention, but indeed on Technophobia and perhaps deep ignorance within the decision-making value chain”.

Other critical factors that have slowed down the innovation accelerator component of the process is the seeming silent disconnect between the academia, the industry and the government at critical points of the ICT development Ecosystem. This is a serious concern which calls for urgent consideration for the enthronement of a National IT Framework Bill (NITFB). Researchers have even encouraged the enactment of an Act to establish the Office of the IT General of the Federation (OITGF).

According to Uwaje, a former President, Institute of Software Practitioners of Nigeria (ISPON), a nation that has exponential growth, driven by excessive import-based conspicuous consumption without reciprocal and meaningful innovation-centric development strategy and handsome revenue from that source, has no future – especially when her population growth index is over 4.2 per cent yearly compared to the 2.5 percent growth of the economy.

With a vibrant population surging at the edge of 200 million people with a very rich history, the Nigerian nation seems to have been submerged in the ocean of globalization and currently experiencing the impact of the cumulative challenges of converged centrifugal forces at the corridors of innovation, technology, creativity, internationalisation of trade interests, power, leadership and directions.

For the President, National Association of Telecoms Subscribers of Nigeria (NATCOMs), Chief Deolu Ogunbanjo, “democracy is gradually getting stabilized in the country, but in terms of ICT penetration, we are not there yet.”

To move forward as a country, according to Ogunbanjo, there was the need to harness all the leakages in the system of governance.

While calling for the step down of the proposed Communications Service Tax bill, which seeks to impose additional nine percent taxation on a usage of ICT in Nigeria, the NATCOMs observed that some countries including Ghana and some North African nations are rather reducing taxes, which are targeted specifically at ensuring deeper penetration of ICT.

Ogunbanjo urged that youths should be encouraged to develop solutions that will solve social problems, and pointed out that regulation, especially in the telecoms segment, should be to favor subscribers. For instance, according to Ogunbanjo, “We still are still bombarded with unsolicited SMS; operators have refused to roll back unused data, among others”.

3.0 MATERIALS AND METHODS

3.1 Choice of Structural Framework for the Study

3.1.1 The Roger’s Innovation Decision Process Theory

This study was centered on the theory of Diffusion of Innovations [10]. According to [10], diffusion research centers on the conditions, which increase or decrease the likelihood that members of a given culture will adopt a new idea, product, or practice. According to him, people’s attitude toward a new technology is a key element in its diffusion. Since Rogers uses the terms innovation and technology interchangeably (p. 12), the diffusion of innovation framework seems particularly suited for the study of the diffusion of ICT in Nigeria. Roger’s Innovation Decision Process theory states that innovation diffusion is a process that occurs over time through five stages: knowledge, persuasion, decision, implementation, and confirmation. Accordingly, the innovation-decision process is the process through which an individual or other decision-making unit passes 1. From first knowledge of an innovation, 2. To forming an attitude toward the innovation, 3. To a decision to adopt or reject, 4. To implementation of the new idea, and 5. To confirmation of this decision [10], p. 161).

3.1.2 The CIPP Evaluation Model

The digital framework adopted in this study is based on the CIPP Evaluation Model, which is a comprehensive framework for guiding evaluations of programs, projects, institutions, and systems particularly those aimed at effecting long-term, sustainable improvements [11]. The acronym CIPP corresponds to context, input, process, and product evaluation. In general, these four parts of an evaluation respectively ask: What needs to be done? How should it be done? Is it being done? Did it succeed? The CIPP Evaluation Model equally serves as a conceptual framework for researchers on ICT implementation and impact assessment [1].

The product evaluation in this model is suitable for studies such as ours in this research work on ICT diffusion in Nigeria to boost economic activities for a sustainable economic growth.

This type of study is a summative evaluation conducted for the purpose of accountability which requires determining the overall effectiveness or merit and worth of an implementation [11]. It requires using impact or outcome assessment techniques, measuring anticipated outcomes, attempting to identify unanticipated outcomes and assessing the merit of the policy. It also helps the broader group of users gauge the effort’s success in meeting targeted needs. The first element, “impact”, assesses whether the diffusion of ICT facilities into the nation’s daily life has a direct effect on the economy, whether any or all aspects of the economy changed as a result of this diffusion, etc. Effectiveness checks whether the deployment achieves intended and unintended benefits, or if it was effective for the purpose of improved national GDP. Transportability measures whether there are any changes in real income and its improved effects that can be directly attributed to the deployment of ICT facilities. Lastly, sustainability looks into how lasting the effect of the ICT deployment will be in the society [11].

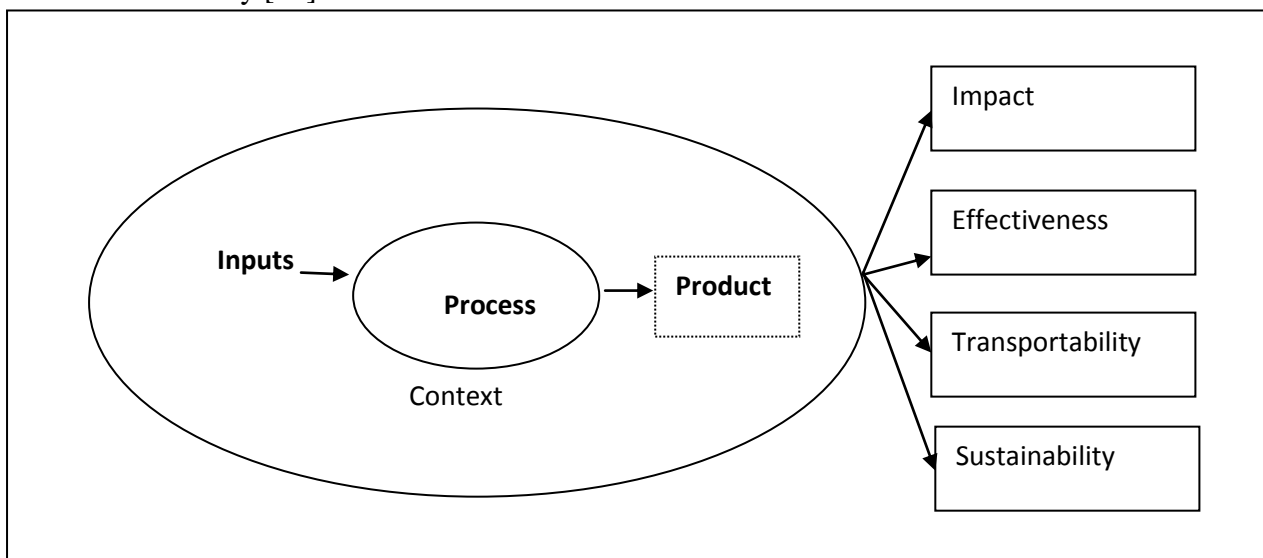


Figure 3.1 The CIPP Evaluation Model – developed based on Stufflebeam (2007)

4.0 MODEL FORMULATION AND DISCUSSIONS

4.1 Our Proposed ICT-driven Model for a Sustainable Economic Growth

The new ICT-driven model proposed in this research work is based on the theory of Diffusion of Innovations [10], the CIPP Evaluation, implementation and impact assessment model [1], and the ICT-impact assessment model, which is a conceptual framework for research in impact assessment generated from [1] study.

4.2 Major Elements of the Model

Our new model will compose of the following four key elements: direct positive effects, challenges, incentives, and integration. The form of this model is cyclic because the assessment process can start from any stage, and can be done either individually or holistically making it useful for both formative and summative assessment of ICT integration into our daily life. The cyclic representation also indicates the central strength that the elements in the model provide to ICT impact and depicts that: to assess ICT impact, the process can start from any of the four elements. The first element of the model – positive effects are in terms of benefits of ICT in wealth creation, bridging the digital divide across nations, and availability of information through effective utilization cyberspace and the internet.

The second element which is incentives are provided in the form of the motivation of entire workforce, adequacy of IT infrastructure, access to IT services, and training of graduates to become ICT-compliant.

Next is the level of integration via an ICT policy, a broadband policy, an entrepreneurial roadmap (policy), a local content development agenda, and an ICT component policy for all educational disciplines. This could be measured by looking at the last element – barriers and challenges to the limitation in the level of ICT integration. The challenges include an epileptic power supply in Nigeria, inadequate funding by government, inadequate IT infrastructure, administrative bottlenecks, poor maintenance culture, slow legislative processes, and tendency to resist change that would turn around the persisting culture in any environment.

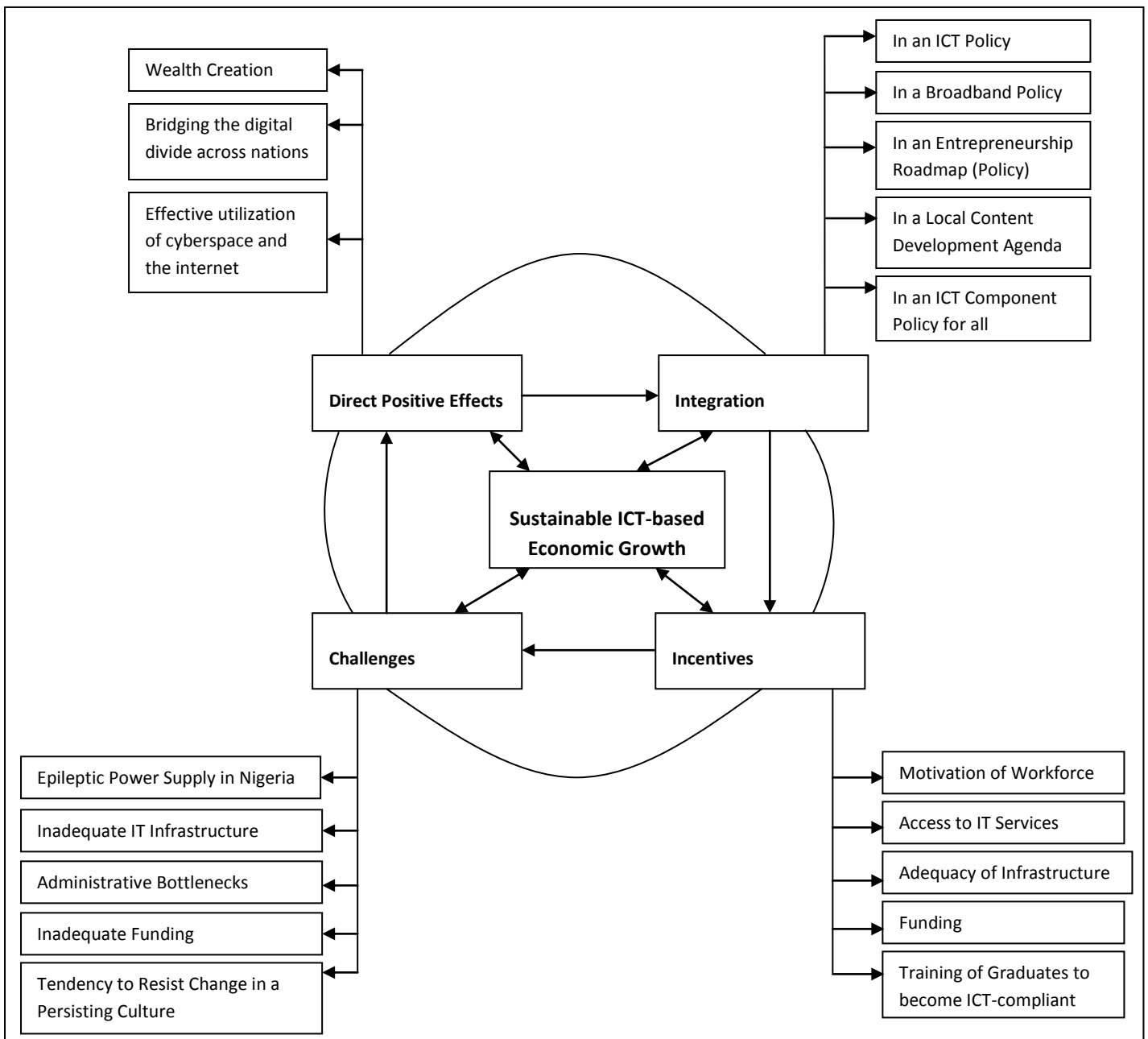


Figure 4.1. The proposed ICT-driven Model for a Sustainable Economic Growth in Nigeria

4.3 DISCUSSIONS

The proposed ICT-driven model for Nigeria’s economic growth is shown in figure 4.1. The model is all-encompassing and comprises of four major elements in a harmonious relationship to ensure sustainable economic growth in Nigeria. These elements include Integration, Incentives, Challenges, and Direct Positive Effects.

4.3.1 The “Integration” Element

There should be an integration of ICT into the following areas of our economic life to ensure economic benefits to the Nigerian state, an ICT policy, an entrepreneurial roadmap, a broadband policy, a local content development agenda, and an ICT component policy for all educational disciplines.

An Information and Communication Technology (ICT) policy is an official statement which spells out the objectives, goals, principles, and strategies, intended to guide and regulate the development, operation, application, and diffusion of ICT into our business setup. ICT policies must take into account other policies such as education policies, trade and investment policies, foreign policy, monetary policy, transport policy, etc. The need for ICT policies has been recognized by the African administrators [4]. There is need to establish a basic network and telecommunications infrastructure within Africa, allowing intra-African telecom traffic, largely avoiding the previous long, complex and very expensive transit routes through Europe. ICT is the backbone of business activity, productivity, trade and social development. For a developing country like Nigeria and other West African countries, effective implementation of ICT policies is a precondition to the emergence of a strong market economy. The growth of industries and enhancement of social activities largely depends on effective implementation of ICT policies. Research findings have also shown the correlation between ICT policy implementation and Gross Domestic Product (GDP) and the accruing economic and social benefits which include social change, connectivity, decentralization, and accessibility.

An entrepreneurship roadmap is needed and is critical in stimulating a sustainable economic growth in Nigeria, especially now the country is facing its worst challenges economically. All over the world, Small and Medium Scale Enterprises (SMEs) remain the bedrock of any economy. SMEs act as the driver to of national economic growth [5], and they possess great potentials for employment generation, improvement of local technology output diversification and development of indigenous entrepreneurship. The government can create new policies that remove all inhibiting barriers to organizations and corporate bodies and encourage a new digital configuration that integrates best practices that facilitate efficient manufacturing, outsourcing, and developmental base in our economic setup.

4.3.2 The “Incentives” Element

For the ICT model to succeed in Nigeria, there is need to motivate the entire workforce, enable access to IT services, make available adequate IT infrastructure, government funding, and motivate the training of all university and polytechnic graduates to become ICT-compliant.

4.3.3 The “Challenges” Element

The following challenges have been identified as to possible hindrances to the full implementation of the ICT model in Nigeria: epileptic power supply, administrative bottlenecks, inadequate IT infrastructure, inadequate funding, and tendency to resist change that can turn things around in any persisting culture.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This research work has developed a new ICT-based strategic model for national economic growth and sustainable development. Implementation of the model framework will be a panacea for the current economic recession in Nigeria which now has her GDP growth rate in the first and second quarters of 2016 at -0.36% and -1.5% respectively, and where there is now, a significant decline in economic activity spread across the economy, and visible in a real gross domestic product (GDP), real income, employment, industrial production, and wholesale-retail sales. The research has also established the perceptions of other researchers and experts in the IT sector with regards to the challenges and benefits of ICT diffusion in Nigeria.

Discussions carried out on the model shows that all the elements of the framework including Integration, Incentives, Challenges, and Direct Positive Effects, can relate harmoniously to ensure economic benefits to the Nigerian state via the following channels: an ICT policy, an entrepreneurial roadmap, a broadband policy, a local content development agenda, and an implementation of ICT component policy in all educational disciplines across the nation.

5.2 Recommendations

We recommend the full implementation of the new ICT-driven model developed in this research work for a quick recovery of the Nigerian economy and for her sustainable economic growth. It is recommended that Nigerian government should fully embrace the application of ICT into the socio-economic and political life of the people by adopting and implementation of ICT policies and adequate investment in IT infrastructure and Information and Communication Technologies.

Since it has been proved that ICT is now at the heartland of business, the adoption of the new ICT-model will open many doors for socio-economic and political development in all developing countries especially, Nigeria. Since ICT plays a complementary role in the development of industry, trade, farming, education, housing, health and financial institutions, it is recommended that government should link ICT planning to her national economic and social planning.

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