

Technological Dependence and Nigeria's Role in the 21st Century Globalised Economy

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Abstract

Nigeria's adventure in global economic arena started since 1970s owing to oil boom of that era. Since then, Nigeria has witnessed consequential global economic relevance, on one hand, as well as formidable global economic challenges, on the other. However, this study argues that the reconfiguration of the world economy from oil based to technological based economy is responsible for Nigeria inconsequential role in the 21st century technology-based economy given the country's technological backwardness. The study investigates the implications of technological dependence on Nigeria's role in the 21st century globalised economy. The study was anchored on basic assumptions of post colonial state theory and utilised the secondary method of data collection largely drawn from relevant books, official publications, journal articles and internet resources. The study recommended a gradual delinkage from foreign technology and to promote a home-grown technology in line with citizen's ideas, inventions, innovations as well as creativities in conformity with national socio-economic developmental objectives; like its Asian Tigers counterparts rather than continuous dependent on foreign technology for developmental survival. This will reposition the country towards global economic limelight as it were prior to the emergence of 21st century technological based economy.

Keywords: Globalised economy, 21st Century, Technological, Technological Dependence

Introduction

Technology and 21st century global economic development are no doubt twin phenomena in the world today which have come, to be regarded as a sine qua non of economic relevance of any state globally (Olaoye, 2000). Although it cannot be said that Nigeria is not aware of this trend and development in its post oil boom era, the issue is that not much attention has been placed on Nigeria technological backwardness in the context of its global economic relevance as well as how Nigeria can reposition itself to start playing a major role in the recent technology-based economy as it were during the oil boom. This article takes the position that the Nigeria's role in the 21st century globalised economy cannot be wholly appreciated outside the context of the recent reconfiguration of the world economy from oil based economy to a technology based economy following world trends in globalization. There is current emphasis that the recent global economic reconfiguration has continued to increase the economic prosperity of countries with sophisticated level of technology as well as continued dependence of developing countries such as Nigeria on foreign technologies. This happening however, is responsible for the unequal exchange of global economic relations between the technologically sophisticated countries of the world and the less technologically sophisticated ones. Rami *et al*, (2017) further corroborates that the emergence of deferent technological innovations such as e-banking, e-transaction as well as e-markets among others is to enhance the recent technological based global economic prosperities. Mathew (2004), also argues that the challenges confronting the Nigerian economy in the 21st century global economy are diverse and enormous; this include the unacceptable state of Nigeria's enormous endowments of natural and human resources in the recent global economic configuration. This is more, given the fact that Asian countries like Singapore, Malaysia, Thailand as well as Indonesia with similar natural and human endowments have recorded significant success in their advancement roles in the 21st century global economy as a result of their sophisticated technological know-how. These countries however, achieved these successes more than any African countries, Nigeria inclusive owing to the fact that they were able to tap from the technological innovations of the developed counties and to situate them in the context of their home grown technological

progress in line with their citizens ideas, innovations, inventions as well as creativities; rather than relying on foreign technology for their socio-economic survival and national development as is the case in Africa. In order to explicate and interrogate the need for Nigeria's to gradual delinkage from foreign technologies importation and embrace the development of a home grown technologies to reposition its self in the recent 21st century technology based economy. This article is broken down into five parts. Part one explored a critical understanding of technological dependence (TD) in the context of the 21st century technology based global economy, part two discussed the theoretical perspective to the study, part three examined the impacts of technological dependence on Nigeria's role in the 21st century globalised economy while the part four provided alternative pathways for Nigeria to experience global economic progress in the 21st century economy and finally followed by concluding remarks.

Understanding Technological Dependence (TD) in the Context of the 21st Century Technology based Global Economy

To be a major actor in the 21st century economy dominated by sophisticated technological innovations, a country must be vast in information and communication technology and must become technologically advance in all aspect of its economic activities. Consequently, there is need to leverage on practical knowledge and materials for the manufacture and use of equipments and machines capable of enhancing global economic prosperities in order to meet 21st century global economic challenges. The term dependence is strictly concerned with the whole relationship between advanced countries and the third world countries: the dependent relationship is exhibited in cultural, economic, technology as well as research and development (Olaoye, 2000). However, the over reliance on foreign technology has made it difficult for the third world countries in Africa for instance, to engage in equal exchange of commodities with their foreign counterparts. However, technological dependence could be considered the opposite of self-reliance. One transparent indicator of its existence is a situation in which the main source of country's technology comes from abroad. As argued by Needhalm (1969), when a country imports from one single country, it has a very high degree of technological dependence. As a result she becomes incapable of altering the existing status quo, not only because the world economic facts of life make it impossible, but because the socio-economic pressures of the dependent relationship have conditioned decision makers in the country to do so. Similarly, Karagozoglu (1987) conceptualises technological dependence as a means of transferring more advanced technologies from abroad. He argued further that what makes technological dependence inevitable in recent technological based economy is limited or unavailability of indigenus technology. Leomoine & Unalkesenci (2002) understood technological dependence as a reliance on imported intermediate products and capital goods for its production and exports. Syed (2007), is of the view that technological dependence as a process in which a country lack domestic technological know-how and had to import foreign technological upgrades in order to expand its economy's production capacity. Despite the associated conceptual differences, the concept technological dependence has emerged to imply a situation of unequal technological know-how between the donor and the recipient. Nwaedozi (2012) is of the opinion that technological dependence (TD) gained more currency in Nigeria with the establishment of National Office for Industrial Property (NOIP) in 1983 owing to the pronouncement of military Decree No 70 of 1979. To him, technology dependence is the flow of applicable knowledge, skill, capability, expertise, equipment or facilities from one location to another within a specific time frame; it is closely linked to the process of industrialization. In order words, it is a complicated process involving a matrix of cultural, socio-economic, environmental, infrastructural, political, diplomatic and other related factors. There are two main dimensions of Technology dependence as noted by Nwaedozi (2012); this includes vertical technological dependence and horizontal technological dependence. To him, vertical technological dependence involves an unequal technological pedestal between countries such as Nigeria and UK while horizontal technological dependence involves equal technological pedestal between countries such as Nigeria and Ghana. However, technology dependence in the 21st century technological based global economy is achieved through the execution of project agreements between countries and their foreign counterparts. These agreements are

evaluated in order to achieve equity, airplay and to be in conformity with the national socio-economic objectives of the countries (Nwaedozie, 2000).

Theoretical Perspective to the Study

The article is anchored on the analytical proposition of post-colonial state theory as developed and used severally by scholars like Ake (1981), Saul (1974), Ekekwe (1985) to explore the dynamics of the unequal socio-economic interplay between the core and the periphery. The theory came into existence against the backdrop of liberal paradigmatic understanding of state as an independent force and a neutral entity that fend for the welfare of its citizens. (Engels, 1884). However, academic literature on dependency and development anchors their analytical explanation on the theory of post colonial state (Ake, 1981). Hence, the theory blames the weak, inchoate and dependent instruments of the state largely on the colonial proclivities and machinations. They argue that neo-colonial class structure and the unequal link between the advanced capitalist economies and the post-colonial economies is responsible for the present over-reliance of the Third World countries on post colonial's powers. In light of this, the study is anchored on post-colonial state theoretical underpinning corroborating that technological dependence of Nigeria state; being a post colonial state is as a result of the lopsided socio-economic structure created by former colonial powers. The study therefore, blames the inconsequential role of Nigeria in the recent global economic affairs on over-reliance on foreign technology; emphasising that technology dependence and under-technology can be view as a result of over reliance on foreign technology. In the light of the foregoing analytical construct, the theory is germane in explicating and understanding the persistent redundancy in Nigeria's role in the 21st century technological based economy. The study notes that as a post colonial state, Nigeria always exhibits it attachment with foreign technologies and innovations for its economic survival, national development as well as to participate favourably in the global economic affairs. This is because the post colonial state system has been structured in a way that former colonies will continue to attach themselves with their former colonial powers for economic survival as well as national development.

Technological Dependence and Nigeria's Role in the 21st Century Global Economy

The 21st century global economy promises to lead to more accurate levels of production, more targeted communications and more relevant pricing. Nigeria is today Africa's potential largest technological based products market with a projected yearly growth rate of over 70 percent between 2001 and 2016. By the end of 2001, its technological based market worth about 800 million dollar; with the injection of funds by major GSM phone users, the figure rose to 4.5 billion dollar by 2008 (Uko, 2010). However, Nigeria roles in the 21st century global economy have been battling with the problem of technological dependence in reposition the country back to global economic limelight. Many people especially the leftist mind have been making a rethink on the issue of Nigeria role in the global economic activities in this era of technological based economy. Olorede (2006) observed that "The exercise to rethink Nigeria's role in its recent global economic adventures have become imperative because of the spread of technology based development in the world today and the variegated consequence of different technological based economic formations that have developed in the recent times. The emergence of globalization has blown a serious wind in this new world economic system. The implication of this is that any nation that does not have required technology to join the globalization train is regarded as backward in the 21st century global economy. In this regards, the role of Nigeria in the 21st century globalised economy needs to be explored. Table 1 below shows the sectoral importation of foreign technology into Nigeria between 2001 to 2016.

Sectoral importation of foreign technology in contrast to home-grown technology in Nigeria between 2001-2016

S/N	Sectors	Foreign Technology Importation	Domestic Development Suitability	Source	Home Grown Technology
1	Science and Technology	80%	Less than 30%	United States/ China	Less than 10%
2	Oil & Gas	95%	✓	United States/Britain	✓
3	Trade and Investment	90%	✓	China	✓
4	Manufacturing	100%	✓	Japan	✓
5	Energy/Power	100%	✓	China	✓
6	Research & Steel	100%	✓	United States	✓
7	Agriculture	100%	✓	Brazil	✓
8	Solid Minerals	100%	✓	United States/China	✓
9	Education	90%	✓	United States	✓
10	Transportation & Communication	100%	✓	United States/Japan/ China	✓

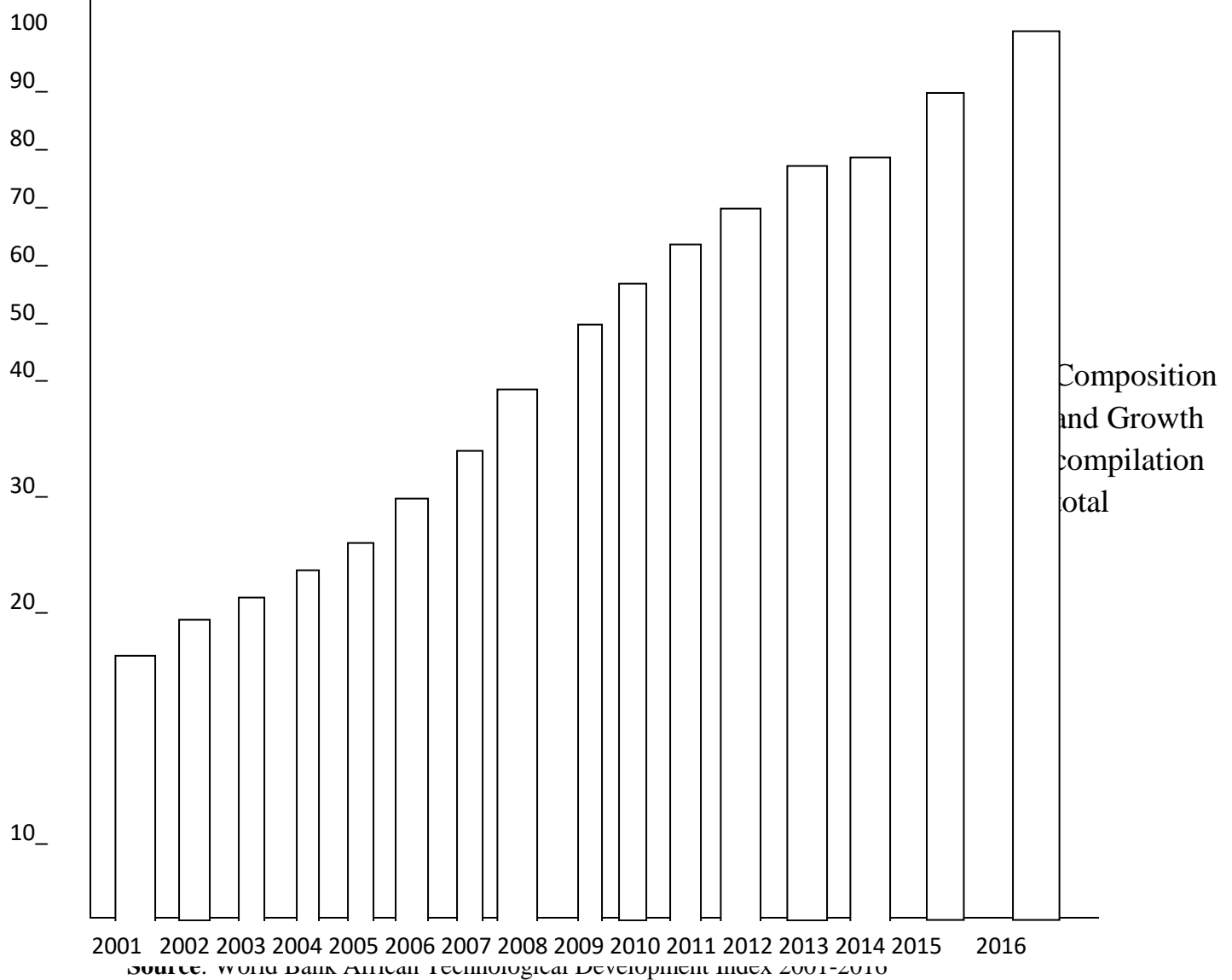
Source: TIC = Technology incubation center report (2016)

In line with the above table, Oddish (2000), argues that the division of global economy into two (North and South) has made dependence between technologically dependence country like Nigeria and highly technologically advanced countries like America, Britain, Japan and China inevitable. He further asserts that the classification of the world economy into the north and south, the rich and underdeveloped, industrialised and non-industrialised nations has made elements of profit and loss on technology based products in any social-economic interactions between the two groups the order of the day. The scholar also notes that the disparity between the north and south is very visible in oil and gas, transportation and communication, solid minerals, agriculture among others. The study observes that technological dependence has bedevilled the entire strategic sectors of Nigerian economy with humongous impacts on Nigeria’s advancement role in the 21st century globalised economy in harnessing the benefits of the technological based economy for socio-economic growth and national development.

Furthermore, Ogunboyede (2015) opines that globalization is the latest technological quagmire in reducing the physical distance between Nigeria economic activities and the rest of the world through information transfer at a speed that hitherto uncommon in Nigeria socio-economic world. From an holistic perspective, he further asserts that the emergence of uni-polar world as a result of the disintegration of the former USSR, which effectively put an end to the Cold War, has provided no feasible alternative to the western capitalist system along with its strong emphasis on market-driven and competitive economy than to focus on the technologically dependence countries like Nigeria to consolidate their global economy preponderance since 20th century. Thus, the emergence of globalization has come to impose foreign technologies on most of the technologically independence countries of the world. The study therefore, further contends that Nigeria being a technologically independence country, cannot sustain its hitherto economy relevance in the contemporary technology based global economy. As noted by Labe (2008) one of the main reasons why Nigeria cannot sustain its hitherto global economic relevance prior to recent technological based economy is death of science and technology infrastructures in the country. Similarly, Ajah (2014) also notes that the main reason for technological infrastructure deficit in Nigeria is as a result of inadequate public research

and development institutions in the country. However, to improve public and research institution as a panacea to technological infrastructure deficit in Nigeria; Ahren (2000) asserts that government needs to look inward and harness local innovations and inventions suitable for any forms of research and development in the country. The chart below shows the percentage composition as well as growth of foreign technologies in Nigeria between 2001-2016.

Percentage composition of importation and growth of foreign technologies in Nigeria between 2001-2016.



In line with above chart, the study contends that, the fact that Nigeria has largely dependence on foreign technologies and foreign firms have been controlling and dominating major production, manufacturing as well as industrial sectors of the country is unequivocal. These dominance and control have been made possible as a result of over reliance on foreign technology as well as the inability of the government to tap from foreign technologies and situate them in the context of a home grown technology in line with citizens’

ideas, innovations as well as inventions. This development therefore, made most of the indigenous companies in Nigeria to be at the mercy of foreign experts in applying practical knowledge and material for the manufacture and use of equipments and machines in the production of technological based goods and services capable of competing favourably with products of other countries who are technologically advanced. This is because equipments and machines that dominate Nigeria manufacturing industries are alien to the citizen's technological know-how and consequently leads to deficit human capital in most technology based organizations in the country. Additionally, this development has made Nigerian leaders to jostle for tax collected in form of providing security as well as accommodating foreign expatriates in most manufacturing companies in the country and continued to ignore the development of indigenous citizen's innovations and inventions to advance home-grown technology. The most interesting thing as noted in this study is that most of the foreign firms are agent of capitalism whose interest and desires is to impose foreign technological dominance in all production and manufacturing sectors of the country. These technologies, many of which were unsuitable and outdated to indigenous technological know-how of citizens in the country; but rather imposed in order for the productive capacity of these manufacturing companies to be line with the whims and caprices of the advanced countries under unfair contractual terms and conditions. Another interesting implication of technological dependence in Nigeria is that the country lags the skill to negotiate technology transfer agreements for rapid technological advancement. However, such agreements will discourage technological monopoly in the country relations with the advanced technology based countries. This development has further made room for over reliance on foreign technology (expatriate) to help in exploring valuable natural resources whose intimidating market global pricing threatens the global economic dominance of the developed countries. The study also notes that technological dependence in Nigeria has bedevilled home grown skill acquisitions and development in the country. Over reliance on foreign technology has made over 80% of production capacity of most technological based indigenous companies in Nigeria to be managed and control by foreign experts that posses the prerequisite technological know-how. The study concurs that deficit human capital with respect to low technological know-how is also responsible for the sales of notable technology based public companies in Nigeria to foreign firms. Furthermore, importation of foreign technologies into Nigeria is responsible for substantial capital flight, dependence on foreign inputs as well as ignorance of indigenous skill acquisition and development.

Way forward

Plethora of literature has demonstrated prerequisite knowledge in explicating Nigeria role in the 21st century technology based economy. However, most of the literature gave no salience to the obvious nexus between technological sophistication and Nigeria consequential role in the 21st century technology based economy and by extension how technological dependence constitute a problematique to Nigeria's role in the recent global economic reconfiguration. It is against this backdrop that this study recommended the following forwards for Nigeria in order to reposition its self and start playing consequential role as it were in the oil boom era. Firstly, the study recommended a gradual delinkage from foreign technology and the development of a home grown technology in line with citizens' ideas, inventions as well as innovations suitable for socio-economic and national development of the country. Secondly, the study recommended that indigenous workforce should be increase in the maintenance, usage as well as operations of foreign technology in order to get use to it and be able to occupy managerial and technical position in foreign companies. Thirdly, the study also recommended substantial technological transfer from foreign expatriate to indigenous citizens and fourthly, the study also recommended a reduction in the expatriate workforce at the managerial and technical positions and lastly, the study recommended an increase in indigenous workforce with the prerequisite knowledge and skill in the production, usage of foreign equipments and machines. This development however, will enhance the use of indigenous machines and tools in the production and manufacturing process of goods and services.

Concluding Remarks

This article has discussed the impacts of the recent global economic reconfigurations from oil based economy to technology based economy on Nigeria's role in the 21st century globalised economy. In the discussion, attempts have been made to understand how over-reliance on foreign technology is responsible for Nigeria's inconsequential role in the 21st century technological based economy. Thereafter, there was a focus on the post colonial state structure in relations to Nigeria over-reliance on foreign technology. It was noted in this regards that Nigeria as a post colonial states has always exhibits attachment with foreign technologies, innovations as well as inventions for economic survival and national development. As the work has argued that for Nigeria to reposition its self back to global economic limelight as it were prior to recent technological based economy; she need to exhibit a gradual delinkage from foreign technology; and develop a home-grown technology in line with citizens ideas, innovations, inventions as well as creativities suitable for socio-economic sustainability as well as national developmental objectives of the country.

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