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Nigeria and Knowledge Based Economy in the 21st Century Addressing the Shifting Priorities

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Abstract

This paper is a critical reflection on knowledge economy and Nigeria's preparedness to meet its demands in the 21st century. It discussed the emergence of knowledge economy as the dominant economic system of the moment and the role education plays in its development. The paper argued that knowledge economy is creating a highly competitive global community, a community where good thinking results in good product. For a nation like Nigeria to survive this competitive pressure, the paper suggested the need for a change in the mode of doing things within Nigeria's education system and business environment. If the global community has changed the base of its economy, so should education and schooling system. It proposed that Nigeria's workforce largely groomed in academic institutions must have ability to adapt to constant change and uncertainty. They must be educated to be creative and innovative, using the opportunities that modern technology especially information and communications technology offer. This is to boost their capacity to work in knowledge and service based economies. The paper highlighted the priorities of Knowledge Economy and made some recommendations such as investing in the abundant human resources of the nation, providing sufficient funds for education and employment of qualified staff, provision of basic amenities especially electricity which technologies require to function effectively. These will enable Nigerian policy makers in education prepare a generation of workforce necessary for seamless migration into knowledge based economy.

Key words: Nigeria, Education, Knowledge, Knowledge Economy, Globalization, Information Technology.

Introduction

At the beginning of the discussion on knowledge economy in the twenty-first century and Nigeria's preparedness to meet its shifting priorities, it is paramount to recall the famous dictum attributed to the English Philosopher and Empiricist Francis Bacon (1561-1626) 'ipsa scientia potestas est' translated as 'knowledge itself is power' according to Lawhead.¹ Knowledge is

the greatest instrument for human development and he who possesses it welds enormous power. He is able to manipulate such forces including economic force not by sheer magic or wishful thinking but by harnessing the power of critical thinking. Knowledge in both evolving and evolved societies is the most powerful tool for social change and mobility. In the opinion of Hadad, it is one of the most important strategic resources held by individuals, companies and states as it renders competitiveness and ensures a strategic place on the global market.²

In education and accumulation of knowledge, the true possibility is found of the human person to be influential, to change, to grow and to possess economic power. Speaking of economic power and growth, previous indices for classification of economic growth were based on capital (physical and financial) and natural resources. Recently however, Peter opined that knowledge has received much consideration and inducted as an important index for economic growth.³ The fact that virtually all international development bodies cite knowledge as a central capacity builder for nations indicates that knowledge economy should be taken seriously in national planning strategies. With emphasis laid more on knowledge as the wheel driving modern economy, it has become not only necessary but imperative that national policies including Nigeria should redirect their national philosophy of education towards knowledge generation, knowledge acquisition, knowledge diffusion, and the exploitation of knowledge to drive their economies.

The Concepts of Knowledge and Economy

Knowledge is a dominant concept in philosophy. It is man's earnest desire according to Aristotle in Edward,⁴ and the cause of the development of philosophy as posited by Lawhead.⁵ In trying to define the concept of knowledge, it must be stated that the human mind is capable of two kinds of knowledge: the intuitive knowledge and scientific knowledge. Modern definitions of knowledge especially in the West tilt more towards scientific knowledge. This view presents knowledge as something that is believed, that is true, that works and that is reliable. As these different kinds of knowledge engage philosophical discussions, Hetherington sees knowledge as an identifiable and explanatory aspect of what it is for beings relevantly... to function as natural component of a natural world.⁶ In the light of the above, knowledge can therefore be said to be what an individual gains intellectually as he lives, although the nature of what is gained and how it is gained have never ceased to constitute the philosophers' conundrum even to the present time.

Economy as pointed out by Carel and Gamez is a concept very relative to the field of economics, yet it does not escape the attention of philosophy because contemporary analytic philosophy has made meanings of concepts, even the ones that allied disciplines naturally take for granted, its area of investigation.⁷ In the same vein, Enoch recounted that through such investigation, philosophy establishes interconnectivity among these various disciplines.⁸ Then Paul defined Economy as a social domain that emphasizes the practices, discourses, and material expressions associated with the production, use, and management of resources.⁹ It is also seen by Kenton as the large set of inter-related production, consumption and exchange of activities that aid in determining how scarce resources are allocated.¹⁰ The above definitions stress the importance of production and consumption as activities. Economy cannot be what it is without products and services in the market, and these retain their economic values so long

as they are consumable. In simple terms, economy is the chain of economic activities (the production of goods and services and a market readily available for their consumption) pulled together in the definition, understanding and assessment of national economies. Following the thought of Weber, knowledge has always played a very crucial role as an economic term because all economies historically have to some extent relied on knowledge (“know-how”) either to produce saleable goods and services or to facilitate their management and exchange.¹¹

Knowledge Economy

Knowledge economy is the key economic philosophy of the moment. According to CFI (Corporate Finance Institution), it gained popularity in economic circles through the works of Peter, where he laid emphasis on knowledge, skills, data analysis and measurable performance and strategic management by objectives.¹² Knowledge economy is what could be considered as the right definition of all economic activities in most developed countries. Hayes says it is a system of consumption and production that is based on intellectual capital.¹³ By intellectual capital, it means the value of a company’s collective knowledge and resources that can provide it with some form of economic benefit. It is the pool of ideas, creativity and innovations which firms, academic and research based institutions pride themselves with for economic benefits and sustainability. Knowledge economy in the views of CFI is an economic system that is dependent on human capital and intangible assets such as proprietary technology.¹⁴ It is therefore, a system where individuals and organizations create, disseminate and use knowledge for economic and social advancement. It is the effective use of knowledge through research and development for the attainment of economic power.

In the consideration of the evolution of economies, three levels according to Hayes are pertinently identified: the agriculture and manufacturing based economy for less developed countries, the manufacturing and service based economy for the developing countries and the service based economy for the developed countries.¹⁵ This classification does not make national economies static. In fact, he maintained that most countries comfortably integrate these three major categories of economic activity, but in differing proportions relative to the wealth of that country.¹⁶ The philosophy of knowledge economy lays greater emphasis on the commoditization and commercialization of science and academic scholarship. This means that products of intellectual activity are as essential a commodity as natural resources, physical capital or financial capital. In fact, these traditional economic factors; monetary capital, physical labour, and raw materials as enumerated by Global are becoming less important in comparison to the capability of adding value through knowledge development and innovation.¹⁷ It is on this basis that the indices for economic power and growth were readjusted. The viability of this knowledge development, creativity and innovation is such that countries like the United States for example, established legal framework (patent laws) to protect them as intellectual property, allowing the universities and research based organizations involved in research and development to retain title to inventions or discoveries made with federal research and development funding and to negotiate licenses. Thus at the moment, developing countries like Nigeria can practice agriculture, manufacturing and knowledge based economy with the right attitude and disposition towards the wheels that drive this economy especially education. The success might not be as high as in the developed economies that have high technologies

that digital services and economy require for high efficiency and sufficient funds needed for research and development. But it is a step in the right direction.

Relationship between Knowledge Economy and Education

The greatest asset of any nation is its human resource. As stated by FRN (Federal Republic of Nigeria) in the National Policy on Education, the human being is a positive asset and a valuable national resource which needs to be cherished, nurtured and developed.¹⁸ Human resource development much more than natural resource development is essentially the key indicator of a country's socio-economic development and the quality of life of her people. To harness this great potential, nations introduce and strengthen their education sector. The National Policy on Education again attested to this fact when it noted that, education is an important tool for national development and shall continue to be highly rated in the national development plans since it is the most important instrument of change. It further submitted that any change in the intellectual and social outlook of the society must be preceded by educational revolution.¹⁹ The primacy given to education in national development establishes the link required for the discussion of the relationship between education and knowledge economy.

Knowledge economy is developed around the intellectual resource of the human person and his ability to maximize the great opportunities that information and communications technology offers. Understandably, humans can acquire knowledge independently through experience and personal efforts yet it does not enjoy absolute exclusivity. For instance, the “know-how” for the production of saleable goods and services and facilitation of their management and exchange heavily rely not on any kind of knowledge but on a knowledge purely refined through the rigors of education. At some point education, Orhungur argued that the act of informing, forming and strengthening of the powers of the body and mind must be called upon to give knowledge the right and logical way of thinking, thus providing a strong base for the expansion of knowledge through research and practice.²⁰ Also, Schofield affirmed that the above opinion will enable a man to perform skilfully and magnanimously in all offices both public and private.²¹

Strong and functional education is the key to a strong economy, and a sound base of human resources is the foundation for economic growth. Knowledge economy truly requires a trained workforce, one that is adaptable to lifelong learning and retraining, and one that has been educated to use critical and analytical thinking skills to solve complex problems that arise in rapidly shifting knowledge marketplaces. Accenting to this demand, Davenport noted that people can be trained to become managers, but first they have to have a solid foundation of knowledge and ability to think and learn.²² Thus according to FGN, while secondary school certificates were the trump cards of industrialization, higher degrees are those of the knowledge economy.²³

Priorities in Knowledge Economy

Knowledge economy is the hallmark of the post-industrial society. It requires massive critical engagements by developed and developing nations. The World Bank identified four pillars of knowledge economy that are critical requisites for a country to be able to fully participate in the knowledge economy:

- **Education and Training**

An educated and skilled population is needed to create, share and use knowledge;

- **Information Infrastructure**

A dynamic information infrastructure-ranging from radio to the internet-is required to facilitate the effective communication, dissemination and processing of information;

- **Economic Incentive and Institutional Regime**

A regulatory and economic environment that enables the free flow of knowledge, supports investment in Information and Communications Technology (ICT) and encourages entrepreneurship is central to the knowledge economy; and

- **Innovation Systems**

A network of research centers, universities, think tanks, private enterprises and community groups is necessary to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new knowledge.²⁴

Nigeria's Response to the Priorities of Knowledge Economy

To get Nigeria to migrate and harness the huge benefits of knowledge economy has been one of the priorities of the Federal Government of Nigeria. In major discourses and policy formulations, the Federal Government emphases have been on how to nurture and groom generations of critical thinkers who will be able to pre-empt, manipulate, and harness economic opportunities that accompany scientific revolutions. In the National Policy on Education, the FGN has taken a bold step in recognizing and giving priority to her higher institutions, especially universities as places where the workforce intellectual capacities and knowledge economy are built and fashioned.²⁵

In essence, the university is designed to be the centre of research and development of materials that drive knowledge economy. Here graduates are to develop the appetite for creativity and innovation in the course of their studies. They are kept abreast through research and development, with the constant demands of knowledge economy and internet economy. Although the policy has defined the essence of university education in view of achieving a knowledge-based economy, the current mode of operation of Nigerian universities greatly inhibits the realization of this dream. The challenges range from poor funding to lack of academic freedom. Universities ought to be adequately funded to procure and utilize advanced, innovative technologies in the learning process, research and management system.

In further pursuance of the dream of making Nigeria's economy knowledge based, the Federal Government of Nigeria also initiated the 60-40% admission policy.²⁶ This policy gives priority of admission up to 60% to science students and 40% to arts students. The true state of the matter is that this policy with all its potentials is far from being realized. No wonder Gimba revealed through researches conducted that more candidates in arts gain admission than science candidates.²⁷ The reason for this can be attributed to the poor scientific foundation at the secondary level of education. Whereby students are not inspired much to embrace science courses because of insufficient science teachers and ill equipped scientific laboratories, the percentage of arts students is likely to remain high thereby dropping disapproving effects on Nigeria's economy.

Mention must also be made of collaborations between local universities in Nigeria and their foreign counterparts including multinationals, in the areas of research and development. This is the reason the interest of potential employers in knowledge economy lies not only in getting good graduates who are information and communication technology compliant and versed with the demands of knowledge economy but also in the cooperation with universities in the process of working out new products and technologies. This collaboration comes with enormous advantages for the local universities. It makes them recipients of huge grants from State, Federal Governments and multinationals for research and development. Under patent laws too, it grants them custody and title to inventions or discoveries made with federal research and development funding and to negotiate licenses.

Nigeria's Knowledge Economy Outlook

Most forward-looking countries have readjusted to the development and exploitation of knowledge; a major catalyst in knowledge economy. Regrettably, majority of African countries including Nigeria still struggle with their traditional dependence on natural resources and this has proved to be a limiting factor on their competitiveness in the global space. For instance, Nigeria's economy is heavily dependent on oil with meagre budgetary allocation to the agricultural and manufacturing sectors. The point here is not for Nigeria to discard the exploration of natural and agricultural resources for economic growth (no country does that, rather they integrate the three levels of economy) but to look at the great potentials of her human capital which ought to give her a competitive advantage on the global scale.

Nigeria's human capital is grossly untapped and underutilized unlike countries like India and Singapore who recently made massive investments in their human capital and also reaping enormous economic benefits. In the findings of Agbata, the United Kingdom and the United States too are recording huge success in their knowledge driven economies because virtually across all the sectors of their economy, their workforce are highly skilled and better educated.²⁸ Nigeria's slow migration to knowledge based economy is explainable obviously by the low quality education offered in her educational institutions.

Nigeria's current educational system as stated by Alemu does not always closely match to the current needs of the labour market and knowledge based economy.²⁹ Thus, Uzor and Nwabuikwu asserted that what is observable is an increase in the number of graduates of higher educational institutions, with a simultaneous decrease of the number of employees working in specialties.³⁰ This reduces the level of demand for graduates of Nigerian Universities in the labour market. The problem is even more compounded by the insufficient highly qualified teaching staff and administrative personnel working in the universities and lack of motivation and incentives from the government, for the available staff. The damage this is causing to the education system and the journey towards knowledge economy cannot be quickly reversed. Whole decades may be required to provide the necessary changes.

Some Recommendations

In the course of the development of this work, suggestions were intermittently chipped in on how to achieve knowledge economy especially in Nigeria. In this section, some further recommendations are brought forward. They are necessary steps to be taken in some critical

areas both by the government and the education stakeholders if, Nigeria is to become a global competitor in knowledge economy.

1. Human Resources Development

Highly skilled and flexible human capital is indispensable if Nigeria wants to compete effectively in today's world. Records hold that countries with a larger stock of human capital experience higher growth rates as it enables a nation to adopt and produce knowledge that is central to its development. With a population of over two hundred million, it is imperative for Nigeria to attain economic self sufficiency through a knowledge based economy. Therefore, adequate policy implementation and proper funding of every level of education will help to turn the vast army of untapped human capital into drivers of knowledge economy. Thus, the many children out on the streets of Nigeria currently perceived as opportunities on the verge of wastage would rather become developed and productive.

2. Development of the Education Sector

Human capital development is realizable only through a well thought out and adequately funded education system. Investment in education improves human capital and the capacity for innovation. For this reason, Nigeria ought to rise up to the challenges of developing her education system. There must be the moral and political will to implement the policies of providing fruitful universal basic education and tertiary education, with full attention to tackling gender bias, increasing access to quality education, and strengthening education so as to produce a critical mass (graduates) capable of taking advantage of current technological innovations.

3. Creation of Enabling Environments

The third pillar of knowledge economy as recommended by World Bank advocated for a regulatory and economic environment that will enable the free flow of knowledge, supports investment in Information and Communications Technology (ICT) and encourages entrepreneurship. An adverse business environment can add substantial production costs to firms and stifle innovation and entrepreneurship. An environment conducive enough is necessary for the cultivation, growth and maturation of economic activities and academic initiatives. It is undisputable that over the years, Nigeria has been battling with so much corruption and administrative bottlenecks in the implementation of initiatives capable of economic boom. This is the more reason government and stakeholders in education should redirect their efforts towards creating enabling grounds for academic activities, entrepreneurial skills and viable businesses in Nigeria, in order to make students feel more secure studying in Nigeria.

4. Improvement on Electricity Supply

Knowledge and service based economy require constant electricity supply. In Nigeria, electricity supply appears to be a major challenge for all firms. The most hit are the manufacturing sector and the information and telecommunications sector. These have to depend on generating sets for hours and the cost of depending on generating sets make their products and services almost out of reach for most Nigerians which in turn affect the productivity rate and service quality of every other sector including education. The federal

government therefore needs to declare a state of emergency on the power sector to be able to attract investors and provide this critical requirement for the flourishing of research and entrepreneurship.

Conclusion

This paper has been able to discuss extensively Knowledge Economy as the hallmark of the post-industrial society. It is an economic system that is greatly transforming the fortunes of developed nations and a gold mine for Nigeria if she shows some moral and political will to make critical changes in education where the minds of the critical mass that drive knowledge economy are fashioned. While it is true that there exists a significant gap between the developed and developing nations in terms of exploiting the benefits of knowledge economy, a common factor is the availability of human resources in the divide. The extent to which Nigerian government appreciates the shifting priorities in knowledge economy and invests in human resources for economic development can be the difference between poverty and wealth. Sound knowledge through formal and informal training must not be neglected as well because it practically forms the base on which underdeveloped countries like Nigeria can build an economy capable of competing in the 21st century. In addition, access to quality education and provision of sufficient funds for education when appropriately improved, is expected to guarantee the high skilled workforce relevant for knowledge economy.

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