Characteristics of Knowledge Economy and Business Education Graduate Students' Labour Market Prospects in South-South, Nigeria

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Abstract
Investigating the relationship characteristics of the knowledge economy and their implications for the labour market prospects of business education graduate students in South-South Nigeria is the central focus of this correlation study. Two research questions and two hypotheses were formulated to guide the study. The population of this study consisted of 206 postgraduate students (comprises of 125 Masters and 81 PhD students) in the department of Business Education, in six state owned universities in South-South, Nigeria. Due to the small nature of the population, the researchers decided to use the entire population of Two Hundred and Six (206) post graduates students in the Business Education Department. The instruments for data collection is a two set of self-structured questionnaire titled, characteristics of knowledge economy questionnaire (CKEQ) for the first instrument and labour market prospects questionnaire (LMPQ) for the second instrument. The instruments were validated by expert in the faculty of Education and reliability indices of 0.71 and 0.83 were established using the Cronbach Alpha statistical index. The Pearson Product Moment Correlation statistic was used to answer the research questions and test the hypotheses with the aid of Statistical Package for Social Sciences (SPSS 25). The findings revealed that there are indeed significant relationships between open innovation and education and training as characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. Based on the results, recommendations were made as follows that the ministry of Education should introduce knowledge economy that will incorporate leadership-focused training in educational programmes, providing mentorship opportunities, and fostering a culture that values forward-thinking, preparing business education graduates to become the visionary leaders needed for sustainable economic development and Business education student should focus on practical skills development, technological integration, and strategic partnerships, business education programs can help graduates improve their productivity.

Key words: knowledge Economy, Open Innovation, Education and Training, Business Education, Labour Market

INTRODUCTION

Developing economies tend to be heavily focused on agriculture and manufacturing, while highly developed countries have a larger share of service-related activities. In recent times, economies have been competing on the global scene based on their capability to create, use, and diffuse knowledge. Leading economies rely on knowledge-based activities to make things. This has led to a new term for economies: knowledge-based. This is different from the old natural resource-based economy, which focused on people's physical strength.

The knowledge economy represents a large share of the activity in most highly developed economies. In a knowledge economy, a significant component of value may consist of intangible assets such as the value of its workers' knowledge, demographics, or intellectual property. The knowledge economy is the marketplace for the production and sale of scientific and engineering discoveries. The global shift towards the development of knowledge economies calls for an increased emphasis on the role of knowledge in developing the Nigerian economy (Adekemi, 2015). Thus, knowledge can be commoditized in the form of patents or other intellectual property protections. The producers of such information, such as scientific experts and research labs, are also considered part of the knowledge economy (Hayes, 2021).The Scientific and Industrial Revolutions in the 17th and 18th centuries, respectively, laid the foundation for the knowledge economies that exist today. Productivity and technical efficiency went through the roof during these revolutions. This has led to some disagreements and controversies in the literature on industrial society and, more generally, post-industrial society. This is because scientific and technical knowledge was applied in a planned way to the manufacturing process. The term "knowledge-based economy" is thus a result of an emphasis on building economies around knowledge and technology. Sequel to this, the first signs of the new society, the knowledge-based society, have come to be relevant or prominent. Globalisation and technological revolution have transformed the contemporary economy into what is called the "knowledge economy" (KE). In this present economy, a new form of organisation and work governs the world of business, demanding the rapid development of skills, creative knowledge, and greater responsibility. Today's society is evolving into a learning society, utilising modern technology to adapt to new economic ideas and foster the development of personal qualities that enable them to fully integrate into their socio-cultural contexts. By this view, the researcher emphasises that a knowledge economy is an economy in which knowledge is created, distributed, and used to ensure economic growth for the international competitiveness of a country. It is factual to note that economic activities in the global economy have become increasingly knowledge-based; consequently, there is a shift in the distribution of income in favour of educated and skilled workers with reference to job experience. This scenario has introduced global competitiveness into the labour market, prompting job seekers to seek the highest-paying positions, while employers seek highly educated and experienced workers who can perform tasks flawlessly and safely at a lower cost. The growing trend of industries in this era of globalisation has brought about the creation of knowledge-based industries, which now largely depend on intellectual assets that prioritise innovation, information technology, and creativity. The changes in the global pattern of economic growth reveal that economies are now growing with regard to how they exploit knowledge and technology and not just their possession of natural resources. In recent times, economies have been competing on the global scene based on their capability to create, use, and diffuse knowledge. Knowledge-intensive economic activities are becoming important

factors of production in the leading economies, and this has led to a new description of economies as knowledge-based, as against the traditional natural resource. The knowledge-based economy gives full support to the optimal acquisition, distribution, and utilisation of knowledge for value creation. In a related opinion, Adekemi (2015) opined that Knowledge-Based Economy (KBE) is "one where organisations and people acquire, create, disseminate, and use knowledge more effectively for greater economic and social development. Scientifically and technically, a knowledge economy can be narrowly viewed as applying to knowledge-intensive industries where knowledge itself is the core competence. The latter is typically found in software, internet companies, and the healthcare sector (Bolisani & Oltramari, 2012; Bolisani & Bratianu, 2017). The knowledge-based economy is defined by the Organisation for Economic Cooperation and Development (OECD in Hadad, 2017) as economies that are directly based on the production, distribution, and use of knowledge and information. In the knowledge economy, people who possess, use, and transfer knowledge are very valuable. That is why people, knowledge, and technology need to be concerted and synergised to facilitate the enhancement of added value at the organisational, local, and/or macroeconomic level.A knowledge economy is the outcome of the coming together of firms that bring together powerful computers and well-educated minds to create wealth. The Asia Pacific Economic Cooperation (APEC, in Skrodzka, 2016) considers as being pertinent to the knowledge economy the need to be competitive in a world full of both economic and political changes. The knowledge economy promotes innovation, initiative, entrepreneurship, and dynamism, being the economy whose one production factor is knowledge. According to Luthi, Thierstein, and Bentlage in Hadad (2017), the knowledge economy can be defined as that part of the economy in which highly specialised knowledge and skills are strategically combined from different parts of the value chain in order to create innovations and to sustain a competitive advantage. Nicolescu wrote in Hadad (2017) that the knowledge economy is defined by how knowledge is turned into basic materials, capital, products, and production factors that are necessary for the economy. This is done through economic processes that make the generation, selling, acquisition, learning, stocking, developing, splitting, and protection of knowledge the most important things for making money and making sure the economy will last in the long term. On a similar note, the World Bank (2018) explains knowledge economies according to four pillars: institutional structures that provide incentives for entrepreneurship and the use of knowledge, availability of skilled labour and a good education system, access to information and communication technology (ICT) infrastructures, and a vibrant innovation landscape that includes academia, the private sector, and civil society. The knowledge economy explains how knowledge and education can serve as a productive asset or business product to be sold and exported to yield profits for individuals, businesses, and the economy. This component of the economy relies greatly on intellectual capacities instead of natural resources or physical contributions. In the knowledge economy, products and services that are based on intellectual expertise advance technical and scientific fields, encouraging innovation in the economy as a whole (Hayes, 2021). The concept of knowledge economics also emphasises knowledge as a critical element for economic performance at a country level.Furthermore, in an attempt to discuss the characteristics of a knowledge economy, many international forums and academics strived to have their views heard by highlighting various aspects of investments in knowledge, having like-minded people that knowledge economy emphasises intellectual capabilities over natural resources or manual labour as key drivers of economic growth and prosperity. Karlsson, Borje, and Stough (2009) illustrate the major characteristics of the knowledge economy to do

with education and production, production and distribution, and the use of goods and services. In another development, Tapscott (1998/2014) illustrated the features of the knowledge economy as knowledge in basic production factors. A further attempt was made by Gunasekaran and Ariguzo (2012) and Tapscott (2014). They highlighted the characteristics as open innovation, education, knowledge management, and creativity; knowledge is the basic production factor; the knowledge economy is a digital economy; there is a continuous increase in knowledge investments such as education and knowledge production; and there is a widening application of knowledge in the development, production, distribution, and use of goods and services, while virtualisation plays an important role in the knowledge economy. According to White, Gunasekaran, and Ariguzo (2012), there are five distinctive structural components of knowledge economies, namely, open innovation, education, knowledge management, creativity, and information and communications technology infrastructure.

Education is based on the individual capacities of the employees with the purpose of achieving the goals of the organisation. Education is part of the intellectual capital along with the structural capital and relational capital, to this end it is observed that the most common and significant components of education includes: intelligence, values and knowledge (Samad, 2011; Mazzota & Bronzetti, 2013). Education reflects the individual skills, knowledge, professionalism, and experience of employees and employers within an organisation. It also include the individual experiences, ideas, values, attitudinal abilities and competencies of the people who work in organisationtion (employees and managers) (Olmedo-Cifuentes & Martinez-Leon, 2015). The knowledge derived from education is that kind of knowledge, which each employee possesses, that is relevant to the organisation's interests and purpose (Bejinaru, 2016).Today, the knowledge you get from school and training has caused some problems in the job market because the traditional economy is dying. This is a problem for both employees and employers, and it's also a problem for the government. They want to invest in lifelong learning and training and make policies, actions, and tools to help the transition to the digital economy. They think that this will make it easier for people to find good jobs, make society more open, and improve social well-being and economic prosperity. Another characteristic of a knowledge economy is knowledge management, and it can be considered a new discipline that has arisen on the basis that contemporary companies accumulate a huge amount of knowledge, being seen as learning organisations. Knowledge management addresses a set of activities of an organisation, correlated with each other, the management being focused on the strategy of managing human capital, that is, to develop the knowledge and skills and competence of employees through education and training, generating professional experience (Becerra-Fernandez & Sabherwal, 2010). According to Bratianu in Hadad (2017), there are several challenges regarding knowledge management. These challenges included knowledge dynamics, knowledge hyper-systems, intercultural knowledge management, emotional knowledge, and the new dyad: cognitive knowledge-emotional knowledge. As a significant characteristic of the knowledge economy, creativity has also become more and more pertinent, especially in the context of the emergence of a knowledge-based economy. Creativity can be distinguished by four main characteristics (Bentley in Bode & Villar, 201): an individual's ability to formulate new problems, their capacity to transfer their knowledge in various contexts, their ability to learn, and their ability to pursue goals. Knowledge and creativity complement each other, the human potential having an increasingly important role in supporting technological development and development in general. Creativity is not something

special for particular individuals; it belongs to everyone; each person possesses creative potential. Creativity arises out of the richness of ideas and original thoughts, which results in something novel being produced by creative persons. It is a process that produces creative ideas and a complex system thinking approach that engages in searching for meaning, where it tries to develop a choice, a decision-making engine, and produce a superior outcome. It is a strategic way of thinking or problem-solving; consequently, it results in something new and valuable. Creativity is what creative people do (Ikpesu 2020). Also, it is not directly proportional to the level of instruction, since creativity exists in the rich and the poor, the literate, or the illiterate (Comunian, Gilmore & Jacob, 2015). Most visionary leaders possess these qualities: they see the world differently, they enable others to see the vision, and visionary leaders turn the vision into reality (Michigan State University, 2023).From the foregoing, it is obvious that there exists some identifiable nexus between knowledge economy characteristics and labour market prospects for business and education graduate students in South-South, Nigeria. The knowledge economy is characterised by different components such as open innovation, education and training, knowledge management, and creativity. Productivity and other tenable features enable the graduates to distinguish themselves and be professionals in the labour market. These characteristics of the knowledge economy enhance the prospects of graduates and place them above and ahead of their contemporaries. This is to opine that in any situation whereby the graduates are unable to display a clear understanding of the intricacies of the knowledge economy, the propensity for them to lag behind concerning the recent happenings in the labour market abounds.

The knowledge economy signifies an abundance instead of scarcity as it is the case in the traditional economy. Previously, resources used to be diminished in the knowledge economy; both information and knowledge do not decrease; on the contrary, they can be shared and increased through their applications. In the knowledge economy, intangible assets such as knowledge and information management become the new competencies required in Business Education. Business Education is a course that prepares students for entry into and advancement in jobs within business and it is equally important because it prepares students to handle their own business affairs and to function intelligently as consumers and citizens in a business economy knowledge, attitude and value that would enable graduates of business education operate in the environment they may find them upon graduation (Akpomi & Kayii, 2021).

Business education deals with empowerment necessary to meet business challenges in a dynamic business world or society. It offers recipients the ability to cope with emerging changes in education, and in business where the person is expected to manifest all the skills acquired while in training. Therefore, business education is planned for training and developing recipients to expose them in the field of business, and as a professional, consequently, expanding the way for imparting competences for economic development of the society.

The study was based on an exhaustive literature review, and an empirical study was conducted with professionals from companies in Portugal belonging to several sectors of activities. The study revealed that the Knowledge Economy model, through technological innovation, has reshaped the quality of work, bringing new insights and fostering employee self-engagement. It asserts that digitalisation may instigate urgent needs for skilling and up skilling employees in the workplace. Other studies by Bayo and Kayii (2020) Asongu and Odhia (2019) provide findings that warrant a re-examination of the knowledge economy. Specifically, research by

Asongu Odhiambo (2020) has consistently shown how important the knowledge economy is for the growth of the African economy. However, most studies focus on developed regions and other countries targets that are already developing and do not provide existing studies or information on characteristics of the knowledge economy or fail to consider some basic characteristics of the knowledge economy in Nigeria. So far, no studies have been conducted to examine the characteristics of knowledge economy and business education graduate students' labour market prospects in South-South, Nigeria. Based on this, the researcher decided to study the knowledge economy. They wanted to find out about basic things like education and training, open innovation, knowledge management, the infrastructure for information and communication technology, creativity, productivity, and visionary leadership, as well as how these things relate to the job prospects of business education graduate students in the South-South region of Nigeria.

The characteristics of a knowledge economy, such as open innovation, knowledge management, education and training, creativity, productivity, and visionary leadership, etc., require business education graduate students to possess specialised skills and competencies to remain valuable in the competitive labour market in a knowledge-based economy. Despite this, there is a lack of understanding of how characteristics of the knowledge economy influence business education graduate students labour market prospects in South-South Nigeria. Therefore this observable gap prompted this scientific investigation to determine whether or not a relationship exists between characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South Nigeria. Therefore, the purpose of the study is to determine the relationship between characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. Specifically, the study sought to:

1. Determine how open innovation as a characteristic of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria.
2. Investigate how education and training as a characteristic of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria.

Research Questions

The following research questions guided the study:

1. How does open innovation as a characteristics of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria?
2. How does education and training as a characteristics of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.

2. There is no significant relationship between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.

METHODOLOGY

The study adopted the correlational research design. Correlational research design involves the collection of two or more sets of data from a group of subjects with the attempt to determine the relationship between those sets of data (Nwankwo, 2016). This design is appropriate for the study since the researcher has established a relationship between the characteristics of knowledge economy and Business Education graduate students' labour market prospects in south-south, Nigeria. The population of this study consisted of 206 postgraduate students (comprises 125 Masters and 81 Doctor of philosophy degree students) in the department of Business Education, in six state owned universities in south-south, Nigeria. The geographical distribution of state-owned universities offering business education programme at post graduate level cut across six states in the region, the region was considered in the selection of population comprising (6) universities in south-south geo-political zone, Nigeria. Due to the small nature of the population, the researcher decided to use the entire population of Two Hundred and Six (206) post graduates students in Business Education department. The population of this study is manageable therefore the whole population was used. The instruments for data collection is a two set of self-structured questionnaire titled, characteristics of knowledge economy questionnaire (CKEQ) for the first instrument and labour market prospects questionnaire (LMPQ) for the second instrument. The instruments were validated by experts in the faculty of Education and reliability indices of 071 and 0.83 were established using the Cronbach Alpha statistical index. Research questions and hypotheses were answered and tested using Pearson product moment correlation with the aid of Statistical Package for Social Sciences (SPSS 25) This was done with the two set of scores obtained from the two set of instruments as designed by the researcher. A benchmark/Decision rule as proposed by Salkind in Ahiazu and Asawo, (2016) was adopted as indicated below to guide the interpretation of the results between the variables.

1   0.8-1.0   Very strong relationship
ii.   0.6-0.79   Strong relationship
iii. 0.4-0.5 9 Moderate relationship
iv.   0.2-0.39   Weak relationship
v.   0.0-0.19   Very Weak relationship

Results

Research Question 1: How does open innovation as a characteristics of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria?

Table 1:   **Relationship between Open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.**

		Open Innovation	LMP
Open Innovation	Pearson Correlation	1	.804[**]
	Sig. (2-tailed)		.000
	N	206	206
LMP	Pearson Correlation	.804[**]	1
	Sig. (2-tailed)	.000	
	N	206	206

**. Correlation is significant at the 0.01 level (2-tailed).

Key: LMP = Labour Market Prospects

Table .1 presents the Pearson's Product Moment Correlation analysis between open innovation as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. The computed correlation coefficient (r) = 0.804, indicating a positive and very strong relationship between open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. This advocates that open innovation as a characteristics of knowledge economy can be used to forecast Business Education graduate students' labour market prospects in South-South, Nigeria very strongly.

Research Question 2:   How does education and training as a characteristics of knowledge economy relate with Business Education graduate students' labour market prospects in South-South, Nigeria?

Table .2:   **Relationship between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.**

		Education and Training	LMP
Education and Training	Pearson Correlation	1	.859[**]
	Sig. (2-tailed)		.000
	N	206	206
LMP	Pearson Correlation	.859[**]	1
	Sig. (2-tailed)	.000	
	N	206	206

**. Correlation is significant at the 0.01 level (2-tailed).

Key: LMP = Labour Market Prospects

Table .2 presents the Pearson's Product Moment Correlation analysis between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. The computed correlation coefficient (r) = 0.859, suggesting a positive and very strong relationship between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria. This indicates that education and training as a characteristic of knowledge economy can be used for the prediction on Business Education graduate students' labour market prospects in South-South, Nigeria very strongly.

Hypotheses Testing
Hypothesis 1: There is no significant relationship between open innovation as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.

Table 3: **Correlation Analysis of the Relationship between open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.**

		Open Innovation	LMP
Open Innovation	Pearson Correlation	1	.804[**]
	Sig. (2-tailed)		.000
	N	206	206
LMP	Pearson Correlation	.804[**]	1
	Sig. (2-tailed)	.000	
	N	206	206

**. Correlation is significant at the 0.01 level (2-tailed).
Key: LMP = Labour Market Prospects

The result in table 3, reveals that the correlation coefficient between open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria is 0.804. The two-tailed test has probability level (p value) or significance level of .000, which is less than the chosen 0.05 alpha level for this study. Therefore, the null hypothesis that there is no significant relationship between open innovation as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria is rejected. That is, there is indeed a significant relationship between open innovation as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria by r = 0.804, df = 204, p = 0.000 < p = 0.05 chosen in this study.

Hypothesis 2: There is no significant relationship between education and training as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.

Table 5: Correlation Analysis of the Relationship between education and training as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria.

		Education and Training	LMP
Education and Training	Pearson Correlation	1	.859[**]
	Sig. (2-tailed)		.000
	N	206	206
LMP	Pearson Correlation	.859[**]	1
	Sig. (2-tailed)	.000	
	N	206	206

**. Correlation is significant at the 0.01 level (2-tailed).
Key: LMP = Labour Market Prospects

The result in table 5 reveals that the correlation coefficient between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria is 0.859. The two-tailed test has probability level (p value) or significance level of .000, is less than the chosen 0.05 alpha level for this study. Therefore, the null hypothesis that there is no significant relationship between education and training as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria is rejected base on the facts that the r value obtained at 0.000 is less than 0.05 level of significant. That is, there is indeed a significant relationship between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria by r = 0.859, df = 204, p = 0.000 < p = 0.05 chosen in this study.

Discussion of the Findings

The findings of Table 1 and 3 show that "There is a very strong relationship between open innovation as a characteristic of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria". This finding of this study agrees with that of Okafor (2018) on the role of open-innovation in a knowledge economy and entrepreneurship in driving economic growth in southern Nigeria. His study revealed that open-innovation has a significant relationship with business performance for it enabled business organizations to survive competition in a knowledge-based economy with fast – paced, revealing that by embracing open innovation, entrepreneurs can tap into the collective knowledge and collaborate with external partners, accelerate innovation and drive economic growth in any job organization. Also, this finding of this study agrees with that ofMention, A.L. (2011) on Co-operation and competition as open innovation practices in the service sector: Which influence on innovation novelty? His study revealed that there is a significant relationship between open-innovation and business performance.

The findings of Table 1 and 3 show that "There is a very strong relationship between education and training as a characteristics of knowledge economy and Business Education graduate students' labour market prospects in South-South, Nigeria" This finding of this study agrees with that of Bejinaru, (2016) on knowledge dynamics impact on intellectual capital in organizations: Management dynamics in the knowledge economy. His study revealed that there is a significant relationship between training and intellectual capital development in organizations. He further stated that training enhances level of knowledge acquisition, skill development, critical thinking ability, problem solving, and collaborative ability. This finding of this study agrees with that ofBode and Villar, (2017) on Creativity, education or what and on the measurement of regional human capital. Their study revealed that there is a significant relationship between training and staff performance in organization.

Conclusion
This study concludes that there is significant relationship between the characteristics of knowledge economy (open innovation and education and training, and business education graduate students' labour market prospects in South-South, Nigeria. Results in all the hypotheses showed positive relationship between the characteristics of knowledge economy and business education graduate students' labour market prospects in South-South, Nigeria.

Recommendations
On the basis of the findings made, and conclusion drawn from the findings, the following recommendations are made:

1. The ministry of Education should introduce knowledge economy that will incorporate leadership-focused training in educational programmes, providing mentorship opportunities, and fostering a culture that values forward-thinking, preparing business education graduates to become the visionary leaders needed for sustainable economic development and

2. Business education student should focus on practical skills development, technological integration, and strategic partnerships, business education programs can help graduates improve their productivity.

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