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Information communication technology: A treatise to globalization

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Abstract
The study set to investigate the challenges that face universities in the south-south Geo-political Zone in Nigeria in their globalization efforts. Five research questions were used to guide the study and five hypotheses were tested at 0.05 level of significance. Nine universities were surveyed using descriptive survey method and one thousand, eight hundred (1,800) lecturers and students were selected for the study through simple random sampling. The result yielded a co-efficient of 0.70. Data were analysed using mean statistics and z-test statistics. The findings show that the extent of teaching information technology and the literacy level of lecturers and students in Information and computer are low. The researcher recommends that Information Technology should be fully developed in these universities to enable them award Bachelors and Post-graduate degrees and adequate equipment in the laboratories for practicals.

Keywords: globalization, communication technology

Introduction

Globalization is affecting all aspects of lives from political, to the social, to the cultural. Knowledge too seems to be globalized. In an age where the acquisition and advancement of knowledge is a more powerful weapon in a nation's arsenal than any missle or mine, the knowledge gap between the north and the south must be closed (UNESCO, 2004). Matters of higher education are a critical impact of national interest and of necessity one cannot divorce higher education from primary and secondary education which feed the institutions of higher learning because as it is said gabage in gabage out. Education as a crucial aspect of National interest reflects the collective vision of the advances that Nigeria wants to make in the 21st century and beyond. As pointed out Mojubaolu (2008) [8], Nigeria higher educational system has been strongly politicized. Most universities are unable to sustain themselves financially, and depend very largely on the funds, that are allotted out by the federal and state governments. Without financial independence, any plans for autonomy would be baseless and useless. Universities seek financial support all the time.

How do these universities cut themselves from the state's apron strings? Some fees would have to be charged. These fees cannot be totally determined by market forces because the state still has an interest in ensuring that higher education is priority ranking. In changing fees, provisions must be made for indigent students to be able to access higher education through grants, scholarship and possibly loans. Before autonomy, the universities have to be made whole again. Infrastructural repairs and augmentation of inadequate facilities must be undertaken. Libraries must be stocked with books and journals, attempts must be made to modernize institutional technologies. Again, the role of the state is crucial. External assistance may be sought and taken, but not at the expense of the independence that is required to build a meaningful educational systems that engenders the realization of Nigeria's development goals.

The universities are also a crucial part of building expertise in various areas of need. If they are mandated to do so, and they are given the where withal to accomplish this goal, the dearth of expertise in the African continent in general and Nigeria in particular may not be a perpetual matter. The universities are also needed to teach those who would take up the mantle of scholarship and leadership in the future.

Unanweze (2007) noted that an investment in their ability to do so is an investment in the viability of the state. The ability to do the jobs that the universities must undertake in today's world means that they must use contemporary tools and methods. The universities must be given the tools and the requisite training to make use of these technologies. In the year 2000, the media were full of references to globalization of economy, communication, politics, education and military affairs. Jerome (2006) [6] posited that globalization can then be described as a phenomenon involving the integration of economic, cultures, government policies, political movements and even education. It means internalization. What is now called globalization however represents an exponential acceleration of the integration process. As stated by Olens (2003) [3] as early as 1962, the Canadian Visionary Marshall McLulan wrote that electronic age was turning all humanity into a "global tribe" and the term global village is attributed to him. The BBC, CNN, MTV and the Internet have accelerated the integration of global culture. With globalization, the world as a whole also became a social space in its own right. The new information and communication technologies, from e-mail to cellular, telephoning to teleconferencing.

More and more people share knowledge without having to be in the same place. From the above, globalization might be

characterized as the rise of supra-territoriality. Through globalization, people became able, physically, legally, culturally and psychologically to engage with each other in "one world". Global connections take many forms. ICT aeroplanes transport passengers and cargoes across any distance on the planet within a day with physical features of landscapes and Seas no longer constituting any barrier. Telephones and computer networks effect near instantaneous interpersonal communication between points all over the Earth. Electronic maps media broadcasts messages to the world audience, Globalization is the trend whereby these various relations emerge, proliferate and expand. As a result of globalization, social geography gains a planetary dimension. As pointed out by Ajayi (2000) [1] technological information has contributed to globalization by supplying infrastructure for trans-world connections. As pointed out already, the revolution taking place in information and communication technologies have been the central and driving force for the globalization process. One of the key by-products of the globalization period of rapid technological development and on going information revolution is dynamic change which is taking place in the facets of human existence and affecting the underlying structure of the society. The global village has removed geographical barriers and let to the shrinking of the frame. In particular, developments in the means of transportation, communications and data processing have allowed global links to become denser, faster, more reliable and much cheaper.

According to Scholte (2000) [10] large scale and rapid globalization depended on a host of innovations relating to coaxical and later five-optic cables, jet engines; packaging and preservation techniques, semi-conductor devices, computer software and so on. In other words, global relations could not develop without physical tools to effect cross-planetary contacts.

Three main powerful forces that propel globalization in the contemporary global environment according to (Solomon, 2007) [11, 12] can be discerned, namely, technological revolution, economic liberalization and democratic system of governance. For the sake of this paper, the first one will be discussed. Technological revolution - That the world is currently experiencing phenomenal changes in social, political, economic and technological spheres cannot be disputed. One fundamental instrument for this increasing transformation is technology, especially computer technology, and the evolution of low cost, global communications system which constitute major challenges that will dominate and fundamentally shape developments in the 21st century, particularly in the economic and financial sectors (Usman, 1999:48). The revolution in computer technology, has led to the advancement of information technology, which has in turn enhanced the level of information transmission and business transactions across the global system. Indeed, the revolutionary changes that have occurred in computer technology since the latter part of the 20th century have brought about tremendous improvements in all facets of human endeavour.

Today, the use of computers has increasingly become quite common place in pure scientific research, social science and especially in managerial decisions. The significance of the strong force of technology can best be illustrated by references to the financial system.

Globalization and information technology have thrown up formidable challenges for national economies, especially the financial system, by reducing the world further into a global village, and as well by providing enormous information through a wide range of inter-connectivity. The interconnectivity (network) of computers has given rise to the development of Internet, which constitutes the largest network and largest reservoir of all types of information in the global (Ibid) system.

Information technology in particular has combined progress in electronics, telecommunications and computing to bring about a highly dynamic process of storing, transmitting, processing and presentation of information. This has led to increasing capacity for new and efficient responses to antiquated problems (Solomon, 2007) [11, 12]. For instance, more efficient production processes are now possible and countries with the necessary capacity are embracing and adopting them in a bid to maintain a competitive edge within the changing world environment (Kwanashie, 1999:20) [1].

Information technology has equally provided tremendous opportunity for the exploitation of economies of scale, making for rapid growth and conferring comparative advantage to those that have access to it. Consequently, it is increasingly promoting the internationalization of productivity and markets, which is crucial to the globalization process (Ibid).

Statement of the Problem

The Federal Republic of Nigeria (2004) anticipates that education would transform all aspects of life of the society. Consequently, one of the greatest needs in education for sustainable development to which the universities are challenged is the detailed exploration of how to acquire information skills and how to use these skills to reprocess and reform the world.

But the proliferation of universities, despite the economic recession in the country since 1980s has increased the problems of the universities. These problems are the problems of information and communication technologies in the Nigerian Universities development, inadequate infrastructural facilities, poor teaching and learning process due to the impoverishment of Nigeria's primary and secondary education systems which has resulted in many undergraduates arriving at university without basic technical, writing and scientific skills needed for undergraduate study.

The problem statement of this study is therefore anchored on the fact that given the wide spread dictates of globalization and the emergence of information and communication technology, this study therefore attempts to answer the question. What is the profile of the South-South universities in Nigeria towards the challenges of globalization with particular reference to the computerization of teaching and learning and in the administrative environment?

Aim and Objectives of the Study

The aim of the study was to investigate the challenges of globalization in universities in the south-south states of Nigeria. The study will particularly accomplish the following objectives;

1. Find out the extent to which information technology is taught in the universities;
2. Examine the information technology and computer literacy level of the university lecturers and students.

Research Questions

The study were guided by the following research questions:

1. To what extent is information technology taught in the universities in the south-south states of Nigeria?
2. How literate in modern information technology are the university lecturers and students?

Hypotheses

The following hypotheses guided the study and were tested at 0.05 level of significance.

1. There is no significant difference between the opinion of students and lecturers in the teaching of modern technology in the universities in south-south.
2. There is no significant difference between the opinion of lecturers and students on how literate the lecturers/students are in modern information technology.

Methodology

The study adopted a descriptive research design. The population comprised twelve thousand (12,000) teaching staff and fifty eight thousand (58,000) students. A sample of 1,800 (900 Lecturers and 900 students) were used for the study. One self-designed non cognitive instrument titled Information Communication Technology and Globalization Scale (ICTGS) was used for data collection. Face and content validities were ensured by experts. Internal consistency method using Cronbach alpha was used to establish the reliability coefficient of 0.78 for ICTGS. Mean was used to answer the research questions while independent sample t-test was used to test the null hypotheses.

Results

Research Question 1

To what extent is Information Technology taught in the universities in the south-south states of Nigeria?

Table 1: Extent to which Information Technology is taught in the universities

S/No	Items	3 GE	2 ME	1 LE	Σ	X	
1	Information Technology has its own department	800 2400	400 800	600 600	1800 3800	2.11	+
2	Programmes for Information Technology could qualify for post graduate degrees.	400 1200	600 1200	800 800	3200	1.77	-
3	Information Technology courses are taught as core courses in other departments.	400 1200	700 1400	700 700	3300	1.83	-
4	Information Technology courses are taught as electives in other departments.	1200 3600	400 800	200 200	4600	2.56	+
5	Information Technology courses are taught by specialist lecturers.	300 900	1000 2000	500 500	3400	1.89	-
6	Programmes for Information Technology are rich with practicals.	400 1200	900 1800	500 500	3,500	1.94	-
7	Products of the university programmes are effectively trained to work in modern Information Technology application.	500 1500	500 1000	800 800	3300	1.83	-

With reference to data analysis presented on table 1, Information Technology is taught in separate departments and as elective courses in other departments as could be seen in items 1 and 4 with mean scores of 2.11 and 2.56 respectively. However, the mean scores for items 2, 3, 5 and 7 indicates that programmes for Information Technology are not generally rich up to post graduate levels for most of the institutions, and that courses in Information Technology are not offered as core or general courses in other departments. Data analysis also shows that Information Technology courses are not taught by specialist lecturers, are not rich in practical knowledge and that the graduates in Information Technology are not fully trained for effective work. The pooled mean of 1.99 which is below the theoretical mean of 2.0 set for the research instrument shows that Information Technology is taught in the universities in the south-south of Nigeria to a low extent.

Research Question 2

To what extent are lecturers and students literate in modern Information Technology.

Table 2: Extent to which Lecturers and Students are Literate in Modern Information Technology

S/No	Items	3 GE	2 ME	1 LE	Σ	$\bar{x}$
8	Could lecturers and students use electronic devices in teaching and learning.	400 1200	900 1800	500 500	1800 3500	1.94
9	Have knowledge of computer necessary for research.	300 900	1000 2000	500 500	3400	1.89
10	Utilize computer and internet as major sources of academic data.	200 600	1100 2200	500 500	3300	1.83
11	Belong to Information Technology and Computer Associations.	350 1050	900 1800	550 550	3400	1.89
12	Own personal computers for academic work.	350 1050	900 1700	550 600	3350	1.86
13	Enjoy the institutions provision for practical training in Information Technology.	200 600	700 1400	900 900	2,900	1.61
14	Compete favourably with students and lecturers in other universities in the field of Information Technology.	900 2700	800 1600	100 100	4400	2.44

Data analysis on responses to items 8 - 14 of the research instrument shows that the literacy level of lecturers and students in the universities in the South-South zone in Information Technology is low. The pooled mean score for the items is 1.9 which is less than 2.0 for the research instrument. Specifically, measures taken for their ability to utilize electronic devices in teaching and learning, knowledge of computer for research, use of internet, membership of

information and computer Technology Associations and Ownership of personal computers for academic work shows negative. The same thing appears to the extent they benefit from the institution's provisions for training in practical use of Information Technology. Analysis of data for item 9 indicate that the situation is the same in other universities.

Hypothesis I

There is no significant difference between the opinion of students and lecturers in the teaching of modern technology in the south-south universities.

Table 3: Analysis of Significant difference between students' and lecturers' opinion on teaching of Modern Technology in the South-South Universities

Groups	N	X	SD	Z-cal	Alpha level	Z-tab	Decision
Lecturers	900	16	5.4	1.2	0.05	1.96	Difference not significant
Students	900	15.2	4.1				

With reference to data analysis presented on table 3, the mean opinion rating of lecturers on the level of teaching modern technology in the South-south universities is 16 with a standard deviation of 5.4 while the students' rating has a mean of 15.2 with a standard of 4.1.

The difference in the mean scores was tested for significance using z-test statistics. The calculated 2-value is 1.2 which is less than the critical z-value of 1.96 therefore, it is proper to state that there is no significant difference between the opinion of lecturers and students on the level of teaching modern technology in the south south universities. As a result, the hypothesis one could not be rejected.

Test of Hypothesis 2

There is no significant difference between the opinion of lecturers and students on their level of literacy in modern information technology.

The responses of students and lecturers to items 8-14 were collected and their mean and standard deviation scores were calculated. A test of significant difference was carried out using z-test. The table that follows shows the analysis and findings of the test.

Table 4: Analysis of Significance difference between students and lecturers opinion on their level of literacy in Modern Information Technology

Groups	N	X	SD	Z-cal	Alpha level	Z-tab	Decision
Lecturers	900	2.1	5.2	1.2	0.89	1.96	Difference not significant
Students	900	1.9	4.8				

With reference to data analysis shown on table 4.7, the opinion of the lecturers on their level of literacy in Modern Information Technology has a mean of 2.1 and a Standard Deviation of 5.2, while the students own opinion has a mean rating of 1.9 with a standard deviation of 4.8. The parameters were tested for significant difference using the z-test statistics. The calculated z-test is 0.89 whereas the critical z-value is 1.96. It is safe to state that there is no significant difference in the mean ratings between the lecturers and students on their level of literacy in Modern Information Technology. As a result of the findings, hypothesis two could not be rejected.

Discussion of Findings

The study finds that Information Technology is taught in some of the universities in the south-south states of Nigeria as developed academic disciplines and departments. In these institutions, courses in information technology are taught as core courses and as elective courses in other non-science department. The findings do show that programmes for Information Technology are not generally run up to post-graduate levels for most of the universities. With reference to data analysis on table 1, the findings also indicates that Information Technology courses are not always taught by specialist lecturers and are not enriched with practical knowledge. These findings agree with UNESCO (2004) that states that tertiary institutions in the developing countries are used to advance their technologies to be in line with modern technologies. Matters of technological education are of critical impact on national interest. The extent of teaching Information Technology in the universities need to be reasonably high considering the interrelationship between one university and the other in both within and without the country. According to Bankie (2002) [2], the scientific education in the developing countries faces a fundamental deficiency, which is the absence of practical knowledge. Thus, his argument is due to the inadequacy of technical tools. Bankie also noted that since teachers are at the heart of educational progress and crises, only the teachers that possess the necessary technical competence and professional skills can be used to challenge the crises of technical education.

The study finds that most students and lecturers could not use electronic devices in teaching and learning while it is also found that their knowledge of computer for research is low. The study finds also that the level of utilization of computer and the internet as major sources of academic work is low. The study finds that not many students and lecturers belong to Information Technology Association. It is also found that many lecturers and students are yet to own personal computer and internet facilities for their academic work. The analysis of data on table 4.2 also shows that the lecturers and students do not benefit much from any provisions made by the institutions for practical training in information technology. These indication point to the fact that the level of literacy in Information Technology among students and lecturers is low. According to Daniel (2000) [4], there is low level of computer literacy among teachers and students at various levels of education in the developing states of the world, which now tends to constitute a vicious cycle. As a result of poor level of technological literacy, Capron (2000) [3] noted that the full benefits of research works may not be realized because most

research products are better accessed through modern information systems such as internet and computer systems.

Conclusion

Information Technology is taught in full departments and as elective courses in other departments. The low level of literacy in modern information and computer technology among students and lecturers in the south-south zone universities indicate that the extent of utilization of research products from the international community is still low.

Recommendations

The researcher recommends as follows;

1. Courses in Information Technology should be fully developed to award degrees up to post-graduate levels. This will enable each university adequately equip its Information Technology departments.
2. The universities should undertake urgent measures to improve the computer literacy of the lecturers. This is because the level of teaching and learning heavily rests on the skills and competency of the lecturers. The universities need to establish schemes such as in-service training courses for lecturers.

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