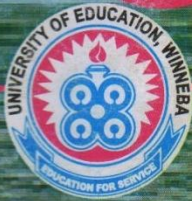


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THE CHALLENGES OF INFORMATION TECHNOLOGY AND GLOBALIZATION FOR THE NIGERIAN UNIVERSITY SYSTEM

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Abstract

This paper examines the challenges of information technology-enhanced globalization on the Nigerian university Education. There is a current trend of academic globalization of high education. This is viewed as an opportunity to take care of the means to export Nigeria university education for foreign earnings. However, the paper highlights some challenges to be faced by the government and Nigerian university system towards globalization in education. These challenges include adequacy of IT infrastructures, requisite computing skills for IT and funding of university education. Other challenges are access to university education, quality assurance of programme by universities and other educational providers in addition to free flow of foreign students and investors in Nigerian university education. Recommendations made include the use of strategic management policies towards academic globalization, adequate funding of university education by government and private investors, for proper development of IT towards improved and globalized Nigerian university education.

Introduction

Technological advancement and information systems have succeeded in contracting the whole world into a globalvillage. The possibilities and reach of information technologies can tear down territorial boundaries and make available equal information and knowledge of different categories as soon as the data are fed on the website. Consequently, businessmen in various countries can exchange huge amounts of stocks and currencies on a daily basis. Likewise, educational researchers, student and other educational providers exchange knowledge, research findings and opportunities for publishing and studying in countries around the world (Taiwo, 2003). This global interconnectivitybetween and among countries provides greater interaction into the world economy through trade expansion and more openness into other cultures, thereby offering a brighter future for all.

University education viewed as a scarce commodity in a buyer's market with enormous demand (Postiglione, 2001). This view, probably, has led to the current wave of academic globalization whereby foreign academic institutions either liasewith local institutions in developing countries or set up shop on their own; offering academic programmes and degrees "off the shelf. Admission into Nigerian universities is becoming increasingly competitive. Many prospective students find it difficult to get admissions into the existing 73 universities, comprising 26 federal, 24 state and 23 privately-owned, universities. As reported by Salim (2003), the joint Admissions and Matriculation Board (JAMB) has been recording a steady astronomical rise of application forms. For instance, a rise from 766,000 in

2001/2002 academic session to 1,058,000 in 2002/2003 amounting to 72.4% without corresponding increase in the number of universities or in the absorptive capacities of the existing universities. In the same vein, Okebukola, the Executive Secretary of the National Universities is 130,000.

Hence, in 2005/2006 academic session, only 130,000 places are available for 800,000 candidates, representing 16.25% available spaces for the prospective candidates. The projections for four years and six years time are 2 million and over 4 million candidates, respectively (Okebukola, 2005). With the use of improved information technology (IT), the current trend of academic globalization might result in collaborative efforts within the Nigerian university system and between Nigerian universities and their foreign counterparts. These collaborative efforts might be an opportunity for the Nigerian university system to increase its absorptive capacity for students.

The purpose of this paper, therefore, is to explore the challenges involved in the Nigerian university system joining in the race of academic globalization, using the appropriate information technologies towards serving the rapidly growing demand for access to university education.

While this paper further emphasizes the fact that much of the work on globalization has focused primarily on trade and capital flows (Solimano, 1999; Hausler, 2002) it further suggests ways of improving Nigerian university education provision globally, using appropriate information technologies through a focused curricular and physical expansion of the system at the national and institutional levels. This approach would hopefully stimulate cross-national educational innovations and prepare graduates of Nigerian universities for work in a global economy.

CONCEPTS OF INFORMATION TECHNOLOGY AND GLOBALIZATION

Information Technology (IT) is a computer-based technology for the storage, accessing processing and communication of information, devices for transmitting the information by digital or analogue means (telecommunications) until the information gets to the end-users. Information Technology encompasses a wide range of technologies like telephone. Computer word processing applications, web browsers and full text document databases and mainframe computers (Okonkwo and Afolabi, 1998).

Globalization refers to the phenomenon whereby people, countries, businesses and other groups around the globe relate without difficulty (Nnamani, 2003). Globalization is characterized by increases in flows of trade, capital and information as well as mobility of individuals across borders, promoted by rapid liberalization and advances in information technologies. Thus, globalization is multidimensional, affecting all aspect of life - economic, cultural, environmental and social as well as relations between governments and nations on the globe. The increasingly free flow of different aspects of life leads to the integration of economies and societies, resulting, among others, in boosting of incomes and raising of living standards through promoting information spread and increasing choices (Aninat, 2002). Globalization has been more reinvigorated

by the unprecedented ease with which information can be exchanged and processed as a result of breakthroughs in computer and telecommunications.

Review of Applications of Information Technology and Globalization to University Education

Up to the late eighties, management of information within the Nigerian university system was manual. Information on foreign education opportunities programmes and materials were available to a few through personal contacts and or the few existing government policies on educational exchange programmes. With the advent of computer technology, especially access to the worldwide web, there has emerged a better chance of sharing knowledge, of drawing researchers in developing countries into the mainstream, providing incentives for talented individuals to pursue educational programmes and innovation with the attendant benefits.

Consequent on the improvement in information technology (IT), the current wave of academic globalization has the goals of meeting market demand and of creating a market niche for an educational product. One such product, according to Altbach (1999), is foreign study. The student flows are usually from developing countries to the West. Related to foreign studies are major ancillary industries devoted to teaching English Language and preparing students for different entrance examinations and other tests, assisting students with university applications, student recruiting enterprises and others. Most of these activities are unregulated and considerable motivated by a need to export in order to make up for budget shortfalls at home.

These foreign universities and other educational providers offer 'offshore' degrees through twining arrangement in which a university in Asia or elsewhere links up with a Western institution. The facilities and staff of the local university and used with some inputs from the Western sponsor. Such inputs might include the curricula, pedagogy and the language of instruction. Thus, there is little direct intellectual input from the 'home university'. As such the host institution is being 'neo-colonized' (Altbach, 1999). Students generally pay a significant premium for the privilege of studying western curriculum. Often a degree from the Western institution is awarded upon completion of studies.

In Nigeria, the National Universities Commission (NUC) introduced computerized Management Information System (MIS) to Nigerian universities in 1989. This was consequent on a joint conference organized by the NUC and the British Council in Kaduna, in 1987. In conjunction with Overseas Development Administration (ODA) the project officially took off in 1989 in four pilot universities namely Universities of Ilorin, Lagos, Nigeria (Nzukka), and Federal University of Technology, Minna. With MIS in place, Nigerian universities are better able to generate and manage information database on students, staff, facilities and other university programmes, for administrative purposes. In 1995, the NUC made proposals for connecting all Nigerian universities to the Internet through Nigerian Universities Network (NUNet). The concept of NUNet is to provide connections to all Nigerian universities and university centres in one national computer network (Internet) with a gateway at NUC.

However, there is no internet gateway in Nigeria yet, so the Internet Service Providers (ISPs) in Nigeria make use of external gateway located in countries like UK, US, Italy and South Africa to carry out Internet services.

Consistent with Nigeria's aspiration and the NUC's Action Plan, fully connected Nigerian Universities Network would among others, serve the following purposes:

- a) end the intellectual isolation of Nigerian students, teachers and researcher;;
- b) expand Internet access to higher education at minimal capital cost;
- c) improve standards of education and currency of knowledge;
- d) optimize utilization of Nigeria's academic resources regardless of their physic allocation; and,
- e) encourage local and worldwide academic and research collaborations (Ibrahim, 2001)

browsing in particular has brought about greater efficiency in the utilization of world productive resources in disseminating and retrieving information and materials on research findings, thereby, making current research studies richer and more widely acceptable. Paper publishing internationally is also made through E-mail services.

Challenges of IT and Globalization

In spite of the benefits derivable from the growing academic globalization of higher education, there are some challenges posed both to the Nigerian government and the operators of the entire university system. These challenges, which should be taken care of if Nigerian university education is to benefit fully from academic globalization, are discussed as follows.

Quality Academic Programmes

Globalization gives a premium to people with sophisticated skills, high levels of education and entrepreneurial traits. These skills and traits, according to Olayode (1999), could only be developed through higher education that is international in outlook. The resultant challenge is the need for reforms of the curriculum to meet global needs and cross-national scholarly publishing in national and international media through the Internet and websites. Probably towards this direction, every Nigerian university now re-examines her vision and mission. The vision statement of University of Ilorin for instance is:

“To be an international centre of excellence in learning, research, probity and service to humanity” (2003, p.31). Likewise, the mission is:

“To provide world-class environment for learning, research and community service” (2003,p31).

Among the objectives to attain the vision and mission are:

- i. to give the opportunity of acquiring a higher and liberal education to all persons, irrespective of race, creed, distance, and,
- ii. to encourage and promote scholarship and conduct research in all fields of learning and human endeavours.

To achieve these objectives and attain the vision would require global interaction both in providing educational opportunities and in conducting educational researches.

Access to University Education

One other vital challenge arising from globalization is the growing demand for higher education and the aggressive discourse in preparing children and nations for a competitive international information, economy, democratization and economic liberalization. This need for greater access to higher education probably informed the Federal Government of Nigeria to allow private investment in university education in 1993. So far 23 private universities are operating fully, in addition to 26 federal and 24 state owned, Nigerian universities. Similarly, the National Open University of Nigeria, which was first conceived in 1993 but aborted in 1995 after a military coup, has been resuscitated. National Open University (NOU) is conceived as a partial solution for over 800,000 students who hope to matriculate every year but could not gain admission to the existing universities (Galbraith, 2002). In spite of the increase in the number of universities from 47 in 2000/01 session to 53 in 2003/04 session, about 10.7% and 11.3% of prospective undergraduates were able to gain admissions into the Nigerian universities (Oluchukwu, 2005).

Free Flow of Foreign students and Staff

Globally linked academic activities include foreign students (and staff) who flow back and forth between university systems. In the 2004 ranking of Nigerian universities by the National Universities Commission (NUC), two of the indicators used in the ranking were percentage of foreign students and percentage of foreign staff. Other indicators include research, compliance with carrying capacity, quality of academic staff, quality of academic programmes, student/personal computer ratio, Ph.D graduates output and percentage of successful graduates. Table 2 presents the ranking of some Nigerian universities based on percentage of foreign students and staff.

Table 1: Ranking of Nigerian Universities based on Percentages of Foreign Students and Foreign Staff

S/N	University	ownership	% Foreign Student	Rank	% Foreign Staff	Rank
1	Ahmadu Bello University, Zaria	Federal	2.60	1	2.20	10
2	Ladoke Akintola University of Technology, Ogbomoso	State	2.15	2	0.24	30
3	Micahel Okpara University of	Federal	1.90	3	0	39

	Agriculture, Umudike					
4	Pan African University, Loagos	Private	1.61	4	16.67	1
5	Abubakar Tafawa Balewa University, Bauchi	Federal	1.53	5	3.97	2
6	Federal University of Technology, Yola	Federal	1.05	6	1.35	14
7	University of Agriculture, Makurdi	Federal	1.01	7	0.30	3
8	University of Maiduguri	Federal	0.81	8	3.822	3
9	University of Jos	Federal	0.58	9	3.01	5
10	Lagos State University, Ojo	State	0.54	10	1.95	12
11	Federal University of Technology, Akure	Federal	0.53	11	0	38
12	Babcock University Ilesha-Remo	Private	0.50	12	3.10	4
13	University of Ibadan	Federal	0.50	13	1.10	18
14	Benson Idahosa University, Benin	Private	0.46	14	N.A	
15	Bayero University, Kano	Federal	0.42	15	1.83	13
16	University of Nigeria, Nsukka	Federal	0.34	16	3.15	16
17	Ambrose Ali University, Ekpoma	State	0.33	17	1.11	17
18	University of Agriculture, Abeokuta	Federal	0.33	18	2.56	7
19	Covenant University, Ota	Private	0.20	19	N.A	N.A
20	University of Port Harcourt	Federal	0.20	20	1.25	15
21	University of Calabar	Federal	0.20	21	0.85	19
22	University of Uyo	Federal	0.19	22	0.20	32
23	Madonna University, Okija	Private	0.15	23	2.60	6
24	Obafemi Awolowo University, Ile-Ife	Federal	0.13	24	0.59	23
25	Federal University of Technology, Minna	Federal	0.12	25	0.48	26
26	University of Benin	Federal	0.11	26	0.21	31
27	Benue State University, Makurdi	State	0.08	27	2.40	8
28	University of Ado-Ekiti	State	0.08	28	0.52	24
29	University of Abuja	Federal	0.08	29	0.45	27
30	Igbinedion University Okada	Federal	0.07	30	2.33	9
31	Ebonyi State University, Abakaliki	State	0.04	31	2.00	11
32	University of Ilorin	Federal	0.04	32	0.12	33

Source: Extracts from the Results of the 2004 Ranking of Nigerian Universities, culled from NUC, Monday Memo, 4, (8-14), 16-17.

Figures presented in Table 1 indicate low percentages of foreign students enrolled in Nigerian universities (0.04% to 2.60%). Likewise the percentage of foreign staff engaged within the university system ranged between 0.12 and 16.67%.

It is worthy of note that in expanding the academic frontiers, many Nigerian universities have initiated academic linkage programmes, with foreign universities. The University of Ilorin Administration, for instance, has initiated an academic linkage programme with the University of Wisconsin, United State of America (Aliagan, 2004). The academic linkages are in the areas of Art, Science, Agriculture, Medicine, Afro-American Studies and Literature.

Information Technology Equipment and Infrastructures

Nigeria lacks adequate infrastructural facilities to benefit fully from information technology (IT). Most of IT infrastructures such as Internet, Telefax and E-mail are dependent on service of Nigerian Telecommunications (NITEL) Nigerian Postal Agency (NIPOST) and Nigerian Power Holdings (formerly National Electric Power Authority NEPA). These services are epileptic in supply and attract high bills. Similarly, the equipment needed for information capture, processing, storage, retrieval and communication are in short supply in the universities. In a study carried out by Alabi (2000), using 12 Nigerian universities, necessary Management Information System (MIS) equipment were found to be at best, fairly adequate. These equipment included computers, telephone systems, fax, E-mail and communications satellites. Only, administrative files for manual MIS were adjudged adequate. This finding is collaborated by the result of the rating of Nigerian universities on student/personal computer ratio, presented in Table 2.

Table 2: Ranking of Nigerian Universities on based on Student/Personal Computer Ratio

Rank	University	Ownership	Student/PC Ratio
1	Pan African University	Private	1:1
2	Igbinedion University, Okada	Private	1:3
3	Convenant University	Private	1:4
4	Kano University of Technology	State	1:7
5	Ambrose Ali University	State	1:10
6	Benson Idahosa University	Private	1:10
7	University of Port Harcourt	State	1:10
8	Nasarawa State University, Keffl	State	1:10
9	Federal University of Technology, Owerri	Federal	1:11
10	Lagos State University, Ojo	State	1:12
11	Bayero University, Kano	Federal	1:13
12	Niger Delta University	Federal	1:15
13	University of Agriculture, Makurdi	Federal	1:17
14	LadokeAkintola University of Technology,	State	1:17
15	Michael OparaUnivesity of Agriculture,	Federal	1:19
16	Madonna University, Okija	Private	1:21
17	Federal University of Technology, Yola	Federal	1:26
18	University of Maiduguri	Federal	1:28

19	Babcock University, IlisanRetno	Private	1:28
20	Benue State Univeristy, Markurdj	State	1:33
21	University of Ibadan	Federal	1:34
22	Nigerian Defence Academy, Kaduna	Federal	1:34
23	University of Ilorin	Federal	1:37
24	Ebony State University, Abakaliki	state	1:40
25	University of Jos	Federal	1:42
26	Ahmadu Bello University, Zaria	Federal	1:46
27	University of Agriculture, Abeokuta	Federal	1:53
28	Delta State University, Abraka	State	1:53
29	Federal University of Agriculture	Federal	1:54
30	Univesity of Nigeria Nsukka	Federal	1:59
31	NnamdiAzikiwe University Akwa	Federal	1:62
32	University of Lagos	Federal	1:63
33	Abia State University, Akwa	State	1:67
34	University of Benin	Federal	1:88
35	AdkunleAjasin University, Akungba	State	1:97
36	Imo state University, owerri	State	1:97
37	River State University of Science& Technology	State	1:100
38	AbubakarTafawaBalewa University	Federal	1:102
39	OlabisiOnabanjo University, Ago Iwoye	State	1:132
40	University of Ado Ekiti	State	1:32
41	Federal University of Technology	Federal	1:134
42	Kogi State University , Anyigba	state	1:134

The ranking in Tabel 2 shows that the best three universities with student/PC ratio of between 1:1 and 1:3 are private universities. Some of the universities had a ratio of one computer to well over 100 students.

Computing Skills

The requisite computing skills for IT are in short supply in Nigeria, and expectedly, carry a high price tag. This apparent lack of the required degree of sophistication and information management expertise on the part of the end-users of its (students, staff and researchers) would make it difficult to effectively harness the opportunities offered. A survey study was carried out by this writer on 36 lecturers who were regular users of a university "Compunet". The study focused on assessing their computing skills and the areas of application of the computing systems. The results of the survey indicated that only seven (19.44%) of the users could operate the systems unaided.

Recommendation

Based on the identified challenges to Nigerian university education occasioned by the increasing wave of academic globalization, the following recommendations are made.

Strategic management as suggested in this paper refers to the setting of fundamental goals of academic globalization and ensuring a set of decisions which allow for the achievement of those goals in the long-term whilst providing for adaptive responses in the shorter term. The longer term could be the enforcement of the communication law, while in the short term, all operators in the university education should give priority to measures of global accessibility to relevant information. The on-going re-examination of the vision of each university is a right step in the direction of developing global university education in Nigeria.

Furthermore, there is the need for the Nigerian government to give priority to expansion and improvement of facilities to ensure the desired quality and increased access to university education. Towards this direction, the NUC should approve the applications of deserving private universities, so as to cater for the shortfall in the admission capacity of existing Nigerian universities. Similarly, the operation of National Open University as a distance-learning programme should go a long way in meeting the educational needs of people especially those deprived of education in conventional institutions. To make for greater access, the use of Internet should be conceived while electronic media and printed materials are used in the interim. With adequate opportunities at home, interested Nigerian students would screen the "offshore" programmes for quality and relevance.

Adequate funding is necessary for university education in general, and development of IT in particular. In addition to improved funding by the government and revenue generation drives by individuals institutions, the government needs to implement policies, which would draw the private sectors into Information and Communications Technology (ICT) development. University administrators should also look beyond the state for investment in ICT. As done in China, banks and other enterprises could be encouraged to see the development of IT in universities as investment targets. With adequate funding by government and private individuals, there would be adequate provision of the required IT: infrastructures and facilities for effective academic globalization. Each university administration should mount programmes on information

technology education for staff and students towards meeting the demand by globalization for a specialized education that fully integrates the high technology of this information age.

Telecommunications infrastructures are a conduit to the internet which lies at the heart of information technology necessary for global accessibility. As such, complete integration of Nigerian education with the global academic world requires a functioning, readily accessible and affordable telephone system. Towards this end, NITEL Services need to be improved through privatization and or improved funding by government. Each university should, in conjunction with governments and private individuals, procure adequate IT equipment such as computers and accessories, many private universities have adequate computers for the student population. This standard should be maintained by the private universities even with increased student population, and emulated by government owned universities.

Openness is precondition for globalization. This openness is applicable to trade (liberalization) information technology and politics (democracy). The Nigerian government towards stable democratic rule should make efforts, to entice foreign investors in all sectors of the economy, including education. These measures would form the basis for university education of international standard adequate to accommodate the teeming population of prospective Nigerian candidates, and sought for all over the world. The resultant prestige and accruable foreign earnings from involvement of qualified foreign students and foreign investors in Nigerian university education could be worth the efforts of using improving IT towards globalised university education.

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