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INFORMATION AVAILABILITY FOR EDUCATIONAL MANAGEMENT IN NIGERIAN UNIVERSITIES: OPTIONS FOR REFORMS

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Abstract

Information has been recognized as an essential ingredient in educational management. It has been observed that most studies focus on information generation with the assumption of its availability once generated, hence this study investigated the availability of information for educational management in Nigerian Universities. The study investigated Information Communication Technology (ICT) equipment availability among stakeholders (lecturers and students) in universities, copiously examining databases, websites/web portals, Local Area Networks (LAN) and Wide Area Networks (WAN) availability. A total of 7,160 respondents representing 11% of total population were drawn from first and second generation universities that cut across the six geo-political zones of Nigeria. Two researcher-designed instruments titled 'Information Availability and Management of Education in Nigerian Universities Questionnaire (IAMENUQ) I and II that yielded 'r' - 0.602 and 'r-0.76' were used to elicit responses after due validation. While all independent variables recorded 100% availability, LAN recorded 72% deficiency and unavailability. It was further observed that a significant relationship existed between Information Availability

(IA) and Educational Management (EM) at r-0.260 and r-0.443 when p<0.05 respectively in Nigerian universities. Information availability cannot be overlooked when implementing educational programmes in tertiary institutions. Policy makers are therefore implored to plan information resources adequately to enhance its good availability and utilization.

Introduction

Information has been variously described by several scholars. Prominent among them are Anderson (1972), Aiyepeku (1978, 1982 and 1993), Nwankwo (1985), Okonjo (2000) and Okhiria (2007). Various dimensions and perspectives are seen from the various definitions and descriptions, but a common denominator among the perspectives and descriptions is that information douses doubt. It strengthens its possessor to an advantage over contending competitors in all endeavours. Information among its several uses is that it serves as a good resource for organizational management since it impacts positively on organizational decisions (Okpeke, 1984 and Okpeke, 1986). Information serves as the basis for everything a person, nation or organization does (Norton, 1990).

Isah (2011), and Isah (2012) agree that information has the quality of being generated and being available. Information generation does not automatically translate into information availability. While information generation has to do with the development of ideas, issues and knowledge into formats that can be used, retrieved, formatted and reused translates into the possible dissemination of generated information to users. Information availability translates into ensuring possible dissemination of generated information to users. Isah (2012) further explained that information availability is enhanced with the following characteristics: high level information generation in organizations, well informed and educated managers, supervisors and staff on information and information related matters especially electronic information (computers) and the adoption of the electronic management information system to conform to 21st century best practices.

With recent advances in the field of Information Communication Technology (ICT), Isah (2011 and 2012) agree that organizations must possess good levels of electronic data, networks,

databases and database networks. The purpose of electronic databases is to ensure proper storage of generated information and possibilities of retrieval as the case may be. While the case of information is as described above, Nwankwo (1982), described educational management as attaining organizational goals and objectives using human resources. It implies that in the process of using human resources, there must be a good hierarchy of authority, delegation of duty and information (communication) dissemination with effective organizational administration, planning and supervision. These require that managers are well versed in organizational management which that Severt (1996) asserts must be strategic. Severt (1996) strategies include availability and utilization of internet and its technology to assist information technology. To assist internet technology, Isah and Ayeni (2010) were able to explain that in the 21st century, information availability will contribute a large extent to effective university governance especially as observed from global rankings of universities. With the foregoing, it cannot be argued that with the level of educational management in Nigeria, information availability cannot be over emphasized.

The structure of education in Nigeria simply shows the necessity of management of information; for example, education being on the government legislative list, schedule II of the 1999 Nigerian Constitution (Federal Republic of Nigeria, 1999), implies that it can be provided by all tiers of government inclusive of the private sector. At the Federal level, there is the Federal Ministry of Education (FME) with its agencies, the National Universities Commission (NUC), National Business and Technical Examination Board (NABTEB); and the National Commission for Colleges of Education (NCCE); all overseeing higher education. However, at the state levels, these bodies supervise both private sector and state higher educational institutions to maintain standards and quality. The FME through the inspectorate division and State Ministries of Education maintains standards and quality through the respective inspectorate divisions. The hierarchy applies to local governments. Modern educational organizations have become complex and sophisticated in nature that their management becomes a burden without good communication. With their present levels of complexities; memos, circulars and letters cannot be dispatched manually. It infers that today's educational organizations in Nigeria

require both inter and intra organizational communications that must be technological to enhance speed, accuracy and timeliness which is the essence of management (Nwankwo, 1985). To enhance efficiency of governance, this paper concentrates basically on the management and availability of information in Nigerian universities.

To effectively ensure that information availability qualities are maintained, a survey by Isah (2012), among Nigerian universities exposed the level of preparedness of Nigerian universities to enhance, and ensure effective information availability. It was revealed that universities of the first and second generation's stock possessed websites and web portals that are not fully functional and most times partially functional. The study further revealed non-functionality of websites, web portals; and that where functional, their outputs were poor. It is that finding that inspired this investigation. Babalola (2010), Adimorrah (1993), all agreed that the issue of information equipment in all ramifications in Nigeria were experiencing challenges that ranged from insufficient and inadequate infrastructure to poorly trained personnel in the art of information generation, processing and retrieval.

Statement of the Problem

Information as an organizational resource has been identified to be a source of progress and failure in modern business management that also applies to the educational setting. Information has the characteristic of being generated, available and disseminated. Most researchers have dwelt on the resources of information as a component especially on the provision of internet services, its challenges and prospects. Though there have been studies on the management of information, such studies have not been extensive on the core issues on information availability such as the availability of the resources to access generated and stored information, storage formats and personnel preparedness for such extensive work. This study investigated information availability in Nigeria's first and second generation universities using the aforementioned parameters that also included information integrity, flexibility and reliability especially in university management.

The intention of the study was to expose some of the pertinent issues hindering access to generated information that would be of

significance to university administrations and planning units. The study unveiled answers to knotty issues in educational management in universities that could enhance efficiency in the access to system resources that is the challenge of most African universities and their administrations.

Research Questions
The following research questions were formulated to guide the study:
1. What are the resources available in Nigeria's first and second generation universities for ensuring information availability (databases, websites, web portals and electronic networks)?
2. Do available electronic information in Nigeria's first and second generation universities possess the integrity of quality, flexibility, reliability and adaptability?

Hypotheses
The following hypothesis guided the study:

Ho_1: There is no significant relationship between information availability and management of education in Nigeria's first and second generation universities.

Methodology
The study adopted the survey research design since the population involved is large. Total study population that consisted of lecturers, students and high level non-academic staff in the category of Directors of ICT, Academic Planning, etc was 64,742 in 13 Federal Universities of the first and second generation stock in Nigeria's six geo-political zones. The multi stage sampling procedure was adopted to select 7 out of the 13 universities representing 53.8% namely; University of Ibadan, Ibadan (South-West), University of Nigeria, Nsukka (South-East), Ahmadu Bello University, Zaria (North-West), Bayero University, Kano (North-West), University of Ilorin, Ilorin (North-Central), University of Maiduguri, Maiduguri (North-East) and University of Port-Harcourt, Port-Harcourt (South-South) students and lecturers that came to 7,146 (11%) of the total population served as respondents in the survey.

Two researcher-designed instruments titled 'Information Availability and Management of Education in Nigerian Universities Questionnaire (IAMENUQ) I and II were used for the study. Both

instruments were face validated by experts from the Faculty of Education at the University of Ibadan, Nigeria. A content validation using factor analysis was also adopted. All test items with a cumulative item correlation below 0.0 were deleted. The instruments consisted of 3 sections each. Section A elicited responses on respondents' demographic variables and bio-data; Section B elicited responses on information availability and Section C on Management of Education in universities. The instruments were pilot tested and yielded 'r'-0.602 and 'r'-0.76 using the Cronbach Alpha statistic. Thereafter, the instruments were administered with the aid of trained research assistants. Though the instruments recorded 100% return rate, all respondents did not answer all questions. The research questions were analysed using descriptive statistics as percentages, bar graphs and pie charts while the hypothesis was tested using Pearson Product Moment Correlation at $p < 0.05$.

Findings

The following findings were recorded in the study. In most cases, students and lecturers' responses were separated to give clarity of concepts and perspectives in perceptions. It enabled a non biased inference between students and lecturers in first and second generation universities. It also allowed for comparisons.

Research Question 1

What are the resources available in Nigeria's first and second generation universities for ensuring information availability (databases, websites, web portals and electronic networks)?

Table 1: Available Information Resources in First and Second Generation Universities in   Nigeria

S/N	Item	% with item	% without	Total
1.	Databases	All 1st and 2nd generation	-	100%
2.	Electronic networks	Nil	Nil	0%
3.	Websites	All 1st and 2nd generation	Nil	100%

4.	Web portals	All 1ˢᵗ and 2ⁿᵈ generation	Nil	100%
5.	LAN	28	72	100%

Source: Researchers Personnel Visit to Universities Using Checklist (2011).

The Table above showed that all first and second generation universities in Nigeria are currently equipped with databases, websites, web portals. However, they are not fully equipped with electronic networks. While no electronic network was found among the older universities, only 28% of the old universities have access to Local Area Network (LAN) equipment.

Table 2: Access to Available Data/Information Storage Facilities by Lecturers and Students in Nigeria's First and Second Generation Universities

S/N	Questionnaire items	Lecturers				Students				Total			
		N	A	D	%A	N	A	D	%A	N	A	D	%A
1.	You store information in electronic formats for easy retrieval	813	546	267	67.1%	3,064	925	2139	30%	3,877	1471	2406	37.9%
2.	There is a university central database in your institution to which you have access	813	425	388	52.2%	6,333	3,738	2,499	33%	6,146	4,163	2,887	67.7%
3.	It is easy to access the university website/web portal from your location/office on campus	813	331	482	40.7%	6333	2841	3348	44.8%	6,146	3,272	3,730	53%
4.	Apart from university wide databases, you have personally created databases	813	331	482	40.7%	6,333	Nil	Nil	Nil	6,146	331	482	40.7% Lecturers only

Source: Researchers Compilation from Checklist Visits (2011)
Pass mark = 50%

Table 2 showed clearly that the average storage of materials in electronic formats in university by students and lecturers is 37.9% less than 50% the pass mark. In the 37.9%, lecturers account for only 15% of this average while in the lecturers' categories in the universities, it is just 67.1%. Availability and access to databases in first and second generation Nigerian universities had an average score of 67.7%. In this average, university lecturers account for 52.2% in lecturers' category. Table 2 clearly showed that Nigerian universities have available information dissemination resources as well as some levels of databases but lacking in electronic networks and LAN facilities.

Research Question 2
Do available electronic information in Nigeria's first and second generation universities possess the integrity of quality, flexibility, reliability and adaptability?

The sensitivity of the above research question limited it to the perception of lecturers in Nigerian universities only. Their responses were analysed in Table 3.

Table 3: Perceived Integrity of Electronic Information Generated and Available for Utilization in Nigeria's First and Second Generation Universities by Lecturers

S/N	Questionnaire item	Agree	Disagree	Total	% Agree
1.	Information accepted to the university websites and portals are disseminated only by the university authority	813	0	813	100
2.	There has never been any reported case of hacking on the university website or portal	813	0	813	100
3.	Any other information on the university website must receive the approval of appropriate authority before placement	813	0	813	100

	including your lecturers or lecture notes				
4.	Information extracted from the university website can be adapted to other purposes	726	87	813	89%
5.	When you get information (data) from websites, it is convertible to other uses 8 No of students in each department calculated to give student population i.e. to say the information gotten is flexible	415	363	777	55.5%

Passmark = 50%

It should be noted that not all respondents responded to all the questions. Table 3 indicated that levels of information availability indicated 100% resource availability and accessibility. The integrity of information is perfect as there has been no evidence of hacking. Moreover, information placed on websites and portals are screened. It is evident that there is high information security in Nigerian Universities of the first and second generation stock. The study also revealed that information obtained from websites are flexible and adaptable to a reasonable extent.

Hypothesis I
There is no significant relationship between information availability and management of education in Nigeria's first and second generation universities.

Table 4: Student information availability and university management among first and second generation Nigerian universities

Variables	N	Std deviations	Mean Scores	Std Error	df	R	Sig. **
Inf. Availability	3,269	3.14547	12.0553	0.07953			
					3,259	0.260	0.000
University Mgt	3,269	4.66448	16.1653	0.11703			

P < 0.05

Table 5: Lecturers information availability and university management among first and second generation Nigerian universities

Variables	N	Mean Scores	Std. deviation	df	R	Sig **
Inf. Availability (IA)	813	25.7581	6.96718			
				807	0.443	0.000
University Mgt	813	85.6489	10.99640			

P < 0.05

The Tables above indicate level of information availability among respective stakeholders in universities. Table 4 showed the relationship between information available to students and the management of universities. At r = 0.260 when p < 0.05, indicated that a significant relationship exists between Information Availability (IA) for students and management of universities. Also Table 5 indicated r = 0.443 when p < 0.05 showing that a relationship exists. Therefore, it could be safely concluded that availability of information among students and lecturers has a direct positive relationship on university management (planning, administration, coordination, direction etc).

Discussion

The results of findings in the Tables indicated that presently, first and second generation universities are adequately equipped with data bases, websites and web portals, but have no evidence of availability or ownership of electronic networks. Microsoft Encarta (2009) described an electronic network as a series of connections and interconnectivity and the connections of computers in such a way that computers can communicate with one another. The greater advantage of networking (internet) is cost effectiveness, enhancement of team work and effectiveness in communication (Isah, 2007). It means that the features just mentioned are far from adequacy in Nigerian universities because only 27% of the universities have Local Area Networks (LAN), hence communication is difficult. Students, lecturers and management staff still depend heavily on local Internet Service Providers (ISPs). With such a situation, students and staff require extra funds to access information and communicate quite unlike what obtains in world class universities.

Again, it was observed in Table 2 that stakeholders (lecturers and students) in Nigeria's first and second generation universities store information in electronic formats. An average of 37.9% of stakeholders perform this operation showing that only 40% of university operations are electronic and 60% are manual. Though there are databases, only 67.7% access databases while only 40.7% have personal databases. These findings show that Nigerian universities are still very far from attaining world class status. What therefore are the challenges confronting information availability in Nigerian universities?

1.   Cost/Funding

Information Communication Technology (ICT) equipment are quite expensive. Babalola (2010) and Ali (2009) did not fail to express their opinions on that issue. Further to this, Adimorrah (1993) spoke of the unavailability of information structures. The cost of importing ICT equipment to developing nations is enormous; especially purchasing bandwidth that is a major item in internet utilization and access.

2.   ICT Personnel Shortages

There is a high dearth of individuals lacking in ICT skills. Breakdowns and maintenance of ICT equipment require special skills which are

lacking in most developing countries inclusive of Nigeria and her universities.

3.   Unavailability of Requisite Infrastructure

The absence of requisite infrastructure to assist the use of ICT equipment in Nigeria has been a major challenge to Nigerian universities. Babalola (2009) expressed the grave consequences of absence of power supply to the utilization of electronic teaching equipment in universities. The absence of basic infrastructure negates access to provided websites and databases. Moreover, the university calendar is often disrupted due to closures emanating from students' pretest.

4.   Policy Direction Missing

As at today, a major challenge to availability of information is the absence of an ICT policy that has never been initiated. The effect is that standardization and regulations of ICT practice becomes difficult since there are no guidelines. The absence of an articulated ICT policy has allowed the importation of sub-standard ICT equipment especially second hand materials from advanced nations.

5.   ICT Technical Deficiencies

Though mention has been made concerning absence of qualified personnel, a low challenge is the plan by Nigerian universities to train stakeholders in ICT utilization. Such trainings have not been very common (Babalola, 2009), Isah (2012) and Isah and Ayeni (2010). The result is that stakeholders in universities are hardly able to independently utilize ICT materials. The foregoing has shown that much needs to be done in the area of information availability in Nigerian universities.

Implications of the Study for Theory and Practice

The following implications are herewith noted with specific recommendations for educational planners and administrators. The foregoing observations showed that information availability equipment are available in Nigerian universities except for two namely, electronic networking equipment and LAN facilities. The absence of these two equipment affects availability, accessibility and cost of information. Without electronic networks (internet), communication cannot take

place effectively. LAN is the university-wide local communication facility that is rich in its own resources with an administrator and of relatively no cost. Available networks are referred to as Wide Area Networks (WAN) provided by ISPs. These are costly hence we have databases, websites and portals. When information is loaded on the internet, it involves cost to access that information. Further to this, where information is available on the net, the facility to effect access to that information as computers require bandwidth is lacking and results in slow operations discouraging and frustrating seekers.

Recommendations

This study therefore recommends the following solutions to policy makers and administrators:

1. Planning of University Information Management Resources

The present state of university information management in Nigeria as regards availability requires adequate planning as it pertains to challenges previously mentioned. The first stage in planning is to take decision on the type of information and communication system to be adopted. Such decisions could be easy for new universities being established in this era, but for older generation universities, it is an expensive decision since it requires changing from the old manual information system to the new computerized system. Though the change has been gradual, evidences show it is still at a ratio of 40:60 for computerized and manual information systems respectively. This paper hereby recommends that the ratio of computerized system be altered upward to about 70% in the next 5 years for older universities. It is the recommendation of this paper that a good national and university ICT policy be formulated and implemented by experts for the university system.

2. Reforms in University Infrastructure

This paper recommends that universities in Nigeria develop their infrastructure in all directions. Though this has been a long time challenge, it is gradually being realized with the implementation of some reforms, but major reform areas are expected from universities to confront the problem. Universities in Nigeria must develop plans to commence Independent Power Projects (IPP) pending when the

Federal Government of Nigeria (FGN) overcomes the electricity problem. For universities to continue to depend on epileptic power supply from the national electricity grid will be tantamount to waste of resources. Further to this, previous calls on integration and synergy between academics, industry and research should be reviewed, articulated and implemented. Faculties in universities should be saddled with responsibilities, e.g. electrical engineering and computer science departments should develop a university-wide IPP programme and assist the universities to implement them at least for older universities like first and second generation universities.

3.   Stakeholders' Capacity Building on Information Technology

It is the recommendation of this study to university administrators in Nigeria to upgrade capacity training for stakeholders (students, teachers and administrators). Though this has been going on for some time, the rate is however slow. Available infrastructure on information is not well utilized because of deficiencies in skills. University administrators and planners should incorporate information technology skills, acquisition and utilization training into regular training programmes. Technology as a means of instruction should be incorporated into higher education teaching and learning. Lecturers should be encouraged to adopt the use of computers in instruction delivery, creating and utilizing databases and electronic networks in teaching and learning using Web 2.0, drop box, blogs and other social media for chats with students etc.

4.   Continuous evaluation, research and reforms

With the present state of information management described hitherto, it must be emphasized that the global ICT industry is under continuous transformation due to research, hence a once forever investment cannot be seen as a solution. Educational planners and administrators should continuously evaluate changes in ICT world alongside provided infrastructure in universities. This will ensure continuous functioning of the ICT (information) system. Whenever any shortfall is identified, quick replacement is advocated.

Conclusion

Information has been accepted as a major ingredient in the management of education globally. Prominent among areas considered very important in the management of information is the availability of information that is epitomized in its generation and availability. Information can be made available through mediums as electronic networks, databases and websites/portals. Other avenues include LAN and WAN. It is observed that while WAN is usable for educational management information transmission and dissemination, LAN is cost effective, and unlike WAN, is customized to the information needs of respective tertiary institutions and universities.

This study observed that information availability had a positive relationship with tertiary institution management. Several challenges trail the availability of information in universities highlighted in the discussion of the findings of this research. However, it is expected that educational administrators and planners will utilize the provided recommendations to improve on the availability of information and educational management in our universities.

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