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Information Communication Technology (ICT) and Use of Library by University of Ilorin Undergraduate Students

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Abstract

Information and Communication Technology is playing indispensable and inevitable roles in the attainment of educational goals in Nigerian tertiary institutions. Thus, this study investigated ICT and use of library among university of Ilorin undergraduate students. Four research questions were raised and answered in the study. This study adopted a descriptive survey design. Three hundred and fifty respondents were selected using simple random sampling technique. Information and Communication Technology and Library Use Questionnaire" (ICTLUQ) was used to collect data in the study. Descriptive statistics such as frequency counts and percentage were used to answer the research questions. Findings showed that 56.26% of the respondents agreed that ICT facilities are available for the use of undergraduate students in the library. It was revealed that 48% agreed that the level of utilizing ICT facilities in the library by undergraduate students of University of Ilorin was moderate. In addition, 58.8% used library ICT facilities for different purposes. Based on the findings, it was recommended among others that the university management should endeavour to make adequate provision for the ICT facilities in the library for use by the undergraduate students. The university management should ensure that electricity supply is regular to better facilitate the use of ICT in the university library.

Keywords: Information communication technology (ICT), Use of ICT, Use of library, University Library, Undergraduate students.

Introduction

Nigerian universities are basically established with the aim of giving every student who enrolls a very sound and qualitative education to be able to function effectively in any environment in which he or she may find himself or herself so as to become more productive, self-fulfilling and attain self-actualization (Federal Government of Nigeria, 2004). Tertiary education is an education given every student in order to gain one's first tertiary degree. This inadvertently means that the university education is a system designed for every student to contribute to the national development of the country.

Ukachi (2013) stated that the development of students is one of the major objectives of university education and the achievements of the goals of the universities depends to a great extent on the provision and utilisation of services and resources provided by the university library. The university library which is commonly referred to as the nerve centre of the university is primarily set up for the achievement of the university's set goals and objectives by providing information materials and services which satisfy the information needs of the entire university community both the students and university staff. Thus, an academic library is an integral part of a university administered to meet the information and research needs of its students, faculty and staff. Chowdhury (2001) maintained that the academic library is essentially aimed at capturing and holding the interest of the academic community by producing intelligent users of all types of documents; and to cultivate in users an appreciation of libraries as academic institutions. The objectives of academic libraries are to:

- i) collect and preserve the most up-to-date materials for teaching, learning and research consultation services;
- ii) collect and preserve information resources in books and non-book formats;
- iii) provide user-oriented services through current awareness services (CAS);
- iv) provide reading environments in a useful variety of locations;
- v) maintain inter-library co-operation with other libraries around the world; and
- vi) Establish a coherent, consistent library-wide external relations plan that focuses on new and existing services and collections (Burke, 2010).

The university library influences the environments within which it grafts its own mission and role. However, the introduction of Information Communication Technology (ICT) facilities in the university libraries has tremendously enhanced information generation, access, storage and dissemination which improves and enhances the level of students' academic performance (Ukachi, 2013). Information and communication technology has brought a lot of changes in the services and operations of libraries and information centers world-wide particularly in the university system and it is defined as the application of modern electronic and computing capabilities (technologies) to the creation and storage of meaningful and useful facts, data or information and its transmission to users by various electronic devices (Tinio, 2003).

According to Chaka (2008), the use of library through information and communication technology does not only mean computers. It has to do with technological tools which includes; computers, the internet services, broadcasting technologies (radio and television), and telephone. This implies that, ICT is a combination of computer and telecommunication applications. However, ICT were

not specifically developed for libraries, their subsequent application by libraries has, no doubt, revolutionised library procedures. Consequently, the adoption of information and communication technology has enabled libraries to provide efficient and qualitative services by collecting, organising, storing, disseminating, retrieving and processing information (Tyagi, 2013). Krubu and Osawaru (2011) maintained that information and communication technology facilities have enhanced every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. Information and communication technology presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to students as well as university staff.

Statement of the Problem

The use of ICT facilities in Nigerian university libraries undermines the substantial efforts that have been made over two decades to ensure that use of ICT is prevalent in all higher education institutions of learning in Nigeria (Ajaegbu, Ehioghae & Adesegun, 2014; Ojeniyi & Adetimirin, 2013). Despite universities' investment on ICT over the last decades as parts of effort to automate university libraries in Nigeria, it is observed that undergraduates' use of ICTs in the library is not yet at its optimum. This may be due to the fact that there are inadequate ICT facilities, poor skills to use ICT facilities, and absence of internet connection as well as power failure. All of these are challenges confronting the use of library through Information and communication technology in Nigeria universities. This study therefore, examines Information Communication Technology (ICT) and use of library by University of Ilorin undergraduate students.

Purpose of the Study

The main purpose of this study was to investigate Information and communication technology and use of library among university undergraduate students of University of Ilorin. The specific purposes of the study are to:

- i. identify the available ICT facilities for library use among university undergraduate students of University of Ilorin
- ii. examine the level of use of ICT facilities in the library by the undergraduate students of University of Ilorin
- iii. investigate the purpose for which undergraduate students of University of Ilorin use library ICT facilities
- iv. find out the challenges affecting the effective use of Information and communication technology in the library by the undergraduate students of University of Ilorin.

Research Questions

The following questions were raised to guide the conduct of the study

1. What are the available ICT facilities for library use among university undergraduate students of University of Ilorin?
2. What is the level of ICT facilities for library use among university undergraduate students of University of Ilorin?
3. What are the purposes that university undergraduate students of University of Ilorin use library ICT facilities for?
4. What are the challenges facing the effective use of Information and communication technology on library use among university undergraduate students of University of Ilorin?

Literature Review

Concept of Information and Communication Technology

Computer is an electronic device which accepts and processes data by following a set of instructions (program) to produce an accurate and efficient result (information). Betz (2000) opined that a computer is an electronic device that accepts data through input device, processes the data and yields results through output device (information). Computer is not only a device

that accepts data but also processes it and makes result available to the user. Since the ultimate purpose of computer is to produce information, the art of computing is referred to as information technology. It is an electronic device that accepts user problems as input through the input unit, processes the input in the central processing unit and brings out the output through an output unit in form of information.

This is a new world of globalization. Whatever happens in one part of the globe is transmitted very quickly to other parts through the mass media and the internet. This is made possible by new technologies such as telecommunications, computers and electronics. It is only a few years ago we started hearing about internet, e-mail, satellite, computer, G S M, etc. now we use them in various ways. Older technologies such as the typewriter, landlines, post office, library, etc. are being enhanced or replaced with newer technologies. As already noted, various attempts have been made to define the term information and communication technology. Information and communication technology (ICT) is often used as an extended synonym for information technology (IT), but is a more specific terms that stresses the role of unified communication and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio visual systems, which enable users to access store, transmit useful information (deWatteville & Gilbert 2000).

Pelgrum (2001) defined information and communication technology as the electronics technologies for collecting, storing, processing and communicating information those which process information, such as computer system and those which disseminate information, such as telecommunications system. Although a large assortment of information and communication technology exists, Information and Communication Technology (ICT) is a composite term which embodies three important concepts. To understand ICT, one must understand all the three concepts. "Information" means many things to many people, depending on the context. Scientifically, information is a processed data. Information can also be loosely defined as that which aids decision making information, though abstract, could also be visualized as a commodity, which could be bought or sold. Other writers have defined information as: Any useful fact, quantity or value that can be expressed uniquely with exactness. Information is whatever is capable of causing human mind to change its opinion about the current state of the real world (deWatteville& Gilbert 2000).

The role of Information and Communication Technologies (ICTs) in the 21st century education system has been described as vital to keeping abreast of rapidly changing technologies. The information and communication technology into the Nigerian educational system has come to stay; its importance has been translated into huge potentials in terms of positive outcomes, although investments in ICTs in Nigerian's education system have not yielded much when compared to similar investments made in communication (Atureta, 2011). The field of education has certainly been affected by the penetrating influence of ICT worldwide. ICT has made impact on the quality and quantity of teaching, learning and research in the institutions using it (Kwacha, 2007).

Uses of ICT in pedagogical activities are widespread in the education system. Teachers use computer software to make lesson plans, PowerPoint presentations, and use smart boards for interactive lessons. Distant education consumes best use of ICT, and e-learning is also accelerating in an efficient way. E-Learning covers a continuum of educational applications with Word, Excel, Access and PowerPoint as the main gadgets on one end with no or little impact on teaching, learning and administrative practices on the other end (Herselman & Britton, 2002; Ng, 2010). Apart from audiovisual technology used in the classrooms for teaching and learning process, phone technologies, email, electronic discussion and online classrooms are also used (Niederhauserb & Perkmen, 2010; Stuart, 2009).

Information and Communication Technology and University Library Use
The development and availability of information and communication technologies

(ICTs) in the university libraries have today not only increased and broadened the impact of information resources at their doorsteps, but have also placed more emphasis on effective and efficient services. Their applications in the university libraries, commonly known as library automation, have indeed continued to ease and promote quick and timely access to and transfer of information resources that are found dispensed round the globe.

The sudden emergence of Information and Communication Technologies (ICT) in the 1940s launched the world's information packaging and services into a global electronic platform. Thus, libraries no longer disseminate information only in a packaged print media but in a multimedia format with the speed of light. The way information is made available and the way users access it have changed. However, the current decade is one in which digital technology is making a huge impact on libraries (Ukoha, 2010). The university library systems becoming increasingly more commonly computerised, the availability of library management software is dictating that library automation be the norm, rather than the exception. The effect is not only of automation of library management, but also of Local Area Networks, Wide Area Networks, internet access and an increasing diversity in format of resources (Freeman, 1999).

The first and foremost ICT component which can be adopted in the university libraries is the computer for library automation and to have an in-house database of library holdings in electronic form. As many primary journals are being published in CD form, it becomes necessary to equip the libraries with ICT to optimize the use of information, E-mails, online retrieval networking, multimedia and internet are the other important technologies, which can be used for faster access to information in the libraries. Therefore, ICT enables the university libraries to capture, store, manipulate, and distribute information; introduce and provide new services, revitalize the existing services by providing faster access to the resources, by overcoming the space and time barriers; provide need-based, (tailor made), browsing and retrospective search services to the users; to have large number of databases in CDs; utilize the staff for providing better information services; have access to a number of national and international journals which are being published only in machine readable form; support library functions such as circulation, serials control, acquisition control, stock maintenance and other routine office works and developing in-house database among others (NOUN, 2014).

Nwachuku (2004) posited that ICTs application to the university library works and services could be seen as the best way that could be used to assist researchers to adequately solve their literature need for effective research activities.

This, according to the writer, is because the application of ICT to library operations greatly helps in the provision of efficient reference and information services, the utilisation of network operations such as cataloguing, authority control, inter library loans and co-operation and in the participation of international bibliographic project.

Application of ICT to University Library Use

Information and Communication Technologies (ICTs) have revolutionized various aspects of the university library services from the simple clerical work to the selection, acquisition, storage, processing and dissemination of information. As a result of these advancements, there is need for library staff, particularly in the developing countries to acquire skills that will enable them to operate and cope with the modern trend. Okiy (2010) stressed that the present day librarians are expected to acquire skills in using computer, Internet and other information technology to fulfil their professional obligations. ICT is basically the use of computers in information processing, storage, transmission and dissemination.

In the context of library and information work, ICT has made tremendous changes in the university library and information services in the most of Nigerian universities. Libraries are no longer regarded as a physical building for storing and preserving books. Presently, there are advances in telecommunication technology which has led to efficient transmission of large volumes of data and information, from one point to the other. Combinations of technologies have yielded a technology superior to the constituent technologies. For instance, computer technology combines with telecommunication to yield computer networks. Thus, a computer network is described as computers connected together in such a way that these computers communicate with one another (Oyedum, 2007). The ICT applications to the university library use are as follows:

- i. Library automation which is the use of computers and telecommunications in all operations and services has improved the efficiency and effectiveness of the libraries through increase reduction of mistakes, increased convenience, adequate statistical data keeping, and control of literature growth, labour saving and easy exchange of documentation. In other words, accuracy as well as speed and timely service delivery are effected.
- ii. CD-ROM Technology that can handle large volume of data in a flexible manner. Compact Read Only Memory has a large storage capacity and can store a large quantity of information that could be equivalent to pages of a standard textbook.
- iii. Online Searching is another type of information technology applicable in library services. This is the process whereby database or other sources of

Challenges Facing Information and Communication Technology on Library Use in the University

The challenges facing the use of library in the universities through ICT include the following according to NOUN (2014) and Jimoh and Igwe (2011):

Inadequate Funds in the libraries for acquiring ICT facilities: most of the university libraries have not been given key attention that they deserve in terms of financial allocations - thus limiting their ability to meet the targeted requirements of supporting the learning process positively. The university libraries are, therefore, not able to acquire adequate ICT services for effective information resource management (e.g., access to computers, copies, printers, network/internet and subscriptions to more electronic databases, modern bindery equipment etc.).

User Education: Technological factors, such as ICT illiteracy is also a bottleneck in the management of information resources since many university library users in developing countries are not able to utilize ICT services and their applications in library hence there is a need for consistent user training and user support services.

Staff Training: most of the university staff in the libraries need more experience and training to deal with ICT services

Political and economic instability: developing countries have negatively impacted the operations of libraries external funding agencies taking advantage of this instability to push for their own agenda and priorities.

Inadequate access to technical expertise: the ICT department that is responsible for the installation, development and expansion of the backbone network (WLAN/LAN) in the university library has undermined diffusion of ICT in information resource management. Such a team is required to have basic training in troubleshooting skills and support of library hardware and software.

The outdated and bureaucratic procedures in acquisition of ICT equipment and materials: coupled with lack of appropriate policies to support development of ICT is noted to slow down implementation of ICT in information resource management.

Inadequate diffusion of ICT in information resource management: This can also be attributed to lack of real awareness about the benefits of ICT, and the implications if ICT is not integrated in library operation.

Methodology

This study adopted a **descriptive** survey design. The population of this study comprised all the students in the University of Ilorin, Ilorin. Stratified random sampling technique was used to sample 50 students from 7 different faculties out of 15 faculties in the University of Ilorin, Ilorin that included Faculty of Arts, Faculty of Agriculture, Faculty of Management Sciences, Faculty of Life Science, Faculty of Physical Sciences, Faculty of Law and Faculty of Education. Three hundred and fifty respondents were selected using simple random sampling technique.

An instrument tagged "Information and Communication Technology on Library Use Questionnaire" (ICTLUQ). Copies of the research instrument were personally distributed to the undergraduate students in the University of Ilorin, Ilorin Nigeria with the assistance of two of my colleagues in the department. The data collected was subjected to analysis using SPSS 21 version. The generated research questions were answered using frequency counts and average percentage.

Results

Research Question 1: What are the available ICT facilities for library use among university undergraduate students of University of Ilorin?

Table 1: Available ICT Facilities for Library Use

ICT facilities	Available (%)	Not available (%)
Computer system	267(76.3)	83(23.7)
Telephone	245(70.0)	105(30.0)
Multimedia projector	189(54.0)	161(46.0)
Fax machine	202(57.7)	148(42.3)
Interactive board	284(81.1)	66(18.9)
CD-ROM	202(57.7)	148(42.3)
Electronic bulletin board	265(75.7)	85(24.3)
Online resources	255(72.9)	95(27.1)
Internet services	281(80.3)	69(19.7)
Digital library services	187(53.4)	163(46.6)
Video conferencing computers	103(29.4)	247(70.6)
Virtual laboratory visualizations	89(25.4)	261(74.6)
Electronic journals	102(29.1)	248(70.9)
Digital technologies like scanner and printer	115(32.9)	235(67.1)
Digital satellite system (DSS)	168(48.0)	182(52.0)
Average Percent	56.26	43.74

Table 1 shows the analysis of the responses given by the respondents on the available ICT facilities for library use among university undergraduate students of University of Ilorin. From the findings, 56.26% agreed to the fact that ICT facilities for library use among university undergraduate students of University of Ilorin were available while the remaining 43.74% agreed that the ICT facilities were not available. This implies that the respondents which represent 56.26% constituted the majority who agreed that ICT facilities for library use among university undergraduate students of University of Ilorin were available.

Research Question 2: What is the level of ICT facilities for library use among university undergraduate students of University of Ilorin?

Table 2: Level of ICT Facilities for Library Use

Responses	Frequency	Percentage
High	127	36.3
Moderate	168	48.0
Low	55	15.7
Total	350	100.0

Source: Field Work

Table 2 shows the analysis of the responses given by the respondents on the level of ICT facilities for library use among university undergraduate students of University of Ilorin. It was indicated that 36.3% agreed that the level of ICT facilities for library use among university undergraduate students of University of Ilorin was high, 48% agreed that it was moderate while the remaining 15.7% agreed that it was low. This indicates that the majority of the respondents which represent 48% agreed that the level of ICT facilities for library use among university undergraduate students of University of Ilorin was moderate.

Research Question 3: What are the purposes that university undergraduate students of University of Ilorin use library ICT facilities for?

Table 3: Use of Library ICT Facilities for by Undergraduate Students of University of Ilorin

Items	Yes (%)	No (%)
Supporting my course of study	278(79.4)	72(20.6)
Personal learning activities	156(44.6)	194(55.4)
Project writing	202(57.7)	148(42.3)
Examination preparation	212(60.6)	138(39.4)
Assignments/Term papers	262(74.9)	88(25.1)
Seminar	122(34.9)	228(65.1)
Leisure and entertainment purposes	219(62.6)	131(37.4)
Social activities	109(31.1)	241(68.9)
Downloading of materials	292(83.4)	58(16.6)
Average percent	58.8	41.2

Table 3 shows the analysis of the responses given by the respondents on the purposes that university undergraduate students of University of Ilorin use library ICT facilities for. From the items, it was indicated that 58.8% agreed that they used library ICT facilities on the items above while the remaining 41.2% disagreed that. This indicates that the majority of the respondents which represent 58.8% used library ICT facilities on the items above for different purposes.

Research Question 4: What are the challenges facing the effective use of Information and communication technology on the library use among university undergraduate students of University of Ilorin?

Table 4: Challenges facing the effective use of Information and communication technology on the library

Challenges	Yes (%)	No (%)
University library staff attitude to students	167(47.7)	183(52.3)
Technophobia	45(12.9)	305(87.1)
Inadequate provision of ICT facilities	106(30.3)	244(69.7)
Inaccessibility of ICT facilities	112(32.0)	238(68.0)
Frequent instability of university server	22(6.3)	328 (93.7)
Lack of adequate guide to the use of ICT facilities	248(70.9)	102(29.1)
Incessant Power Supply	45(12.9)	305(87.1)
Insufficient fund to replace facility components	143(40.9)	207(59.1)
Lack of maintenance culture	123(35.1)	227(64.9)
Software and License cost	192(54.9)	158(45.1)
Lack of affordable dedicated/specialized	111(31.7)	239(68.3)
e - learning centre		
Average percent	34.15	65.85

Table 4 shows the analysis of the responses given by the respondents on the challenges facing the effective use of Information and communication technology on the library use among university undergraduate students of University of Ilorin. From the items above, it was indicated that 34.15% agreed with the items on the challenges facing the effective use of Information and communication technology on library use among university undergraduate students of University of Ilorin while the remaining 65.85% disagreed. This indicates that the majority of the respondents which represent 65.85% disagreed that those challenges were affecting effective use of Information and communication technology on library use among university undergraduate students of University of Ilorin.

Discussion of Findings

The findings indicated that 56.26% of the respondents constituted the majority who agreed that ICT facilities for library use among university undergraduate students of University of Ilorin were available. This is in line with the findings of Ukachi (2013) who stated that the development of students is one of the major objectives of tertiary education and the achievements of the goals of the universities depends to a great extent on the provision and utilisation of services and resources provided by the university library.

It was revealed that 48% agreed that the level of ICT facilities for library use among university undergraduate students of the University of Ilorin was moderate. Ukachi (2013) concluded that the introduction of Information Communication Technology (ICT) facilities in the university libraries has tremendously enhanced information generation, access, storage and dissemination which improves and enhances the level of students' academic performance.

It was revealed that 58.8% used library ICT facilities for different purposes. Chowdhury (2001) maintained that the academic library is essentially aimed at capturing and holding the interest of the academic community by producing intelligent users of all types of documents; and to cultivate in users an appreciation of libraries as academic institutions. Krubu and Osawaru (2011) maintained that information and communication technology facilities have enhanced every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. Information and communication technology presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to students as well as university staff. It was indicated that 65.85% constituted the majority who disagreed that those challenges were affecting effective use of Information and communication technology on the library use among university undergraduate students of University of Ilorin. Jimoh and Igwe (2011) concluded that the use of library in the universities through ICT faces some challenges which could prevent effective use of library by the students.

Conclusion

The result of finding of this study has revealed the essence of ICT on library use among university undergraduate students of Unilorin. In a technologically changing world, there is a need for an approach to manage the change in the tertiary education sector. Such an approach includes ICT integration in the survival of tertiary education institutions in the 21st century that will increasingly rely on various forms of electronic delivery and communication that requires education to

be flexible with ICT facilities for library use. Thus, it is essential to consider planned technological change of university management.

Recommendations

The following recommendations were made:

The university management should endeavour to make adequate provision for the ICT facilities on library use among university undergraduate students of University of Ilorin. The university management should ensure that electricity infrastructure, computers, printers, copiers, word processing and spread sheets to improve on ICT facilities on library use among university undergraduate students of University of Ilorin are provided adequately. The university management should endeavour to organize adequate library orientation to the undergraduate students by the librarians working in the library. This orientation would expose students on how to search and retrieve needed information and also make them to know the relevance of the ICT facilities on library use.

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