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## RUNNING AND MAINTAINING AN ICT- BASED LIBRARY IN A DEVELOPING ECONOMY: THE COVENANT UNIVERSITY EXPERIENCE

BY

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### **Abstract**

*Information and Communication Technology has revolutionized library and information services delivery across the globe. The paper examines the Covenant University experience as a model to encourage libraries in developing economies that leveraging with international standards and benchmarks as well as best practices is possible. The superiority of ICT-based library over its manual*

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counterpart is highlighted. This includes: easy integration of various activities, increase in the range of services offered, provision of round-the-clock access to users, etc. The paper discusses inhibiting factors to running a hi-tech library in Africa and draws heavily from the Covenant University context to underscore basic infrastructures, skills, values and technological capabilities that are irreducible imperatives and prerequisites for efficient as well as effective running and maintenance of an ICT-based library. It concludes by admonishing that African libraries must not be left behind in this era of flat world and universal as well as unfettered access to global information. The panacea to intellectual inequity and lopsidedness between the developed and developing world is the application of ICT in information management and dissemination.

### **Introduction**

The library landscape has been altered and reshaped by the information and Communication Technology across the globe. Hitherto, the traditional method of gathering, storing, organizing, retrieval and dissemination of information is considered highly inadequate to cope with the avalanche of information available to library users from varied and diverse sources thus necessitating alternative knowledge management mechanism. The accelerated adoption and use of Information and Communication Technology (ICT) has resulted in the globalization of information and knowledge resources. (Islam and Islam, 2007; Chisenga, 2004).

Globalization would mean an entrapment and negative force to dependent economies while an unlimited opportunity to active participants in the flat world. The infrastructural enabling environment and up-to-date technologies that are capable of mainstreaming the higher education context of African nations into international centres of excellence are imperatives that must not be sidelined.

While ICT represents a most compelling and robust platform for ensuring the much desired qualitative education, its role in raising the standard of learning, teaching and research to the highest pedestal is also becoming increasingly visible. Universities need a strong library base to match the ever-changing education curricular and research needs of scholars. Great and vibrant libraries are now measured by the level of automation, Internet connectivity and accessibility to other libraries on real time basis, subscription to reputable online databases as well as quality of collections (NKIKO, 2007).

Samik-Ibrahim (2000) conceptualized a developing nation as one that is still in its formative stage and with such shortages as lack of funding, less productivity

and low levels of efficiency. These nations are further characterized by poor infrastructures, low per capital income, lack of potable water, low literacy level, and political instability, outbreak of diseases, epidemics, ethno-religious conflicts and wars. They are so preoccupied with these vicissitude to the detriment of planned and sustainable qualitative education. The prevailing economic conditions and government apathy have impacted negatively on the standard of university libraries in these economies. The overall effect of this is the falling standard in research, teaching and learning.

Except libraries are empowered to maximally impact its sophisticated environment by providing unfettered access to the global information network, universities will be highly deficient in achieving their basic objectives of integrating users to the transformations of the knowledge society. ICT therefore remains the fulcrum upon which economic, social and intellectual transformations revolve (Ajayi, 2003). No nation or institution worthy or aspiring to a world-class status can afford to jettison the omnibus effects of information and communications technology. Covenant university is a private mission university founded in 2002 by the Living Faith Church(Winners Chapel). It is located at Canaan Land, Ota, Ogun State, Nigeria. The university is committed to pioneering excellence and raising a new generation of leaders. The university's library is known as the Centre for Learning Resources (CLR). It is an imposing ultra modern structure on three floors reputed to be the largest in Africa. The total floor area of the complex is 11,300m<sup>2</sup>. It is designed as an imposing glass structure in its exterior design, which helps to speak of learning as the major activity in the university. It has a sitting capacity of 3500 users with the state-of-the-art facilities.

### **Literature Review**

Fundamentally, ICT is a concept, which deals with the notion of communication technologies in information handling. It is the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information (ALA, 1983). Akintunde (2004) recognizing the usefulness of ICT to the libraries, identified five broad areas of application, thus: management of library administration, processing of library materials, developing online, developing offline resources and providing service to clients.

The convergence of computer, telecommunication and other related technologies has provided an enhanced capability for the librarian to cope with the unprecedented explosion in the quality of knowledge and information. This presents a clear departure from the cumbersome, time-consuming, energy sapping and the drudgery characteristic of the traditional library services.

ICT has become a defining parameter in delineating libraries. The ones that are fully ICT-driven are regarded as modern while those manually-driven are termed 'traditional'. The international standard is that university libraries thrive on the application of this technology in their service delivery. To disregard leveraging with this benchmark is to accept extinction and irrelevance. It is in the view of the foregoing that Ajayi (2003) contended that:

Any industry that sidelines ICT has simply signed a "death warrant" on its continued relevance.

The library represents one area that has experienced this revolution. The fact that we live in knowledge based society with the need for universal access has made it necessary for the library to redefine its role and mode of service delivery. The traditional "brick and mortar" libraries need to give way to libraries that are not limited by geography. It is essential for libraries to reinvent themselves if they hope to develop and facilitate access to information in this digital age.

The application of ICT to library activities and services guarantees a solid base to assist scholars to meet their literature needs. The application of ITC to library operations greatly helps in the provision of efficient reference and information service, as well as the utilization of network operations such as cataloguing, authority control, inter-library lending and in the participation of international bibliographic control.

Cochrane (1992) drew attention to some of the advantages of ICT applications to library services by noting that:

- It allows easy integration of various activities.
- It facilitates cooperation and formation of library network
- It helps to avoid duplication of efforts within a library and between libraries in a network
- It eliminates some uninteresting and repetitive work
- It helps to increase the range of services offered
- It provides marketing opportunity of its services
- It ultimately saves and/ or generates money
- It increases efficiency

In a swift corroboration for the great potentials of ICT applications to library services, Henderson (1992) further outlined other benefits as follows;

- Provision of speedy and easy access to information
- Provision of remote access to information
- Provision of round-the-clock access to information
- Provision of access to unlimited information from different sources
- Provision of more up-to-date information to users
- Provision of information flexibility to be used by any individual according to his or her requirements.
- Facilitation of reformatting and combination of data from different sources.

The prevalence of traditional or manual tools for providing library and information service in most libraries in the developing economy is not a healthy phenomenon and as such needs to be addressed with a sense of urgency. The disadvantage of exclusion from ICT is unimaginable and better appreciated in the World Bank Report (1998) which underscores the global belief in the transformatory potentials of ICT, thus;

this new technology greatly facilitates the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formation and execution, widen the range of opportunities for business and the poor.

The changing role of the 21<sup>st</sup> century librarian as occasioned by ICT requires that he becomes versatile in technical skills, information technology skills, managerial skills, and teaching as well as written skills (Jestin, 2002). Information has become more complex and expensive. The traditional services, such as reference services, current awareness service and selective dissemination of information need to be supplemented by "Selective Elimination of Information" (SEI), which is the evaluation of information to ensure that only quality and relevant information are provided (Vaslanti, 2001). Librarians must be conversant with both basic and advanced internet search skills in order to retrieve with precision required relevant items from a myriad of hits from a search engine.

Aina (2004) lends credence to the centrality of ICT in modern librarianship as he notes that:

Information and communication technology (ICT) has radically transformed most of the services provided by a library. ICT is heavily utilized in the storage, processing and dissemination of information. It has made the organization of information very efficient, the delivery of basic information services more effective and the dissemination of information to users easier. It has eliminated a lot of routine and repetitive tasks in the library. ICT is now a core component of any library and information science curriculum at all levels. Any modern library and information professional must be knowledgeable in library automation, networking, internet surfing, database management processing software, statistical software etc.

It behooves the librarian that wants to remain relevant to be able to learn, unlearn and relearn. Arrogance and frigidity should be discarded. According to Meredith (2006), the following competencies must be reflected in the 21<sup>st</sup> century librarian:

- Ability to embrace change.
- Comfort in the online medium
- Ability to learn new technologies
- Enthusiasm for learning
- Basic internet search skills
- Project management skills
- Ability to evaluate library services
- Vision to translate traditional library services into the online medium
- Ability to sell ideas/ library services (marketing skills).

### **Covenant University Library: The ICT Platform**

The library is unarguably the heart and life-line of any citadel of learning. The quality of teaching, learning and research is predicated on the robustness and sophistication of the institution's library. Centre for Learning Resources (CLR) started in 2002 with an in-house software using Microsoft access. In 2004, the library migrated to Alice, an international library software used in 85 countries and by over 10,000 libraries. The Covenant University library has fully computerized all routine activities and can boast of a functional virtual library service, which enables staff and students access the Online Public Access Catalogue (OPAC), and electronic Resources from offices, where there is a computer terminal that is linked to the university network.

### **Services of the Library**

- ***Electronic Databases and Online Journals***

The university library provides access to electronic databases such as EBSCO, JSTOR, AGORA, HINARI, OARE and Science Direct as well as NUC virtual library. These databases permit access to over 40,000 electronic journals across all disciplines thus, creating an enhanced resource-base for teaching, learning and research in the university.

- ***Multi-media/ Research Section***

Besides the computers in the offices, laboratories and the cyber cafes in the university, the library provides 40 state-of-the-art personal computers in the multi-media section for access to electronic resources. It is fully air-conditioned, typical of Covenant University environment, with high speed internet connectivity, printers, projector webcam facilities, CD-ROM facilities. This permits research student and staff to:

- **Access Electronic Books and Journals**

- Access other web-based literature
- Conduct online literature searches for their projects/theses, seminar presentation and other related assignments.
- Access collections of other reputable libraries.
- Provide opportunity for tele-conferencing and online discussion groups.



- **Wireless access points**

Wireless hot spots exist in the library, the laboratories, the colleges and residential areas at the various designated hours, for maximum utility. Within these zones, wireless LAN enabled devices ranging from laptops, desktops fitted with wireless cards and handheld devices connect seamlessly to both the intranet and internet.

- **Internet Service**

Internet access to the library is provided using fibre optic cables. The Internet service is very functional, accessible to users 24hour in a week (Saturdays and Sundays inclusive). University library website exists featuring regularly the library electronic bulletin.

- **Online Public Access Catalogue**

Unlike most libraries in Africa with their catalogues held in cabinets containing catalogues cards, there is no single card catalogue in the Centre for Learning Resources. Cataloguing details are digitized and made accessible through several networked computer workstations within the campus. CLR has 68 computers and has installed a proven library software package, ALICE, equipped with a network server (2.8 GHZ processor) and a number of PCs distributed in a LAN within different sections of the library. This system is used to create bibliographic databases, for acquisitions, cataloguing, serials control, CAS and SDI services.

- **Circulation Services**

Materials are checked-in and checked-out using barcodes into the computer systems. This automatically updates users loan file and data. Renewal of books is either by phone or at the circulation. Profile of all authorized users as their passport photographs are usually captured digitally using the ALICE registration module.

- **Selective Dissemination of Information**

Online referencing services as well as selective dissemination of information are done through electronic mailing system. Current and relevant materials are usually sent to the e-mail boxes of Professors and Head of Departments. Enquiries to the university library are routed to a designated e-mail at sdicl

[2008@yahoo.com](mailto:2008@yahoo.com) and responses communicated promptly to respective addresses.

- ***Escapist Reading***

This section is located on the first floor of the library. It is tastefully equipped with large screen Omatek Television, DSTV, giant-size LG air-conditioner, and 5 different sets of settees. This section provides access to educational video documentaries, CNN, TBN and other information bearing networks. It is a blend of recreation and learning hence the term "escapist reading".

- ***Spiritual & Leadership Development Section (SLD)***

In pursuit of the mandate of the University in developing a new generation of leaders, a section in the library called SLD was established. This section is fully multimedia and equipped with leading books on leadership and spiritual development. Audio visual facilities are provided in the form of televisions, videotapes, audio tapes VCDs etc. It is enriched with resources to enable the university achieve the mandate of the total man concept (TMC).

- ***Reprographic and Bindery Services***

Photocopying services are available to all users at a reasonable rate. This involves both enlargement and reduction of font sizes. The digital photocopiers have embedded a print option, which converts information from electronic format to text. There is also in place a functional bindery, which undertakes binding projects and repair of worn-out books.

- ***Electronic Security System***

With library costs rising on every front, protecting collection has become more necessary than ever. The library procured and installed a 3M Detection system model 3802 with dual-corridors. Tattle strips are inserted into the books or journals. The materials are normally desensitized when checked out and resensitized upon return. However, the electronic gate detects any material that was not desensitized and triggers off an alarm. This provides watertight security for books and journals and acts as both real and psychological deterrence to persons contemplating stealing of library items. CLR is on the verge of installing closed circuit cameras (CCTV) to forestall possible ripping-off of pages.

### Enabling Factors For a Strong ICT-Base

- The university policy to pioneer excellence at a leading edge, clearly entrenches a philosophy that ensures the university deploys ICT and maintains best practices in all its activities. To this end, there is in place a 3.8m earth station VSAT dedicated to provide a very robust 2meg uplink and 4meg high speed downlink bandwidth. This ensures 24 hour Internet connectivity.
- Adequate funding and most enabling environment is provided by the Management and Board of Regents. Books, Journals and other library equipment are not only heavily budgeted for but funds are usually released as and when needed.
- **Uninterrupted Power Supply**  
The University is directly connected to the national grid and there are over thirteen (13) 500 KVA standby generators. There is therefore 24 hours uninterrupted power supply devoid of power down time. This represents a non-negotiable infrastructural imperative for effective ICT-based library system.
- **Computer Literacy Level of Staff**  
The University ensures the recruitment and retention of highly motivated staff in the library. At the point of entry, computer literacy which is defined as the ability to use at least 3 packages of Microsoft offices is made compulsory. The aversion and anxiety characteristic of personnel in adapting to ICT-based system are conspicuously absent.
- **Technical Support System**  
There exists a unit called Centre for Systems and Information Services (CSIS) with experienced and seasoned Computer Engineers both in hardware and software specialization. This unit undertakes the purchase, installation, maintenance networking and repair of computer systems in the University. One of such Engineers is permanently attached to the library and could be reinforced by others in the event of a more challenging task requiring such. The ALICE technical support is also always handy.

- **Daily back-up System**

There is a daily back-up of all transactions on an extra hard disk on 2.8 GHZ server. Each back-up is dated and in the event of loss of data, the most current is used for restoration. Again, ALICE software has a system check mechanism which ensures that all entries are achieved. This system check is performed on daily basis.

- **User Education**

Staff and students are usually trained practically on regular basis to ensure optimal utilization of the facilities and resources. There are also dedicated help-desk officers who ensure that users are able to navigate the system and ferret out relevant materials from the myriad of available resources.

### **Inhibiting Factors to Running an Ict-Based Library in Africa**

#### **-Epileptic power sector:**

Baring few countries in southern Africa, most African states cannot sustain uninterrupted power supply. The engine upon which ICT-based activities thrive on is electricity. ICT gadgets would be mere decoration if there is no current to power same. The cost of buying diesel to maintain a generating set is colossal. The power and energy sector must receive immediate and accelerated attention in order to rescue libraries from obsolescence.

#### **-Lack of sufficient financial support**

Most government institutions are grossly under funded. Capital projects are neglected since the funding only concentrates on paying salaries. Inadequate financial support has made possibility of full ICT application in public libraries more complex. However these institutions must actively engage the corporate world to assist through their social responsibility initiatives. They should be told to partner with universities to produce astute manpower that invariably becomes a most valuable asset to the industry. Enough of bemoaning the situation, there must be a way out.

#### **-Psychological Barriers**

The reluctance of library personnel to accept new technologies hinders the development of ICT-based libraries. Experience has shown that in places where the librarians are passionate about ICT, the platform is revolutionized. Well trained and skilled personnel are essential ingredients for implementing

ICT in libraries. Steps should be taken to develop properly trained and competent people for this purpose.

### **Lack of Resources**

ICT means more than the use of computers. Less attention has been paid to other communication and related technologies, some libraries have no internet connection. Most have a circulation operation. They have no barcode readers for use in automated circulation. Seminars, workshops should be geared to creating awareness among library authorities about the advantages of ICT, Universities in sub-Saharan Africa must not forget that their product (graduates) must be equipped to be globally competitive or else they will be local champions without international relevance.

### **Conclusion**

Information and Communication Technology plays a pivotal and indispensable role in libraries. It provides the basis for a virtual library where the world's information resources are gathered for the use of the clientele. It has broken down the distance barrier in communication. It has greatly influenced the practice of librarianship. Traditional media like books, journals or newspapers stimulate just one sense that is vision. However ICT systems stimulate vision as well as hearing and touch. Libraries in developing economies must embrace ICT in a more radical approach, otherwise the gap between the information-rich and the information-poor will continue to widen.

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