ENHANCING E-JOURNAL USE IN KENYAN UNIVERSITIES

BY

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ABSTRACT

Programme for the enhancement of Research Information (PERI) facilitates access to e-journals through subsidized procurement to Kenyan Universities and research institutions. Since most of the institutions had been connected to the Internet through Kenya Education Network (KENET) project, it was perceived that the problem of Internet connectivity was over. To maximize on the utilization of the e-journal, the Kenya Librarian and Information Services Consortium was formed comprising of Universities and Research institutions. The consortia subscribes to over 22 online resources and databases globally. However, the consortia membership and the resource utilization depict low levels. There are reasons for reduced membership and low level utilization of the e-journals It is to be noted that the issue of utilization vary among institutions. There are big users, small users and none users but all with expressed need for the e-resource within their education and research institutions. This paper avails investigations into the scope of library automation, extend of ICTs understanding and applications, the nature of internet trouble shooting, and end-user e-resources satisfaction among the consortium members and the reluctant but potential ones. Difficulty issues involving accessing and downloading of the e-journals are explained in relation to the bandwidth. The research methods include published African ICT case studies. Discussions and points of view from Librarians or their agents, topical discussions among the Kenya Librarians and Information Services consortia meetings and some feedback from PERI country coordinator.

INTRODUCTION

The high cost of printed journals has generated low output of research in Africa. Research is one of the main activities of African Universities besides teaching, learning and extension service processes. The emerging programme for the enhancement of Research Information (PERI) has helped to overcome the challenges of accessing research literature for scholars in Africa. Through PERI, all public and private Universities including research institutions can access the e-journals. Gearing to support research in Africa, PERI has four in built programme component of e-journal capacity building involving e-journal procurement, Internet training, journal on line programme and journal management workshops.

Despite PERI initiative and activities, the African resolve to access e-journals through the Universities remains challenging at all levels of facilitation including ICT development. These challenges can be explained within the poor quality service and the low levels of e-journal exploitation. The situation is exemplified with poor output on research, publication and dissemination. This paper therefore argues that for the African Universities to be seen proactive in e-journal utilization, pertinent issues in automation, ICT understanding and applications, Internet trouble shooting and end-users have to be addressed.

ICT APPRECIATION / UNDERSTANDING

ICTs are developing rapidly in all sector of life. These developments are so far producing new opportunities for national development. It is noted that intelligence in computing makes it possible to search through large volumes of information. With the developments in wireless and satellite technology, the concept of office is being redefined along side individualized communications. Africa stands to benefit immensely only if ICT development is seen as part and parcel of national development, an opportunity for accelerated and increased development.

Information and Communication Technologies (ICTs) are all those instruments, modes and means both old and new through which information and or data are transmitted or communicated from one person to another or from place to place. Included among ICTs are: the telephone, facsimile, video, television, radio, print material- (newspapers and books) and computer-based or computer mediated modes – (e-mail, chat and news groups, list servers, electronic conferencing, CD-ROMs, websites). Everything built around Internet ushers in a modern phenomenon of globalization.

REVIEW OF THE PROBLEM

It is appreciated that over 180 authorities and sources on information and communication technologies in Africa were reviewed. African ICT case studies, including live experiences were analyzed to define the issues that influence utilization of e-journals in Africa generally. This analysis of ICT trends and prospect was done targeting Africa south of the Sahara to attain the levels and magnitude of the issues affecting the e-journal use. The issues that came up prominently were:

- Automation / ICT strategies.
- National telecommunication infrastructure policy.
- ICTs / telecommunication infrastructure availability
- Broadband networks.
- Staff competencies/skills.
- End-user training.
- Human resource and staffing levels.
- PCs / workstations.
- Internet trouble shooting/virus menace.
- Back-up services.
- Capitations / subscription payments.
- Internet mode of access - IP vs Password
- Connectivity vs LAN / WAN
- Electricity supply / reliability.

SURVEY METHOD

This study involved all the public and private universities in Kenya. Only those Universities listed by Kenya Commission of Higher Education were classified and used for the purpose of this exercise.

The study aimed to identify which of the above generated issues under (review of problem) indeed affected the e-journal use in Kenyan Universities in one way or another.

RESPONDENTS

The University Librarians or their agents were asked to identify from the listed areas of reviewed problems what actually affect them.

The Universities involved were seven (7) public universities and seven (7) private universities.

RESULTS

The University librarians who responded actually felt affected by all the listed problems in one way or another as the study may reveal as follows:

(i)   All universities were automated but the levels differed from full to partial.

(ii)   Only two libraries had ICT strategic plan/policies.

(iii)   All universities were affected by the inappropriate national telecommunication infrastructure policy. The areas affected mainly were African Virtual Universities project (AVU) for lack of VSAT clearances and use of low bandwidth leased lines.

(iv)   Inadequate broadband networks affected all Universities but attributed the problem to the state bureaucracy. The need for broadband networks was stressed.

(v)   Internet trouble shooting is common issue with the intrusion of internet virus as the major problem.

(vi)   Inadequate workstations is an issue affecting all universities ranging from 1 -20 Pcs. Given the high numbers of users/readership, the ultimate required numbers range from 50 – 500 (and above).

(vii)   Inadequate competencies/computing skills for staff is spelt as a problem affecting all libraries. The need for staff development and training in the continuity ICT changing environment was stressed.

(viii) Lack or prompt back-up service affects all libraries. The online vendor back-up service is limiting. There is need for institutional/service departments.

(ix)   None subscriptions – payments affected 2 libraries with slow payments, 1 library failing to pay for two consecutive years. All the affected libraries are public universities and the latter being one of the heaviest e-journal users.

(x)   End-user training affected all universities at different levels. Only 5 universities using IP access experience user complains.

(xi)   Inadequate staffing levels affected all universities.

(xii)   IP vs Password e-journal accessibility affected six(6) for the former and eight (8) for the latter.

(xiii) Prices of connectivity all Universities were found discouraging. It is not worth for service rendered given that download and upload is slow with a lot of waiting time.

(xiv) Speed of connectivity is a real problem to all Universities currently operating with kilobits per second (kb/s) connectivity instead of high speed gigabits per seconds (Gb/s).

(xv)   Power surge – low/high voltage fluctuations and blackouts are frequently affecting all Universities.

LEVELS OF COSTRAINTS

Experiences drawn from the African case studies and with Kenyan situation indicate that the use of e-journals is largely being affected at various levels of facilitation. These levels are:

National
- Policies relating to ICTs / information
- Telecommunication infrastructure – poor quality services
- Lack of computer technology
- Lack of computer training – facilities / technicians
- Alternative effective Internet service provider
- Expensive but low quality Internet services

Institutional
- Lack of institutional information and communication strategies
- Lack of training on the strategic use of the Internet
- Lack of staff with appropriate ICT knowledge and skills
- Low capitation and budgetary allocation to buy PCs, software and sustainability
- Lack of end-user training in the use of e-journals

International
- International efforts sustainability; a case of Kenya Education Network.
- Internet trouble shooting / virus menace
- Donor fatigue

Internet / Networks
- Readiness in effective Internet use – lack of indicators
- Segmented cooperation / consortia among librarians
- Fragmentation of the information provision industry – lacks integration
- Lack of none commercial African information observatory body

E-Journal service
- Service sustainability
- Internet trouble shooting
- Few people have exposure to the service

- Reduced membership through the consortia

INTERNATIONALIZATION OF ICTs IN AFRICA

African Global Information Infrastructure (GII) (Leland Initiative)

In February 1995, the US Agency for International Development launched the African Global Information Infrastructure (GII) Gateway project (2001) commonly referred to as the Leland Initiative. This was due to recognizing the power of the Internet and its potential as an important development tool for Africa. It was noted that in early 1995, very few people in sub-sahara Africa had heard of the Internet. Few saw any potential for its use in Africa whose cost was prohibitively about US$80 per month for five hours of usage. Hence $15 million project targeted extending Internet connectivity to a minimum of 20 sub-sahara African nations, facilitating and encouraging Internet use by Africans.

The Leland Initiative's Strategic objective and methodology were:

(a) Create an enabling policy environment to facilitate electronic networking and access to all technologies.

(b) Strengthen the local telecommunications infrastructure to facilitate Internet access and support a local Internet Service Provider (ISP) industry to ensure the local availability of reliable, accessible, and cost-effective Internet access.

(c) Achieve broad-based utilization of information and global information technologies among USAID's development partners to promote sustainable development. In the process, issues facing the African to utilize the technology were identified as:

(i) National level

- Telecommunication policies
- Poor quality and service of telecommunication infrastructure
- Lack of computer technology
- Lack of computer technicians or training facilities.
- Absence of competitive Internet service Provider industry
- Expensive and poor quality of current Internet services.

(ii) Institutional level

- Lack of awareness of the Internet and its potential use.
- Lack of institutional information and communications strategy.
- Lack of adequate training on the strategic use of the Internet.

Although very few people had exposure to the Internet aside from what they had learnt formally or informally, their understanding of and appreciation for the importance of information sharing was rated high.

African's Information and Communication Infrastructure (ACACIA)

In 1996, African ministers and government endorsed the African Information Society Initiative (AISI) as the framework within which to build Africa's information and communications infrastructure. In response Canada initiated Africa's Information and Communications Infrastructure(Acacia) Initiative whose integrated programme of research and development addressed issues of ICTs, infrastructure, policy and applications. Acacia original objectives were:

- A demonstration of how information and communication technologies can enable communities to solve development problems in ways that build upon local goals, cultures, strength and processes.
- The construction of a validated body of knowledge and networked dissemination process around effective approach, policies, technologies and methodologies.

Acacia original vision was to target the disadvantaged and mainly rural communities which were isolated from information and communication networks and the marginalized groups within African communities including youth and women. Its key element was to use ICTs in the search for solutions to local development problems.

Acacia's efforts were concentrated in Sub-Sahara covering Mozambique, Senegal, South Africa, Uganda, Mali, Benin and Tanzania in provision of telecenters.`

According to Acacia Initiative, the ICT implements to use in Africa are:
- Cost of Services
- Cost of equipment, maintenance and supplies.
- Inadequate physical facilities
- Poor management
- Hours of operations
- Poor publicity
- Literacy and Language

World Bank- Information for Development Programme (INFODEV)

It is markedly known that enrolment ratios for education represent 51 per cent in the OECD countries, 21 per cent in middle income countries and less than 6 per cent in low- income countries of Africa.

Yet the importance of access to such education is its contribution to human resource development for participation in development, adaptation and diffusion of knowledge or innovations in the country. Besides, creation of new knowledge and ensuring continued existence of new knowledge through research, advanced training, serving as a conduct of knowledge transfer, adaptation and dissemination.

But the higher education status in Africa is bleak and in crisis to benefit the rural poor. The crisis story is revealed in African Universities plagued by meager educational budgets, broken-down equipment and out of date and looted libraries. The institution require sustainable attention to become effective instruments for technological innovations, scientific and agro-industrial research and general development.

Given the above problem, the World Bank through its Information for Development Programme (InfoDev) created the African Virtual University (AVU). Basically InfoDev supports innovative projects that use Information and communication technology in addressing development issues and problems.

Bridging the digital divide through new types of learning and education has taken fresh dimension of lifelong learning. Home bound learning offers the students opportunity to those accessing ICTs from any remote place. By 2000, the proportion of the population below age in developing countries was 56 per cent while 80 per cent this age group reside in the rural areas of Africa. It is projected by 2025 over 100 million children of school going age will be without formal schooling world wide from whom over 80 per cent will be without rural based of the developing world. This youthfulness of school going age has significant implication for demand for teachers and related facilities. Yet still there is evident difficulties when resources for teacher training, hardware, software together with electricity remain scarce.

The aim of telematics for rural African development on distance education targets those people known to be disadvantaged and excluded from formal education by using Internet and other wireless wide-area bandwidth. There is therefore strong need to devise effective strategies to

incorporate new ICT-based learning tools. This will win the efforts of African countries to getting young people into primary and secondary education and subsequently beyond.

AFRICAN ICT TRENDS FOR GLOBAL INFORMATION SYSTEM

Kenya Education Network (KENET)

Kenya Education Network (KENET) was initiated in 1999 under Leland and Democracy for Development Initiative sponsored by U.S.A through USAID. Its main objective is to establish sustainable communication and networking among educational and other institutions in teaching, research, tele-medicine. In echoing the wider thinking of LELAND initiative of empowering the public with ICTs for ease of information access, KENET other object is the sharing of other information resources with the public at affordable cost.

The Universities and other institutions covered under (KENET) project are to reach the public and allied communities through one of their core functions of community extension services and linkages. Through this arrangement, the benefits of ICTs and information access would trickle down to the end-users within the rural or community which would not have been possible to initiate similar programmes.

Currently KENET has concentrated in Universities and a few educational institutions. The benefits as partly intended by the sponsors because the project activities are concentrated within the member institutions as the following activities reveal about KENET:
- Establish an Internet infrastructure with a permanent high speed (minimum 2MB) for member institutions. In addition, establish and or improve internet infrastructure within each strategic institution.
- Negotiate for affordable tariff with Telkom and requesting CCK to establish special regulations for educational institutions for the provision of Internet accessibility.
- Management and communication technology to support, operate and manage KENET
- Develop and improve local content and capacity building.

KENET Progress

KENET has 26 members drawn from public and private Universities, national polytechnics and a few other educational institutions in Kenya. These institutions through extended linkage and outreach activities are supposed to reach to the communities around them. Universities like Moi, Methodist, Western University College - Kakamega, Daystar, Kenyatta, Egerton, Jomo Kenyatta can easily reach its immediate rural based communities once they establish their own ICT base. It

is for particular noting that KENET initiative provides for the opportunity, once the institutional ICT barriers are overcome, that will minimize the risks of exclusion of rural knowledge-poor societies of Africa. Institutions holding KENET membership have a responsibility to accelerate the pace of creating knowledge societies within the information age frontiers they are enjoying. They cannot remain ivory towers for the elite group of the society for ever. Universities have to network with society outside in order to play a vital function of knowledge creation and dissemination. Hence the ICTs adoption and adaptation will play the vital role to facilitate faster access and sharing of the existing knowledge and information between them widely and cheaply.

AFRICA VIRTUAL UNIVERSITY

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AVU is therefore described as a satellite based distance education project. It is a network of Internet facilities and with its own website thus using multimedia approach to teaching and learning. The delivery is done through live or pre-recorded lectures transmitted by satellite and viewed on a T.V. screen plus handouts, textbooks and other materials transmitted electronically.

The first participating members who were connected to Universities in Europe and USA in English speaking countries were Kenya, Uganda, Tanzania, Zimbabwe, Ethiopia and Ghana. Other Francophone countries joining (AVU) were Benin, Burkina Faso, Cote D'Ivoire, Mauritania, Niger, Rwanda, Senegal and Togo while University of Massachusetts and New Jersey Institute of Technology (USA) and University College Galway (Ireland) were the participating institution.

WAY FORWARD

It is noted that the levels and magnitude of e-journal utilization vary among countries and institutions in Africa. However, the issues identified as impacting negatively in using e-journals have to be minimized to ensure the Universities reap maximum benefit. Kenya as a nation has to ensure the availability of efficient, reliable and affordable e-communication services in the

Universities in order to improve on teaching, learning and research activities. More so, the Universities have to reflect on their readiness to embrace ICTs by adopting a clear ICT readiness criteria focused on:

- Organizational information and communication strategy:
- Recognition of the contribution of the Internet to the organizational mission
- Crucial role of the library to champion ICT
- Fostering capacity building in ICTs
- Provide for ICT institutional sustainability. **But Also** .
- Libraries be facilitated to provide end-user training in ICTs
- Existing Library Consortia help put in place an African Information market observatory body.

CONCLUSION

It is evident from this discussion that African Universities are keen to embrace the Internet for purposes of exploiting e-journals. Their undoing lies in capitation, human resource, cooperation in resource sharing. However concerted efforts have to be directed towards the more pressing technical issues of wider automation, ICT applications, expanding the bandwidth and increasing the number of gateways. The efforts of ICT internalization in Africa must be supported by fostering electronic content development, expanding virtual libraries and helping to develop Internet based education. There is urgent need for ICTs structured policies at national levels to accelerate the base of ICT development and application. While the growth of Librarians and Information professionals consortia will ensure togetherness in reducing the prices of e-journals. Yet still there is a greater need for a formation an independent body whose role at national or regional levels may oversee and act as the African Information market observatory body.

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