



## ASSESSMENT OF THE UTILIZATION OF MAKERERE UNIVERSITY ELECTRONIC INFORMATION RESOURCES BY ACADEMIC STAFF: CHALLENGES AND PROSPECTS.

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*ABSTRACT: The study investigated the utilization of electronic information resources by the academic staff of Makerere University in Uganda. It examined academic staff awareness of the resources' availability, the types of resources provided by the University Library, factors affecting their utilization, problems faced, and it offers recommendations for the way forward. The study was both qualitative and quantitative in nature, employing questionnaire, interview and content analysis methods. Findings reveal that the University provides most of the electronic information resources and most academic staff were aware of their availability. Findings revealed a number of factors affecting electronic information resources' utilization and the problems academic staff face. Major conclusions are that despite a number of problems inhibiting use of these resources, a number of academic staff are aware of the availability of these resources and some use them. Major recommendations include among others: enhancing of Information and Communication Technology (ICT) network or bandwidth, increasing the number of Information and Communication Technologies, decentralizing of service provision, and increasing marketing strategies.*

### **Introduction**

Makerere University Library introduced a dial-up based Internet service through a commercial Internet service provider in 1997. The aim was to facilitate information delivery by providing direct access to electronic information resources via the Internet. The first Internet access centre of the University was based in the Main Library. As a result of this, Internet sites, World Wide Web products, online search services, Compact-Disc search services, etc., are being provided. Some of these resources have been made available through PERI (Programme for Enhancement of Research Information) with funding from SIDA/SAREC.

Makerere University has started programmes of integrating Information and Communication Technology (ICT) in all its functions to improve its service delivery. The utilization of the electronic information resources in the University Library showed that the search process was slow, resulting in dissatisfaction and consequently frustration of users (Main Library Registers, observation and personal communication, 2004).

The shift from printed forms of information resources to electronic information materials should lead to better quality and efficient and effective research if used by academic staff and students. Although the University Library management has conducted workshops (some with donor support, - Carnegie) and several times communicated to academic staff, they have not effectively utilized electronic information resources. Few document request forms are submitted in a month for articles through electronic journals, and it is the same scenario with the Document Delivery Services and other scholarly databases.

This study examined why the academic staff of Makerere University had not effectively utilized electronic information resources. The major objectives of the study were to establish the type of electronic

information resources available, establish the factors affecting their use, identify problems associated with their utilization and make recommendations on how best such resources can be utilized. The study would provide vital information to University and library management to identify both administrative and technical bottlenecks and measures of dealing with them.

### **Review of literature**

The introduction of ICT and its continued growth and utilization in information centers and libraries has resulted in a number of studies. Mutshewa (2000) asserts that traditional libraries stored different types of information resources in different formats in their buildings. Various tools and guides to locate these resources were available only when a patron physically visited the library. The situation has now changed. With the advent of computers and telecommunications technologies, libraries and information services can now provide access to these resources through workstations such as personal computers (PCs) and terminals that are in patrons' offices, as well as in the library building (Mutshewa, 2000).

According to Nwalo (2000) information technologies found in libraries at present can be divided into three categories: computers, storage media and telecommunications. These three aspects, working together, have brought about great improvement in the quantity and quality of library services to users and an amazing reduction in the delivery time. The fusion between computers and telecommunications has enhanced the development of information networks around the world, the high point of which is the Internet.

Cochrane and Henderson (1992), assert that libraries are computerizing their services all over the world and, to take advantage of the immense benefits in information management offered by Information Technology (IT), a library must first computerize its services. But despite this reality, the pace of library

automation in Africa is still very slow, and this should be a cause for serious concern.

Various studies have examined the use of CD-ROMs in Africa, especially in libraries (Nwalo, 2000). Apart from storage space economy, the CD-ROM provides access to information held by important databases without laying cables. This is very significant considering that lack of good telephone services is one of the major obstacles to computerization and networking by libraries in Africa.

At present libraries are providing electronic access to a wide variety of resources, including indexes, full-text articles and complete journals. Electronic journals offer a solution to some of the problems facing the management of the academic journals because they are space saving, enhance speed of communication, provide powerful searching tools, provide immediate access to one's desk and provide facilities such as integrated text, hypertext links and multi-media that the printed journals cannot offer (Sweeney, 1997).

A survey of the situation among university libraries in Africa, undertaken by the London-based International African Institute (IAI), encapsulates a number of problems such as gross under-funding, inadequate IT infrastructure, donor-dependency, poor collections and high postage/delivery charges as some of the constraints that have militated against Document Delivery as an alternative to large core collections in sub-Saharan African university libraries (Kisiedu, 1999).

Merrill (1996) argued that online database searching skills would help lecturers to compile bibliographies on particular subjects and direct students in their course works. Scholars and researchers would be using the electronic medium for information acquisition, usage, and sharing (Buckle, 1994).

According to Wood (2000) our society's digital revolution has transformed the traditional quiet world of libraries. Open to debate is the exact form and role we can expect for academic libraries in the beginning of the new millennium. Dramatic changes are in the offing for academic libraries as a result of the digital revolution, such as: changes in the form of the library, changes in the relationship between an institution's library and its Information Technology Division, changes in the way collections are acquired, organized, stored, and delivered, changes in the design of library buildings and facilities, and participation by libraries in consortia (Marcum, 2002). Al-Baridi (2000) says that an increasingly important function of academic libraries today is the provision of information in electronic formats. In fact, libraries have been moving towards an electronic environment, in which sufficient computers are necessary for patrons to access information. Electronic information resources greatly increase access

to information and its implementation must be carefully planned to ensure optimal use of space, money and time (Dickinson, 1994).

Despite developments in the use of information technology in university environments in the region, the countries of Eastern and Southern Africa and the whole sub-Saharan region still lags behind compared to their Western counterparts (Mutuwa, 2001). In the 1996 status report on 19 university libraries in the region, the adoption and use of IT was found to be quite low (Rosenberg, 1998). Mutuwa (2001) concludes that in general most university libraries within the region have limited access to modern computing and communications technology, so it is difficult for teachers and students to keep abreast of current developments in their academic areas.

Many of the libraries have progressed in their implementation of ICTs, but they have relied heavily on donor funding (Nwalo, 2000). Rosenberg (1997) wonders what will happen when donor aid ceases. Since the time of the survey, no library had made any practical proposals for financial sustainability.

#### **Methodology**

Both qualitative and quantitative research methods were used to get respondents experiences, views and suggestions on the utilization of electronic information resources by academic staff at Makerere University. Quantitative research design was used to determine frequencies and percentages. Qualitative research was applied because it delves into where and how policy and local knowledge and practice are at odds and it addresses real as opposed to stated organizational goals (Marshall, 1999). The population consisted of 1024 academic staff of Makerere University drawn from the 17 faculties, institutes and schools. Stratified random sampling strategy was used to select the 300 respondents. Questionnaires, interview schedules and document analysis were used to collect data. The data analysis was done using SPSS to run frequencies and percentages, and the data presented in form of explanatory notes and tables.

#### **Discussion of findings**

Of the 300 questionnaires administered, 157 (52%) duly filled questionnaires were returned. This low rate was a result of academic staff's lack of time. However, this did not affect the reliability and validity of the study since methodological triangulation was used.

Respondents were selected from the 17 faculties, institutes and schools of Makerere University. Of the 157 respondents, 122 (77.7%) respondents were male while 35 (22.3%) were female as indicated in the table below.

**Table 1 Respondents in faculties**

Faculty	Male	Female	Frequency	Percentage
Law	3	2	5	3.1
Science	13	4	17	10.8
Arts	18	9	27	17.2
Medicine	16	5	21	13.4
Veterinary Medicine	13	2	15	9.6
Education	3	2	5	3.2
Institute of Psychology	5	2	7	4.5
Forestry	5	2	7	4.5
Institute of Environment	3	-	3	1.9
ISAE	5	-	5	3.2
IACE	3	2	5	3.2
Agriculture	8	-	8	5.1
EASLIS	1	1	2	1.3
Social Sciences	8	-	8	5.1
Fine Art	3	3	6	3.8
Institute of Economics	2	-	2	1.3
Library	1	1	2	1.3
Technology	12	-	12	7.6
<b>Total</b>	<b>122</b>	<b>35</b>	<b>157</b>	<b>100.0</b>

**Table 2 Respondents according to their Designations**

Title	Male	Female	Frequency	Percent
Professor	6	1	7	4.5
Associate Professor	5	-	5	3.2
Senior Lecturer	22	5	27	17.2
Lecturer	53	14	67	42.7
Asst Lecturer	18	6	24	15.3
Teaching Assistant	15	6	21	13.4
Librarian	2	3	5	3.2
Researcher	1	-	1	0.6
<b>Total</b>	<b>122</b>	<b>35</b>	<b>157</b>	<b>100.0</b>

#### **Availability, access and general use of computers**

Respondents were asked about the availability of computers in their faculties, schools, institutes or departments. 153 (97.5 %) indicated they had computers in their faculties or departments while 4 (2.5%) respondents did not. Among those that had computers in their faculties, schools, institutes or departments, only 95 (60.5%) had them in their offices

while 62 (39.5%) respondents had none. Findings indicated that 66 respondents (42%) were connected to the Internet, while 77(58%) were not connected. Fourteen (8.9%) did not respond to this question.

Respondents were asked about their computer skills and accessibility to electronic information resources. Findings revealed that 84 (53.5%) of the respondents had intermediate skills while 52 (33.1%) were

experienced in computer use. Twenty-one respondents (13.4%) revealed that they were still beginners. Accessibility to the electronic information resources was also considered. 104 (66.2%) respondents indicated they had access to these resources, 52 (33.1 %) had no access to them, while 1 (0.6%) respondent ignored the question.

#### **Awareness about university electronic information resources**

Respondents were asked about their awareness of the electronic information resources at the University. 140 (89.2%) of the respondents stated that they were aware of the availability of these resources while 17 (10.8%) were not. Despite academic staff awareness of these resources, only 55.7% were aware and had ever used them, while 44.3% were aware but had never used them, leading to major issues of utilization and non-utilization of Electronic information resources.

#### **Non-utilization of electronic information resources**

Findings revealed that 79 (50.3%) respondents had ever used these resources while 78 (49.7%) had never used them.

#### **Reasons for non-utilization of electronic information resources**

Of the respondents who had not utilized electronic information resources, 14 (17.9%) respondents mentioned they had no access to the services. Twelve (15.4%) indicated that they did not know what electronic information resources were, and hence could not use them. The same number of respondents mentioned lack of facilities to use and lack of time as limitations. In this category of non-users 10 (12.8%) said they were completely not aware of these resources and actually needed more information about them. Some respondents cited other reasons like overcrowding in the library computer laboratory, failure to get passwords from the library staff, lack of information about electronic information resources, and lack of familiarity with the same resources.

Despite these reasons, the majority of the non-users, 74 (94.9%), indicated that they were interested in using these resources. This is an equivalent of 47.1% of the total number of respondents, while only 3 (3.8%) respondents did not respond and 1 (1.3%) respondent was not interested at all in their use.

#### **Non-users views that can enable them to use electronic information resources**

A number of views were provided by non-users as to how the University Library could enable them to utilize these resources. The library's linkage with faculties was mentioned by 28 respondents and most of these were of the view that decentralization of such services would enhance their use. This therefore means that some did not even know that with passwords one could easily access these resources. Nineteen (24.4%) respondents mentioned the need for increase in publicity or marketing of the available electronic information

resources by the University Library. Some respondents expressed views that the library should provide passwords, relevant databases, reduce congestion in the computer laboratory, and increase independent access sites.

#### **Utilization and knowledge about electronic information resources**

Respondents were asked how they learned about the availability of the electronic information resources provided by the University Library. 42 (53.2%) respondents said workshops were the most useful tool for publicity and staff sensitization. 23 (29.1%) cited notice boards, while 24 (30.4%) respondents mentioned use of electronic mail. Others mentioned colleagues, individual visits to the library, communication from individual departmental meetings and seminars, and use of mailing lists as the ways they learnt of those resources. 25 (31.6%) respondents mentioned that CD-ROM databases were some of the resources that they utilized. 46 (58.2%) used mainly electronic journals, and 10 (12.7%) electronic document delivery, thus confirming earlier fears of poor publicity.

#### **Use of electronic information resources**

Findings revealed that 45 (57%) of those who use electronic information resources, used University Library computers, 30 (38%) departmental facilities, and 16 (20.3%) respondents used those in their offices. Other responses included use of Internet/business cafes outside the University. Interviews and visits to faculties confirmed some of these findings.

#### **Academic staff benefits from electronic information resources**

Respondents were requested to give reasons why they use electronic information resources and related to this were the benefits accruing from use of these resources. 72 (91.1%) of the respondents stated that they utilized these resources for research. This involved retrieval of current literature reviews, personal research, and accessibility to latest research developments in the academic world. 43 (54.4%) were using them for teaching purposes, while 33 (41.8%) used them for the preparation of presentations and conference papers. Others mentioned book selection, easy communication through the Internet, and acquisition of information on courses and programmes, as some of the benefits they derive.

#### **Factors affecting the utilization of electronic information resources**

In African universities today electronic information resources are a new phenomenon, and a number of factors must therefore be at play in their utilization. The researcher, therefore, had to include a question as to what factors affect their utilization in the University Library. 45 (57%) mentioned inadequacy of the existing facilities, 20 (25.3%) slow speed or poor bandwidth, 16 (20.3%) poor sensitization or limited publicity, and 14 (17.7%) limited Information and Communication Technology.

Other factors included: location of some faculties. For example, faculties of Veterinary and Human Medicine and others that are far from the University Library; lack of fixed schedules for computer laboratories; centralization of the resources; lack of time; irrelevance of the databases; limited subscription to databases; poor packaging of information; library's preference for cheaper electronic information resources; limited accessibility to databases through use of passwords; restriction in use of diskettes for information retrieval; and brevity of information. The least mentioned factors were laziness, inability to print from the library, and limited funding by the university to avail every department the needed facilities. Academic staff and senior librarians interviewed also listed the above factors.

### **Challenges to the utilization of electronic information resources by academic staff**

Inadequacy of facilities for use was mentioned as the biggest problem users faced, leading to congestion. This was summed up by one senior lecturer who wondered "how a research library could stay unconnected to the Internet in this ICT age." This was in reference to the Veterinary Medicine Library. Poor computer communication systems were mentioned, with some respondents taking poor bandwidth as leading to poor utilization of the resources. This prompted one Professor to remark that "constricted access lines were very frustrating". Interviews with some staff from the Department of the Directorate of Information and Communication Support (DICTS) revealed that the increased use of ICT for communication purposes and infrastructural problems were responsible for this.

Findings revealed that most respondents had not heard about electronic document delivery services. Centralized utilization of electronic information resources was cited as one of the issues inhibiting use of those resources. Those interviewed suggested that the introduction of the Local Area Network would go a long way to solve this problem. Unstable Internet facilities, limited access to some sites, inadequate time schedules for individual departments that were accessing these resources from the University Library, were mentioned as some of the factors. A senior lecturer in the Department of Food Science for example mentioned that "biological abstracts relevant to their field of study" were not available, concluding, "there were no relevant databases that suit their information needs".

As mentioned earlier, the study revealed that 13.4% of the respondents were beginners in computer use. It is no wonder, therefore, that poor computer skills was one of the problems cited. Some raised the issues of location of faculties (Faculties of Veterinary Medicine and Human Medicine), space limitations, poor publicity by the University library, printing costs, restrictions on use of diskettes, unnecessary erasure of mails, and lack of time.

### **Conclusions**

Findings show that despite poor facilities for use in communication, sensitization, and other impediments;

- A limited number of academic staff utilise electronic information resources. To achieve this little success the University Library employed a number of strategies. Most staff are now aware of the availability of these facilities though they have not used them.
- A number of electronic information resources, which include, CD-ROMs, electronic journals, electronic document delivery services, Internet search engines, scholarly databases among others, are being accessed by academic staff, indicating a new shift from use of traditional information sources. The frequency of use of these resources, however, indicates that a lot has to be done to attract more users.
- A number of factors and problems do inhibit use of electronic information resources. A look at other studies indicates that such challenges were bound to exist especially in the developing countries where most of these resources solely depend on donor funding.

### **Recommendations**

Despite the prevailing unfavorable circumstances, the study made the following recommendations for the way forward. These included among others;

- Increase of ICT network or bandwidth.
- Provision of adequate Information and Communication Technologies(ICT).
- Decentralization of service provision.
- Increased marketing strategies.
- Train staff in Information and Communication Technologies(ICT).
- Effective communication of usernames and passwords.

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