SUSTAINING AUTOMATED LIBRARY SYSTEMS IN ACADEMIC LIBRARIES: THE GHANAIAN EXPERIENCE

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ABSTRACT

The last decade has seen Academic Libraries in Ghana on a steady move towards library automation. Almost all academic libraries in Ghana are at least partially automated.

Automation has greatly enhanced performance in library work and has provided improved services and user access to current information through the use of CD-ROM, Internet, Inter Library Lending and Document Delivery (ILL/DD) and e-mail. But as much as this technology provides opportunities for enhanced performance and effective services, it has equally presented the challenge of sustainability. The issue at stake is how academic libraries can sustain their automated systems as they struggle to cope with limited resources and rapid increase in student numbers. Drawing from the experiences of the Academic Libraries in Ghana, this paper discusses various steps towards the sustainability of automated library systems in the academic libraries in Ghana.

INTRODUCTION

Automation is catching up with libraries in developing countries including Ghana. Although the pace is not as fast as that of the developed nations, libraries in developing countries are not in any way being left out of this technological advancement. As at now, some libraries in Ghana especially those in academic and research institutions have automated some of their library operations. Computers are used to assist in a variety of library operations like acquisition and circulation, provision of access to the catalogue to locate items in the collection, providing access to a library's catalogue online and searching of vast quantities of published literature on the CD-ROM and the Internet. Automation in academic libraries has also provided improved and efficient service to both the library staff and users. The advent of automation has reduced the burden of the library staff usually generated by the manual system and increase in user population.

Student population in Ghanaian universities has increased tremendously. For example, student population at the University of Ghana has risen from 3,462 in 1985[1] to 10,000 in 1999[2] without any expansion in infrastructure or increased financial support to library services. Academic libraries in Ghana are under pressure because their limited resources cannot be employed to match the workload adequately. Automation has therefore injected some relief into the system because CD-ROM,

ILL/DD and the Internet services now provide academic libraries with much needed information support to satisfy user needs.

Ogunleye[3] makes it clear that automation is no gamble in developing countries and has come to stay. It is perfectly true that automation has come to stay and there is no turning back for academic libraries. For as catalyst for national development, academic libraries have to keep pace with technological advancement. It is imperative then that they pursue modern trends in academic librarianship and be pro-active in meeting the needs of their clients. The real issue according to Kiondo[4] is that although technology has opened new horizons in the provision of information services, it has also presented challenges to information professionals in developing countries and for that matter, academic libraries in Ghana. The issue at stake is how academic libraries can sustain their automated systems in the face of dwindling funds and continuous rise in the population of their patrons. The Vice-Chancellor of the University of Ghana, in his keynote address at the ILL/DD mid-term evaluation seminar[5], summed it all by saying that: "... we would like to provide adequate funds for the libraries but our hands are tied. There are so many competing interests for the limited financial resources".

But the academic libraries in Ghana have the will to move forward and as the saying goes "where there is will, there is a way". It is the way, the strategies towards sustainability, that this paper seeks to address.

The paper discusses the subject of sustainability by drawing from the experiences of the academic libraries in Ghana and examines the possible methods and strategies that need to be adopted to sustain automated systems in academic libraries. Two major issues will be considered in this paper. First, the issue of funding which is the major issue of concern. Secondly, how the automated systems are managed. This will involve training, maintenance and promotion. It is necessary to look at the second issue because even if academic libraries enjoy substantial funding, it is believed that if there are lapses in the running of the systems, the problem of sustainability will remain unresolved.

PROFILE OF THE ACADEMIC LIBRARIES IN GHANA COVERED BY THE STUDY

The study which was conducted within the period of July and August, 1999 covers the five libraries of the state funded universities in Ghana. They are:

1. Balme Library, University of Ghana, Legon.
2. The Kwame Nkrumah University of Science & Technology (KNUST) library, Kumasi.
3. The University of Cape Coast Library
4. The University College of Education of Winneba (UCEW) library.
5. The University of Development Studies (UDS) library, Tamale.

1. **BALME LIBRARY**

The Balme Library started as the University College Library in 1948. It holds about 360,000 volumes of books. Although its journal subscription stood at 5,200 in the 1980s, it now subscribes to only 450 journals.

The library has 13 professional staff and 64 other categories of staff. It owns 20 computers. It is the oldest, biggest and the most endowed of all the university libraries in the country.

2. **THE KNUST LIBRARY**

The KNUST library was established in 1951. The library has a bookstock of 180,000 volumes. It initially subscribed to 1,720 journals, but this has dropped to 500 journals. The library has a staff strength of 10 professionals and 46 and para professionals.
The library owns 18 computers.

3. **THE UCC LIBRARY**

The UCC library was opened in 1962 when the university was established. The library has 200,000 volumes of books and subscribes to 400 journal titles. It has only 9 professional staff with 40 supporting staff.
For its automation, the library has acquired 9 computers.

4. **THE UCEW LIBRARY**

The University College of Education of Winneba was raised to the status of a University in 1993. The university maintain separate libraries on all the five campuses. The central library is located on the Winneba campus which is the main campus. There are 4 professional librarians and 28 other categories of staff [6].
There are six computers in the UCEW library.

5. **THE UDS LIBRARY**

The University of Development Studies (UDS), sited in the north of the country, was set up in 1993. It also has campuses in different administrative regions of the country. The central library is located on the main campus at Tamale. The total stock of the library is 12,500 volumes without any current journal subscriptions.

The library staff comprises 3 professional librarians assisted by 19 other categories of staff. It is endowed with 4 computers.

AUTOMATION

All the five libraries are partially automated. Systems that are computer-based in these libraries are CD-ROM, Inter-Library Lending and Document Delivery (ILL/DD), cataloguing, circulation and the Internet and e-mail facilities.

CD-ROM

The CD-ROM facility is available in the Balme, UCC and KNUST libraries. Balme Library has two workstations while KNUST and UCC libraries have one workstation each. The UCEW and UDS libraries are yet to acquire the CD-ROM databases.

ILL/DD

All the five libraries provide ILL/DD service. The ILL/DD is an IFLA/DANIDA sponsored Project which is

seen as a major factor in academic library development in Ghana. All the five libraries are members of the participating libraries with Balme being the coordinating library.

Balme Library has two PCs dedicated to its ILL/DD service. The remaining four libraries have one PC each.

INTERNET SERVICE

All the libraries have Internet connectivity. KNUST has 2 PCs with internet connectivity. UCC, UCEW and UDS libraries have only a PC each connected to the internet. The Balme Library, the biggest and the most endowed has 17 PCs with internet connectivity.

E-MAIL SERVICE

The E-mail facility is also available in all the five libraries.

CATALOGUING

All the five libraries are in the process of automating their cataloguing operations. UCC, Balme Library and UCEW libraries use the bibliofile software while KNUST and UDS use the CDS/ISIS software for cataloguing.

Balme Library has its 4 workstations connected to a Server in its Cataloguing Department.

CIRCULATION

In 1989, Balme Library automated the reserve collection of its Students' Reference Library (SRL). It is mainly used for circulation. The SRL was the first Section of the library to be automated.

It must also be noted that the CD-ROM, ILL/DD and e-mail facilities were made available in these libraries through projects sponsored by the American Association for the Advancement of Science and IFLA and DANIDA.

Sponsorship for the CD-ROM Project came to an end in 1996. The ILL/DD project sponsored by IFLA and DANIDA will end in the year 2000. The five libraries have then, the full responsibility of sustaining these systems.

LITERATURE REVIEW

Discussing the problems associated with automated systems in academic libraries, Massawer[7] observed that although CD-ROM technology is beginning to be accepted by both librarians and users, he stressed the need for the question of sustainability to be addressed. This, he said, is necessary given the limited library budgets as well as additional cost of document supply services. Ogunleye[8] on his part sees funding as a major problem which must be addressed as early as the system's study stage. He emphasised that the kind of funding needed is not the type that is required to enable libraries install computers for now, but funds from regular sources that would keep the project up and running. Mark[9] in a paper presented at the mid-term evaluation of the IFLA/DANIDA ILL/DD trial project in Ghana, expressed concern about the sustainability of the project. He was of the view that if cost

benefit analysis showed the use of the new information technology has great advantage over the traditional library information system, the University Board would find money to sustain the project. Kiondo[10] in a similar vein, also expressed concern about the uncertainties on how to handle increased demand for documents as a result of CD-ROM services and the issues related to long-term sustainability of CD-ROM and ILL/DD services. She realised that the basic issue is the ability of university libraries to sustain the service when the period of assistance is over. Discussing ILL/DD Project in Ghana in Balme Library's Interlibrary Lending Newsletter (Vol. 1 No. 1, 1998)[11], it was clearly stated that the issue of sustainability cannot be ignored. The writer called on beneficiaries of the Project to take the responsibility of making sure that the Project survives.

Indeed, automation has brought with it the challenge of sustainability. It is therefore the responsibility of academic librarians to find strategies for the sustenance of automated systems.

TRAINING

The success of a service depends to a large extent on the effectiveness and efficiency of that service. An effective service also depends on efficient and well trained staff. Training therefore is an essential component for a successful implementation of any project. According to Wright[12] improvement of services is dependent on taking the time to train both staff and library users. Amekuedee[13] in his study into barriers militating against successful university library automation also revealed that training of library staff in computer applications in libraries is indispensable because it ensures that the system is manned by competent personnel. Training as he observed, brings about total acceptance and proper understanding of the system which results in rendering useful and meaningful service. It is therefore crucial for academic libraries to adequately train both their staff and users.

STAFF TRAINING

The study revealed that all the five academic libraries provide training for their staff. It is encouraging to note that training programmes cover professionals, paraprofessionals and junior library assistants. The Balme library and the UCEW library go a step further to include their administrative staff in such training programmes.

Balme Library's Systems Analysts and trained professional librarians conduct the training in the Balme library. At KNUST library, the staff are trained by the Systems Librarian and Head Cataloguer. A systems analyst and a cataloguer are responsible for training staff at the UCEW library while UDS library engages the services of a Library Consultant

It is the practice of all the libraries that professional staff who are trained to handle the systems in turn do train other library staff. Some librarians have distinguished themselves as trainers and I wish to suggest that these librarians are sponsored for further training to enable them become computer ex-

perts. That is, experts who would work with system analysts in the libraries and take up some of their responsibilities so that the systems analysts would have more time to attend to real technical issues.

Training is a continual process of equipping employees with adequate skills to enable them exhibit high-level performance on the job. Training, therefore, should incorporate new developments and new techniques to achieve high-level performance. An enquiry to ascertain whether training provided for academic library staff is on-going, revealed that all the five academic libraries studied, have a continuous training programme for their staff. Training is mainly through in-service training, workshops and seminars.

It must be noted that steps have to be taken to avoid creating an "elite group of personnel". That is to say, academic libraries in Ghana should avoid introducing the systems to a unit where members not immediately involved, feel excluded or inferior to those working with the systems. Other members of staff must be encouraged to help at service points especially during peak periods and in the absence of staff on that schedule. There is the need to create "staff on call" to help out in times of need. This provides a broader staff involvement and could result in strong team work in the libraries.

USER TRAINING

The positive evidence on training in all the five libraries turns into a different scenario when it comes to the provision of training for users. Duval[14] believed that

> "trained staff are conductors on the train, the team who will give patrons ride to their destinations. It is they, who will support the system and in turn, train the patrons".

This means that trained staff should train users to allow them operate systems like Online Public Access Catalogue (OPAC), CD-ROM, and the Internet with minimal help. The picture on user training unfortunately is not as encouraging as that of staff training. The UCC, UCEW and UDS libraries although have ILL/DD, Internet and e-mail services, do not provide any training for their users. Balme and KNUST libraries offer training for users but this does not cover all categories of users. The Balme library trains only postgraduate students on how to access the CD-ROM, the Internet and the use of ILL/DD service. The reason is attributed to the large number of undergraduate students compared to the limited number of PCs available in the various libraries.

It is worth noting that there is a third group of people who need to be trained as well but they are often overlooked. This category of people comprise the managers and the administrators from the library's parent organization, that is the university authorities. Clayton[15] contends that the training of this group should be more a matter of generating interest and goodwill for the systems. He advises that rather than giving detailed instruction in the mechanics of

the operation, the approach should be informational rather than instructional. This is more likely to enhance their perception, boost their interest and induce their support.

MAINTENANCE

Maintenance is an equally important point to discuss when addressing the issue of sustainability. A library may have a highly trained and skilled staff capable of rendering efficient service. However, the output of the staff would depend on equipment that are regularly maintained. Maintenance provides constant care and update to ensure the smooth and uninterrupted functioning of equipment. Regular maintenance could prevent total breakdown of a library's automated systems. Some hardware would have to be replaced periodically as software would have to be rewritten or updated to improve its capability and reliability. Databases should be updated to meet research and teaching needs of the academic community. Kiondo[16] observed that the University of Dar-es -Salaam, in its effort to ensure the sustainability of its document delivery services, formulated various strategies for the maintenance of the technology. Indeed, the academic librarians should come out with strategies that will ensure that the culture of maintenance is pursued vigorously. Tedd[17] observed that in addition to the contract for the initial supply of equipment, software etc., it is necessary to have a contract for the maintenance of both hardware and software. She maintained that the maintenance contract should possibly specify call-out times, methods of preventive maintenance, remedial maintenance, replacement of parts and failure of the system to perform at prescribed effectiveness levels. The contract may be agreed upon with the original supplier or with another suitable firm.

MAINTENANCE OF EQUIPMENT

Investigation into the maintenance of automated systems in the libraries revealed that some form of maintenance practice exists. Except Balme library, all the remaining libraries have maintenance policies. Maintenance is done regularly by computer firms contracted by their parent institutions, the universities. The Balme library seeks remedial maintenance from its suppliers namely Atlantis Computers and NCR. The UCC library has its printers serviced regularly by Global Computers while the Planning Unit of the University is responsible for the maintenance of the other equipment. UCEW, KNUST, and UDS libraries have their equipment maintained regularly by Computer Solutions (UCEW) and I. M. Enterprises (UDS) respectively.

Although information provided shows that some form of maintenance practice exists in the academic libraries, only 80% of the libraries have maintenance policy while 60% have their equipment regularly maintained.

UPDATE OF SOFTWARE AND CD-ROM DATABASE

The libraries use the bibliofile and CDS/ISIS softwares for their cataloguing systems. 60% of the libraries use the bibliofile software and 40% use the

CDS/ISIS software. All the libraries (100%) update their softwares regularly.

Responses to update of CD-ROM is rather disappointing. The UCEW and UDS libraries (40%) do not subscribe to databases because they have no CD-ROM facility. The Balme, UCC and KNUST libraries (60%) have not been able to update their databases because of financial constraints. The Balme library acquired its databases through the American Association for the Advancement of Science (AAAS), donation from individuals and institutions like the United Nations. The KNUST library also acquired its databases free of charge from international sources and under the AAAS CD-ROM project. Databases for the UCC library were also acquired through donation. The most current database available in the Balme library dates back to 1998 and they are mostly United Nation's databases. In the KNUST library, the current database dates as far back as 1996. The situation involving CD-ROM databases gives cause for concern. The response clearly indicates total dependence on donations for databases by the three libraries. It also shows that the Universities have not been able to provide the needed funds for the subscription and updates of the CD-ROM databases. The CD-ROM facility is however one of the most heavily used automated services at least in the Balme library. It is a facility which offers a solution to the problem of lack of current literature and information sources for research work, teaching and study. It is time for the academic libraries to seriously consider strategies to involve the various faculties and departments to contribute towards the subscription and updates of databases and support document delivery needs of their staff and postgraduate students.

PROMOTION

Business promotion generates enthusiasm for new services. It also helps to increase the sale and acceptance of both new and existing services. Through promotion, services which would have otherwise remained unnoticed or underutilized are introduced to users. Dugale[18] observed that.

> "Great promotional effort is necessary to raise awareness levels and encourage use of new services.
>
> Having responded to users' suggestions and requests with great outlays of time energy and funding to develop a service or facility, it is easy to fall into the trap of thinking the task is complete. However, users are frequently reluctant to use new services or facilities which they have demanded, and disinterest and apathy may prevail even after using every seemingly possible awareness raising method. This commands a high degree of personal commitment from staff who may have to continually find new means of creating interest".

It is important that outreach programmes are initiated as soon as new systems or services are introduced

to explain and promote the service and make it attractive to users. Dugale contends that, promotional activities should be ongoing and not one-time, to make sure users do not lose interest in the service.

Responses from the libraries on their promotional activities indicate that all the libraries promote their automated services. Promotional methods used by the five libraries are mainly circulars, notices, formal letters and personal contacts. In addition to these methods, KNUST library sends e-mail notices to faculty members who subscribe to the library's e-mail facility. UCC library introduces its freshmen to its automated services during orientation and through the library guide. A course in information retrieval taught by a professional librarian from UCC library also includes hands-on session on the use of the Internet. UDS library does it through discussions at various meetings. Balme Library's promotional activities include demonstrations at various departments to faculty members and hands-on training for postgraduate students. With the exception of UDS library, the remaining four libraries (80%) received encouraging response from users. What is conspicuously missing in the promotional activities is the launching of automated systems. Dugale[19] commenting on the official launching of ResIDe Electronic Reserve at the University of West England (UWE), observed that the launch of the planned system proved to be the most effective instrument of awareness-raising.

Hopkins[20] advised that at such launching, it is essential to include the 'movers' and the 'shakers'. This includes management, administrators and those faculty members who are interested in information technology and who can influence management to support the course for the sustenance of automated systems in academic libraries. There is the need therefore to incorporate into our promotional activities, the launching of new automated systems. The university authorities as well as Deans, Heads of Departments and Finance Officers must be invited to such functions to make them aware of the need and usefulness of the system, get them interested and thereby win their support.

FUNDING

Funding is the most crucial subject when it comes to sustaining automated systems in libraries. It is the bedrock on which rests all other elements that bring about sustainability.

It has been observed from the study that academic libraries have been relying on donor support. Most of the automated systems in the libraries were Projects funded by donors and such projects have their life span.

The major issue facing the academic libraries, is the ability then to sustain these services when the period of assistance is over.

Responses from the libraries show that all the libraries depend on their universities for funding which they indicated as "woefully inadequate". Other sources of funding were indicated as

funds mainly from user fees charged for e-mail, CD-ROM, photocopying, Internet and ILL/DD services. Balme, KNUST, UDS and UCC libraries use funds accrued from user fee to support the running of the systems. UCEW library on the other hand pays its user fee funds into the university's coffers.

In the midst of changing economic situation in the country where the government is finding it increasingly difficult to finance tertiary education, it is obvious that government funding can hardly be enough to sustain automation in academic libraries. Academic librarians must now look for practical solutions to the problem. The writer agrees with Kiondo[21] that more profound solutions may have to be searched outside the universities.

Academic libraries ought to identify NGOs, organizations and individuals who would be willing to support the libraries to sustain their automated systems. Academic librarians must employ their professional and managerial skills to formulate strategies that would unearth practical solutions to the problem of sustaining automated systems in our academic libraries. The alumni could be used to organise interested individuals who may be brought together as "friends of the academic libraries" whose goal would be to spearhead automation in academic libraries.

The universities are now charging academic user fees. Academic librarians should not sit down and wait for the various Heads to decide what must be allocated to the libraries. Academic librarians should as a group, initiate a negotiation process with the committee of Vice-Chancellors to determine what percentage of the academic user fee should be allocated to the libraries – the heart of every university on which depend the academic health and the intellectual vitality of the university.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Academic libraries should provide training for users especially faculty members and at least final year undergraduate students.
2. Although the findings indicated that promotional activities are carried out in all the libraries, it is important that promotion becomes a continuous exercise to maintain user interest and to maximize use of the automated services.
3. Academic libraries should work out a regular maintenance service for their systems to prevent a total breakdown.
4. Academic libraries should set up fund-raising committees to be assigned the responsibility of identifying individuals and organizations and seek their support for the sustenance of the automated systems.
5. A committee must be set up to coordinate the activities of all automated systems and be responsible for effective and efficient running of the systems. Members of the committee should work closely with the systems analysts.
6. All academic libraries automating their systems should make the effort to employ Systems Analysts to give direction and to handle the technicalities of automation.

7. Professional librarians must be appointed to understudy the Systems Analysts and be trained to handle some of the non-technical responsibilities of the Analysts. This will help reduce the burden of the Systems Analysts. It will also help the librarians to gain experience and build up confidence in working with computers.
8. The Committee of Academic Librarians should meet the Committee of Vice-Chancellors and Principals to deliberate on the issues of sustaining automated systems in the academic libraries. The Librarians must ensure that sound polices that would govern the move towards the sustainability of automated systems in academic libraries are formulated and implemented.
9. The Committee of Academic Librarians should negotiate with the Committee of Vice-Chancellors to come out with a percentage of the academic user fees that must be allocated to libraries for library automation.
10. Academic libraries should work towards organizing income-generating activities. They should organize training programmes for library staff in other organizations as well as interested individuals and groups on how to use the internet, CD-ROM and other automated systems for a fee.
11. Academic libraries should work towards cooperate networking for effective resource sharing.

CONCLUSION

Automation of library systems in academic libraries in Ghana has brought new life into library operations and has expanded user access to current information which is very much needed for study, teaching and research. Academic libraries however have to devise strategies to sustain these systems. Although the study shows that the libraries promote their services, maintain their systems and train their staff, the issue of funding still poses a threat to the sustainability of the automated systems. Academic librarians should therefore make unrelentless efforts to generate income and seek funding outside the universities to mitigate the effects of this problem. They should endeavour to influence decision-makers both within and outside the universities to co-operate and offer support to sustain automation in academic libraries in Ghana.

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