# AN EVALUATION OF LIBRARY AUTOMATION IN SOME GHANAIAN UNIVERSITY LIBRARIES

BY

JOHN-OSWALD KORKU AMEKUEDEE

A THESIS SUBMITTED TO THE DEPARTMENT OF INFORMATION STUDIES, UNIVERSITY OF GHANA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF PHILOSOPHY DEGREE IN LIBRARY STUDIES.



LEGON

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# DECLARATION

I hereby declare that except for references to other works, which I have duly acknowledged, this thesis is the result of my own original research, and that this thesis has neither been presented in whole nor in part elsewhere for another degree.

.....

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# DEDICATION

This work is dedicated to the Glory of God. It is also dedicated to my wife Victoria and my children Enam and Selorm, and to my late father Damien for his faith in me and finally to my mother Yevumor for "watering the seed that has now germinated".

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# ACKNOLWLEDGEMENT

This thesis is the outcome of part-time research on library automation in University Libraries, which began, in late 1999.

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Above all I give thanks, honour and Glory to the Almighty God.

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## LIST OF ABBREVIATIONS AND ACRONYMS USED

| | | |
|---|---|---|
| AAAS | - | American Association for the Advancement of Science. |
| AFUF | - | Academic Facility User Fees. |
| ALA | - | Associate of Library Association. |
| BLS | - | Bachelor's Degree in Library Studies. |
| CAIRS | - | Computer Library Systems International. |
| CARL | - | Colorado Alliance of Research Libraries. |
| CD-ROM | - | Compact Disc Read Only Memory . |
| CLSI | - | Computer Library Systems International. |
| DANIDA | - | Danish International Development Agency. |
| DDE | - | Danish Data Electronik. |
| ENIAC | - | Electronic Numerical Integrator and Computer. |
| FLA | - | Fellow of Library Association. |
| GNCIC | - | Ghana National Committee on Internet Connectivity. |
| GLA | - | Ghana Library Association. |
| IBM | - | International Business Machines Company. |
| IFLA | - | International Federation of Library Associations and Institutions. |
| ILL/DD | - | Inter-Library Lending and Document Delivery. |
| KNUST | - | Kwame Nkrumah University of Science and Technology. |

| | | |
|---|---|---|
| LAN | - | Local Area Network. |
| MARC | - | Machine Readable Catalogue. |
| OAU | - | Organisation of African Unity |
| OPAC | - | Online Public Access Catalogue |
| PC | - | Personal Computer |
| OCLC | - | Online Computer Library Centre |
| RAM | - | Random Access Memory |
| S.R.L. | - | Students' Reference Library |
| UCC | - | University of Cape Coast |
| UCEW | - | University College of Education, Winneba |
| UDS | - | University for Development Studies – Tamale |
| UNIVAC | - | Universal Automatic Computer |
| UNO | - | United Nations Organisation |

# ABSTRACT

Automation in Libraries has had far-reaching effects on everyday practices and librarianship as a profession. The use of computers in libraries has had and it is continuing to have a profound effect on all aspects of library and information work. As more information is made available in a variety of formats and in a variety places, the need to manage information effectively becomes critical. And for university libraries to maintain their positions as the University's information centre, they will have to play leading roles in the technological revolution.

This thesis is an evaluation of library automation in Ghana's university libraries.

The study was undertaken to find out which library processes have been automated in Ghana's three older university libraries namely, the Balme Library, the Kwame Nkrumah University of Science and Technology (KNUST) Library and the University of Cape Coast (UCC) Library.

Relevant literature in the area of automation was reviewed. Using data obtained through the use of questionnaires and interviews, the study examined, areas of general automation, automation of specific library processes, networking, Internet connectivity, training, the future of library automation at the university libraries and major constraints to library automation.

The sampling technique used in study is the purposive sampling method. This sampling technique allowed the researcher to use his skill and prior knowledge to

choose respondents. Using this technique, the following samples were selected; 59 for the Balme Library, 35 for the KNUST Library and 44 for the UCC Library.

The libraries of the three older universities in Ghana, that is, the Balme library, University of Ghana, Kwame Nkrumah University of Science and Technology library, the University of Cape Coast library were chosen as the focus of the study because the have embarked on automation of their library processes

The study found out that even though the university libraries realise the importance of library automation, they are hampered by lack of funds, lack of support from the university administrations and lack of skilled staff to embark on the automation of all library processes. It was also revealed that none of the libraries have an OPAC (Online Public Access Catalogue).

The study concludes with recommendations that would enhance the university libraries drive towards automation of their library processes and ensure effective and efficient use of the new technology to raise the image of the libraries and give their library clients more services.

The following recommendations are made based on the findings of this research. The recommendations are made to serve as a guide to all libraries in general and especially university libraries in Ghana which intend to automate their library processes. The recommendations are for University Administrators, University Librarians, Librarians and policy makers.

1. Since there can be no library automation without computers and their accessories, the required number of computers and accessories should be purchased for the university libraries. In fact, the libraries should be allowed to purchase computers of their choice.

2. In addition, the libraries should also make sure that they purchase the latest computers on the market if they are allowed to do the purchases themselves because the information technology market is in a state of flux. Computers in the library should be used for automation of library processes.
3. Sufficient funds should be made available by the university administrations to fund automation projects.
4. Library software is very important in library automation. It is recommended that library software for all library processes should be acquired. Librarians should be taught skills, which will enable them identify appropriate software for their library needs. They can also be taught how to write in-house software for their libraries especially in sections were their collections are not so large.
5. The evaluation revealed that even though all the university libraries have strategic plans, these plans have not been updated to take care of current trends. It is recommended that these strategic plans should be updated regularly and be implemented within time frames.
6. Some of the university libraries evaluated do not have an Electronic Support Unit. It is recommended that as a matter of urgency all these libraries should engage the services of a systems analyst and set up Electronic Support Units. Without this support, problems associated with computer hardware and software and access problems cannot be easily or quickly solved. Such a unit can also increase the scope of IT products and other activities in the libraries.

7 Local Area Networks (LAN) should be set up in all the university libraries. LANs can also be very useful when these libraries have Online Public Access Catalogues (OPAC's) because library users can then search the library's catalogue anywhere in the library.

8 Library staff should be made aware of ongoing projects in the library, especially those to do with automation, so as to create the awareness and feeling of belonging. The staff, on the other hand, should be curious about things going on in the library concerning automation.

9 More often than not when people talk of automation, they are referring to hardware and software, ignoring the human aspects of automation, specifically staff and user training. The study revealed that none of the libraries surveyed has a firm training programme in place. It is, therefore, recommended that a training programme should be in place in all the university libraries. The training should be ongoing because when we automate, we are not only learning how to use the automated system; we are in fact learning new jobs. No operation is better than its personnel. The advancement of individuals who operate library automation programmes is a critical element in the success of automation.

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 BACKGROUND TO THE STUDY

Only a few years ago librarians were hotly debating whether computers had any place in libraries, just as they discussed at the beginning of the twentieth century in respect of typewriters. Today, the library community as a whole is realising that apart from the immediate practical advantages, computers and information technology in general are tools of a new information era, which started with Gutenberg and lasted until the middle of the twentieth century (Cotta-Schønberg 1989, p. 47-63).

The emphasis in libraries is shifting from collections to access. Providing access to information has become the principal goal and activity, and coping with technology and change are the major driving forces of the emerging information age library. The explosion in the quantity, cost and communicability of information is a new phenomenon, which calls for new responses. Among these responses must be a willingness to accept change.

Producers of information are making more and more information available electronically and directly to the consumer in a more cost-effective manner. Consumers plug into the network to gain direct access to information in a variety of formats. The implication is that, the library's role as a first-stop, one-stop or last resort information centre will change (Dempsey et al. 1996, p. 6).

The famous line from Thomas Carlyle (De Gennaro 1984, p.1205) that "the true University is a collection of books" may have been true in his day, but it is not true today. This is an electronic age where universities and the libraries that serve

them must be much more than collections of books. Knowledge is being created and communicated at expanding rates and this is causing profound changes in both the economics and technology of libraries, especially in the developed world (De Gennaro, 1984, p. 1205). Today, there are major shifts in libraries. These shifts have been summarized succinctly as follows; from custodian of books to service - oriented information provider, from one medium to multi-media, from own collection to library without walls, from in good time to just in time, from in-sourcing to out-sourcing, from local reach to global reach, and from we go to the library to the library comes to you (Dempsey et al, 1996).

Central to the function of a university is the creation of information, its transmission and retrieval. The changes in technology affect the methods and economics of collecting, storing, retrieving, and communicating information. To a large extent, this has affected the way teaching and research are carried out at the university. Without doubt, a well-administered university library directs its activities toward the fulfillment of these functions. And for the library to maintain its position as the university's principal information resource and service, it will have to play a leading role in the technological revolution. In the future, information will proliferate and become more ephemeral, and the task of bringing it under control will become more and more, vital. Thus, the new information processing technologies will increase the importance and enlarge the role and capabilities of the academic library. (Dempsey et. al 1996).

## 1.2 Definition of Library Automation

Library automation assumed a great deal of importance in libraries in the mid Nineteen Sixties. Since then it has become a household word in librarianship. Library automation may be defined as the application of automatic and semi-automatic data processing machines to perform library functions such as acquisition, circulation, cataloguing, reference service, and serials control (Daniel, 1989, p.75). According to some experts in library automation, it is possible to distinguish library automation from automatic indexing, abstracting, information retrieval and automatic textual analysis. Again, Harrods Librarians' Glossary and Reference Book (1987) defines library automation as the organisation of machine handling of routines or operations requiring minimal human intervention. Today, library automation is by far the most commonly used term to describe the mechanisation of all library activities using the computer.

Library automation is the use of automatic and semi automatic data processing to perform such traditional library activities as acquisitions, cataloguing and circulation. Although these activities are not performed in traditional ways, the activities themselves are those traditionally associated with libraries. Library automation may also be distinguished from related fields such as information retrieval, automatic indexing and abstracting, and automatic textual analysis (Encyclopedia of Library and Information Science, vol.14, 1975, p. 338).

Linguistic purists have argued rightly that the term "automation" applies more correctly and narrowly to automatic process control, and indeed this was historically the first use of the term. The broader meaning, however, has had the sanction of widespread usage for a number of years, and "library automation" is now by far the

most commonly used term for mechanization of library activities using data processing equipment.

The development of library automation largely reflects the development of computer technology. Initially using mainframe and minicomputers in the 1960s, the first uses of computers were for bibliographic databases; as library catalogues, these were often created on cooperative basis. This led to the development and adoption of machine-readable cataloguing (MARC) practices. During the 1970s a range of online systems and services became available, offering online search access from remote terminals to various databases of indexing and abstracting journals. With the widespread adoption and increasing power of microcomputers since their appearance in the early 1980s, library automation has burgeoned and is now commonplace.

Libraries were among the first to embrace compact disc technology from the mid-1980s. The growth of computer networks in the 1990s on scales ranging from local to global, and the resulting opportunities for transmitting data electronically are permitting information to be accessed and shared in ways previously impossible with paper-based systems, (Feather, 1997, p. 259).

In redefining library automation, (Cohn et al., 1998, p.3) point out that library automation has undergone a transformation that reflects changing definitions of library service in general and access to resources in particular. They further stress that rapid technological change has forced a comprehensive re-examination of what automating the library really means.

Thus:

1. Accessible resources are no longer defined as only those residing Within the library's four walls;
2. The introduction of global networking capabilities to the consumer market has made information around the world as accessible as that in the immediate surroundings;
3. Data is no longer displayed just as plain old text but also in eye catching graphical formats;
4. Dramatic drops in hardware pricing have made affordable faster machines with huge amounts of storage.

As a result of the recent developments, the public has entered cyberspace and expects its information provider, the library, to provide the launching pad. Accordingly, today's integrated system not only must provide modules automating the traditional library functions but also must be capable of connecting through the local systems into systems of other suppliers, databases - bibliography and full content, online and CD-ROM databases and the Internet. Library users now expect their library systems to be able to, among other things:

1. Provide seamless integration between system gateways and remote and local databases through the public catalogue module;
2. Allow for access by remote users to library's resources, either by telephone or via an Internet connection; and,
3. Access resources available on the Internet using a variety of graphical and multimedia-based software interfaces.

## 1.3 Statement of the Problem

As more and more information is made available in a variety of formats and in a variety of places, the need to manage information resources efficiently becomes critical.

Rowley (1985 pp.3-4) has identified some areas from which pressure towards computerization may come:

(1) Increased workload arising from the need to control or access large numbers of documents. This may stem from an overall increase in the number of documents published or the size of the library stock, or may also derive from a need to cover a wide subject area. Increased workload may also stem from the desire to provide a large number of patrons with an adequate service.

(2) Computerization may also provide the opportunity to offer services, in addition to existing services, at little extra cost. One of the main advantages of a computer-based system is the facility for re-arranging and selecting records to offer special listings. Examples of such services may be a union list of serials, a current awareness service and statistics for library decision-making.

(3) The mere existence of another library that has made success of a computerization programme is sufficient to attract interest. One element of computerization programmes is the availability of external data, which can be exploited to greater effect on a computer-based system. Centralized data and its availability is a significant factor in the move to computerize cataloguing systems.

When a library has successfully automated all its processes the following benefits can be derived, making automation very important:

(a) Automation improves delivery of information. Since library users are demanding

more timely delivery of information regardless of format or physical location, technology can reduce time in requesting and receiving print documents in a number of ways. As more information is available electronically, delivery can be immediate online. Full-text is also available for downloading or printing by the user.

(b) Automation facilitates communication with users. The technology offers tools that can facilitate communication with library users while at the same time reducing the labour involved. At a basic level, linking acquisition systems with electronic mail makes it easier to notify users of the arrival of a requested book or journal.

(c) Automation increases efficiency of library operations and the productivity of library staff.

(d) Automation also enhances access to information resources. Users can use technology to organise and index materials for rapid retrieval.

The university libraries in Ghana now appreciate the importance and benefits of library automation. For this reason, they are doing all within their power to apply computer technology to library functions. These efforts have gone on for some time but relatively little is known of the level of progress because no comprehensive study has been made of them. There has also been no study of library staff preparedness for automation and staff awareness of automation. This study is an attempt to provide this type of information. It will evaluate library automation processes in the university libraries mentioned below.

The libraries of the three older universities of Ghana, that is, the Balme Library, the Kwame Nkrumah University of Science and Technology (KNUST) Library, and the University of Cape Coast (UCC) Library, have been chosen as the

focus of this study because they have embarked on automation of their library processes. On the other hand, the newly established universities, University College of Education, Winneba (UCEW) and the University for Development Studies (UDS) at Tamale are yet to take concrete steps to automate their library processes. Even if some sort of automation has been started it is only on a minimal scale. They will therefore be omitted from this study.

## 1.4 Purpose of the Study

The purpose of this study is to evaluate library automation processes in a select number of university libraries in Ghana to determine how far library processes have been automated; how university administrations fund library automation projects and how well trained staff are to handle computers and automation.

In this context library automation refers to the use of automatic and semi-automatic data processing to perform traditional library activities, such as acquisitions, cataloguing, circulation etc. Additionally, it also means that data can be transmitted electronically, making it possible for information to be accessed and shared in ways previously impossible with paper-based systems.

## 1.5 Research Questions

The study is guided by the following questions:

1. How are library automation projects funded in university libraries in Ghana?
2. Is library automation a component of the libraries' strategic plan?
3. Do university libraries in Ghana have adequate computer resources?
4. What is the level of computer expertise among staff?
5. What is the extent of library automation in university libraries in Ghana?

6. What is the level of automated networking in university libraries in Ghana?
7. What problems are associated with library automation in university libraries in Ghana? .
8. What is the future of library automation in university libraries in Ghana?

1.6 Objectives of the Study

As noted already, the study is being undertaken in the area of library automation. Specifically, it is being undertaken to:

1. Find out which library processes have been automated in Ghana's three older university libraries, namely the Balme Library, University of Ghana, the Kwame Nkrumah University of Science and Technology (KNUST) Library, Kumasi and the University of Cape Coast (UCC) Library, Cape Coast;
2. Investigate problems associated with library automation in those libraries;
3. Find out how well trained and well informed staff are about library automation in general and on going projects in their libraries;
4. Find out the types of hardware and software the libraries have acquired, their capacity and how current these are;
5. Make recommendations based on the findings.

1.7 The Rationale and Justification of the Study

Even though mainframe and minicomputers were used in the 1960s for library automation, it was the appearance of microcomputers in the 1980s with their increasing power that burgeoned library automation. Since then automated library management systems have progressed from single-function applications, such as the catalogue or circulation system, to become integrated, multi-functional systems.

For a long time computers installed at the three older University Libraries in Ghana have either been bought for the libraries without consulting them or they have been supplied as part of some project or have been donated simply as a gift. It is also not clear whether these libraries have the requisite number of computers and the appropriate software for their library processes. One also wonders whether when these libraries embarked on their automation projects a thorough systems analysis was done to spell out their needs and other parametric requirements that such serious and costly technical projects must be subjected to. It is also not clear whether they have carefully laid out strategic plans for automation and how these were going to be sustained in the future.

Since human resource development is a critical factor in any endeavour, one also wonders how well equipped their staff are for all the automation projects in the libraries, particularly in an area as technical and as skill-dependent as automation.

## 1.8 Significance of the Study

This study will be useful since it would add to the body of knowledge on university library automation, especially in Ghana in particular and developing countries in general. The study will also contribute to the sum total of human knowledge.

In addition to the above, the study's other contributions can be summarized as follows:

1. The study will provide an insight into the levels and viability of library automation in university libraries in Ghana.
2. It will make library professionals and university administrators aware of the type of information technology the university libraries have so that if there is the need

to upgrade the technology it will be done.

3. It will also make us aware of the kind of future library automation has in university libraries in Ghana in terms of the systems in place, management skills available , the level of funding and, whether automation projects in the library can be sustained.

## 1.9 Organisation of the Study

The study has been presented in six chapters.

Chapter one provides the background, definition of library automation, statement of the problem, scope, value and benefits of the study.

Chapter two is literature review, while Chapter three is the methodology of the study.

Chapter four gives the background information of the case study libraries. Chapter five presents the analysis of data and findings.

The final Chapter, which is Chapter six, provides the discussions and summary of findings, recommendations and suggestions for further research.

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# CHAPTER TWO

## 2.0 LITERATURE REVIEW

### 2.1 INTRODUCTION

Issues and problems of library automation have continued to exercise the minds of librarians and those interested in library automation, for example, such as researchers. There is, therefore, a considerable mass of literature on library automation worldwide. This not withstanding, literature on library automation in Ghana is very limited. In what follows, an attempt at a review of some of the literature on library automation will be done. Only sources that are relevant to the present study will be covered.

#### 2.1.1 Library Automation

Tedd (1993, pp. 1-2) observes in her discussion of library automation that the 1980s and 1990s have seen many technological developments, which will affect librarians' use of computers. She sees computers, especially the spread of personal computers, as an aid to librarians to process more information faster than before. She also sees in the computer opportunities for librarians and libraries to create networks, which will provide online access to the catalogue and also adds that computers will enable colleague librarians to communicate with ease.

Lovecy (1984, pp. 15-17) is of the view that computers have been very helpful in library administration. The computer, he notes, is used for typing library reports, guides, orders, etc., and has made clerical work in the library easier and faster. He also states that in financial accounting in the library, computers have been found to be

very helpful in that computers can handle a large volume of transactions and at the same time too give a pattern of spending for each department. He also goes on to state categorically that computers have become very influential in all library processes, from ordering of periodicals to cataloguing and reference work.

Rowley (1985, p.1) also discussing computers in libraries states that the impact of computers has permeated all sectors of librarianship and information retrieval. She categorizes the application of computers in libraries into those concerned with housekeeping routines and those directed towards information retrieval. Housekeeping applications include aspects of serials control, circulation control, cataloguing, ordering and acquisitions and the collection of management statistics. She adds that before any system is installed a formal study should be undertaken to investigate the nature and potential of the new system. She, therefore, advocates that an organised systems analysis will contribute to successful implementation.

In the same vein, Carter (1973, p. 507) writing on systems analysis as a prelude to library automation, identifies about eleven steps to follow leading to the implementation of an automated system and describes these as follows; the first three steps fall within the scope of system analysis.

The first is establishing the goals and objectives of the system. The foundation of the system must be strong and requirements must be established clearly if the system is to meet the needs of its users.

The second is system analysis itself, in which the overall problem is defined within the context of a computer-aided environment. Here the most critical tasks are the determination and approval of descriptions of input and output data. After

requirements and objectives are both known, specifications for a new system are prepared, along with descriptions of any present manual system.

The third step, the specification manual, should cover requirements of the proposed new system and should be given to library management for approval. Only after approval is granted at this point would work proceed on the other eight steps, which cover design of the system in detail sufficient to permit programming and implementation.

Wright (1995, p. 2-3) uses the terms "computer - related technologies" to cover all of those technologies which include personal computers (of any brand and configuration) as well as a variety of technologies controlled by and related to those computers including interactive video discs, CD-ROMs and telecommunications. These developments mean that in the 1990s smaller libraries can automate at least some of their library functions. His work is, therefore, out to assist such libraries in determining which library functions should be automated, in understanding the various automated function options, in developing appropriate management information systems, and in preparing their facility and organisation for the inevitable brought on by the introduction of a computer system.

Wright (1995, p. 187) also recognises that future potentials exist for libraries in the electronic information age, and cites some of the benefits to include the ability to share information widely. Here, he points out that through automation, libraries have increased access to the catalogues and databases created by other libraries and research institutions. He continues that Internet access to these indexes provides librarians and library users with increased knowledge of what resources are in what locations.

Dyer (1989, p. 210) also observes that as automation takes on new and varied forms and its use grows in both frequency and variety, its teaching must also change. It is now recognised that automation is pervading all aspects of library and information work and to this end, the teaching of the various automation elements has been decentralized and occurs in most, if not all courses.

In his interview on library automation softwares, Alasdair Darroch (1999) had this to say:

> "Looking to the economy of library automation system globally, libraries tend to be the same in their general organisation throughout the world. Once software can be translated into many languages there is no limit to the number of countries where a single package can be used. The need for local investment in sales and support facilities is the main constraint".

### 2.1.2 Managing Library Automation

Clayton (1992, pp. 1-2) states that management is about making decision, choosing between or recommending options as alternatives to others. He points out that the decision to automate something or everything will require the manager to demonstrate that there will be positive beneficial returns from the resources expended, that automation will add value to the service. Careful planning is necessary to achieve this, and he stresses the importance of careful planning as the first skill of management.

In a similar vein Khurshid (1996, p. 23) focuses on the management aspects of automation including the composition of project management teams, the roles of the

project manager and the library. He, observes, that the management of library automation projects through partnerships between computer processing departments and libraries is not uncommon but that it does pose problems. And an important one he mentions is that the library tends to become dependent on a team whose composition it cannot manage and if one team disintegrates it takes a long time to create another competent one. Khurshid's advice is that ideally, libraries should have a full time systems person, and that library automation should be treated as a process not a project.

Mambo (1993, p. 38) draws attention to some special issues in managing automation in developing countries. He argues that though automation needs for developed and developing countries are much the same, there are some considerations which libraries in developing countries have to take into account before any decision to automate is reached. These include poverty and its related aid dependency of developing countries. He cautions that in such situations it is crucial to find out if countries will be able to stand on their own in maintaining the system, because in cases where the initial funds are from donations, then the system will need funds for continuous maintenance. He is also of the view that the future of libraries in developing countries lies in automation and that concerted efforts are needed to make sure that problems are solved so that computerization becomes inevitable.

Amekuedee (1995, p. 71) in discussing barriers militating against university library automation in Ghana, names the following problems; financial and attitudinal problems, lack of cooperation among libraries, hardware and software problems and personnel problems. He also recommends that the three older university libraries in Ghana should evaluate their existing systems and conduct thorough feasibility studies

before embarking on other automation projects. In addition, he urges the university libraries to cooperate more.

Alemna (1989) shows that some research work has been done on the need for library automation to enhance library functions in Ghana, but obviously absent from these works is the evaluation of automation in Ghana's university libraries. Ankoma-Sey (1982, p. 32), among other things, makes a case for the introduction of information technology in all major libraries in Ghana. Yeboah (1986) observes that lack of funds and static library funds as factors militating against library computerization in Ghana. Sallah (1990) also notes that there are benefits of computer applications and looks at how the computer acquired by the Balme Library has been used. His study revealed that the microcomputer donated by the University of Ghana to the library in 1987 was too small to be used at the circulation desk where a computer was most needed. He, like others, does not look at the evaluation of automation in university libraries in Ghana.

Ogunleye (1997, pp. 76-77) has looked at automating the Federal university libraries in Nigeria and enumerated the following problems: absence of systems analysis study, funding, personnel, power supply and equipment maintenance. His conclusion, like others, points out that some of the problems are a result of lack of systems studies before implementing automation projects. He, therefore, suggests that before any computer is installed or used in the library in particular and other establishments in general, there should be a formal study, among other things, to ascertain the feasibility of the system.

Igwe (1986, p. 79) also discusses the electronic age and the library, present problems and future prospects, and observes that problems, which have delayed "meaningful indulgence" in the new technology in Nigerian libraries, are non-

availability of infrastructural facilities, the problems of librarians and librarianship, and other political issues. He is, however, of the view that in spite of these problems the future prospects can be bright for automation in Nigeria whenever the basic infrastructures are available.

Ondari-Okemwa (1999, p. 228-230) examines the major problems associated with managing a library automation project in a developing country. He points out that the Moi University experience is representative of the type of problems that a library project manager is likely to face. Poor infrastructure, a shortage of local technical expertise, lack of information technology and a shortage of qualified managers are some of the managerial hurdles that they should be able to cope with. He suggests that training of local personnel and equipping the training institutions may partly solve some of the problems. He also observes that automated library systems are not commonplace in Third World countries, yet it is being said that a library that is not automated is moving further and further from the mainstream profession of librarianship

The major purpose of managing a library automation project, wherever it may be, is to facilitate the successful acquisition and integration of an automated system into the library organization. This underscores the urgent need for ensuring the availability of effective management parameters in such undertakings, to make them viable.

### 2.1.3 Computer-based Library Systems

The use of computer-based systems in libraries and information units is now commonplace in many countries of the world. Computers are used in a variety of functions such as maintaining and providing access to the catalogue of items in the

collection, managing the issuing and returning of items from the collection, the acquisition of new items for the collection, controlling serials publications and allowing the retrieval of information from databases.

Writing on computer-based library systems Barfi-Adomako (1990) pointed out that the advent of microcomputer systems with increasing sophisticated features made it possible for computers to be used in library processes. He went on to write a programme for a computerized circulation system for the Balme Library. He identified the problems associated with the manual circulation system as the slow nature of the charging and discharging system, problems with statistics compilation, among others.

Badu (1992) has also written on computer-based acquisitions system for the Balme Library. Like other writers on automation, he mentions the problems of the manual system and the need for automating the acquisitions processes. He also discusses the objectives of the new system, system requirements, the advantages and detailed system description illustrated with system flow charts. He concludes that besides the definite advantages to be derived, the cost of implementing the new system will be much lower than keeping the old system.

Dodoo (1993) also focused attention on the need to automate another Balme Library procedure. She states that there are certain problems associated with manual cataloguing and catalogue card production. She also notes that more time is spent on original cataloguing than on copy cataloguing. To solve these problems she designed a computer assisted cataloguing system to be adopted for use by the Cataloguing Department of the Balme Library. Computerization, she states, will enable the department to use the cataloguing information of computerized records for most titles through the output of Library of Congress and other bibliographic utility services.

The study also recommends to the library to expand the system to include an OPAC (Online Public Access Catalogue) in future to replace the cards system as a tool for information retrieval

Tawiah (1990) writes in support of automation but points out some of the important first steps without which attempts at automation have been known to fail. He states categorically that systems analysis and design is a necessary tool for planning and introducing computers in libraries.

Haider (1998, p. 51) in discussing computer-based library systems in Pakistan points out that automated systems are lacking in large university libraries, as well as in college and public libraries. The largest group using automated systems is special libraries. He also observed that these libraries use automation primarily for a few selected operations like indexing of periodical articles and e-mail. On which software and hardware are commonly used in these libraries, he states that the UNESCO sponsored CDS/ISIS is the most commonly used software; other popular packages used include ORACLE and INMAGIC. Some indigenous systems have also been developed but without much success. IBM 386 and IBM 486 computers are used by a vast majority of libraries. He also enumerates the following problems as the major constraints on library automation; absence of planning, non-availability of software, import restriction on choice of hardware, lack of competent manpower, non-existence of standards and absence of co-operation.

Also writing on computer-based library systems Marcas et al. (2000) observed that the University of Haifa library, Israel, subscribes to hundreds of databases. Many databases are available online through Dialog, OCLC's First Search, Web of Science, and Lexis-Nexis. The library also has a local Novell CD-ROM network with an ERL server, a BPO server connected to several jukeboxes, and many other databases. He

also adds that information retrieval in the library was effected in several ways. Dumb terminals were used to search the library automation catalogue. Bibliographic databases were available through a CD-ROM Novell network, requiring separate workstations. The electronic journals and online databases were accessible through the Internet. He pointed out that the problem was a reader who wished to retrieve information from the catalogue, databases and Internet had to use three separate stations. To solve this problem, the disparate library resources such as the OPAC, online and networked databases and electronic journals have to be integrated into a united system.

2.1.4 Impact of Automation

Amissah-Arthur (1987) talks about management information for library decision making and states that management information obtainable from automated circulation systems are of three types : statistical, operational and analytical. She goes on to say that various developers have designed systems that can produce required management information.

Weber (1971, p. 27) has looked at personnel aspects of library automation and observes that no operation is better than its personnel. The selection, encouragement, motivation and advancement of the individuals who operate libraries or library automation programmes are critical elements in the success of automation.

Olorunsola (1997, p.38) has also written on staff training aspects of automation in a Nigerian university library and observes that automation; like manual systems, will not be successful without adequate training and preparation on the part of staff. Some problems will arise where adequate training is lacking. He concludes

that the largest professional group with current library training in automation is not found in university libraries.

Daniel (1989), also discussing the knowledge base for library automation personnel concludes that it is of the utmost importance that developing countries learn to make imaginative use of the latest scientific advances and participate in their development and dissemination. He also observes that Nigeria should lead by automating her information systems beginning with versatile training and retraining programmes for new and practising librarians.

Asiedu (1988) has discussed the impact of computerization on staff of the Balme Library and observes that productivity levels have risen as more and more and better services are now being provided in the library. He also finds that job satisfaction among staff has improved. He has, however, identified some level of frustration among staff due to the library's inability to acquire needed materials and equipment. He recommends that the library should institute training of staff as an on-going process and that the library should acquire needed software and equipment like generators.

### 2.1.5 Evaluation of Automation Processes

Badu (1993) in evaluating the impact of the use of microcomputers on staff of the Balme Library, University of Ghana, observes that the impact has been felt in the following area: staff and services, on some aspects of management, and on users. His conclusion is that to a large extent the impact has been positive. The sample he used came from the Balme Library staff and some students. The library staff comprised professionals, para-professionals and administrative staff.

In a similar study on support staff in academic libraries Palmini's (1994) findings are that staff feel that overall, their effectiveness has improved and that their job satisfaction has improved. The sample she used came from all academic libraries in Wisconsin. A feeling that was often expressed was that there is not enough time to keep up, either with the present workload or with the changing technology. Access to information is so much greater now and users appreciate the power and relative ease of use of information technology.

Mohammed (1991) writing on the automation of academic and special libraries in Nigeria, observes that an assessment of the state of automation project embarked upon by university libraries in Nigeria revealed that the automation of Nigerian university libraries has been a joint exercise between the libraries and computer centres of the respective universities. He added that this was necessary owing to the cost involved and the readily available expertise at the centres. He enumerates the following as problems faced by the libraries:

- "Administrative bottle-neck from the university authorities;
- Inefficient co-ordination and breakdown of communication between the libraries and the computer centres, particularly with relation to some administrative and technical demands required by the libraries or by the computer centres;
- Breakdown of the computer installation and;
- Insufficient funds to sustain the project". (P.69)

In spite of these problems, he concludes that the fact that the automation of

libraries in Nigeria has progressed from academic and special libraries to the public library domain, is an indication that the future for automating libraries in the country is bright.

Pastine (1994) discusses the impact of automation on academic libraries and points out that automation usually leads to increased access to electronic information systems not held locally and to other new technologies such as the CD-ROM, laser technologies, interactive multimedia packages, OCR (optical character recognition) and imaging systems, LANs and WANs. She also states that:

> "impact has not been only on more technologically oriented methods of operations and services; new information and technologies have replaced outdated cables and wiring. Expanded budgets are required for such things as installation of fiber optics and additional connective wiring and cabling within and among buildings; and equipment (hardware and software) for both staff and public access. Additional funding is needed for online network memberships and connections to national and international networks. Expanded training (of staff and users) and continuing education require increased travel budgets for participation in new professional associations and continuing education and training opportunities. Employment of new types of personnel to handle technological problems (including trouble shooting of hardware/software problems ..." (p. 525).

Khalid (2000) in evaluating the use of technology for housekeeping and bibliographic searching activities in university libraries of Saudi Arabia, points out that there is low use of technology for these purposes. He attributes the low use to

lack of a national information policy and of trained staff. There is, therefore, the need to accelerate the use of technology in all these libraries. He suggests some specific initiatives for maximising the use of technology in libraries of Saudi Arabia, among which are that:

- Comprehensive planning is needed for maximum use of technology in libraries. Libraries planning to automate their operations have to plan very well and implementation has to be followed by evaluation.
- There is the need to develop awareness for the use of technology in libraries. A wider use of media such as producing promotional literature and seeking coverage at national, regional and local levels are important for this process.
- There should be legislation and national policy for the application of technology in libraries. The existence of a national information system is a pre-requisite for rapid technological developments in libraries.
- The training and development of library staff is a crucial issue for the development of technology in libraries.

Again, Mulimila (2000, pp.186-192) writing on information technology applications in East Africa's government - owned university libraries, says that even though the introduction of IT in East Africa University libraries basically started in 1987, after a period of ten years the extent of IT use was still limited. So far only one university library in East Africa, Moi University Library, had automated its library catalogue. He named the following as the problems preventing other university libraries from automating their catalogue:

- Lack of funds.
- Lack of trained manpower in IT application.

To solve these problems he suggested that funds should be solicited from government and donor agencies and there should be collaboration with the institutions. Staff should also be trained in IT.

Were (1990, p.59) writing on computerization of library services: developments in Kenya, points out that the use of computers are increasing in information centres in Kenya. This has resulted in an increasing awareness among librarians of their value. She, however, points out that various problems of a different nature have slowed down development in the area of library automation. Among other things, she mentions computer illiteracy as high among information scientists (p.70). As a result, librarians have not yet fully explored the capabilities of computers in information science. Those who belong to the old generation are reluctant to get involved in technological change. This group, she adds, has not contributed much to developments in library automation and in some cases have been a barrier.

Money is the other problem. Development plans in the Third World focus on educational, training, agricultural and industrial developments. Information technology for most African governments is not a priority. As a result libraries rely on donors.

Turnkey systems which are a common feature in Western libraries are not locally represented. Maintenance becomes a serious problem to those libraries considering installation of such systems. Aside from turnkey, library software packages are not marketed locally. Finally she thinks that lack of cooperation among local libraries coupled with lack of publicity on what exists is yet another problem (p. 72).

She recommends that because of tight budgets of libraries in Africa, automation should be approached with great caution. Foreign sponsors should make

sure that recipients receive what is suitable for their needs. The aid package should normally include systems analysis due to lack of sufficient funds to pay for system analysts.

Staff should be trained. The library staff should be trained in basic computer science and the computer specialists in the library should be trained in basic library science. Knowledge in both areas is, no doubt, an essential factor. Experience has shown that a librarian with a basic knowledge in computer science is a more useful person to the library, (p. 79).

Kedem (1990) writing on application of computer technology in the libraries of Ghana, observes among other things that the absence of information networks could be attributed to absence of manual resource-sharing systems such as national union catalogues, national union list of serials and cooperative acquisitions programmes. His conclusion is that libraries in Ghana have a long way to go in embracing the information technology revolution, which is sweeping across the world. The sample he used came from 13 libraries including the Balme Library.

Badu (1989) discusses the use of computers in Ghanaian libraries and points out the justification for the use of computers and their constraints. He observes that computers have a high precision and are very reliable making one error out of ten billion operations. He however, points out that there are some constraints in using computers in libraries. Among other things, he mentions the following constraints; cost of computers power cuts etc he concludes that large scale automation, particularly when it is first introduced, alters the structure and nature of an organisation and its management.

In conclusion, the literature review shows that even though some research has been done in library automation in Ghana, nobody has looked at the evaluation of

automation processes in Ghanaian university libraries. The reviews, however, reflect some of the aspects of automation, which will be evaluated by this work. Some valuable information in the review will provide some sort of direction for the study.

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# CHAPTER THREE

## 3.0 METHODOLOGY

### 3.1 INTRODUCTION

This section of the study describes the methodology chosen and the techniques used. It begins with research design and explanation of evaluation research. The sampling technique and population description are explained. The data collection instruments are also explained. Finally the quantitative and qualitative analysis techniques used are also described.

#### 3.1.1 Research Design

Considering the fact that the study is an evaluation of automation processes in Ghanaian university libraries, it was necessary to employ research techniques used to evaluate library programmes and projects. To this end, using the survey method, self-administered questionnaires comprising both structured and open-ended questions were designed and distributed to staff of the university libraries involved in the study.

Furthermore, the University Librarians of the libraries involved in the study were interviewed to elicit certain pieces of information from them, which could not be captured by the questionnaire.

#### 3.1.2 Evaluation Research

Studies conducted to obtain objective and systematic evidence of the success or failure of library projects and programmes are often categorised as evaluation research. When a programme is evaluated, its relative effectiveness in terms of

standards, goals, and objectives is determined and described. Typically, evaluation research is an attempt to measure operations in terms of the goals of libraries or library projects or the end result sought. Librarians launch and carry out numerous routine and special projects designed to stimulate the use of services and to improve library operations. Considerable human and financial resources are utilized in these undertakings; thus questions are often posed to trustees, library committee members, sponsors, or librarians themselves concerning the effectiveness of these efforts.

Evaluation studies are not distinguished so much by their methods as they are by their purposes; thus many research techniques are used to effectively evaluate library programmes and projects. According to Busha and Harter (1980, pp. 56-57) at times interviews and questionnaires are used to elicit reactions or evaluations.

This evaluative study used interview and questionnaires to collect data. The study also relied on a population universe for its sample.

(a) All staff (Senior Members and Senior and Junior Staff) of the three university libraries involved was surveyed.

(b) All documents related to library automation in the three university libraries were studied. Documents such as strategic plans, reports on electronic or IT projects, both past and current, development plans and all other documents related to automation were also studied.

3.1.3 Selection of Subjects

According to Busha and Harter (1980, pp. 56-57), the concept of population is fundamental to survey research. A population is any set of persons or objects that posses one common characteristic. The staff of the three university libraries fall into three broad categories. These are Junior Staff, Senior Staff and Senior Members.

- The Junior Staff in the university libraries are those who do not have any formal qualification in librarianship. They usually have 5 credits at G.C.E. "O" level and are trained on the job to assist the professional and paraprofessional Librarians in all sectors of the library.

  Senior Staff in the university libraries are those who have formal library qualifications ranging from Diploma in Library Studies ,A.L.A.., through to B.L.S. They assist the professional librarians in managing the university libraries.

  Senior Members are staff in the university libraries whose qualification range from Fellows of the Library Association, (FLA), Post-Graduate Diploma in Library Studies to Master of Philosophy, and Doctor of Philosophy in Library Studies. These staff members do professional library work in the libraries and are also in administrative positions.

The population sampled was selected from the central university libraries only and not from the satellite or departmental libraries on the various campuses.

The following are populations from the various libraries from which the samples were taken:

| | Balme Library | KNUST Library | UCC Library | Total |
|---|---|---|---|---|
| Senior Members | 13 | 7 | 10 | 30 |
| Senior Staff | 28 | 7 | 9 | 44 |
| Junior Staff | 49 | 30 | 41 | 120 |
| Total | 90 | 44 | 60 | 194 |

3 1 4 Sampling

Best and Kahn (1989, p. 10) have observed that the primary aim of research is to discover principles that have universal application. However, to study a whole population to arrive at generalizations would be impracticable, if not improbable. Fortunately the process of sampling makes it possible to draw differences or make generalizations on the basis of careful observations of variables within a relatively small proportion of the population. A sample is thus defined as a small proportion of a population selected for observation and analysis.

The sampling technique used in this study is the purposive sampling method (Twumasi 1980, p.23). By this technique professional and paraprofessional librarians were surveyed. These are staff that work at service points offering assistance to library clients, process books, and perform other library duties. Those who are not professional and paraprofessional librarians are clerical staff, administrative staff, messengers and cleaners. Using this technique the following samples were selected using the staff lists of the Universities under study; 59 for the Balme Library, 35 for the KNUST Library and 44 for the UCC Library. The justification for this lies in the fact that one of the basic standards for any library, be it academic, public, special or school is that it must have staff who are trained in librarianship or information work (Qureshi 1980, p. 470).

According to Bailey, (1994, p. 96), the advantage of purposive sampling is that the researcher can use his or her skill and prior knowledge to choose respondents. Using this technique, this study as, noted above, sampled all staff of the university libraries under study except the clerical staff, administrative staff and messengers and cleaners.

### 3.1.5 Data Collection Instruments

Data for this study was collected from both secondary and primary sources. Secondary material came from documents in the three university libraries, which dealt with their library automation projects. Books and Journal articles were also used.

With regards to the primary sources of data, two main data collection instruments, the questionnaire and interview were used.

#### 3.1.5.1 Questionnaire Method

For the questionnaire, questions were framed and written down for respondents to provide answers to. Questions were asked in the following areas, among others

- Areas of general automation,
- Areas of automation of specific library processes,
- Networking,
- Internet Connectivity,
- Training,
- Skills acquired,
- OPAC, (Online Public Access Catalogue)
- Future of library automation in the university libraries,
- Issues of software selection and acquisition,
- Major constraints, especially funding, sustainability, etc.

There were 37 questions in all and divided into 6 sections. The sections are as follows:

Personal information, questions 1-4.

Work experience, questions 5-6

Library automation, questions 7-25.

Staff and Library automation, questions 26-35.

Role of Ghana Library Association in promoting

library automation, question 36.

Other comments, question 37.

It must be pointed out that the questionnaire was administered to all paraprofessional and professional Librarians in the university libraries. (See Appendix 2 for questions).

3.1.5.1.1 Advantages and Disadvantages of the Questionnaire Method

The questionnaire as an instrument of data collection has both advantages and disadvantages. Some of the advantages are:

1. It allows a wider coverage of the sample than the interview method.
2. It provides access to more educated respondents.
3. It provides an opportunity for respondents to give frank and anonymous answers.
4. It allows greater economy of effort (i.e. a single instrument duplicated and distributed to numerous respondents can produce a large amount of data).
5. It can be constructed in a way that makes quantitative data relatively easy to collect and analyse.
6. It facilitates the collection of large amounts of data in a short period of time.
7. It can be completed by respondents at their own leisure within the time required by the researcher; and objective data can be collected through this method.

In spite of these advantages the questionnaire instrument has, however, some disadvantages which discourage some researchers from using it. These are;

1. Personal contact or interaction is prevented and, as such, explanations cannot be offered.
2. Difficulty in obtaining responses from a representative cross-section of the target population is seen as a major disadvantage. Some respondents may totally refuse, decline or omit to answer the questions because the researcher is not there to urge them on.
3. Verification of the accuracy of questionnaire responses might sometimes be difficult or even impossible.
4. Most questionnaires cannot be designed to uncover cause or reasons for respondents' attitudes, beliefs or actions.
5. Non-verbal communication which is possible and can add some information in an interview situation is not possible in the case of a questionnaire.

3 1 5 2 Interview Method

The interview method was also used. In this situation, the researcher met the respondents and asked them questions, which were written down. (See Appendix 3 for questions). Only the University Librarians were interviewed. The researcher wrote down the answers to the questions. Some of the questions covered areas like systems analysis, problems with automation, skills in strategic management, automation strategic plans, programme for recataloguing, automation of library processes, purchase and maintenance of equipment, etc.

According to Goldie and Pritchard (1980, p.62). The interview is essentially a method of collecting information. The are three types of interview: one to one, group and telephone interviews. This study used the one to one method, which was conducted using questions involving the respondent and the researcher. This allowed for open discussions over certain responses. Some researchers have rated the interview method superior to the questionnaire variety, with the contention that verbal communication elicits significantly more complete answers to questions than a questionnaire.

3.1.5.2.1 Advantages and Disadvantages of the Interview Method

The following are some of the advantages of the interview method:

1. It is appropriate for all segments of the society.
2. It offers flexibility in the sense that questions can be framed during the interviewing situation and questions can be adapted to suit the psychology of the person. Explanations can also be offered and ambiguous questions clarified.
3. The interview is found to be non-threatening and relaxed because the researcher and the interviewee see each other and can, therefore, have purposeful discussions.
4. In the field, the interviewer can check the validity and reliability of answers and can probe any contradictory information.
5. The interviewing situation allows the researcher to watch sentiments and non-usual communications that accompany responses.

6. Response rate in an interview is likely to be higher than in the questionnaire because it is a face to face situation where due to courtesy, refusing to answer is not as easy as the questionnaire situation; and
7 The interviewer has more control over field investigation because of his/her presence. He/She can, therefore, gather in-depth information. (Busha et. al. 1980, pp. 56-57).

The interview method also has some disadvantages some of which are listed below:

1 Respondents may ramble on about things in which the researcher is not interested.
2. The interview method can be time consuming and energy sapping.
3. It is difficult to ensure that the interviewer does not inject his feelings into the situation. He/She may influence some of the responses, thus objectivity is usually difficult in an interview.
4. Sometimes the interview can be expensive in terms of the training and use of research assistants in a large sample, and information gathered can be suspect because the research assistant may not be very interested in the end result of the research.
5. An interview requires knowledge of the language of the respondents and this can be a problem in some situations. Such situations may require the use of interpreters and information gathered may not be reliable
6. An interview creates the situation of an imposition on the interviewee and this does not allow respondents to answer questions at their own leisure
7. Interviewee's self-esteem may also be at stake. (Busha et.al. 1980, pp 56-57).

Both instruments were used for their obvious advantages rather than their disadvantages. Twumasi (1980, p. 23) has recommended that where necessary more than one method should be used to collect data in order to get maximum results. In the case of this study, the two instruments of data collection were used not on the same group but on two different groups of respondents because different types of information were required from each of them. The researcher visited all the libraries under study to conduct interviews.

### 3.1.6 Method of Data Analysis

How data would be analysed was borne in mind when the questionnaire was being constructed. Data was analysed using Statistical Package for Social Sciences (SPSS) (Nie et. al. 1970). The developers of SPSS in their introduction to the book indicated that SPSS presents the social scientist with a useful working language for data analysis. It also provides users with a substantial increase in the ease and flexibility with which they can approach their day-to-day use of the computer. (Nie et. al. 1975, ix).

Before the analysis, the responses were coded. A value was given for each response and consistency was maintained throughout the coding by maintaining the values for each response. Descriptive statistics such as frequencies, and percentages were used to present the results of the analysis. Tables were used to display the results.

On the other hand the information gathered from the interviews was presented in the form of a report.

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# CHAPTER FOUR

## 4.0 UNIVERSITY LIBRARIES IN GHANA

### 4.1 UNIVERSITIES IN GHANA

Ghana's first university, University of Ghana, was founded in 1948 as the University College of the Gold Coast on the recommendation of the "Asquith Committee on Higher Education in the Commonwealth". The University College attained full university status on 1st October, 1961. This was followed by Kumasi College of Technology in 1951 and it developed later into the University of Science and Technology, Kumasi in 1961. The year 1962 further saw the establishment of the University of Cape Coast. The 1990's saw the establishment of University for Development Studies, Tamale and University College of Education, Winneba. All the five universities in Ghana are state-owned and are almost entirely funded by government.

It is recognised world wide that a university library is one of the most important agents of instruction and research, and this makes the library basic to learning and the exploitation of our experiences and intellectual resources. University libraries exist to further the mission of their universities. In this light, the library emerges as the heart of the university and is directly related to the success of its aims and objectives.

These aims and objectives include the provision of higher education, conservation of knowledge through teaching, research, publication and extension services. The university library supports these objectives by providing resources and facilities, which support teaching and learning. In this light, the university library

provides textbooks for all courses offered at the university. It also provides the students with an approach to self-education and an opportunity for independent work. In addition, it makes provision for the day-to-day information needs of lecturers, students, researchers and other staff. Thus, the university library acts as a pillar behind all academic programmes being run by the university.

In this regard, the library emerges as the central core of the academic community and ensures the success of the aims and objectives to which the university is committed. It supports the curricula of the faculties, institutes, schools and departments, the research needs of scholars; the day-to-day information needs of scholars and lecturers students and management. Kwapong (1970, p. 13) points out rightly that "the university library may be considered the heart if not aorta of any university and its academic health, intellectual vitality and effectiveness, therefore, closely depends on the state of health and excellence of its library which is indeed its very lifeblood". University libraries in Ghana are no exception to this assertion.

## 4.2 The Balme Library

The Balme Library, which was formerly called the University College of the Gold Coast Library, was founded in October 1948 with an initial stock of about 60,000 volumes. The library began in temporary buildings on the Achimota campus and by 1954, the library's collection of books and pamphlets had reached 77,440 (Pitcher 1970, p.12).

In August 1959, the library moved from its temporary quarters at Achimota to the new building at Legon The new building was formally opened by the Governor-General, The Earl of Listowel, who also unveiled in the Catalogue Hall a bronze bust of David Mowbray Balme (first Principal of the College) after whom the library is

named. The collection that year stood at 124,857 (Pitcher 1970, p.12). It is important to point out that the building was meant to house 250,000 volumes and accommodate 350 readers (Kedem 1990, p. 346). The library now has a book stock of about 400,000 vols. In 1965, the Balme Library used to subscribe to about 5,000 periodical titles. Now its periodical subscription is below 800 titles. Meanwhile the library now serves the needs of more than 10,000 readers.

The clientele of the library are faculty members, postgraduate and undergraduate students, research workers, non-research staff, alumni, the university administration and the general university community. The Library is manned by 12 professional Librarians and 90 other staff of all categories.

In the late 1960s, IBM introduced computer services to the university. These were at first used to prepare pay roll and later, students' records. In 1987, the university administration supplied a WANG PC to the Balme Library, but it was not until February 1989 that the PC was installed and started service to readers. (This computer, however, is no longer being used).

Since 1994, the library has acquired more computers as a result of a CD-ROM project initiated by AAAs, The World Bank, IFLA/Danida and InfoDev/GNCIC projects.

### 4.2.1 Departments of the Balme Library

The Balme Library is made up of two components, namely the decision-making component and the operational component. The operational component is made up of the various departments. These departments together with the decision-making component, which is the University Librarian's office, carry out specific functions:

(1) The decision-making component is responsible for the day-to-day administration of the library, staff control and staff training, maintenance and budgetary control, and relations with other libraries at home and abroad.

(2) The Orders and Acquisitions department is responsible for the acquisition of all library books and other documents (excluding journals) by the library. In this connection, the needs of the users are catered for.

(3) The Cataloguing Department is responsible for the cataloguing and classification of library materials acquired by the library. It is also responsible for maintaining the catalogues of all books and non-book materials in the library.

(4) The Periodicals Department is charged with the acquisition and processing of new periodicals, claiming missing issues to complete holdings, exchange of periodicals with other libraries and preparation of completed journals for binding.

(5) The Reader Services Department is responsible for the circulation of library materials and receiving books returned to the library, reference work, supervision of reading rooms, student orientation, user education/training, photocopying materials on request, CD-ROM and Internet Services.

(6) The Electronic Support Unit which was set up in 1994, is responsible for computer troubleshooting, installation of hardware and software, networking and purchasing of computers and accessories and other IT equipment. (The Unit was set up initially for the CD-ROM and e-mail services). It also provides limited training assistance to the other university libraries.

(7) The Technical Services Department is responsible for repairing old books and pamphlets, binding of periodicals, photocopying pages of mutilated books, and binding long essays and theses for students of the university and generally

doing binding work for the university community when necessary. It also serves non-university clientele, although at the limited level.

It is important to point out that, the circulation section and reserve book collection were initially in the Catalogue Hall but were moved in May, 1963 to the main entrance of the library. The main reason for the move was to provide more effective supervision of readers entering and leaving the library (University of Ghana, Annual Report 1962 63, p.78). During the same year, experience showed the expediency of the move, as the number of book reported missing declined (University of Ghana, Annual Report 1963/64 p.89).

### 4.2.2 Description of Stock

The stock of the Balme Library is made up of the reference collections, loan collections and special collections. The reference collection consists of basic reference books like almanacs, dictionaries, encyclopaedias, directories, bibliographies, abstracts, indexes, concordances, theses, biographical dictionaries, handbooks and such quick reference materials relevant generally to teaching and instruction in the University. These materials are all in the Catalogue Hall.

The library also has about 1,496 microfilm material, made up of local newspapers and academic theses on Ghana accepted by universities and other institutions of higher learning in the Commonwealth and the United States of America. Apart from these, the library also receives theses of postgraduates and research fellows of the University of Ghana.

The loan collections are basically books that are not on reserve and can be borrowed by the university library users.

Special collections of the Balme Library include the following sections of the library.

(1) The Students' Reference Library: This unit of the library was established in September 1964 at the West Wing of the first floor of the Library. Its collections include multiple copies of textbooks and standard works often recommended by lecturers or those in high demand by lecturers, researchers and students. The titles in the Students' Reference Library are all duplicated in the main library. An author catalogue and shelf lists are maintained in the library and all titles are recorded in the general author catalogue in the Catalogue Hall. The Students' Reference Library has over 50,000 volumes today. Out of these a little over 10,000 that are kept in the reserved collection room have been input into the computer (Kedem, 1990, p. 346.).

(2) The Africana Library: This Library came into being in 1961/62. It was establishment to service the Institute of the African Studies, which was also establishment at the same time. It is a reference library and the first copy of all library materials on Africa in the humanities and social sciences are placed in this library. Subjects under each geographical area are arranged under country or under geographical areas as appropriate. The Africana Library now occupies the whole of the East Wing of the first floor of the Balme Library building.

(3) The United Nations Library: The Balme Library became a depository for UNESCO publications and documents in 1950 and for the Food and Agricultural Organisation printed publications in 1954. At the request of the Government of Ghana on 26th July 1962, the Balme Library was designated a UN depository library to receive items issued as from 18th March 1963. As an official Depository

Library, the Balme Library receives all printed publications of the UN in English and mimeographed documents of the Economic Commission for Africa.

(4) The Braille Library is the section of the Balme Library devoted to the blind and the visually impaired. It was officially opened on the 28th September 1989. Its establishment was necessitated by the admission of students with vision problems to the University. The Library is based principally on items donated by Soroptimist International Club of Accra. The Ghana Society for the Blind also donated a few items. The items include the following:

2 Braille Typewriters
1 packet of braille sheets
100 used cassette tapes
2 Earphones; and
92 Assorted books.

A specialist from the Special Education Unit of the Ministry of Education currently mans the Library.

(5) The Arabic Library was established in 1966. Apart from a few reference books, only books in Arabic script are placed in the library. An Arabic speaking paraprofessional Librarian is in charge of the Library. This collection is developed through gifts and purchases.

(6) The World Bank Library: The Balme Library became a World Bank Depository Library in 1992. The objective of this library is to provide free access in member countries to The World Bank's published information. In 1996, the World Bank Depository Library was re-located in the East Wing of the Africana Library, adjacent to the bound Africana periodicals section on the first floor of the library. Items in the collection include World Bank Discussion Papers, Working Papers, Country Studies and other equally important publications.

(7) CD-ROM Service: In May, 1994 the CD-Rom service was started in the Balme Library in the context of a 3-year American Association for the Advancement of Science (AAAS) CD-ROM Pilot Project which was aimed at supplementing the dwindling journal subscriptions in a select number of libraries in an equal number of African countries in order to facilitate research. Balme was among the seven African University Libraries selected for this project. The project was funded by the Carnegie Corporation of New York and the Ford Foundation, and coordinated by AAAS (University of Ghana, Campus Update 1995, p.2). The project gave the Balme Library six CD-ROM bibliographic databases. In addition AAAS also provided free of charge a hard copy of any title identified in databases that are not available in the library.

(8) E-mail and Internet Services: As an additional project to the CD-Rom project, there was an electronic mail service. This second facility was set up in September 1994 through the joined effort of the International Development Research Centre (IDRC), Ottawa, Canada and the then Pan African Development Information System (PADIS), (now Development Information Systems Department, DISD) Addis Ababa, Ethiopia. This project was part of the CABECA (Capacity Building for Electronic Communication in Africa) project whose objective was to promote the use of low cost infrastructure to help link African countries to the Internet. In this regard, the project provided Fidonet technology, which gave the Library e-mail access. It is important to point out that the Fidonet-based e-mail system is no longer being used. It has since been replaced by a full Internet system.

(9) ILL/DD Service: For several years the IFLA Section on Document Delivery and Inter library Lending discussed the inter library lending problems in development countries and activities supporting these. Consequently, the section at its meeting in Barcelona in 1993 decided to investigate the possibility of starting a trial project concerning document delivery in the Third World. It then decided to have two trial projects in two different areas of Africa.

The Danish International Development Agency (DANIDA) and the Norwegian Ministry of Aid to Developing Countries (NORAD) were contacted and they showed interest in the project. The Danish group was slated for Ghana and the Norwegian one for Kenya. (ILL/DD Newsletter vol. 1 no 1, 1998, p. 1)

In April, 1998 an Inter Library Lending and Document Delivery (ILL/DD) Unit was established at the Balme Library as an IFLA/DANIDA Project which was initiated in 1996.

The Unit was supplied with the following items:

4 PCs

1 HP LaserJet 6L Printer

1 HP Scanjet 5100c Flatbed Scanner

3 APC 650 Pro UPS

1 split air-conditioner

The Unit delivers photocopies of journal articles on demand, provided the requested article has relevant bibliographic details. Since all requests are sent via E-mail, to selected libraries in Denmark, the photocopies arrive in just a few days' time. To sustain the project, a small fee is charged

## 4.3 University of Science and Technology, Library History

The Kwame Nkrumah University of Science and Technology (KNUST) developed out of the Kumasi College of Technology established in 1951. It offers mainly programmes in science and technology along with medicine up to postgraduate level. There is also a small but growing Social Science Faculty and the College of Arts. The KNUST has eleven Faculty/Institute/Centre libraries linked to the main library.

The Kwame Nkrumah University of Science and Technology Library was started with the collection of books, which formed the library of the Teacher Training Department at Achimota. The Teacher Training Department was transferred from Achimota to the Kumasi College of Technology in 1951, and brought with it its library, which became the nucleus of the present the KNUST Library (Pitcher, 1970, p.13). The books, which formed the initial stock of the library, were therefore predominantly on teacher training education. They were largely volumes on education, housecraft, physical education, fine arts and religion. In all, this initial collection numbered about 4,500 books.

In 1952, a full-time, qualified librarian was appointed and the task of building up the library to fulfil the purposes for which the college was established was placed on his shoulders. With the establishment of the Departments of Engineering, Commerce, Science and general studies, Pharmacy and later on, of Agriculture, Architecture and Town Planning, the range of the library was enlarged and a policy of judicious book selection to do justice to every department was adopted. The rate of acquisition was, however, slowed down by three factors:

(a) Inadequacy of the accommodation provided for the library.

(b) Scarcity of trained assistants to man the library;

(c) The rather low grant allocated for the purchase of books and periodicals.

The library was initially housed in one of the temporary prefabricated buildings from which the university was started and had a seating capacity of 135 readers. The staff comprised a Librarian, Chief Library Assistant and five other assistants.

From this humble beginning, the library today has developed and expanded into what is referred to as the University Library System. This consists of the Main Library and eleven faculty, school, institute and centre libraries. These "satellite" libraries include:

1. The School of Medical Science Library
2. The School of Engineering Library
3. The Faculty of Agriculture Library
4. The Faculty of Pharmacy Library
5. The Faculty of Sciences Library
6. The Faculty of Social Sciences Library
7. The Faculty of Environmental and Development Studies Library
8. The College of Art Library
9. The Institute of Renewable National Resources Library
10. The Institute of Technical Education Library, and the
11. The Land Administration and Research Centre Library

These libraries complement the work of the main library; they stock and provide reading materials in support of study, teaching and research. Together they (i.e. the satellite libraries) hold a total stock of about 200,000 volumes (KNUST University Library Strategic Plan, 1995-2015, p.4).

The Faculty/Institute Libraries are catered for and coordinated by the main library, which provides them with staff requirements, technical and specialized services and also occasionally provides materials for their stock. It is important to note that the libraries of the School of Medical Sciences, the School of Engineering, Faculty and Research Centre are manned by qualified professional librarians. The other libraries, however, have para-professionals in charge. This study is limited to the main library.

4.3.1 Organisation of the KNUST Library

The organisation of the library follows the traditional departmental pattern of:

(a) Orders and Acquisitions,

(b) Cataloguing and Classification,

(c) Periodicals (including binding preparation and photocopying),

(d) Reader Services, and

(e) Reference and Research.

There are also:

(i) The Undergraduate Library, and

(ii) The Ghana Collection (UST Library Guide, 1980, p.2)

The Orders and Acquisitions Department is responsible for ordering all books and pamphlets. It exchanges materials with other institutions.

The Periodicals Department is responsible for the acquisition and recording of periodical titles. It claims issues not received and tries to fill in gaps of missing or mutilated issues.

The Reference and Research Department houses the usual, basic reference materials such as encyclopedias, dictionaries, both general and subject, handbooks, almanacs, yearbooks, statistical reports of countries and organisations such as the OAU, the UN and its agencies, university calendars and annual reports, and similar materials. It also has a good collection of British Standard Institution codes.

The Ghana collection has a stock of materials on Ghana published both by Ghanaians and foreign authors. Though not comprehensive, it holds some vital and rare colonial publications. Some of the collections include Legislative and Executive Instruments, Gold Cost Ordinances, Ghana Law reports, Legal Documents, Government White Papers and historical documents.

The library has two microfilm readers, one of which takes microfilm, microfiche and microcard. The Microfilm readers are kept on the first floor adjacent to the mezzanine exhibition area.

Currently, stock stands at about 180,000 volumes and 500 journals. Subscriptions are currently, down from 1720 (IFLA/DANIDA Newsletter, 1998, p.4) The library has some CD-ROM databases and a CD-ROM reader.

CD-ROM databases were introduced in the library through a donation by AAAS (American Association for the Advancement of Science) in June 1993. The library was given six discs (1988-1992) of the Compendix Engineering Index. The library was also given a Mitac PC, CD-ROM player (Hitachi model CDR 1700s). Later in September 1993 the Institute for Scientific Information sent the library demonstration discs of citation indexes on biochemistry, biophysics, biotechnology,

biomedical engineering and neuroscience (Darko-Ampem, 1994, p. 4-5). The CD-ROM service, folded up when the one in charge left the library.

Since April 1998, the KNUST Library has been participating in the ILL/DD project with the other university libraries. The library was supplied with the following items.

2 PCs

1 HP LaserJet Printer

1 HP Scanjet 5100c Flatbed Scanner

2 APC 650 Pro UPS

4.4 University of Cape Coast Library (UCC)

The University of Cape Coast (UCC) was set up in 1962. It was established to Satisfy the need for highly qualified and skilled manpower in education. Its focus of training was, therefore, to be graduate teachers for secondary schools, teacher training colleges and technical institutions, a mission that the two other universities were not equipped to fulfil (University of Cape Coast Library Report, 1994). After nine years of existence, initially as a College in a special relationship with University of Ghana, the University College of Cape Coast achieved the status of a full University in 1971 by an Act of Parliament, the UCC, Act 1971 (Act 390).

The library started with a collection of 650 books mainly on English Literature, Economics, History and Geography transferred from the University of Science and Technology (University of Cape Coast Calendar, 1971-75, p.20). The collection was first housed in the lecture rooms in the Faculty of Arts until April, 1963. After that time, the library was moved into a temporary building with a capacity for 40 readers and 20,000 volumes. The appointment of a professional

librarian during the first year facilitated its systematic development. Since its inception the growth of the library has been quite rapid. About 1,000 volumes were accessioned every month during the early years of its existence up to 1973. Since then, like the other academic libraries of Ghana, growth has been at a slow pace with projected annual average of 5,000 volumes.

Before 1999, the library had two sections, the Main Library and the Science Library. The Main Library housed materials on the social sciences and humanities, including education, while the Science Library contained materials on science and technology. The science books were moved to the science faculty building during the 1967/68 academic year because of pressure on storage and reading space in the Main Library and in order to have the science books as close as possible to their users. The two sections were administratively under the University Librarian (Jackson, 1981, p.12).

The total stock of the University of Cape Coast Library now stands at 150,000 books, 400 journal titles and 5,000 microforms.

The Library is organized into the following sections

1. Acquisition Section
2. Cataloguing Section
3. Periodical Section and
4. Reader Services.

The Acquisition Section essentially acquires reading materials for teaching/study and research. This entails ordering and direct purchases or exchange. In this connection, the needs of undergraduate, post-graduate students, and the teaching and research staff are catered for. The section is in charge of acquiring for the library, its reading materials.

The Cataloguing Section has the primary function of producing an efficient tool in the form of the library catalogues that will serve as a key to the resources available in the library.

The work of the Periodicals Section involves the acquisition of periodicals and other non-book materials, especially microforms. The Section also processes and displays periodicals, maintains exchange with other institutions of higher learning and assists readers in their search for periodical literature. The library also has special collections, which are grouped according to similarity in subject content and materials. Significant among these are:

1. The African History collection,
2. The United Nations and World Bank publications,
3. The Reference collection,
4. The Reserve collection and Micro-texts collection.

The African History Collection was started around 1963 at the request of the head of the history department, to house in one place all books and bound journals on African history and travel. These materials are under "closed access" and, therefore, are available for use only on request and on the library premises only. Although library users are not allowed to borrow from this collection, they may do so under very special circumstances, with the permission of the Librarian.

The Reference Collection is made up of general and subject encyclopaedias, dictionaries, handbooks, yearbooks, reports, atlases, and other general and special reference works in addition to bibliographies, abstracts, indexes and research reports. The collection is meant for use on the library premises only, except that students may borrow one book from this collection over the weekend.

The Reserve Collection comprises books, periodicals and other bibliographic materials required for academic work by students, which at the request of the teaching staff are kept temporarily on reserve behind the Circulation Desk. Heavily used single copy titles that large classes of students may have to use are also added to this collection so that every member gets access to them.

Since April 1998, the University of Cape Coast Library has been participating in the ILL/DD project with the other university libraries. The project came into being as a result of IFLA/DANIDA project initiated in 1996. Under the project, the library was supplied with the following items:

2 PC's

1 HP LaserJet Printer

1 HP Scanjet 5100c Flatbed Scanner

2 APC 650 Pro UPS

In 1999, the library moved into a new library complex, which had been under construction for many years. This has made it possible for the Science Library and the Main Library to come under one roof at a central location.

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# CHAPTER FIVE

## 5.0 ANALYSIS OF DATA AND FINDINGS

### 5.1 INTRODUCTION

The study was undertaken in the area of library automation. Specifically, it was undertaken to find out which library processes have been automated in Ghana's three older university libraries, namely the Balme Library, University of Ghana, the Kwame Nkrumah University of Science and Technology Library, Kumasi and the University of Cape Coast Library, Cape Coast. It also investigated problems associated with library automation in these libraries, and tried to find out how well trained and well informed staff were about library automation in general and on going projects in their libraries in particular. Similarly, the study looked at the types of hardware and software the libraries have acquired, their capacity and how current these are.

It was decided that the group that would help to find answers to the issues under investigation would be the library staff and the University Librarians. Selection of the library staff forming the sample was accomplished using the purposive sampling approach as stated in Chapter Three of this study. From the three university libraries the following samples were taken: from the Balme Library a sample size of 59 was taken from a population universe of 90. From the Kwame Nkrumah University of Science and Technology Library, a sample size of 35 was taken from a population universe of 44. Finally, from the Cape Coast University library a sample size of 44 was taken from a population universe of 60.

The University Librarians were interviewed. In this chapter, the report of the interviews is presented first, followed by the presentation and analysis of data from the questionnaire.

## 5.2 Report on Interview Responses

The University Librarians of the three selected University Libraries were interviewed. The researcher met and asked them questions, which had been written down. It must be pointed out that the questions for the interview were slightly different from the questions for the questionnaire because the interview sought to elicit different pieces of information from the respondents. Some of the questions covered areas like system analysis, problems with automation, skills in strategic management, automation strategic plans, programme for recataloging, automation of library processes and purchase and maintenance of equipment, etc.

### 5.2.1. Number of Computers and How they were Acquired

During the visit and subsequent interviews with the University Librarians, it came to light that the three university libraries under investigation have a number of computers of different make and RAM spaces ranging from 16.0 MB to 64 MB. Most of these computers were bought for the libraries through some form of project from the Ministry of Education or some other project. There were also computers acquired through a project currently going on in the library, namely the IFLA/DANIDA ILL/DD project. However, the University of Cape Coast Library reported that the university administration gave them money to buy ten Compaq computers. On the other hand, the Balme Library of the University of Ghana and the Kwame Nkrumah University of Science and Technology Library reported that even though some

specifications were given for funds to be released for computers to be purchased, the University administration rather bought different types of computers for them. The Tables below show the type of computers the various University libraries have.

**Table 1 : Computers at the Balme Library (2001)**

| Computer | Number | Ram |
|---|---|---|
| Gateway | 23 | 64.0 MB |
| Globalyst 520 (486) | 7 | 16.0-32.0 MB |
| Micron | 4 | 64.0 MB |
| Dell | 4 | 64.0 MB |
| Dell (486) | 1 | 16.0 MB |
| IBM | 1 | 16.0 MB |
| Blue Chip | 1 | 16.0 MB |
| Compaq | 1 | 16.0 MB |
| Total | 42 | |

In addition to the stated number of computers the Balme Library also has four computers, which are used as servers for Internet connectivity and e-mail service. These are three Micron computers and one NCR computer. The Microns were bought for the Balme Library in connection with the IFLA/DANIDA ILL/DD project while the Ghana National Committee on Internet Connectivity (GNCIC) donated the NCR computer. Again, the GNCIC contributed eight computers in a cooperative agreement with the Balme Library to set up a computer laboratory. This Laboratory has fourteen computers (including the eight from GNCIC). GNCIC also contributed one scanner and a powerful server.

**Table 2 : Computers at Kwame Nkrumah University of Science And Technology, Library (2001)**

| Computer | Number | Ram |
|---|---|---|
| Gateway | 5 | 64.0 MB |
| Globalyst 520 (486) | 5 | 16.0-32.0 MB |
| NCR 3333 | 3 | - |
| Mitac (286) | 1 | - |
| IBM PS/2 | 1 | - |
| Micron | 3 | 64.0 MB |
| Total | 18 | |

It was reported that computers were bought for the KNUST Library, the recent additions being Gateway Computers bought by the University through the Ministry of Education, Micron computers bought by the IFLA/DANIDA ILL/DD project and one Micron Computer from the GNCIC

**Table 3 : Computers at University of Cape Coast (2001)**

| Computer | Number | Ram |
|---|---|---|
| Compaq | 10 | 64.0 MB |
| Micron | 3 | 64.0 MB |
| Total | 13 | - |

The University of Cape Coast Library, unlike the other university libraries, was given money to purchase Compaq computers they wanted. The Librarian said that it was possible for the library to get the money for the computers because of the Academic Facility User Fees (AFUF) paid recently by the students to the University. He also said that two of the three Micron Computers were bought for the library by the IFLA/DANIDA ILL/DD project and that the other one was from the GNCIC.

5.2.2 Age of Computers and Maintenance

In all three university libraries investigated, all the old computers have been discarded because they no longer meet the needs of modern library automation.

However, at the Kwame Nkrumah University of Science and Technology (KNUST) Library 286 and 386 computers were seen but the researcher was reliably informed that they had outlived their usefulness

Most of the computers in the university libraries have RAM capacities ranging from 16.0 MB and above. In fact, most of the computers have more than the minimum hardware requirement for library processes, which is 32 MB RAM. Any computer which has 32 MB RAM and above can be used for multimedia, Internet searches and other things (Einstein, 1996 p.10). Since most of the computers have slots to enable memory to be increased as and when needed, it can safely be said that there are no problems with current computers the libraries have. Even though the Balme Library has more computers than the other university libraries, the number is still inadequate since Legon has a larger student population than the other libraries.

None of the libraries investigated has any maintenance agreement on their computers. All the librarians said they rely on the warranty for the computers if there are problems within the warranty period. Even though it is the norm for most companies to give at least a three-year warranty on hardware (Einstein 1996, p.20), most computer companies in Ghana give only one-year warranty. This is the more reason why the university libraries under investigation should have maintenance agreements. The Librarian of the KNUST Library, however, said that the Computer Science Department of the University helps them with expertise to solve some of their problems. The University of Cape Coast Library has some form of maintenance agreement with one of the companies they bought their computers from but could not specify which. Balme library on the other hand, solves their computer related problems by getting the University's Data Processing Centre (DPC) to have computer technicians look at their computers if there are problems.

On plans to change computers periodically, only the Librarian of the Balme Library said no. This probably stems from the fact that the University of Ghana administration refused to give money to the Balme Library to purchase computers of their choice. One impediment or the other was put in the way of the library until the idea to purchase computers was abandoned. The University administration, however, gave the library some computers later on. With this sort of approach, that Librarian felt that he could not confidently say that there are plans to change computers periodically. He, however, stressed that when there is the need to buy new computers he will make the University of Ghana administration aware of that.

The Librarian of the University of Cape Coast Library and the Librarian at the KNUST Library said that computers would be changed when the need arises. They, however, did not say categorically that they have a plan for that. It is apparent from the findings that the administrations of the universities surveyed do not give monies to the Libraries specifically to purchase computers and other electronic equipment. Apart from the University of Cape Coast (UCC) Library, the other university libraries had their requests for money to purchase computers turned down.

Since it is difficult getting the university administration to release money to purchase computers, none of the Librarians interviewed had a budget line for the purchase of computers The Librarian at the Balme Library pointed out that having a budget line for the purchase of computers was an exercise in futility since no money will be provided. He, however, accepted that even though the money to purchase computers may not be available now, that should not stop them from having a budget line for the purchase of computers. Interestingly, he pointed out that there is an automation committee at the Balme Library, which sets goals to be achieved in

automation of the library every year. The achievement of the goals set out was totally dependent on what money the university administration would provide.

The Librarian of the UCC Library conceded that in the past there was no budget line for the purchase of computers and accessories because the University never gave out money for that. However, with the advent of AFUF (Academic Facility User Fees), there is now a budget line for computers. He pointed out that the fact that he was given money to purchase ten computers recently was a testimony that if he includes purchase of computers in the budget he would get money for it. On the other hand, the Librarian at the KNUST Library said even though a budget line for computers was sometimes included in the budget, it was difficult getting money to purchase computers and accessories.

### 5.2.3 University Administration and Library Automation

The university libraries surveyed all had their first computers as gifts from the university administration. The Balme Library was given a computer in 1987. The KNUST Library 1990, the UCC Library in 1989 (Amekuedee, 1991).

The interviews with Heads of the libraries revealed the following: the Librarian at the Balme was of the view that the attitude of the University of Ghana administration towards library automation has changed from what it was in the past. It is on record that the University paid for a cataloguing software/database called Bibliofile for the library 1995. Computers are also donated to the library periodically. The administrations most recent support for the library is the setting up of a Cyber Café in the Balme Library's Annex. Cabling has already been done and there are 106 points for the same number of computers. The Librarian also pointed out that even though the administration is aware of the importance of library automation and would

like to support it, more often than not the University itself is cash strapped. In spite of the support the library receives from the administration he thought that they could still do more.

The University of Cape Coast Librarian revealed that currently the attitude of the University of Cape Coast administration towards library automation is positive. Not too long ago at a meeting of heads of departments it was stated categorically that library automation should be given priority if the University Library was going to play a meaningful role in the academic life of the University. There are plans to set up a Local Area Network (LAN) to enhance Internet search.

Similarly, at Kwame Nkrumah University of Science and Technology (KNUST) Library the Librarian pointed out that the University of Science and Technology administration has been helpful in the purchase of computers and training of staff. It was also reported that a Local Area Network (LAN) was going to be set up soon. All the libraries were optimistic that with the Academic Facility User Fees (AFUF) being collected by the universities more funds will be earmarked for library automation.

5.2.4 Use of Computers and Automation of Library Processes

The libraries investigated use their computers for the functions shown in Table 4 below:

**Table 4 : What Computers are used for in University Libraries in Ghana (2001)**

| | What Computers are used for: | | | | | | |
|---|---|---|---|---|---|---|---|
| **Libraries** | **Catalogu-ing** | **E-mail Internet Searches** | **ILL/ DD** | **Word Process-ing** | **CD-Rom Searches** | **Creating Data-bases** | **Circula-tion** |
| Balme Library | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| KNUST Library | ✔ | ✔ | ✔ | ✔ | - | ✔ | - |
| UCC Library | ✔ | ✔ | ✔ | ✔ | - | - | - |

The computers acquired by the university libraries are not used for library housekeeping processes except cataloguing. Other library housekeeping processes like acquisitions, serials control, reference and circulation service are not automated at all. Even though the Balme Library uses one of their computers for circulation, this is limited to about 50,000 volumes in the Students' Reference Library. This computer uses an in-house circulation software called the OBA System. The OBA library system is multi-system in the sense that it can be used for cataloguing and circulation operations. It is powerful for managing library data. It can store, retrieve and manage information. Materials can be searched by either Author, Title, or Subject. Book status can also be determined. Even though all libraries are using some of their computers for cataloguing, it must be pointed out that the computers are only being used to create a database of catalogue records of their processed books and not for Online Public Access Catalogue (OPAC). The universities have some computers all right even though they may not all be current but at least, they have some Pentium (111) computers. The problems with the libraries are that the computers are not robust and there is no library software for the library processes.

All the libraries have Internet connectivity, which was achieved through the IFLA/DANIDA project, which started in 1997. Apart from the Balme Library, which has a network of computers with Internet connectivity, other libraries access the Internet on only one computer. This is not helpful because library users cannot search the Internet individually for information. The story is, however, different at the Balme Library, which has a Local Area Network (LAN), which enables several library users to search the Internet at the same time. There is a Computer Laboratory with fourteen (14) computers, which the library users can use for searching the Internet and CD-Rom databases. No e-mail service is allowed at this laboratory.

There is however, another computer laboratory where there are seven (7) computers for e-mail services. UCC and KNUST libraries are also about to set up LANs for their Internet services.

Internet connectivity can be sustained after the IFLA/DANIDA project runs out by charging for the service. One cannot charge for a service the library users do not have access to. It is therefore of paramount importance that LANs are created for Internet access in the university libraries to be available to many users at once. It is hoped that KNUST and UCC libraries will set up their proposed computer laboratories.

On plans for retrospective conversion (Recon) of their manual catalogues, all the librarians interviewed said they have not put any definite plans in place yet. However, it was pointed out that they are doing piece meal retrospective conversion. What they do is that when a new book is going to be processed, the manual catalogue is searched to find out if the library already has copies of that particular book. If there are copies in stock, these books are retrieved and processed together with the new book to be processed. However, the Balme library said that after some time, other librarians would be contracted to do the retrospective cataloguing. It is hoped that by the time OPACs are acquired by the University libraries the Recon would have been done.

### 5.2.5 Library Software

Software is a generic term covering the concepts, procedures and instructions, which cause computer systems to do useful things. The importance of software is evident, since it is software, which applies the power of the computer to the user's problems (Bawden 1990, p 15) Software may conveniently be divided into two

categories: systems software programs designed to control the execution of other programs and to utilize hardware effectively, and applications software programs to solve users problems.

The libraries investigated have some software for their computers but these are basically systems software like Windows 95 and 98, and Office 2000. The only application software they have for the library automation system is Bibliofile ITS for Windows software. This is used for cataloguing. Additionally, the Balme library has an in-house software called OBA system for circulation at the Students' Reference Library (S.R.L.). The OBA system was initially a student project work for a Bachelor's Degree in Computer Science, 1990. It was initially Dbase IV and later improved in clipper for the S.R.L. Library of the Balme Library. It is, therefore, obvious that no university library in Ghana has library software for acquisitions, serials control, online catalogue, and circulation control and information management. This is a big setback for library automation in these libraries. The absence of such software is due to lack of funds and the inability of the librarians to convince their administrators to help them purchase these software packages. The UCC Library, however, hopes to get in-house software, which can be used, for both acquisition and circulation.

Even with the Bibliofile cataloguing software/database, the KNUST and the UCC Libraries were able to make the purchase through the Ministry of Education, which obtained some funds from the World Bank for the Educational Reform Project. Since this software was purchased two years ago the libraries in question have not been able to pay for updates for the software/database. If the libraries do not act fast they may not be able to pay for their annual subscription to Library Corporation, the owners of the software. This will lead to a complete breakdown of the system

The Balme Library on the other hand, did not purchase their software through the Ministry of Education. In fact, the software was bought in 1995 by the University of Ghana administration through the dynamism of the University Librarian at that time. Since then the Balme Library has never defaulted in paying for the annual subscriptions and updates.

The Balme Library has also asked for an OPAC demonstration disk from Library Corporation. Professional Librarians have evaluated it critically and the unanimous decision is that it suits the needs of the library. There are, however, a few problems to be solved before the university administration can be asked to purchase this software.

The other university libraries depend on the Balme Library for technical support for their Bibliofile software. When something goes wrong, the libraries have to wait for several days to get somebody from the Electronic Support Unit at the Balme Library to look at the problem.

### 5.2.6 Feasibility Study Before Library Automation and Strategic Plan

It is important that before a library automation project is embarked upon, a great deal is known about the library and its needs and how people will react to the new trend. The most important elements in this situation are the library, the parent institution, the user group etc. Detailed information on all these elements can be unearthed if a thorough feasibility study is conducted

The university libraries surveyed showed proof of a feasibility study before embarking on their automation projects. Strangely though none of the libraries included the reaction of their staff in the feasibility study. This was taken for granted.

The Kwame Nkrumah University of Science and Technology (KNUST) Library pointed out that there was a feasibility study as far back as 1992. After the study, it was felt that the library needed to automate its processes and to start the library on this path the University of Science and Technology administration donated a computer to the library. It must, however be pointed out that the information on automation available to our local libraries now was not available then. A new study is, therefore, required to update the system.

The University of Cape Coast Library also undertook feasibility studies before embarking on their automation projects and, like the KNUST Library, there is the need for a new study.

The Balme Library by far undertook the most thorough feasibility studies before embarking on automation. The first of the feasibility studies was done by the University of Calgary, which sent experts down to look at the library and its needs. This was to have been the beginning of a project but for some unexplained reason the project could not come off. The library also encouraged its staff on study leave to write on automation needs of the library and how the various library processes could be automated. These studies produced the following: Designing a computer assisted cataloguing system for the Cataloguing Department of the Balme Library; Computer-Based Acquisitions System for the Balme Library and Management for library decision making: the case for the development of an automated circulation control system for the Balme Library.

Some computer science students were also encouraged to write on the Balme Library. One former student who is currently working in the Balme Library wrote on the Balme Library automated system while another wrote on automated serials systems.

It is apparent that the depth of Balme Library's feasibility studies has given it a more stable automation environment. The KNUST Library can also encourage computer science students to be interested in their library. Unfortunately, University of Cape Coast does not have a Computer Science Department and can therefore not have the advantage Balme has.

On strategic plan, the Librarians interviewed said they have strategic plans for their libraries. There is a section in their strategic plans for library automation, which is reviewed annually. However, since the libraries cannot get enough funds to pursue most of the plans in the strategic plans, it is basically another exercise in futility as the Librarians pointed out. The Librarians intimated that they have time frames for the implementation of certain automation projects but that it is difficult to keep to these time frames because the university administrations do not always respond to their requests for funds for automation.

5.2.7 Computer Section in the Library and Systems Analyst

One of the questions put to the Librarians was whether their libraries have computer support sections. The University of Cape Coast Librarian said no and it looks like there are no plans to set up one soon. It would probably aid their automation plans if attempts were made to set up a computer section to support the library's automation efforts. At the Kwame Nkrumah University of Science and Technology Library, even though there is no computer section to support their automation efforts, there are plans to set up such a section.

At the Balme Library there is a computer section, which is called the Electronic Support Unit. This section, which was set up in 1995, has done a very good job in supporting Balme Library's efforts. But for lack of funds, most library

processes would have been automated in the Balme Library. The Electronic Support Unit has helped a lot in the installation and administration of the Internet and e-mail services at the Balme Library. All problems with computing are also taken care of. There is also a computer technician who does maintenance work on computers, UPSs and printers. The Unit has also initiated and pursued basic computer training for students and also staff of the library. The unit's support also extends to the other university libraries. They have to take a cue from the Balme Library and set up Electronic Support Units in their libraries

Setting up an Electronic Support Unit means that you need a competent Systems Analyst or Administrator and assistants who will be responsible for computer/ electronic matters of the library and its clients. Again, Balme Library is ahead of all the other libraries since it has a System Administrator who has been with the library since 1990. The other libraries are yet to employ people for this post. Although the post has been advertised, it is yet to be filled. The problem the Balme Library has is that even though at the beginning of each year, people with computer science qualifications are employed in the library to do their national service, most of them do not stay after their service. This means that people are being trained to man the system but they do not remain to serve the Balme Library. This is due to several factors, the most important of which is unattractive service conditions.

Asked whether they had a Systems Librarian in their library, all the Librarians reported that they had none. A Systems Librarian is a librarian responsible for procuring, implementing and running systems in the library. Efforts are being made to get librarians more interested in computer matters, even to the extent of acquiring basic qualifications in Computer Science. Gradually the interest is being generated. Some librarians have been trained on how to do Internet searches meaningfully and

create databases. These have in turn trained others. However, the level of computer literacy varies from university to university. Recently two librarians were trained in Germany for 13 weeks in the management of modern information resources. These two librarians are from the University of Cape Coast Library and the Balme Library. It is hoped that they will help train other librarians.

The University Librarians are also planning to get scholarships for librarians who are interested in becoming Systems Librarians. This is very important because those who are computer experts without a library background are usually not interested in the library profession, hence the rapid turnover of staff noted earlier. It is very important for the library automation projects that more and more librarians become interested in computing beyond computer literacy. For any automation project to be successful there is the need to focus not only on software and hard work but also on the human aspects of automation.

### 5.2.8 Problems with Library Automation

Good information improves decision-making, enhances efficiency and provides a competitive edge to the organization, which knows more than the competitor. These days information is managed by the use of the new technologies and well-trained staff. Telematics the fusion between computers and telecommunications, has enhanced the development of information networks around the world, the high point of which is the Internet (Nwalo, 2000). Any library that has a lot of problems with their automation cannot take advantage of the benefits it offers.

The Libraries surveyed have some problems and top of the list is funding. Since the institutions they serve do not get enough money from the state it is becoming increasingly difficult for the university administration to allocate funds for

library services in general and library automation in particular. If the attitudes of the university administrations towards the libraries change for the better, both the libraries and the universities will reap the unquestionable benefits of automation.

The other problem which all the libraries mentioned face was the problem of human resource development. The Kwame Nkrumah University of Science and Technology Library reported that not many of their staff has been trained to use the computer effectively. In addition to that, they do not have the staff with the technical expertise to handle hardware and software problems that arise from time to time. Part of this problem with personnel was attributed to the fact that the library had no Local Area Network (LAN) to enable large numbers to be trained at the same time. It is hoped that as soon as a LAN is set up more people will be trained.

The University of Cape Coast Library also cannot attract people with computer science qualifications to the library. As a result of this inability to engage the services of computer science graduates, most of their staff are not trained to use the computer. It is also hoped that as soon as the proposed LAN is put in place, training of staff will start in earnest. Fortunately, the library now has a Librarian who was trained recently in managing information resources for 13 weeks in Germany, as noted above, who will help with the training

The Balme Library, on the other hand, reported that a large number of their staff are computer literate. However, the personnel problem the library has is with the computer experts. Even though the library has trained quite a number of them, as noted earlier, most of them have left. This situation is not good for the library's automation projects.

In addition to the stated problem, the Balme Library also pointed out that the rapid technological changes in computer hardware and software informs the need to

keep abreast with these changes so as not to buy obsolete equipment. It was added that to keep abreast with current trends, the library should subscribe to a journal titled PC World for their computer expert to keep himself informed. The Librarian also stressed that even if one is aware of the changes but does not have money to change one's equipment, he/she still has a problem.

Another problem the Balme Library has which the other libraries do not have is the misuse of the Internet facility by staff. In the Balme Library more than half the staff can search the net and this sometimes leads to the misuse of the facility for other purposes. The library is now devising ways of solving this problem.

Finally, since the Balme Library with the help of the University of Ghana administration is setting up a cyber cafe of 106 computers, there is the problem of how to train the large number of students to use this facility. The library is discussing with the Data Processing Unit of the University the possibility of running a training programme for students

### 5.2.8 The Future of Library Automation

All the Librarians interviewed were positive that the future of library automation looks bright. It was, however, pointed out that their various university administrations should show more commitment towards library automation and the affairs of the library in general. It was also intimated that library automation would move forward depending on the kind of leadership the libraries have. The Head Librarian must not only have a thorough knowledge about library automation but must also have the zeal and enthusiasm to push forward library automation projects.

## 5 3 Analysis of the Questionnaire and Findings

After the sample for the study was identified, the researcher administered copies of the questionnaire on them personally. Due to the importance of this questionnaire to the study, the following measures were undertaken:

1. Questions were structured in an easy to answer way.
2. The Language of the questions was simple.
3. Slang, jargon and terms, which were too technical, were avoided as much as possible.
4. Some of the questions were open-ended, some closed.
5. Difficult questions were not included

The questionnaire was also structured into the following categories:

| Topic | Questions |
|---|---|
| Personal information | 1-4 |
| Work experience | 5-6 |
| Library automation | 7-25 |
| Staff and Library automation | 26-35 |
| Role of GLA in promoting Library Automation. | 36 |
| Other comments | 37 |

### 5 3 1 Response Rate

The questionnaire was administered on the subjects by the researcher and his three (3) assistants. The researcher personally visited all the libraries surveyed. About four (4) months were devoted to data collection. The sampling technique used in this study is the purposive sampling method (Twumasi 1980; p. 23). By this

technique only professional and para professional librarians were surveyed. These are staff who work at service points offering assistance to library clients, process books and perform other library duties. Those who are not professional and para professional librarians are clerical staff, administrative staff, and messengers/cleaners. Table 5 below shows the selection of subjects.

**Table 5 : Selection of Subjects for the Survey**

| Libraries | Number Staff | Number Selected |
|---|---|---|
| Balme Library | 90 | 59 |
| Kwame Nkrumah University of Science & Technology, Library | 44 | 35 |
| University of Cape Coast, Library | 60 | 44 |
| Total | 194 | 138 |

Table 6 shows the distribution of questionnaires. Even though 138 subjects were earmarked for the distribution of questionnaires, only 125 questionnaires were distributed. The reason was that some of the subjects were on one kind of leave or another during the time of the distribution. Some subjects also suddenly left the university system for other jobs. Out of the 125 questionnaires distributed 100 were received, giving a response rate of 80%.

**Table 6 : Survey Reponse Rates**

| Libraries | Number Distributed | Number Received | Percentage Response |
|---|---|---|---|
| Balme Library | 59 | 47 | 79.6 |
| Kwame Nkrumah University of Science & Technology, Library | 35 | 28 | 80.0 |
| University of Cape Coast, Library | 44 | 25 | 56.8 |
| Total | 138 | 100 | 72.5 |

5 3 2 Statistical Analysis

The data collected was coded. Three main principles were followed in coding the data; a value was given to every response, codes were constructed for non-response, and consistency was maintained throughout the coding. Since the survey instrument was constructed with how the data would be analyzed in mind, the Statistical Package for the Social Sciences (SPSS) was used in analyzing the data.

Descriptive statistics such as frequencies and percentages were used to represent the results of the analysis. Tables were used in most cases to display the results.

5.3.2.1 Personal Information

5.3.2.1.1 Libraries

The study covered the three older university libraries in Ghana : the Balme Library of the University of Ghana the Kwame Nkrumah University of Science and Technology Library (KNUST) and the University of Cape Coast Library (UCC).

5 3 2.1.2 Qualifications

In order to find out if staff qualifications had any effect on library automation and its awareness, the respondents were asked to state the highest qualifications they have attained. Tables 7, 8 and 9 show the various qualifications of the respondents. Table 7 shows that five (5) (20%) of the respondents from the UCC library did not indicate any qualifications, six (6) (24%) have Non-graduate Diploma in Library Studies, five (5) (20%) have Graduate Diploma in Library Studies, one (1) (4%) has Master of Arts in Library Studies while eight (8) (32%) have other qualifications or just G.C.E 'O' Levels. Cumulatively, only 12 (48%) of the respondents have some qualification in library studies

**Table 7 : Highest Qualification Attained – UCC Library**

| Qualifications | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Responses | 5 | 20.0 | 20.0 |
| Diploma in Library Studies | 6 | 24.0 | 44.0 |
| Graduate Diploma in Library Studies | 5 | 20.0 | 64.0 |
| M.A. Library Studies | 1 | 4.0 | 68.0 |
| Others | 8 | 32.0 | 100.0 |
| Total | 25 | 100 0 | |

The data in Table 8 shows that the KNUST Library had 10 (35.7%) staff with Graduate Diploma in Library Studies, two (2) (7.1%) with Master of Arts in Library Studies, one (1) (3.5%) with Master of Philosophy in Library Studies, and eight (8) (28 6) have other qualifications or just G.C.E. 'O' and 'A' Levels. Cumulatively only, 10 (35.7%) have library qualifications.

**Table 8 : Highest Qualification Attained – KNUST Library**

| Qualifications | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Responses | 10 | 35.7 | 35.7 |
| Diploma in Library Studies | 5 | 17.9 | 53.6 |
| Graduate Diploma in Library Studies | 2 | 7.1 | 60.7 |
| M.A. in Library Studies | 2 | 7.1 | 67.9 |
| M.Phil. in Library Studies | 1 | 3.6 | 71.4 |
| Others | 8 | 28.6 | 100.0 |
| Total | 28 | 100.0 | |

For the Balme Library the data analysis represented in table 9 showed that respondents have the following qualifications; there were three (3) (6.4%) non responses, while 11 (23.4%) have Non-graduate Diploma in Library Studies, one (1)

(2.1%) has ALA, six (6) (12.8%) Graduate Diploma in Library Studies, four (4) (8.5%) have Master of Arts in Library Studies, one (1) (2.1%) Master of Science in Information Science, two (2) (4.3%) Master of Philosophy in Library Studies and 19 (40.4%) other qualifications or G.C.E. 'O' and 'A' levels. Added together 25 (53.2%) of the respondents in the Balme Library have some library qualifications. This is significantly higher than what obtains at the other university libraries.

**Table 9 : Highest Qualification Attained – Balme Library**

| Qualifications | Frequency N = 47 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Responses | 3 | 6.4 | 6.4 |
| Diploma in Library Studies | 11 | 23.4 | 29.8 |
| ALA | 1 | 2.1 | 31.9 |
| Graduate Diploma in Library Studies | 6 | 12.8 | 44.7 |
| M.A. in Library Studies | 4 | 8.5 | 53.2 |
| M.Sc. Information Science | 1 | 2.1 | 55.3 |
| M.Phil Library Studies | 2 | 4.3 | 59.6 |
| Other | 19 | 40.4 | 100.0 |
| Total | 47 | 100.0 | |

The qualifications do show that none of the librarians have qualifications in Computer Science. For library automation to be effective there should be a core of librarians who have gone beyond computer literacy in knowledge in computing and information technology. Some senior librarians should be given study leave to acquire at least a Diploma in Computer Science or Information Technology.

5.3.2.2 Work Experience

The survey results as portrayed in Table 10 show that two (2) (7.1%) of the respondents at the Kwame Nkrumah University of Science and Technology

(KNUST), Library did not indicate how long they had worked with this library. Another group 16(57.1%) indicated that they had worked with the library for between 1 and 5 years. This is the largest group of respondents surveyed at this library. Most of these workers are those who have just finished secondary school and used their job at the library as a stopgap measure. Since they are not committed to their work, they do not seem to care much about anything, which goes on in the library. Only 19 (36%) indicated that they had worked from 6 to 10 years, three (3) (10.7%) 11 to 14 years and six (6) (71.4%) 15 years and above.

**Table 10 : Work Experience - KNUST Library**

| Length of Service | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 2 | 7.1 | 7.1 |
| 1-5 years | 16 | 57.1 | 64.3 |
| 6-10 years | 1 | 3.6 | 67.9 |
| 11-14 years | 3 | 10.7 | 78.6 |
| 15 and above | 6 | 21.4 | 100.0 |
| Total | 28 | 100.0 | |

At the University of Cape Coast (UCC), Library when respondents were asked to indicate how long they had worked with the library, the following results emerged: one (1) (4.0%) gave no response, while 14(56.0%) indicated that they had worked in the library between 1 and 5 years. Again, this is quite similar to the trend, which emerged at the KNUST Library. The core of the staff are not committed workers since the library is being used as a "transit" point to other jobs or to get into the university. Even though there are some who are permanent workers in this category, it is apparent that the majority are not and do not have much loyalty to the library. Only one (1) (4.0%) has worked from 6 to 10 years in the library, four (4) (16.0%)

from 11 to 14 years and five (5) (20.0%) had worked 15 years and above in the library. The survey results are reflected in Table 11.

**Table 11 : Work Experience – UCC Library**

| Length of Service | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 1 | 4.0 | 4.0 |
| 1-5 years | 14 | 56.0 | 60.0 |
| 6-10 years | 1 | 4.0 | 64.0 |
| 11-14 years | 4 | 16.0 | 80.0 |
| 15 and above | 6 | 20.0 | 100.0 |
| Total | 25 | 100.0 | |

Interestingly, at the Balme Library, all the subjects responded to the question on how long they had worked in the library. Those who had worked between 1 and 5 years were in the majority 19 (40.4%), less than half of the total number of respondents. This was not the case in other libraries. Those who had worked from 6-10 years are six (6) (12.8%), 11-14 years, eight (8) (17.0%), 15 years and above 14 (29.8%). This survey result is reflected in Table 12.

**Table 12 : Work Experience – Balme Library**

| Length of Service | Frequency N = 47 | Percentage | Cumulative Percentage |
|---|---|---|---|
| 1-5 years | 19 | 40.4 | 40.4 |
| 6-10 years | 6 | 12.8 | 53.2 |
| 11-14 years | 8 | 17.0 | 70.2 |
| 15 years and above | 14 | 29.8 | 100.0 |
| Total | 47 | 100.0 | |

5.3.3 Library Automation

5.3.3.1 Attitude Towards Automation

One question focused on respondents' attitude towards automation. Most respondents in the three (3) university libraries surveyed responded positively. This is a good sign that bodes well for automation in these libraries. It indicates that most of

the staff will be willing to learn new ways of doing things. The Balme Library's results are in Table 13.

**Table 13 : Attitude Towards Automation – Balme Library**

| Attitude | Frequency N = 47 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Not Sure | 1 | 2.1 | 2.1 |
| Negative | 2 | 4.3 | 6.4 |
| Positive | 44 | 93.6 | 100.0 |
| Total | 47 | 100.0 | |

Of the 47 people surveyed one (1) (2.1%) was not sure of his or her attitude towards automation two (2) (4.3%) had a negative attitude, while 44 (93.6%), a very large majority, had a positive attitude.

At the KNUST Library, even though there were no negative responses, three (3) (10.7%) did not respond at all; seven (7) (25.0%) were not sure, while 18 (64.3%) had a positive attitude towards automation. The results are shown in Table 14.

**Table 14 : Attitude Towards Automation – KNUST, Library**

| Attitude | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 3 | 10.7 | 10.7 |
| Not Sure | 7 | 25.0 | 35.7 |
| Positive | 18 | 64.3 | 100.0 |
| Total | 28 | 100.0 | |

An interesting scenario emerged at the UCC Library regarding respondents' attitude to library automation. Here, not a single respondent said he/she was not sure of his or her attitude towards automation Out of the 25 subjects six (6) (24.0%) had a negative attitude towards automation, while 19 (76.0%) had a positive attitude towards automation. The results are illustrated in table 15.

**Table 15 : Attitude Towards Automation UCC. Library**

| Attitude | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Negative | 6 | 24.0 | 24.0 |
| Positive | 19 | 76.0 | 100.0 |
| Total | 25 | 100.0 | |

Majority of the respondents in the libraries surveyed indicated an overwhelmingly positive attitude towards library automation. There main reason was because automation enhances library operations and gives access to more internal and external sources of information. In the Balme Library 42 (89.4%) felt this way, 15 (53.6%) at the KNUST Library and 18 (72.0%) at the UCC Library also expressed this view. The implication here is that since majority of the respondents are aware of what library automation can do for their libraries they would participate fully in all library automation projects. This would ensure the success of library automation in university libraries in Ghana.

5.3.3.2 Internet Connectivity

The questionnaire survey asked the library staff to indicate whether their libraries have Internet connectivity or not. This question was asked to find out if the staff were aware of such new developments and the enormous benefits that could derived there from. It was also to find out if the library leadership was making their staff aware of automation projects in their libraries or whether they were keeping their staff in the dark about some of these important developments.

At the KNUST Library, the results were not encouraging, most of the respondents were not aware of the Internet link in their library because the library leadership had not exposed them to it. Why most of the staff were not made aware of

the Internet link was not easy to ascertain. Four (4) (14.3%) gave a non-response, one (1) (3.6%) had no idea, while 11 (39.3%) said no and 12 (42.9%) said yes.

Since most of the respondents at the KNUST Library do not know that the library has Internet connectivity, a large number of them naturally, do not know how it was achieved. This shows lack of awareness of electronic projects in the library. Out of the 28 respondents, seven (7) (25.0%) did not respond; 20 (71.4%) had no idea how Internet connectivity was achieved and only one respondent (1) (3.6%) was aware that it was acquired through the IFLA/DANIDA, ILL/DD Project in collaboration with other projects.

**Table 16 : How Internet Access was Achieved - KNUST, Library**

| How Connectivity was Achieved | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 7 | 25.0 | 25.0 |
| No Idea | 20 | 71.4 | 96.4 |
| Project | 1 | 3.6 | 100.0 |
| Total | 28 | 100.0 | |

Again the implication for this result is that there are probably some problems at the KNUST Library as far as awareness of library automation projects are concerned.

Interestingly, at the Balme Library most of the respondents were aware of Internet connectivity at the library. This shows that the library leadership provides more exposure for their staff on this matters or that the staff were also inquisitive This is a really positive sign that automation projects will succeed in this library. All 47 (100%) respondents answered yes to the question.

Even though all respondents are aware of the Internet connectivity at the Balme Library, not all of them are aware of how it came about. This shows that the

library leadership has to make their staff aware of automation projects in the library and how the projects are being financed. This will make the staff aware of the library's efforts to automate and know how much the university administration is contributing to the automation projects. Table 17 presents the results.

Table 17 : How Internet Access was Achieved - Balme Library

| How Connectivity was achieved | Frequency N = 47 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 1 | 2.1 | 2.1 |
| No Idea | 16 | 34.6 | 36.2 |
| Paid For | 1 | 2.1 | 38.3 |
| Project | 29 | 61.7 | 100.0 |
| Total | 47 | 100.0 | |

Out of 47 respondents, 29 (61.7%) are aware that Internet connectivity was provided by ILL/DD Project, one (1) (2.1%) thinks it was paid for while 16 (34.0%) have no idea at all how the Internet connectivity was achieved. One (1) (2.1%) did not respond.

Like at the Balme Library, all the respondents at the UCC Library are aware of the fact that the library has Internet access. Again this shows the staff have been adequately informed about the existence of the automation project.

On the issue of how connectivity was achieved most of them showed ignorance. One person did not respond. 13 (52.0%) said they had no idea, another one said it was paid for and 10 (40%) said they were aware that the connectivity was provided by a project.

Below is a Table showing the results.

**Table 18 : How Internet Access was Achieved – UCC Library**

| How Connectivity was Achieved | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 1 | 4.0 | 4.0 |
| No Idea | 13 | 52.0 | 56.0 |
| Paid For | 1 | 4.0 | 60.0 |
| Project | 10 | 40.0 | 100.0 |
| Total | 25 | 100.0 | |

5.3.3.3 Use of the Internet

After respondents were asked about their awareness of Internet connectivity in their libraries, the researcher wanted to know what use the Internet was being put to, if the library was connected. The respondents were asked to indicate whether the Internet was being used for, e-mail, ILL/DD, academic searches, reference work or for other things. The results of the survey at the UCC Library are presented Table 19.

**Table 19 : Use of Internet – UCC Library**

| Responses N = 25 | E-Mail | | ILL DD | | Academic Searches | | Reference Work | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fre | Per. | Fre | Per | Fre. | Per. | Fre. | Per. | Fre. | Per. |
| Non-Response | 7 | 28.0 | 15 | 60.0 | 12 | 48.0 | 14 | 56.0 | 21 | 84.0 |
| Positive Response | 18 | 72.0 | 10 | 40.0 | 13 | 52.0 | 11 | 44.0 | 4 | 16.0 |
| Total | 25 | 100.0 | 25 | 100.0 | 25 | 100.0 | 25 | 100.0 | 25 | 100.0 |

On the use of the Internet for e-mail 18 (72.0%) said they were aware that it was being used for this service as against seven (7) (28.0%) who did not respond. On the other hand, only 10 (40.0%) were aware that the Internet was being used for ILL/DD services as against 15 (60.0%) who said it was not being used for that service. This means that most of the staff do not know that the Internet could also be used for ILL/DD services.

On the use of the Internet for academic searches 13 (52.0%) said yes while 12 (48.0%) did not give any response. For reference service, only 11 (44.0%) said the Internet was being used for that purpose, while 14 (56.0%) did not give any response. Finally on whether the Internet was being used for other things only four (4) (16.0%) said they were aware it was being used for other things. 21 (84.0%) did not give any response.

**Table 20 : Use of Internet Connectivity – Balme Library**

| Responses N = 47 | E-Mail | | ILL/DD | | Academic Searches | | Reference Work | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fre. | Per. | Fre. | Per. | Fre. | Per. | Fre. | Per. | Fre. | Per. |
| Non-Response | 8 | 12.8 | 3 | 6.4 | 2 | 4.3 | 12 | 25.5 | 38 | 80.9 |
| Positive Response | 41 | 87.2 | 44 | 93.6 | 45 | 95.7 | 35 | 74.5 | 9 | 19.1 |
| Total | 47 | 100.0 | 47 | 100.0 | 47 | 100.0 | 47 | 100.0 | 47 | 100.0 |

The results from the survey on the use of the Internet at the Balme Library showed higher percentages than the results from the UCC Library. This is probably because there is more awareness of automation at the Balme Library than at the UCC Library. The results of the Balme Library presented in Table 20 show the following; forty-one (41) respondents (87.2%) were aware of the use of the Internet for e-mail, while eight (8) (12.8%) did not give any answer. 44 (93.6%) were aware of the use of the Internet for ILL/DD services. The implication is that most of the respondents are aware that the Balme Library has Internet connectivity because of the ILL/DD project. Respondents are also aware that the Internet is used for academic searches by posting a high result of 45 (95.7%), only two (2) (4.3%) gave no answer. For reference service, 35 (74.5%) were aware while 12 (25.5%) gave no answer, probably, because they were not aware of this use.

On the other hand, the results of the use of the Internet at the KNUST Library show that respondents are only aware that the Internet was used for e-mail because 20 (71.4%) said they were aware of this use while eight (8) (28.6%) did not give any answer. However, only three (3) (10.7%) were aware that the Internet is used for ILL/DD purposes. Again, this shows a gross lack of awareness of new developments in the IT arena. Most of the respondents do not know that Internet access was achieved in their library in connection with the ILL/DD project. Again, only three (3) (10.7%) were aware that the Internet was used for academic searches and for reference work. Only two (2) (7.1%) knew if was used for that purpose. Nobody said the Internet was used for other things. Table 21 portrays the disappointing results from KNUST Library.

**Table 21 : Use of Internet - KNUST Library**

| Responses N = 28 | E-Mail | | ILL/DD | | Academic Searches | | Reference Work | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fre. | Per. | Fre. | Per. | Fre. | Per. | Fre. | Per. | Fre. | Per. |
| Non-Response | 8 | 28.6 | 25 | 89.3 | 25 | 89.3 | 26 | 92.9 | 28 | 80.9 |
| Positive Response | 20 | 71.4 | 3 | 10.7 | 3 | 10.7 | 2 | 7.1 | - | 19.1 |
| Total | 28 | 100.0 | 28 | 100.0 | 28 | 100.0 | 28 | 100.0 | 28 | 100.0 |

5.3.3.4 Impact of Automation on Libraries

The results obtained on the impact of automation makes interesting reading. While both the University of Science and Technology (KNUST) Library and the University of Cape Coast (UCC) Library had discouraging results, the Balme library of the University of Ghana had very positive and encouraging results. The implication of these results is that while most of the staff actually see automation at work in their library, some staff members do not see it that way. One reason could be that all their automation projects are not functioning properly or there is very little in

terms of automation in these libraries. In Table 22 which portrays the results of the UCC Library, three (3) (12.0%) of the respondents did not respond, 10 (40.0%) felt that automation had very little impact on the library while 12 (48.0%) felt there was some impact.

On whether the impact was either negative or positive, only 10 (40.0%) felt that impact was positive while 15 (60.0%) did not respond.

**Table 22 : Impact of Automation on Libraries – UCC Library**

| Responses N= 25 | Has Automation made any Impact on the Image of Library? | | Positive/Negative Impact | |
|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent |
| Non-Response | 3 | 12.0 | 15 | 60.0 |
| No | 10 | 40.0 | - | - |
| Yes | 12 | 48.0 | - | - |
| Positive | - | - | 10 | 40.0 |
| Total | 25 | 100.0 | 25 | 100.0 |

The respondents who felt that automation had little or no effect at all gave the following reasons for their answer; four (4) (15.0%) felt that their library was not automated, while three (3) (12.0) were of the view that there was a low level of automation; while two (2) (8.0%) attributed it to slow Internet and problem with connectivity and finally one (1) (4.0%) felt that there was lack of proper management. Again, 15 (60.0%) did not respond. These results show clearly that automation at this library has a long way to go

Similarly, at the KNUST Library, 13 (46.4%) did not respond to the question whether automation has had any impact on their library; 10 (35.7%) said there was no impact at all while only five (5) (17.9%) said there was some impact. On whether the impact has been negative or positive, 24(85.7%) did not respond while only four (4) (14.3%) felt the impact was positive. The large percentages of non-response from both the KNUST and the UCC Libraries show that there is very little automation

going on in these libraries. Those respondents who felt that the impact has not been positive gave the following reasons: three (3) (10.7%) felt the library has not been automated, two (2) (7.1%) recognized low level of automation while one (1) (3.6%) attributed the negative impact to slow and problematic Internet connectivity. Again, a large member of respondents 22 (78.6%) did not respond. The results are displayed in Table 23.

**Table 23 : Impact of Automation on Libraries – KNUST Library**

| Responses N = 28 | Has Automation made any Impact on the Image of Library? | | Positive/Negative Impact | |
|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent |
| Non-Response | 13 | 46.4 | 24 | 85.7 |
| No | 10 | 35.7 | - | - |
| Yes | 5 | 17.9 | - | - |
| Positive | - | - | 4 | 14.3 |
| Total | 28 | 100.0 | 28 | 100.0 |

In comparative terms, a result from the Balme Library show that whatever automation is on the ground is being used properly. Added to that a large majority of staff is aware of what is going on in the library in terms of automation. Of the 47 respondents only one (1) (2.1%) did not respond. The rest (95.7%) felt that automation has had some impact on the library. On whether the impact has been negative or positive, only two (2) (4.3%) did not respond, while one (1) (2.1%) felt the impact was negative. 44 (93.6%) felt that impact has been positive. The one respondent who said the impact was negative did not explain why. These results indicate that the Balme Library is ahead of the other libraries in terms of awareness of impact of automation.

The results are displayed in Table 24.

**Table 24 : Impact of Automation on Libraries – Balme Library**

| Responses N = 47 | Has Automation made any Impact on the Image of Library? | | Problem/Negative Impact | |
|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent |
| Non-Response | 1 | 2.1 | 2 | 4.3 |
| No | - | - | - | - |
| Yes | 46 | 97.9 | - | - |
| Positive | - | - | 44 | 93.6 |
| Negative | - | - | 1 | 2.1 |
| Total | 47 | 100.0 | 47 | |

5.3.3.5 Benefits of Library Automation to Library Users

The respondents were asked whether in their opinion library users benefited from library automation in their libraries. Most of the respondents felt that since their library processes were not automated, users did not derive much benefit from automation. However, any time Internet access was available respondents felt the

benefit derived by users was access to external sources of information. Even in this not all respondents from the libraries surveyed were unanimous in their responses. Table 25 shows the result of the combined cases.

**Table 25 : Access to External Sources of Information – Balme, KNUST, UCC Libraries**

| Responses | Balme Library N=47 | | KNUST Library N-28 | | UCC Library N=25 | |
|---|---|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Non-Response | 7 | 14 9 | 21 | 75.0 | 12 | 48.0 |
| Yes | 40 | 85 1 | 7 | 25.0 | 13 | 52.0 |
| Total | 47 | 100.0 | 28 | 100.0 | 25 | 100.0 |

At the Balme Library, (7) (14.9%) did not respond to the question, but 40 (85 1%) answered in the affirmative. On the other hand, at the KNUST Library, the following results were obtained: 21 (75.0%) respondents did not respond while seven (7) (25.0%) said yes. Similarly, at the UCC Library, 12(48.0%) did not respond while 13 (52.0%) said yes.

5.3.3.6 Automated Cataloguing

The libraries surveyed are creating a database of their processed books using a library cataloging software called Bibliofile. Again the question on whether the cataloguing process was automated was to find out two things. Firstly, it was to find out if the cataloguing process was automated since it is usually the first library process to be automated when a library decides to automate. Secondly, it intended to find out if staff were aware that this process in the library was automated.

Even though all the libraries have automated their cataloguing process, not all staff are aware of this. Table 26 shows the results of the three university libraries combined.

**Table 26 : Is Your Cataloguing Process Automated? Balme, KNUST and UCC Libraries.**

| Responses | Balme Library N=47 | | KNUST Library N=28 | | UCC Library N=25 | |
|---|---|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Non-Response | 3 | 6.4 | 4 | 14.3 | 1 | 4.0 |
| No | 12 | 25.5 | 20 | 71.4 | 10 | 40.0 |
| Yes | 32 | 68.1 | 4 | 14.3 | 14 | 56.0 |
| Total | 47 | 100.0 | 28 | 100.0 | 25 | 100.0 |

At the Balme Library three (3) respondents (6.4%) did not respond, twelve (12) (25.5%) said no, while 32 (68.1%) said yes. On the other hand, at the KNUST Library, four (4) (14.3) did not respond, 20 (71.4%) said no and only four (4) (14.3%) said yes. The UCC Library had the following results; one (1) (4.0%), did not respond, 10 (40.0%) said no, and 14 (56.0) said yes. The results indicate that a pattern is developing at the KNUST Library, it is always the same library where people know little about the automation projects going on around them. It looks like either the staff do not care much about what is going on in their library or that the library leadership is not doing enough to create awareness among the staff or involve them in automation projects.

On whether the staff was trained to use the software for cataloguing, eight (8) (17.0%) of the respondents at the Balme Library did not respond, two (2) (4.3%) said staff were not trained. However, majority of the respondents 37 (78.7%) answered in the affirmative, that staff had received special training to use the software. Majority of respondents at the UCC Library 15 (60.0%) also said that staff had received special training to use the software, while four (4) (16.0%) did not respond, and six (6) (24.0%) said no, and at the KNUST Library most of the respondents 13 (46.4%) did not respond to this question; 12 (42.9%) did not know about this special training to use the software, and only three (3) (10.7) said that the staff had been trained.

5.3.3.7 Online Public Access Catalogue (OPAC) in University Libraries in Ghana

The question on OPAC was asked to find out if the libraries have this facility. The results of the survey revealed that none of the libraries has an Online Public Access Catalogue (OPAC). OPAC is a database of bibliographic records describing the holdings usually of one particular library. It allows searching by name, title and subject and offers online access through public terminals. Online catalogues were developed in the late 1970s and since then have become widely accepted as the contemporary form of catalogue in the developed world (Feather, 1997, p. 330). The development of the OPAC first brought about the notion that libraries could somehow be distributed and that catalogues did not necessarily represent just the stock held within that the particular building (Akeroyd, 2001, p. 70).

It follows that apart from the Internet and, to some extent, the use of the CD-ROM for searches, library users in the libraries under review do not see automation at work. The question was asked to find out how many people know what an OPAC is and whether if they have this knowledge they should be able to tell whether it exists in their library or not. Results from the UCC Library are portrayed in Table 27

**Table 27 : Online Public Access Catalogue – UCC Library**

| Does your Library have an OPAC? | | | If No is it because of Lack of.... | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 9 | | Non-Response | 10 | 40.0 |
| No | 16 | | Expertise | 4 | 16.0 |
| Total | 25 | | Funding | 5 | 20.0 |
| | | | Both | 6 | 24.0 |
| | | | Total | 25 | 100.0 |

Out of 25 respondents, nine (9) (36.0%) did not respond. However, 16 (64.0%) said the library did not have an OPAC. Interestingly, 15 respondents gave one reason or the other why the library does not have an OPAC. Ten (10) (40.0%)

did not respond, four (4) (16.0%) said the library did not have an OPAC because the staff did not have the expertise, and five (5) (24.0%) felt both lack of funding and expertise were responsible for the absence of an OPAC.

At the Balme Library, five (5) (10.6%) did not respond while 38 (80.9%) said the library did not have an OPAC. Surprisingly, (4) (8.5%) said the library did have an OPAC. These respondents, it is apparent, do not know what an OPAC is. On the question of why they thought the library does not have an OPAC, most of the respondents 35 (74.5%) felt that the library did not have an OPAC because there was no money to buy the software for it. Again 12 (25.5%) did not respond. The results are shown in Table 28.

**Table 28: Online Public Access Catalogue – Balme Library**

| Does your Library have an OPAC? | | | If No is it because of Lack of.... | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 5 | 10.6 | Non-Response | 12 | 25.5 |
| No | 38 | 80.9 | Funding | 35 | 74.5 |
| Yes | 4 | 8.5 | Total | 47 | 100.0 |
| Total | 47 | 100.0 | | | |

The results of the KNUST Library are also displayed in Table 29.

**Table 29 : Online Public Access Catalogue – KNUST Library.**

| Does your Library have an OPAC? | | | If No is it because of Lack of.... | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 8 | 28.6 | Non-Response | 16 | 51.7 |
| No | 20 | 71.4 | Funding | 4 | 14.3 |
| Total | 28 | 100.0 | Total | 8 | 28.6 |
| | | | | 28 | 100.0 |

At the KNUST Library, eight (8) (28.6%) did not respond to the question while 20 (71.4%) said that the library does not have an OPAC. On why they thought the library does not have an OPAC, 16 (51.7%) did not respond to the question while

did not respond, four (4) (16.0%) said the library did not have an OPAC because the staff did not have the expertise, and five (5) (24.0%) felt both lack of funding and expertise were responsible for the absence of an OPAC.

At the Balme Library, five (5) (10.6%) did not respond while 38 (80.9%) said the library did not have an OPAC. Surprisingly, (4) (8.5%) said the library did have an OPAC. These respondents, it is apparent, do not know what an OPAC is. On the question of why they thought the library does not have an OPAC, most of the respondents 35 (74.5%) felt that the library did not have an OPAC because there was no money to buy the software for it. Again 12 (25.5%) did not respond. The results are shown in Table 28.

**Table 28: Online Public Access Catalogue – Balme Library**

| Does your Library have an OPAC? | | | If No is it because of Lack of.... | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 5 | 10.6 | Non-Response | 12 | 25.5 |
| No | 38 | 80.9 | Funding | 35 | 74.5 |
| Yes | 4 | 8.5 | Total | 47 | 100.0 |
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|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 8 | 28.6 | Non-Response | 16 | 51.7 |
| No | 20 | 71.4 | Funding | 4 | 14.3 |
| Total | 28 | 100.0 | Total | 8 | 28.6 |
| | | | | 28 | 100.0 |

At the KNUST Library, eight (8) (28.6%) did not respond to the question while 20 (71.4%) said that the library does not have an OPAC. On why they thought the library does not have an OPAC, 16 (51.7%) did not respond to the question while

four (4) (14.3%) said that the library lacked the expertise, and eight (8) (28.6%) felt that the absence of an OPAC was due to lack of funding.

5.3.3.8 The Future of Library Automation in the Library

Respondents were asked whether as things stood in their libraries, library automation has a future. The results from the survey showed an interesting pattern. While most respondents at the Balme Library felt that library automation has a future, the contrary was the case in the KNUST and the UCC Libraries. Tables 30, 31 and 32 show the results respectively from the Balme Library, the KNUST Library and the UCC Library.

**Table 30: Future of Library Automation – Balme Library**

| **Do you think Library Automation in your Library has a Future?** | | | **Explain Response to the Question** | | |
|---|---|---|---|---|---|
| **Responses** | Frequency | Percent | | Frequency | Percent |
| Non-Response | 3 | 6.4 | Non-Response | 6 | 12.8 |
| No | 1 | 2.1 | Lack of Training and Computers | 2 | 4.3 |
| Yes | 43 | 91.5 | Library's Strategic Plan being followed | 3 | 6.4 |
| Total | 47 | 100.0 | Some Library processes have been automated | 2 | 4.3 |
| | | | Awareness of the importance of Automation/ Computer Purchase | 34 | 72.3 |
| | | | Total | 47 | 100.0 |

Balme Library

In answer to the question three (3) (6.4%) did not respond at all. Only one respondent said library automation has no future at the Balme Library, while the vast majority of 43(91.5%) said that automation has a future at the library. As to why they

four (4) (14.3%) said that the library lacked the expertise, and eight (8) (28.6%) felt that the absence of an OPAC was due to lack of funding

5.3.3.8 The Future of Library Automation in the Library

Respondents were asked whether as things stood in their libraries, library automation has a future. The results from the survey showed an interesting pattern. While most respondents at the Balme Library felt that library automation has a future, the contrary was the case in the KNUST and the UCC Libraries. Tables 30, 31 and 32 show the results respectively from the Balme Library, the KNUST Library and the UCC Library

**Table 30: Future of Library Automation – Balme Library**

| **Do you think Library Automation in your Library has a Future?** | | | **Explain Response to the Question** | | |
|---|---|---|---|---|---|
| **Responses** | Frequency | Percent | | Frequency | Percent |
| Non-Response | 3 | 6.4 | Non-Response | 6 | 12.8 |
| No | 1 | 2.1 | Lack of Training and Computers | 2 | 4.3 |
| Yes | 43 | 91.5 | Library's Strategic Plan being followed | 3 | 6.4 |
| Total | 47 | 100.0 | Some Library processes have been automated | 2 | 4.3 |
| | | | Awareness of the importance of Automation/ Computer Purchase | 34 | 72.3 |
| | | | Total | 47 | 100.0 |

Balme Library

In answer to the question three (3) (6.4%) did not respond at all. Only one respondent said library automation has no future at the Balme Library, while the vast majority of 43(91.5%) said that automation has a future at the library. As to why they

felt that library automation has a future at the library, 34 (72.3%) felt that there was more awareness of the importance of library automation; the fact that more computers have been bought for the library by the university administration contributed to their optimism. However, six (6) (12.8%) did not respond to this question, and two respondents (4.3%) felt that automation has no future in the library because there was lack of training and computers. Three (3) (6.4%) felt that automation has a future because the library's strategic plan was being followed and two respondents (2) (4.3%) felt that automation has a future in the library because some library processes have been automated

KNUST Library

Results from the KNUST Library show that only 12 respondents representing (42.9%) answered in the affirmative, while four (4) (14.3%) answered in the negative and 12(42.9%) did not respond. These results imply that the future of automation at the KNUST Library is not very bright and a careful look should be taken at the factors, which have led to this negative pattern. As to why the respondents felt library automation has a future or not, 15(53.6%) did not respond. Two (2) respondents representing (7.1%) felt that automation has no future because of lack of training and computers, two (2) (7.1%) said library automation has a future because some library processes have been automated while nine respondents (9) (32.1%) said library automation has a future because there is the awareness of the importance of library automation at policy level since the university administration has purchased some computers for the library. Table 31 below shows the results.

Table 31: Future of Library Automation – KNUST Library

| Do you think Library Automation in your Library has a Future? | | | Explain Response to the Question | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | | Frequency | Percent |
| Non-Response | 12 | 42.9 | Non-Response | 15 | 53.6 |
| No | 4 | 14.3 | Lack of Training and Computers | 2 | 7.1 |
| Yes | 12 | 42.9 | Library's Strategic Plan being followed | 0 | 0.0 |
| Total | 28 | 100.0 | Some Library processes have been automated | 2 | 7.1 |
| | | | Awareness of the importance of Automation/ Computer Purchase | 9 | 32.1 |
| | | | Total | 28 | 100.0 |

UCC Library

At the UCC Library, the following results were obtained: four respondents (4) (16.0%) did not respond; 16 (24.0%) said no, and 15 (60.0%) felt that library automation has a future at their library. The results are slightly different from those obtained from the KNUST Library, probably because more effort is being put into automation at the UCC Library. On why they think library automation has a future or not., 12 (48.0%) did not respond, three respondents (3) (12.0%) felt that library automation has no future because of lack of training and computers; 10 (40.0%) said that automation has a future because of awareness of the importance of automation and the fact that the university administration has purchased computers for the library. The Table below reflects the results.

**Table 32 : Future of Library Automation - UCC Library**

| Does your Library Automation in your Library have a future? | | | Explain Response to the Question | | |
|---|---|---|---|---|---|
| Responses | Frequency | Percent | Responses | Frequency | Percent |
| Non-Response | 4 | 16.0 | Non-Response | 12 | 48.0 |
| No | 6 | 24.0 | Lack of Training and Computers | 3 | 12.0 |
| Yes | 15 | 60.0 | Awareness of the importance of Automation/Computer purchases | 10 | 40.0 |
| Total | | 100.0 | Total | 25 | 100.0 |

5.3.4 Staff And Library Automation

5.3.4.1 Use of Computer

Respondents were asked whether they have ever used a computer. Most of the respondents in the three university libraries surveyed responded in the affirmative. The Balme library posted a positive response rate of 45 (95.7%), the UCC Library had 19(76.0%) and the KNUST Library had 19 (67.9%). Below in Table 33 the Balme Library's results are expressed

**Table 33 : Have you ever used a Computer? - Balme Library**

| Responses | Frequency N = 47 | Percentage | Cumulative Percentage |
|---|---|---|---|
| No | 2 | 4.3 | 4.3 |
| Yes | 45 | 95.7 | 100.0 |
| Total | 47 | 100.0 | |

Only two respondents representing (4.3%) said they had never used a computer before while a large majority of 45 (95.7%) said they had used a computer before. The implication of this result is that when the automation of all library

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|---|---|---|---|---|---|
| Responses | Frequency | Percent | Responses | Frequency | Percent |
| Non-Response | 4 | 16.0 | Non-Response | 12 | 48.0 |
| No | 6 | 24.0 | Lack of Training and Computers | 3 | 12.0 |
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|---|---|---|---|
| No | 2 | 4.3 | 4.3 |
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| Total | 47 | 100.0 | |

Only two respondents representing (4.3%) said they had never used a computer before while a large majority of 45 (95.7%) said they had used a computer before. The implication of this result is that when the automation of all library

processes takes off the Balme Library will not have a problem on this score because the staff can use the computer.

After this question on computer usage, the question on what the respondents used the computer for was posed. Of the 47 respondents surveyed at the Balme library, only 17 (36.2%) said they used the computer for word processing. This is so because except for the secretariat staff, most workers in the University in general and the university libraries in particular do not know how to type and would. Therefore, not use the computer for word processing. However, 39 (83.0%) use the computer for e-mail. This shows that with the advent of Internet connectivity most of the library staff at the Balme Library have learnt to use this important resource on the Internet. This will go a long way to help the library in its automation projects because staff can communicate easily with people outside the library when they need help for their clients. Again 37 (78.7%) use the computer for Internet services. This is also important because the Internet has become a very important tool in library/information work because it can link one to so many sources of information.

On the use of the computer for cataloguing, 22 (78.72%) said they used the computer for cataloguing. The response rate here is understandable since not all library staff surveyed work in the Cataloguing Department. On the use of the computer for acquisition five respondents (5) (10.6%) said they use the computer for acquisition. A study at the Balme Library revealed that the library has no software for acquisition so that library process is not automated. Those who said they use the computer for acquisition did not probably understand the question. Again five respondents (5) (10.6%) said they use the computer for circulation. Finally, 29(61.7%) said they used the computer for CD-ROM searches.

At the UCC Library, 19 (76.0%) said they have used a computer before, while five respondents (5) (20.0%) said they had not used it before and one respondent representing (4.0%) did not respond. The results are displayed in Table 34.

**Table 34 : Have you ever used a Computer? – UCC Library**

| Responses | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 1 | 4.0 | 4.0 |
| No | 5 | 20.0 | 24.0 |
| Yes | 19 | 76.0 | 100.0 |
| Total | 25 | 100.0 | 100.0 |

One of the questions sought to know what the respondents use the computer for. Sixteen (16) respondents representing (64.0%) said they use the computer for word processing. This percentage is higher than the 36.2% of the respondents of the Balme library. It is implied that the staff at the UCC Library know more about word processing than their counterparts at the Balme Library. The use of the computer for e-mail at the UCC Library is on the low side. This means that the Internet facility is not available to most of the staff. On the use of the computer for Internet searches only 10 (40.0%) answered in the affirmative that they use it for that service. Again, it shows that the Internet facility is not opened to all the staff as it is at the Balme Library.

Only seven respondents (7) (28.0%) said they use the computer for cataloguing. This is probably so because not all respondents work in the Cataloguing Department. Even though research has shown that none of the libraries surveyed use the computer for acquisition processes, yet, two (2) respondents representing (8.0%) said they use the computer for acquisition. This response was given probably because the respondents did not understand the question. The use of the computer for CD-

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| Responses | Frequency N = 25 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 1 | 4.0 | 4.0 |
| No | 5 | 20.0 | 24.0 |
| Yes | 19 | 76.0 | 100.0 |
| Total | 25 | 100.0 | 100.0 |

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ROM searches at the UCC Library is also on the low side five (5) respondents representing (20.0%). In fact, the library currently does not have CD-ROM databases. It is even an established fact that none of the libraries surveyed uses the computer for circulation on a large scale; only Balme Library's Students' Reference Library offers this service on a limited scale. Yet one respondent said he or she uses the computer for his library process. Again, it shows that the respondent probably did not understand the question.

At the KNUST Library, 19 (67.9%) said they had used the computer before, three respondents (3) (10.7%) answered in the negative and six respondents (6) (21.4%) did not respond. The Table below shows the results.

**Table 35 : Have you ever used a Computer? – KNUST Library**

| Responses | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 6 | 21.4 | 21.4 |
| No | 3 | 10.7 | 32.1 |
| Yes | 19 | 67.9 | |
| Total | 28 | 100.0 | 100.0 |

On what they used the computer for, the following responses were given. Of the 28 respondents, 14 (50.0%) use it for word processing. Again, this percentage is better than what was obtained at the Balme Library. For the use of the computer for e-mail, only nine (9) 32.1% respondents answered in the affirmative. This again shows that unlike Balme library staff, library staff of the KNUST Library are not exposed to this important facility on the Internet. This is so because the library does not have a Local Area Network (LAN) where both staff and library clients can have access to this facility.

The results on the use of the computer for Internet searches are discouraging because the staff does not have access to this facility. In effect, only two respondents

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Table 35 : Have you ever used a Computer? – KNUST Library

| Responses | Frequency N = 28 | Percentage | Cumulative Percentage |
|---|---|---|---|
| Non Response | 6 | 21.4 | 21.4 |
| No | 3 | 10.7 | 32.1 |
| Yes | 19 | 67.9 | |
| Total | 28 | 100.0 | 100.0 |

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The results on the use of the computer for Internet searches are discouraging because the staff does not have access to this facility. In effect, only two respondents

said they use the computer for this service. Again only two respondents said they use the computer for cataloguing probably because the cataloguing software had just been installed when the research was being conducted.

Respondents indicated that the library does not have software for both acquisition and circulation so the computer is not used for these processes. On the use of the computer for CD-ROM searches, only five respondents (5) 17.9% said they use the computer for this service. This is because the CD-ROM section of the library is experiencing some problems now.

5.3.4.2 Training to Using the Computer

The questionnaire survey asked the library staff where they were trained to use the computer. Some were trained both in the library and outside the library, while others benefited from private training and training initiated by the ILL/DD project. At the KNUST Library nine (9) 32.1% respondents trained to use the computer in the library; eight (8) 28.6% respondents trained to use the computer outside the library; six (6) 21 .4% respondents did the training privately; while only two (2) 7.1% respondents benefited from the training organised by the ILL/DD project, and three (3) 10.7% respondents were self-trained. This result shows that the KNUST Library did not organise training for its staff on how to use the computer.

The results from the UCC Library show that like the KNUST Library the library did not organise training for its staff in preparation for computer application to library processes. Out of 25 respondents only seven (7) 28.0% said they were trained in the library, five (5) 20.0% trained privately, four (4) 16.0% benefited from ILL/DD

project training while four (4) (16.0%) were trained outside the library and eight (8) (32.0%) were self-trained.

5.3.4.3 Adequately trained to handle Computer

The answer to the question whether respondents were adequately trained to handle the computer produced interesting results. In the first place, respondents demonstrated that they understood the question. Secondly respondents also drew a line of distinction between having ever used the computer and being adequately trained to use it.

At the Balme Library, even though 45 (95.7%) said they have used the computer before, however, when respondents were asked if they have been trained to adequately handle the computer, only 25 (53.2%) said yes; 21 (44.7%) answered in the negative and one (1) (2.1%) did not respond. At the UCC Library, even though 19 (76.0%) said they had used a computer before, only 12 (48.0%) said they have been adequately trained to handle the computer, 11 (44.0%) did not feel adequately trained to handle the computer, and two did not respond.

Again at the KNUST Library, 19 (67.9%) said they had used a computer before but when they were asked if they were adequately trained to handle the computer, 13 (46.4%) answered in the affirmative, 10 (35.7%) in the negative, while five (5) did not respond. The results indicate that the libraries have to give more regular and purposeful computer training to their staff. Below in Table 36 is a presentation of the results of the combined cases from all three university libraries.

**Table 36 : Do you think you are adequately trained to handle the Computer?**

| Responses | Balme Library | | UCC Library | | KNUST Library | |
|---|---|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Non-Response | 1 | 2.1 | 2 | 8.0 | 5 | 17.9 |
| No | 21 | 44.7 | 11 | 44.0 | 10 | 35.7 |
| Yes | 25 | 53.2 | 12 | 48.0 | 13 | 46.4 |
| Total | 47 | 100.0 | 25 | 100.0 | 28 | 100.0 |

5.3.4.4. CD-ROM Databases

CD-ROM (Compact Disk Read Only Memory) is one of the most popular and promising types of computer-based media. It can hold the equivalent of about 250,000 type written pages or 500,000 catalogue cards or 500 high-density floppy diskettes (Feather (ed.) 1997, p. 51). The importance of CD-ROM to library automation cannot be over estimated. CD-ROM databases allow unprecedented access to almost any word in the records as opposed to the lead term in title, author, and exact subject heading in printed publications.

The subjects were requested to state whether they know how to search CD-ROM databases. The answer to this question was to make the researcher aware of two things, firstly, whether the library has CD-ROM databases and secondly how many staff know how to use this facility. The results for the combined cases are shown in Table 37.

**Table 37 : Do you know how to access CD-ROM Databases?**

| Responses | Balme Library | | KNUST Library | | UCC Library | |
|---|---|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Non-Response | 1 | 2.1 | 4 | 14.3 | 3 | 12.0 |
| No | 15 | 31.9 | 16 | 57.1 | 15 | 60.0 |
| Yes | 31 | 66.0 | 8 | 28.6 | 7 | 28.0 |
| Total | 47 | 100.0 | 28 | 100.0 | 25 | 100.0 |

It can be seen from the results that CD-ROM use is not prevalent at both the KNUST and the UCC Libraries. At the KNUST Library16 (57.1%) said they cannot access CD-ROM databases, and only eight (8) (28.6%) answered in the affirmative. At the UCC Library, 15 (60.0%) answered in the negative while only seven (7) (28.0%) answered in the affirmative. However, at the Balme Library, 31 (66.0%) answered the question positively while 15 (31.9%) answered in the negative. This shows that even though not all respondents at the Balme Library can access the CD-ROM database, a sizeable number of them know how to do it. The other university libraries would do well to put in place CD-ROM databases and encourage their use. KNUST Library had six CD-ROM discs (1988-1992) of the Compendix Engineering Index as a result of the American Association for the Advancement of Science (AAAs) project. However, this CD-ROM service collapsed when the one in charge of the service left the library.

5.3.4.5 University Administration and Library Automation

The researcher wanted to know from respondents whether the university administration was doing enough to promote library automation. Even though the library staff may not have all the facts about the university administration's support or otherwise, they see and hear things and it is, therefore, important to seek their opinion.

At the UCC Library an overwhelming majority felt the university administration was not doing much to promote library automation. In all, 17 respondents (68.0%) answered in the negative while only five (5) (20.0%) felt that the university administration was helping. Three (3) (12.0%) did not respond. The Table below shows the results.

At the KNUST Library, seven (7) (25.0%) did not respond to the question, while 13 (46.4%) felt the university administration was not doing enough; only eight (8) (28.6%) said yes. The results are portrayed in Table 39.

**Table 39 : Do you think the University Administration is doing enough to promote Library Automation? – KNUST Library**

| Responses | Frequency | Percent |
|---|---|---|
| Non Response | 7 | 25.0 |
| No | 13 | 46.4 |
| Yes | 8 | 28.6 |
| Total | 28 | 100.0 |

Asked why some of the respondents said that the university administration was not doing enough to promote library automation, respondents said that there is lack of commitment on the part of the university administration: five (5) (17.9%), inadequate training, three (3) (10.7%), and lack of funding two (2) (7.11%).

The respondents, who felt that the university administration was doing enough to promote library automation, said the university was supporting in terms of training and equipment acquisition. There were only seven (7) (25.0%) who said this. Again, this contradicts what the University Librarian said in response to a question on this issue when he was interviewed. He said that the university administration has been helpful in the purchase of computers and training of staff.

Similarly at the Balme Library, most of the respondents were of the view that the university administration was not doing enough to support library automation. In spite of the fact that only two (2) (4.3%) did not respond, majority of the respondents, 32 representing 68.1%, do not think the university administration is doing enough to promote library automation, while 13 (27.7%) think that the university administration was doing enough. Again, this contradicts what the University Librarian said in his response to a similar question. The Librarian said that the attitude of the university

administration had changed and computers were purchased for the library. The university administration also purchased Bibliofile software/database for the library. This means that most of the staff do not know what kind of support the university administration is giving to automation. Even though the support exists they feel that it is not enough. The respondents who said the university administration was not doing enough to support automation, three (3) (6.4%), said so because there is inadequate training, lack of funding eight (8) (17.0%); and lack of commitment 20, (42.6%). Those who felt the support from the university administration was enough said the support was in terms of training and equipment acquisition. They were, however, in the minority representing 12 (25.5%). Table 40 reflects the results.

**Table 40 : Do you think the University Administration is doing enough to promote Library Automation – Balme Library**

| Responses | Frequency | Percent |
|---|---|---|
| Non Response | 2 | 4.3 |
| No | 32 | 68.1 |
| Yes | 13 | 27.7 |
| Total | 47 | 100.0 |

5 3.4.6 Some Problems of Library Automation

Respondents were requested to state in their own words what they thought were some of the problems of automation in their libraries. The following problems were mentioned: apathy on the part of university and library management, lack of funds, lack of expertise, lack of training for staff, frequent break down of computers and Internet link, inadequate computers and lack of maintenance. The list of problems presented does not contrast with what the University Librarians said in their interview were their main problems with automation. The University Librarians named lack of funds and personnel, among others, as the major problems facing

automation in their libraries. In fact the issue of trained personnel for automation comes out clearly when majority of respondents from the UCC and the KNUST Libraries said they were not adequately trained to handle the computer.

At the UCC Library, only two (2) respondents representing (8.0%) said apathy on the party of the University and library management was a problem for automation, three (3) (12.0%) said it is lack of funds; seven (7) (28.0%) lack of expertise, five (5) (20.0%) lack of training for staff; three (3) (12.03) frequent breakdown of computers and Internet link; two (2) (8.0%) inadequate computers and finally one respondent (4.0%) lack of maintenance. The results show the respondents do not agree on one problem but named a multiplicity of problems affecting automation in their library.

On the other hand, at the Balme Library, majority of the respondents, 24 (51.1%), felt that lack of funds was the major problem preventing automation at their library was facing; only three (3) (6.4%) said apathy on the part of the university and library management constituted a problem; for nine (9) (19.1%) it was lack of expertise; six (6) (12.8%) said lack of training for staff; two (2) (4.3%) frequent break down of computers and Internet link. 17 (36.2%), inadequate computers; four (4) (8.5%), lack of maintenance and 11 (23.4%), frequent power cuts. The results here show that most of the respondents felt that most of the library's problems with automation have to do with lack of funds and inadequate computers.

The KNUST Library was the only library where all respondents were unanimous that the main problem of library automation in their library is lack of funds. The results posted a 100% response rate. However, three (3) (10.7%) also felt that apathy on the part of the university and library management is a problem. It means that all three-university libraries mentioned this as a problem even though the

percentages were small. Two (2) (7.1%) also indicated lack of training for staff, as a problem and finally, four (4) (14.3%), inadequate computers.

5.3.4.7 Popularization of Library Automation

On the issues of popularizing library automation by the Ghana Library Association (GLA), most respondents from all the three university libraries agreed that library automation should be popularized.

Popularization of library automation by the GLA would provide opportunities for those libraries, which do not know much about library automation to know and be well informed about it. This would be a way of promoting library automation in Ghana. The popularizing of library automation could take various forms and dimensions, such as conferences and workshops for smaller groups or all members of the Association. Table 41 shows the results for the combined cases.

**Table 41 : Would you like Library Automation to be Popularised by the Ghana Library Association**

| Responses | Balme Library | | KNUST Library | | UCC Library | |
|---|---|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Non Response | 2 | 4.3 | 3 | 10.7 | 3 | 12.0 |
| No | 2 | 4.2 | 2 | 7.1 | 5 | 20.0 |
| Yes | 43 | 91.5 | 23 | 82.1 | 17 | 68.0 |
| Total | 47 | 100.0 | 28 | 100.0 | 25 | 100.0 |

The Balme Library posted a high 43 (91.5%) affirmation of the popularization of library automation by GLA, while at the KNUST Library and the UCC Library, 23 (82.1%) and 17 (68.0%) respectively said yes.

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# CHAPTER SIX

## 6.0 DISCUSSIONS, SUMMARY OF FINDINGS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

### 6.1 INTRODUCTION

This chapter discusses the findings of the study. It also presents a summary of the findings that were made during the survey. The chapter provides, in addition, recommendations and suggests further research that can be undertaken on the subject.

### 6.2 Discussion of Findings from Interview Responses

The discussion of findings from the interview responses from the University Librarians has been categorized as follows:

1. Funding
2. Strategic plan and library automation.
3. Computer resources.

#### 6.2.1 Funding

The study revealed that the university administrations do not give monies to the libraries to specifically purchase computers and other electronic equipment. Apart from the University of Cape Coast Library, the other university libraries have had their requests for money to purchase computers turned down.

Since it is difficult getting the university administration to release money to purchase computers, all the Librarians interviewed said that they do not have a budget

line for the purchase of computers. The Librarian at the Balme Library pointed out that having a budget line for the purchase of computers was an exercise in futility since no money would be provided. All the Librarians, however, accepted that even though the money to purchase computers may not be available now, that should not stop them from having a budget line for the purchase of computers.

In spite of the fact that the Librarians were not given monies to purchase computers and other automation accessories, they felt the attitude of their various university administrations towards automation has changed from what it was in the past. At the Balme Library, it is on record that the university paid for a cataloguing software/database (Bibliofile) for the library. Computers are also donated to the library periodically. The administration's most recent support for the library is the setting up of a Cyber Café in the new Library Annex.

### 6.2.2 Strategic Plan and Library Automation

On strategic plan and library automation, the interview revealed that all the libraries have a section in the strategic plan for library automation, and that the strategic plan is revised annually. However, since the libraries do not get enough funds to pursue most of the plans in the strategic plans, it is basically another exercise in futility. The Librarians also intimated that they have time frames for the implementation of certain automation projects but that it is difficult to keep to these time frames because the university administrations do not always respond to their requests for funds for automation.

6.2.3 Computer Resources

The University Libraries evaluated have some computer resources. At the time of the evaluation, the Balme Library of the University of Ghana had 42 computers, while the UCC Library had 13 and the KNUST Library had 18. However, in spite of the fact that those libraries have computers none of them have maintenance agreements for their computers. All the librarians said they rely on the warranty. Even though it is the norm for most companies to give at least a three-year warranty on hardware (Einstein 1996, p.20), most computer companies in Ghana give only one-year warranties. This is the more reason why the university libraries under investigation should have maintenance agreements.

The libraries investigated have some software for their computers but these are basically systems software like Windows 95 and 98 and office 2000. The only application software they have for library automation is the Bibliofile ITS for windows software. This is used for cataloguing. Additionally, the Balme Library has an in-house software called OBA system for circulation at the Students' Reference Library (S.R.L.). It is therefore obvious that no university library in Ghana has library software for acquisitions, serials control, online catalogue, and circulation control and information management This is a big setback for library automation in these libraries. The absence of such software is due to lack of funds and the inability of the librarians to convince their administrators to help them purchase these software packages.

## 6.3 Discussion of Findings from Questionnaire

The discussion of findings from the questionnaire has been grouped under the following categories under which data analysis was done:

1. Personal information on respondents.
2. Work experience of respondents.
3. Library automation
4. Staff and library automation
5. Role of Ghana Library Association (GLA) in promoting automation.

### 6.3.1 Personal Information

The findings revealed that some of the staff in the libraries evaluated have some form of qualification in librarianship. This, in a way, is good since the efforts of the library would not be hampered if the staff has to be taught new ways of doing things. It must, however, be pointed out that the Balme Library cumulatively had the highest percentage of staff with some library qualification followed by the UCC Library and the KNUST library had 35.7%. However, none of the library staff had any qualification in Computer Science or Information and Communication Technology (ICT).

### 6.3.2 Work Experience

Responses to the question on the work experience of the staff of the libraries revealed that both the KNUST Library and the UCC Library have a high percentage of staff who have worked in the library between one and five years. The KNUST Library had 57.1% of the surveyed staff in this category and the UCC Library had

56%. Most of the staff in this category are students just out of senior secondary school, who want something to do to while away the time. In effect, they are not committed to the library. This also accounted for the high rate of non-response to certain questions from these libraries. In all, 40% of the staff surveyed at the UCC Library had worked for six (6) years and above, as compared to the KNUST Library's 35.7%.

In the Balme Library, the staff in the category of one to five (5) years' length of service were 40.4%. However, the percentage, unlike in the other libraries, was lesser than half of the staff surveyed. The percentage of staff that have worked for six (6) years and above was 59.6%. It is, therefore, apparent that more of the staff in the Balme Library have served longer and are, therefore, more committed to what is going on in their library. This is a good sign that they will be more willing to learn new ways of doing things to improve upon the existing ways.

### 6.3.3 Library Automation

The study revealed that the majority of the respondents surveyed in the libraries under study have a positive attitude to automation. When they were asked why they had a positive attitude to automation, the majority of respondents said it was because automation enhances library operations and provides access to more internal and external sources of information.

On the issue of Internet connectivity, the study revealed that some of the respondents were not aware of this facility in their libraries. The KNUST Library had a very discouraging result because only 42.9% of the respondents at this library claim to know that their library has Internet connectivity. As a result, a large number of them did not also know how the Internet connectivity was achieved. In fact, only

3.6% said they were aware of how Internet connectivity was achieved at the Library. On the other hand, the study revealed that all the respondents from the Balme Library are aware of Internet connectivity in their library. In spite of this result, only 61.7% are aware that full Internet connectivity was acquired through the IFLA/DANIDA, ILL/DD project. Similarly, all the respondents at the UCC Library were aware of the Internet connectivity in their library. However, only 40% was aware that the connectivity was acquired through a project.

On what the Internet was being used for most of the respondents from the three university libraries were aware that it was being used for e-mail services and academic searches. When it came to the use of the Internet for ILL/DD services, all the respondents at the KNUST Library said they did not know that the Internet in their library is being used for this service. However, at the Balme Library and the UCC Library, respondents were aware of the use of the Internet for this service. At the Balme Library 93.6% of the respondents had this awareness, but only 10.7% knew of this at the KNUST Library. For reference work, again only respondents at the Balme Library and the UCC Library were aware of the use of the Internet for this library service. These results revealed the differences in awareness of automation projects at the libraries surveyed. While at the Balme Library and to some extent the UCC Library respondents were aware of the Internet connectivity and its uses, the same cannot be said of respondents at the KNUST Library.

The results from the question on the impact of automation on libraries showed that both the KNUST and the UCC Libraries were not feeling the desired impact of automation on their libraries. At the UCC Library 48.0% felt there was some impact and 40% felt that this impact was positive. At the KNUST Library, only 17.9% felt there was some impact and that only 14.3% felt the impact was positive. Most of the

respondents at these two libraries who felt that library automation had very little impact on their libraries gave the following reasons: their libraries were not automated; there was low level of automation and problems with Internet connectivity. In contrast, results from the Balme Library on the same issue revealed that the staff was aware of what was going in the library as far as automation was concerned.

A large majority of the respondents felt that most library users did not derive any benefit from library automation since their library processes were not automated. However, it was also felt that Internet connectivity in these libraries allowed users access to external sources of information.

On the issues of automated cataloguing, the study revealed that while the libraries surveyed were creating databases of their processed books, there was no Online Public Access Catalogue (OPAC), which the public could query. On the awareness of cataloguing software for creating the database of processed books, not all respondents answered in the affirmative since not all of them work in the cataloguing department. The study also revealed that the libraries do not have OPACs due to lack of funding or expertise or both.

The survey has also shown that majority of the respondents from the Balme Library, i.e. 91.5%, were of the view that as things stand library automation has a future in their library. However, the story at the KNUST and the UCC Libraries is different. In these two libraries, only 42.9% said at the KNUST Library that library automation has a future in their library, and at the UCC Library 60% said automation has a future. On why the respondents think that automation has a future in their libraries, majority of the respondents at the Balme Library felt there was the awareness of the importance of automation and there has been some computer

purchases. At the KNUST Library only 32.1% made this comment while at the UCC Library 40.0% also made this comment. Even though some of the respondents said that some library processes have been automated hence their belief that library automation has a future these were in the minority. It must be pointed out here that both the KNUST Library and the UCC Library had low response rate when respondents were asked to explain the reasons for their answers.

### 6.3.4 Staff and Library Automation

The study also revealed that a high percentage of respondents could use a computer judging from the responses they gave to the question on computer usage. The Balme Library had a positive response rate of 95.7%; the UCC Library had 76.0% and the KNUST Library 67.9%. What the staff uses the computer for yielded the following results. At the Balme Library, 36.2% use it for word processing, 83.0% for e-mail, 78.7% for Internet searches, 78.7% for cataloguing and 61.7% for CD-ROM searches. At the KNUST Library, 50.0% use it for word processing, 40.0% for cataloguing and 16.0% for CD-Rom searches. At the UCC Library, 64.0% use it for word processing, 48.0% for e-mail, 40.0% for Internet searches, 28% for cataloguing and 20.0% for CD-ROM searches.

On the issue of where they were trained to use the computer, respondents gave a variety of answers. At the KNUST Library 32.1% were trained in the library, 38.6% outside the library, 21.4% private training, 7.1% by the ILL/DD project, and 10.7% were self-trained. At the Balme Library most of the respondents were trained in the library but not necessarily by the ILL/DD project. In effect 74.5% were trained in the library, 21.3% outside the library, 12.87% trained privately. Only 27.7% were trained by the ILL/DD project.

On the issue of whether staff was adequately trained to handle the computer, the study revealed that even though most of the respondents said they could use the computer, not all of them could adequately handle the computer. Comparatively, a lower percentage of the respondents said they could handle the computer adequately as against a high percentage of those who just said they could use the computer.

The survey also revealed that CD-ROM use is not prevalent at either the KNUST Library or the UCC Library. At the KNUST Library a high percentage of 57.1% cannot access CD-ROM databases while only 28.6% can do so. The story at the UCC Library is not different. Here, 60.0% cannot access CD-ROM databases while only 28.0% can. Even though it is clear that not all respondents at the Balme Library could access the CD-ROM databases, a higher percentage of respondents can do so as against what obtains at the other libraries.

Most of the respondents in the evaluation, felt that the university administration was not doing enough to promote library automation. At the UCC Library, most of the respondents felt that the University was not helping the library to automate. When respondents were asked to explain the reasons for their answers, those who felt the university administration was not doing enough gave the following reasons; inadequate training for staff, lack of funding, lack of commitment and lack of support in terms of training and equipment acquisition. Even though the non-response rate to this question at the KNUST Library was higher, the results obtained from there are similar to what was obtained at the UCC Library. At this library, 46.4% of the respondents felt that the university administration was not doing enough to promote library automation at their library, while 28.6% felt it was doing enough

In response to the question why they felt the university administration was not doing enough, the respondents said there is lack of commitment on the part of the

university administration, inadequate training of staff and lack of funding. Similarly, at the Balme Library most of the respondents felt the university administration was not doing enough to support library automation. Those who felt that the university administration was not doing enough gave the following reasons: inadequate training of staff, lack of funding and lack of commitment.

The evaluation has also shown that the respondents are aware of some of the problems associated with automation in their various libraries. Most of the respondents mentioned the following problems: apathy on the part of the library, lack of funds, lack of expertise, lack of training for staff, frequent break down of computers and Internet link, inadequate computers and lack of maintenance. At the UCC Library, the following problems were mentioned; apathy on the part of the university and library management, lack of funds, lack of expertise, lack of training for staff, frequent breakdown of computers and Internet link, inadequate computers and finally, lack of maintenance. Similarly, at the Balme Library, the following problems were mentioned; lack of funds, apathy on the part of the library, lack of expertise, lack of training for staff, frequent break down of computers and Internet link, inadequate computers, lack of maintenance and frequent power cuts. At the KNUST Library all respondents felt lack of funds was a major problem, and some respondents also said that apathy on the part of the university and library management, lack of training for staff and finally inadequate computers were all problems.

### 6.3.5 Popularization of Library Automation

The evaluation revealed that an overwhelming majority of respondents in all the three university libraries agree that the Ghana Library Association should

popularize library automation. The Balme Library had 91.5% of the respondents agreeing to this, the KNUST Library 82.1%, and the UCC Library 68.0%.

## 6.4 Summary of Findings

This section presents a summary of findings that were made in the course of the evaluation.

1. The University libraries covered by the evaluation have computers some of which were powerful and some not so powerful. Most of the computers were bought for the libraries by their various university administrations and some were donated by projects. Most of the computers are not being used for the automation of library processes because only the cataloguing process is automated in the libraries evaluated. The libraries are not networked and, therefore, cannot have access to each other's databases and catalogues. Inter-library loan and document delivery cannot be done online among the libraries evaluated.
2. The libraries do not have a budget line for the purchase of computers and automation accessories; funding is therefore a major problem for the university libraries.
3. All the libraries have Internet connectivity, which was achieved 1998 through the IFLA/DANIDA project, in collaboration with other projects. While the Balme library has networked computers on which users can search the Internet, the other libraries can access the Internet on only one computer and are yet to network their libraries' offices or workstations.
4. None of the libraries surveyed has an OPAC. The only library software they have, Bibliofile, is for cataloguing and it is used to create a database of their

catalogued books. There are no software packages for other library processes. The absence of library software is the result of lack of funds.

5. Even though all the libraries undertook some feasibility study before embarking on automation, it is only the Balme that undertook a more thorough feasibility study. The library encouraged its staff on study leave to write on the automation needs of the library but these studies were never used. All the libraries have strategic plans.
6. Except the Balme Library, none of the libraries has an Electronic Support Unit. There are no plans yet to set up these sections. The libraries also, do not have a systems analyst on the staff.
7. Some of the respondents have high qualifications in librarianship. However, what is missing is a strong background in computing and library automation. There is also the lack of knowledge of software selection and other relevant skills for automation.
8. Most of the respondents' attitudes to automation is positive. This is a good sign that there will be no opposition to automation in these libraries should it take off. Most of the staff are also willing to learn new ways of doing things.
9. Most of the respondents at the KNUST Library are not aware that their library has Internet connectivity and, therefore, do not know how it was acquired. On the other hand, respondents at the Balme Library and the UCC Library are aware of the availability of Internet connectivity and how it was acquired.
10. Internet connectivity in the libraries surveyed is used mainly for e-mail, ILL/DD services, academic searches and reference work. However, the extent of use differs from library to library because some libraries have networked computer systems while others have not.

11. Despite the fact that the library housekeeping processes are not automated, the availability of the Internet has made some impact in the libraries surveyed. While respondents at the KNUST and the UCC Libraries do not see the impact as positive, respondents at the Balme Library see it as positive.
12. Most of the respondents felt that since the library processes in their libraries are not automated, their library users do not derive any benefit from automation. However, any time the Internet could be accessed, respondents felt the benefit derived by users was access to external sources of information.
13. The University Librarians interviewed said that library automation has a future in spite of all the problems that the libraries face. In the same vein, most of the respondents felt that library automation has a future. The future can be bright if the basic infrastructures would be made available.
14. Majority of the respondents have used a computer before. However, a substantial number also feels that even though they can use the computer they have not been adequately trained to handle the computer with confidence.
15. Both the KNUST and the UCC Libraries did not train their staff to use the computer because most of the staff surveyed indicated that they trained to use the computer outside the library. However, at the Balme library most of the respondents indicated that they were trained in the library long before the coming of the ILL/DD project.
16. Apart from the Balme Library, the other libraries surveyed do not have CD-ROM databases and their staff, therefore, do not know how to conduct CD-ROM searches.
17. There are problems with library automation in the university libraries evaluated. The following problems were mentioned by respondents; apathy

on the part of university library management, lack of funds, lack of expertise, lack of training for staff, frequent break down of computers and Internet link, inadequate computers and lack of maintenance.

18. A majority of the respondents want library automation to be popularized by the Ghana Library Association through conference and workshops.

## 6.5 Recommendations

The following recommendations are made based on the findings of this research. The recommendations are made to serve as a guide to all libraries in general and especially university libraries in Ghana which intend to automate their library processes. The recommendations are for University Administrators, University Librarians, Librarians and policy makers.

1. Since there can be no library automation without computers and their accessories, the required number of computers and accessories should be purchased for the university libraries. In fact, the libraries should be allowed to purchase computers of their choice. The situation where libraries have indicated specifications for computers they want but were ignored and some other computers dumped on the libraries is not satisfactory. This attitude by the university administration is creating a lot of problems and frustration for the university libraries in Ghana.
2. In addition, the libraries should also make sure that they purchase the latest computers on the market if they are allowed to do the purchases themselves because the information technology market is in a state of flux. Computers in the library should be used for automation of library processes. As revealed in the survey, even though some of the computers were being used for

automation, the greater majority was being used for things other than library automation. It is recommended that computers purchased should be used for automation. It is said that a library that is not automated is moving further and further from the mainstream profession of librarianship.

3. Sufficient funds should be made available by the university administrations to fund automation projects. It should be noted that a library, which has better resources, performs better. Resources are the source of organizational capabilities. In addition to that, university libraries should cooperate with the university administrations to initiate automation projects. This way the attitude of the university administrations towards libraries will be more positive and more proactive.
4. As a matter of urgency all library processes should be automated, because University libraries in Ghana are lagging behind in terms of automation of library processes compared to libraries in the developed countries. So far all the university libraries surveyed have only started creating databases of their stock in the cataloguing departments. None of the libraries has an Online Public Access Catalogue (OPAC). Automation of all library processes can enhance the Inter-library loan capacities of their libraries through networking of their library resources online. It would also make the Inter-Library Lending and Document Delivery Project initiated by the International Federation of Library Associations and Institutions and DANIDA more effective.
5. Library software is very important in library automation. It is recommended that library software for all library processes should be acquired. Librarians should be taught skills, which will enable them identify appropriate software

for their library needs. They can also be taught how to write in-house software for their libraries especially in sections were their collections are not so large.

6. The evaluation revealed that even though all the university libraries have strategic plans, these plans have not been updated to take care of current trends. It is recommended that these strategic plans should be updated regularly and be implemented within time frames.
7. Catalogue Reconstruction (Recon) plans should also be put in place at the same time that catalogue automation is being planned. The Recon plan should reflect when to start and when to end.
8. Some of the university libraries evaluated do not have an Electronic Support Unit. It is recommended that as a matter of urgency all these libraries should engage the services of a systems analyst and set up Electronic Support Units. Without this support, problems associated with computer hardware and software and access problems cannot be easily or quickly solved. Such a unit can also increase the scope of IT products and other activities in the libraries.
9. Since computer experts are in high demand all over the world (Ghana is no exception), it is very difficult to engage their services. For automation to be successful in university libraries in Ghana, it is recommended that such libraries encourage their professional staff to study to at least the diploma level in computer science or some equivalent qualification. This will make the professional librarians well equipped to the handle many automation issues in their libraries instead of the current state of absolute reliance on computer experts, for whom library issues are largely secondary.
10. Local Area Networks (LAN) should be set up in all the university libraries. LANs can also be very useful when these libraries have Online Public Access

Catalogues (OPACs) because library users can then search the library's catalogue anywhere in the library.

11. Library staff should be made aware of ongoing projects in the library, especially those to do with automation, so as to create the awareness and feeling of belonging. The staff, on the other hand, should be curious about things going on in the library concerning automation.
12. More often than not when people talk of automation, they are referring to hardware and software, ignoring the human aspects of automation, specifically staff and user training. The study revealed that none of the libraries surveyed has a firm training programme in place. It is, therefore, recommended that a training programme should be in place in all the university libraries. The training should be ongoing because when we automate, we are not only learning how to use the automated system; we are in fact learning new jobs. No operation is better than its personnel. The advancement of individuals who operate library automation programmes is a critical element in the success of automation.

## 6.6 Suggestions for Further Research

It is a fact that no single research at a go can solve all problems. In this work an attempt has been made at evaluating the automation processes at the university libraries in Ghana. However, there are other areas, which need to be researched into. The following are some of these:

1. A study of the effects of library automation on staff in all university libraries should be carried out so that staff views on this can be studied.

2. There should be an investigation into users' views about automation of library processes when the university libraries have been able to fully automate their library processes.
3. A survey can also be conducted to find out if age, educational background and future job aspirations affect the attitude of librarians in the university towards library automation.
4. A study can also be conducted after an OPAC has been put in place to find out if automation of library processes increase library patronage across all levels of university library users in Ghana.

## CONCLUDING REMARKS

The introduction of computers into libraries is impacting library and users expectations. Automation in libraries, as in any other field, has had for-reaching effects on everyday practices and on librarianship as a profession. While routine tasks have been removed, additional work in running the computer systems is necessary, and many libraries have created a post of system librarian for this purpose. Processing, implementing and running systems have meant that librarians need to be increasingly computer literate. As more information seeking is carried out by end-users on their own computers, the librarian's role is additionally becoming that of an information adviser.

Librarians need to become missionaries and dream of how best we can serve our target audience in the wake of these developments (Dempsey et al., 1997, p. 67).

The university libraries in Ghana have to do a lot to be fully automated. The university administrations should be paying more than lip service to the development of the university libraries, especially where automation is concerned, and give the libraries more money for their automation projects. Reliance on donors for funding automation projects should be reduced.

The level of networking within and among university libraries is very low because most of the library processes are not automated and above all none of the libraries evaluated has an OPAC. University libraries should get their various university administrations to purchase an OPAC software for them as a matter of urgency and finally, more computers should be purchased for the libraries because there can be no library automation without investment in computers.

The librarians the in universities can make a difference if their universities give them the necessary support.

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APPENDIX 1

The Balme Library,

University of Ghana,

P O. Box 24,

Legon-Accra.

Dear Colleague,

**QUESTIONNAIRE ON THE EVALUATION OF LIBRARY AUTOMATION IN GHANA'S UNIVERSITY LIBRARIES**

The questionnaire is needed for the completion of my thesis entitled: **AN EVALUATION OF LIBRARY AUTOMATION IN SOME GHANAIAN UNIVERSITY LIBRARIES**. The completion of this questionnaire will enable me get the needed information for the study. Please answer all questions as frankly as possible. Any information you provide will be treated confidentially.

Thank you in advance for your cooperation.

Yours faithfully,

(J.O. Amekuedee)

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## APPENDIX 2

Most of the questions may be answered by simply placing a tick in the appropriate bracket [ ]. Space is also provided for additional comments if necessary.

### PERSONAL INFORMATION

1. SN

2. Name of Library .....

3 Sex: Male [ ] Female [ ]

4. Qualifications. Please indicate the highest qualification attained.

(a) Certificate in Library Studies [ ]

(b) Diploma in Library Studies [ ]

© ALA [ ]

(d) FLA [ ]

(e) BLS [ ]

(f) Graduate Diploma in Library Studies [ ]

(g) M.A. in Library/Information Science [ ]

(h) M.Sc. in Information Science [ ]

(i) M.Phil. in Library/Information Science [ ]

(j) Ph.D. in Library Studies [ ]

(k) Ph.D. in Information Studies [ ]

(l) Other please specify .....

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(h) M.Sc. in Information Science [ ]

(i) M.Phil. in Library/Information Science [ ]

(j) Ph.D. in Library Studies [ ]

(k) Ph.D. in Information Studies [ ]

(l) Other please specify .....

WORK EXPERIENCE

5. How long have you worked in the Library? .....

6. Which section or department of the Library do you currently work?.....

LIBRARY AUTOMATION

7. What is your attitude towards automation?

   Positive [ ] Negative [ ] Not sure [ ]

8. Please explain your response to question (7) .....

.....

9. Does your library have Internet Connectivity? Yes [ ] No idea [ ]

10. Do you know how this was acquired? Projects [ ] Paid for [ ] No idea [ ]

11. If the library has Internet Connectivity what is it used for?

    Please tick as appropriate.

    (a) E-mail [ ]

    (b) ILL/DD [ ]

    © Academic searches [ ]

    (d) Reference work [ ]

    (e) Other [ ]

12. If the library has Internet Connectivity are there work stations in the library were users have access to it? Yes [ ] No. [ ]

    If yes how many work stations? .....

13. Are these workstations networked? Yes [ ] No. [ ]

14. Do users pay for this service? Yes [ ] No. [ ]

15. Has automation made any impact on the image of the library? Yes [ ] No. [ ]

16. If Yes, please explain .....

17. If No., please give reasons .....

18. What has been the benefit of library automation to library users? Please explain.

.....

19. Is your library catalogue automated? Yes [ ] No. [ ]

20. Name software used if it is automated .....

.....

21. Did staff receive any special training to use this software. Yes [ ] No. [ ]

22. Does the library have an OPAC-Online Public Access Catalogue?

Yes [ ] No [ ]

23. If no, is it because of funding [ ] Lack of expertise [ ]

24. Do you think library automation in your library has a future? Yes [ ] No. [ ]

25. Please explain your response to question (24) .....

.....

26. Have you ever used a computer? Yes [ ] No. [ ]

27. If Yes, what have you used it for? Please tick as appropriate.

| | |
|---|---|
| Word processing | [ ] |
| E-mail | [ ] |
| Internet Service | [ ] |
| Cataloguing | [ ] |
| Acquisitions | [ ] |
| CD-Rom searches | [ ] |
| Circulation | [ ] |
| Serials control | [ ] |
| Other | [ ] |

17. If No., please give reasons .....

18. What has been the benefit of library automation to library users? Please explain.

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|---|---|
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| Serials control | [ ] |
| Other | [ ] |

28. Where were you trained to use the computer?

In the Library [ ] Outside the Library [ ]

Private training course [ ] ILL/DD training programme [ ]

Self trained [ ]

29. Do you think you are adequately trained to handle the computer?

Yes [ ] No. [ ]

30. Do you know how to access the CD-Rom databases? Yes [ ] No. [ ]

31. Can you do CD-Rom searches without any help? Yes [ ] No. [ ]

33. Do you think the university administration is doing enough to promote Library automation? Yes [ ] No. [ ]

34. Please, explain your answer to question (33) .....

.....

35. In your opinion what are some of the problems of automation in your in Library?

.....

## ROLE OF GLA IN PROMOTING AUTOMATION

36. Would you like Library automation to be popularized by the Ghana Library Association? Yes [ ] No [ ]

If Yes how would you suggest this should be done? .....

.....

37. Please provide any other comments you may have .....

.....

Thank you very much.

## APPENDIX 3

## INTERVIEW QUESTIONS

## FOR UNIVERSITY LIBRARIANS

1. How many computers has your library? .....
2. How were they acquired? .....
3. Do you usually have a budget line for the purchase of computers, and its accessories and the maintenance/sustenance of computer-based services? .....
4. Has the university administration ever given you money to purchase computers and other electronic equipment? .....
5. How old are your computers and do have regular maintenance agreements? .....
6. Do you have plans for changing the computers you have Periodically?.....
7. Has the university administration been helpful with your automation projects? .....
8. If no, how do you plan to get them interested and provide funds for our automation? .....
9. What to you use your computers for? .....
10. Have you automated some of your library processes? .....
11. If Yes, which are they? .....
12. If not all, when do you hope to automate the other process? .....
13. Do you have a carefully laid out plan for retrospective conversion of your manual catalogues into machine readable ones? .....
14. Do you have Internet connectivity? If yes how did you acquire it? .....
15. Do you think Internet connectivity has been helpful and beneficial to your library? .....
16. Can you sustain the Internet connectivity?.....

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16. Can you sustain the Internet connectivity?.....

17. Do you have an OPAC (Online Public Access Catalogue)? .....
18. Do you have any library softwares? .....
19. Before the automation project took off was there any feasibility study conducted to find out for example, how your staff world react to automation? .....
20. Does the library have a general strategic plan? .....
21. Do you have a strategic plan for your automation projects? .....
22. Do you have a computer section in the library? If yes who is responsible for it? .....
23. Do you have a qualified systems analyst to help with your automation? .....
24. How are staff trained and who trains them? .....
25. Do you have a systems librarian? .....
26. Is your University a member of the African Virtual University (AVU) project? .....
27. Is your library responsible for the Virtual Library aspect of AVU? .....
28. Explain the Library's role here? .....
29. What are the problems you face with your automation projects and how do you plan to solve them? .....
30. Do you think library automation has a future in your library and why? .....

Thank you.

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