A study of user reaction to library automation at the University of Brunei Darussalam

A Study of user reaction to library automation at the University of Brunei Darussalam

by

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ABSTRACT

The survey investigates user reactions to the introduction of library automation at the University of Brunei Darussalam library. As library automation has multifarious aspects, the study only focuses on two different types of the VTLS library subsystem modules. These are namely, the online public access catalog (VTLS EasyPAC) module and the VTLS cataloguing module.

The result of the findings were divided into two categories. The first category was intended to investigate the user reaction to the online public access catalog. As indicated from the findings, most of the survey respondents have expressed their acceptance to the use of the online public access catalog system as a replacement for the traditional catalogue. They commented that the online public access catalog system was easy to use, saved time, was fast and very effective in retrieving a detailed bibliographical record. The second category looked at the reactions by cataloguing staff to the use of the new VTLS Cataloguing module. Again the response was very positive and all the cataloguing staff felt very comfortable with the system. They also expressed their confidence in the increase to their work-production.

Recommendations to improve the use of both VTLS library subsystem modules were based on the result of the study and are included with the conclusion.

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CHAPTER ONE

DEFINING THE AIMS AND OBJECTIVES OF THE STUDY

1.1 AIMS OF THE STUDY

Library automation is seen by many to have had a great influence in the provision of efficient and effective library and information services. In the context of Brunei libraries, library automation is considered to be a new phenomenon. Because of that, there is no doubt that this technology will provide a new phase in the development of library and information services in Negara Brunei Darussalam.

The aim of this study is to look at user reactions to library automation at the University of Brunei Darussalam. Library automation has multifarious aspects to be discussed. For the purpose of this study the aims will be narrowed down by looking at two different categories of users that may have been affected by the introduction of library automation.

1.1.1 AIMS FOR THE LIBRARY STAFF

The first category of users are the library staff of the Cataloguing department of the University of Brunei Darussalam library. The main aims for their study will be on the following aspects:

a. to assess the reaction of the cataloguing staff to the application of computers in term of processing of bibliographic data as opposed to the manual system;

b. to assess the reaction of the cataloguing staff to the effects of the introduction of computers to their work;

c. to assess the reaction of the cataloguing staff to the cataloguing module used which is part of the library automation system ;

d. to assess the effect of the introduction of library automation on the job satisfaction of the cataloguing staff;

e. to establish the views of cataloguing staff on the needs for training due to the introduction of library automation.

1.1.2 AIMS FOR THE LIBRARY USERS

The second category of users are the library users. The library users fall into two groups. The first group is the members of the academic staff of the University of Brunei Darussalam. The second group consists of the full-time registered and enrolled students (undergraduates, and teacher trainees) of the University of Brunei Darussalam The aim for their study is to look at their reaction to the introduction of the online public access catalogue (OPAC). The aims of the study will focus on the following aspects:

a. to assess library users' reactions to using the OPAC;

b. to assess library users' level of confidence in using the OPAC as opposed to the card catalogue;

c. to assess library users' satisfaction with the access points for searching the bibliographic data provided by the OPAC;

d. to assess library users' reaction to the information provided the OPAC besides the bibliographic data and;

e. to assess library users' reaction to the OPACs as opposed to the card catalogue

There are several reasons for limiting the aims of this study . First, the study is not trying to be all-embracing but rather to limit itself to a manageable project within the time available. Also the work commitments of the participants constrain what can be done.

1.2 OBJECTIVES OF THE STUDY

As the study of user reaction to library automation at the University of Brunei Darussalam is the first of its kind, it is hoped that this study can achieve the following objectives:

1.2.1 OBJECTIVES FOR THE CATALOGUING STAFF

a. to identify the most common type of library computer training for the library staff of the cataloguing department;

b. to discover whether the library staff at the cataloguing department feel that the introduction of the library automation has had a positive or negative effect on their working environment such as their satisfaction, a change in staff

interaction and communication behaviour.

1.2.2 OBJECTIVES FOR THE LIBRARY USERS

a. to discover whether the library users feel that the introduction of the OPAC has had a beneficial effect such as users' satisfaction, response time;

b. to discover whether the OPAC has changed the way the library users search for items;

c. to discover whether library users prefer the card catalogue or the OPAC;

d. to look at the effectiveness of user instruction prior to the introduction of the OPAC.

CHAPTER TWO

METHODOLOGY

2.1 INTRODUCTION

The study on user reaction to the library automation will involve both the gathering of information from the library users and also collecting relevant and reliable data about the system's performance. There have been many studies conducted concerning the library automation system in the recent years. Most of these studies evolved basically on the specific aspects of the library automation system. Studies related to the online public access catalog's (OPACs) performance**(1),** OPACs terminals' requirements **(2),** users' reaction**(3),** staff's attitudes and acceptance**(4)** towards the system were some of the examples. In conducting the above studies, various methodologies have been adopted by different types of research organisations, academic institutions and individual researchers in order to produce valid and reliable results. Among the methodologies identified were :-

1. Questionnaires
2. Interviews
3. Transaction log analysis
4. Observation and
5. Controlled experiments

2.2 SURVEY METHODOLOGY

In deciding which survey method is best suited for the research, It is necessary to evaluate which criteria are most significant to the research objective. As stated by Nachmias :

> *"survey method is one of the most important data collection methods in the social sciences, and as such, it is used extensively to collect information in numerous subjects of research."*(5)

There are numerous way for a research to be conducted. The most popular methods are the use of questionnaire and interview survey. Kidston agreed that :

> *"the questionnaire is the most common method of gathering information about such a difficult-to-measure subjects as library usage and information needs."*(6)

The use of questionnaire survey in library research is not new. In the area of automated library system, this methodology has been used extensively to assist in the findings of the research undertaken. An example of a study that used a questionnaire successfully is the research on the use of online catalog sponsored by the Council on Library Resources in 1983(7). Cochrane and Markey describe the study as:

> *"a landmark on data gathering and analysis project facilitating statistical comparisons, trend analysis, feature analysis, user reactions to the online catalogs"*(8)

2.2.1 THE USE OF QUESTIONNAIRE METHODOLOGY

For the purpose of this study, the questionnaire method will be used to collect data. The main reason for using the questionnaire is because the study will involve around 10% of the population size. Among the advantages of using a questionnaire is that it is one of the easiest ways of collecting and gathering data on a given subject from a wide variety of people. In addition to this, the use of a questionnaire in conducting the study is relatively inexpensive putting together the use of computer technology in designing and printing out the questionnaire forms.

2.2.2 QUESTIONNAIRE DESIGN

One of the most important factors in designing a questionnaire is that it requires a set of questions that is totally self-explanatory. Questionnaires may be more susceptible to comparability problems than other research designs. The obvious reason is that the researcher has no direct contact with the respondents. Thus, if people have questions about how they are to interpret an item, they have no one from whom they can seek clarification. They must either leave the question blank or interpret it as best they can.

It is very important to remember that the designing of the questionnaire for this study should be based on the above aspects and the following considerations. First, the questionnaire should be simple, brief and the arrangement of sentences and the use of phrases must not include any unnecessary or irrelevant statements or jargon. Bookstein said :

"Probably most important is its simplicity and naturalness: we are used to asking questions of others when we desire information, and the questionnaire is a straightforward formalisation of this process."(9)

The reason for this is mainly for the questionnaire to be widely understandable to the person who will be answering the questions. Another important aspect for the questionnaire to be successful and accepted is that the questions were to be concerned with facts, opinions and attitudes of the respondents.

2.2.3 EXPLANATION OF METHODOLOGY

The study of user reaction to library automation at the University of Brunei Darussalam will involve looking into two different types of users with two different perspectives. The first perspective is looking at the library users' reaction to using the online public access catalog (OPAC). The second perspective is looking at the cataloguing staff reaction to the introduction of the library cataloguing module which formed part of the library automation system.

For this study, two different types of questionnaire will be designed to accommodate the two different type of users. The first questionnaire is for the registered library users of the University of Brunei Darussalam Library. The questionnaire is divided into six sections.

Section A, contains user information of the respondents. Section B, is questions regarding users' experience in using the library. Section C, contains questions about users' reactions to using library card catalogue. Section D deals with users' computer experience. Section E, contains questions regarding users' experience using library automation. Section F, contains questions about users' reactions to using the OPAC.

The second questionnaire deals with the library staff working in the Cataloguing department. The questionnaire is divided into four sections. Section A concerns about library staff background information. Section B, contains questions about their cataloguing experience. Section C, contains questions regarding staff's computer experience. Section D, contains questions about staff's reaction to library automation.

2.3 SAMPLING

The use of survey sampling method in libraries to collect data is not new. It is one way of obtaining valid estimates of library usage. For the purpose of this research, a time-sampling method**(10)** is regarded as suitable for the study. The approach is to distribute the questionnaire after the library user has conducted the search on the OPAC. The distribution of the questionnaire will be done at three different time intervals. The first interval will be in the morning. The second interval is in the afternoon and the third interval will be in the evening. The study will be conducted during library opening hours. The library is open on Monday through Thursday and Saturday, from 8:00 AM - 8:00 PM.

2.4 POPULATION SIZE

For the purpose of this study, the survey will involve 10 per cent of the sample population size. The participants are divided into two different categories. The first group will be the library users. There are composed of the full-time registered and enrolled students and the members of academic staff of the University of Brunei Darussalam. The full-time undergraduates students and the teacher trainees will comprised the majority of this study. This is because the students were available everyday and use the university library most comparing to the part-time postgraduates students who are only attending the course on a specific day of the week. The second group will composed of the Cataloguing staff of the University of Brunei Darussalam library.

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CHAPTER THREE

LITERATURE REVIEW

3.1 INTRODUCTION

The advancement of computer technology and the shrinking prices related to it have made the automated library systems more attractive to libraries of various types. Academic libraries have always been the front-runner in the application of automated library system. Ever since the introduction of the automated library system back in the 1970s, academic libraries in the USA have been actively involved in the study of the various aspects of the automated library system. Among the many studies undertaken by various research organisations and libraries are the study on the use of online public access catalogs (OPAC), the effects and changes brought about by the automated library system both at organizational and staff levels are some of the few that are worth mentioning.

In fact, the introduction of the automated library system into the library environment has long been predicted to bring along with it a variety of changes both at the organizational level down to the user's acceptance of the system. But changes brought by this technology, however, do not necessarily lead to resistance, tension or conflict. To a certain extent the technology was mostly praised in assisting

libraries to provide a very cost-effective, systematic and efficient services. Furthermore, and most importantly, it can also lead to the library staff and users' satisfaction and reaction to this new system.

Since library automation has many aspects to be discussed, the literature review will look at two different facet of users' reactions to library automation in the academic libraries environment. First, is a review of the literature that dealt with library users' reaction to the introduction of online public access catalogue which is part of the library automation system. This section is divided into several categories of users' reactions such as looking into users' attitudes, users' behaviour, users' acceptance and users' level of satisfaction, about and using the online public access catalog (OPAC). Second, is a review of the literature concerning the reactions by the cataloguing staff to the introduction of library automation, particularly in the application of the cataloguing module. This section will also be divided into several categories such as staff's attitudes, staff's behaviour, staff's acceptance, staff's level of satisfaction using the automated cataloguing module and about the introduction of library automation as a whole to their working environment.

3.2 GENERAL OVERVIEW OF THE STUDY OF THE ONLINE PUBLIC ACCESS CATALOG (OPAC)

The study of the use of the online public access catalog (OPAC) has been around for many years. According to Hildreath,**(1)** exploratory studies of OPAC system use and

users were very actively conducted between 1979-1981. During these years the online catalog was just began to take shape as a replacement to the manual catalogue. Most of the studies at that time were basically concerned on the following aspects:-

1. how are the users responding to the new online alternatives?
2. do users prefer the online catalog to the card catalog?
3. can they use it successfully with little training or instruction from the staff?.

The objectives of the early studies were entirely to find out whether the online catalogs were accepted by the library users as an alternative to the manual catalog.

3.3 LIBRARY USERS' REACTIONS TO THE ONLINE PUBLIC ACCESS CATALOGS (OPACs)

3.3.1 USERS' ACCEPTANCE ON THE INTRODUCTION OF OPAC

The introduction of the online catalogs in the academic libraries seem to have received a very positive response. Most of the study findings regarded the online catalog as a next step to the more productive and systematic approach towards the development and improvements of library services. This phenomenon made many researchers conduct an in-depth study on various reactions by users of the online public access catalogs (OPAC).

The study of users' acceptance to the online public access catalogs (OPAC) was mainly conducted in the academic libraries environment. The first reaction about the online catalogue is the potential user acceptance to the implementation of the system. This is because of the potential effects of the system that will eventually affect

the way the library provides its service in the future. And because of this need, a user acceptance survey of the online catalog was conducted at The Pikes Peak Library(2). The results of this survey was that 94 per cent of the respondents preferred to use the OPAC terminals as an access points rather than the card catalogue. The main reason for their preference for OPAC terminals was their ease of use. In 1981, Moore(3) conducted an exploratory study on four university libraries in the USA that used different types of online catalogs. Moore's study was exploratory research that involved data gathering on user's general approach to the online catalog, their success and failure, and their attitudes about the online catalog and its desirable features. The result of Moore's findings was that the majority of the library users responded positively to the online catalog.

Moore's finding was supported by two studies conducted by Pease and Gouke(4) and Pawley(5). Pease and Gouke surveyed library users of both the online catalog and the card catalogue of the Ohio State University library to determine patron preferences and patterns of use of the two types of catalogues. The result of the findings showed that most library users preferred the online catalog and, as library users gained online experience, use of it increased while the card catalogue use decreased. Pawley's study also discovered a tremendous increase in the use of the online catalog by the undergraduate students of the University of Guelph. Both studies have indicated that the early online catalog introduced by the two libraries have proved to be well-accepted in the academic libraries environment. The tremendous acceptance by the

academic library users to the online catalog seems to be related to the needs of quick, effective and productive approach of information retrieval services as opposed to the difficulty in using and understanding the card catalogue system.

Moore, Gouke and Pawley's studies have shown positively the potential use of the online catalog, particularly in the academic environment. Their studies have led research organisations in the USA to conduct a more in-depth research to the use of online catalog. In 1985, the American Council of Learned Societies**(6)** surveyed 5,835 members of the humanities and social science societies. The survey was intended to identify the users' response to the online catalogs. Most of the survey respondents indicated their library collection as good, very good, or excellent. The survey also showed a strong favour for the online catalogs. 38 per cent of the survey respondents agreed that the online catalogs had helped in increased access to scholarly materials. About 37 per cent indicated that the online catalog had made the library use more enjoyable. Besides that the survey has also discovered 23 per cent of the respondents believed the online catalog had increased their research productivity while another 17 per cent of them found that it increased their teaching productivity. The same results was also found in Koskiala's study of the automated catalogue at the Helsinki University of Technology library**(7)**. The study revealed that most university students were very eager to use the online catalog. It also resulted in the improvement of their information retrieval seeking behaviour.

Similar results discovered by Moore, Pease and Gouke, and Pawley was also found in Steinberg and Metz's findings**(8)**. Their study on user response on the use of OPAC, the Virginia Tech Library System (VTLS) resulted by a positive acceptance from the survey respondents. Steinberg and Metz's findings were taken and analysed from 85 sample users. The findings indicated that 81.2 per cent considered the online catalog system easier to use than the card catalog.

An increasingly important factor that requires consideration in regard to the introduction of an OPAC is the public perceptions about the system itself. An important study was conducted at Pike Peaks Library in 1981**(9)**. Both the interviews and observations on terminal performances were used to gather the data. The survey results found that 85.4 per cent of the respondents preferred the online catalog to the card catalogue. Further more 75 per cent indicated that if there was an opportunity to be able to search the OPAC from their home it would be much better.

3.3.2 USERS' PREFERENCE FOR USING THE OPAC

The study conducted in 1987 at the University of Guelph**(10)** on the use of online catalogs by the university students revealed that about 80 per cent of the university students enthusiastically endorsed the system, preferring it to the manual card catalogue system. The same study conducted by Pawley in 1982 have also confirmed this finding.

A more recent study made by Balaam**(11)** into the libraries of Liverpool Polytechnic (now Liverpool John Moores University) in 1992 regarding user preference for three different forms of catalogue, that is, sheaf, microfiche and the OPAC. Balaam's investigation had three main aims, which were all concerned with user reactions to different forms of catalogue. They sought to discover:

1. whether library catalogue users at Liverpool John Moores University feel that the introduction of OPAC has a positive and beneficial effect;
2. whether the OPAC has changed the way users search the catalogue; and
3. whether users at Liverpool John Moores University prefer a sheaf, microfiche or computerized library catalogue (OPAC).

Most of the interviewees involved in this study were young people (mostly undergraduates students) who had probably experienced computers, though not necessarily OPACs, and this could affected their preference of catalogue.

The result of Balaam's findings was that almost half of the 52 interviewees had used all three forms of catalogue available at the University library. But when asked about their preference on the forms of catalogue used, 39 per cent said that they preferred the OPAC to the other two forms of catalogue. They commented that the OPAC made searching for information quicker and easier. Furthermore 17 of the 52 interviewees had had previous experience of OPAC. All of these said that they preferred to use the OPAC, suggesting that they felt confident using it in John Moores University because they had already used an OPAC system. Of the 35 people who had not

previously experienced an OPAC, 28 of them said that they preferred it to the microfiche catalogue.

Balaam's investigation was followed by a study conducted by Burton and Hawkins**(12)** to investigate the reactions and attitudes of library users to the Library Integrated Online Network (LION) Catalogue at Liverpool John Moores University, and to test whether the automation system has in a way improved the service to users of the Trueman Street Library of Liverpool Polytechnic (now Liverpool John Moores University). The LION system incorporates a catalogue and circulation module which is available in all the sites of the university.

The system suppliers, Dynix Library Systems, were approached for detailed information about the system's general use and adaptability. 55 users were made as a sample that consisted of students and teaching staff. 13 questions were asked relating to their use of the original microfiche catalogue and the computerized catalogue. Besides asking questions to all the 55 sample users, an observation method was also used to look at users' reactions and attitudes to the access points available in the catalogue.

Burton and Hawkin's findings were very much the same as to the early study made by Balaam. Their findings showed a positive response by the 55 respondents. 98 per cent of those questioned said that they found the computer catalogue easy to use while only 57 per cent found the other catalogue easy to use. But increasingly interesting and

surprising is that 25 per cent of those who said they found the microfiche catalogue difficult to use and time-consuming said that they found the computer catalogue easy to use. The outcome of the final result was summarised as that automation has improved the service to users.

3.3.3 USERS' SATISFACTION ON USING OPAC

But the most prominent one is perhaps the study sponsored by the Council on Library Resources **(13)**. As a major player in this field, the Council on Library Resources funded five organizations - the Library of Congress, the Online Computer Library Center (OCLC), the Research Library Group, the University of California's Division of Library Automation, and J. Matthews & Associates to conduct the surveys which involved 30 libraries using the online public access catalog. The results of the study identified about 80 per cent of online catalog users did more subject searching for known-items.

According to Scharf **(14)**, the implementation of NOTIS to automate the catalog of nine Florida State University System was received with mixed reactions from library users. Before the implementation of NOTIS, LUIS was the first system used for the online catalog by this university The library began a "phased rollout" of the new catalog during summer 1986. NOTIS terminals were installed at the reference desk where the public could use them and be instructed or assisted if necessary. At this point, the overall response would not be resistance but confusion, or even worse, apathy.

Several questions and comments were repeated by library users as to the first system by saying that they still encountered the same problems as they had on the old online catalog system before. This comment led the researchers to believe that user expectations were high for a new system, and that the presence of new terminals led users to expect that the new catalog would perform very differently from the old catalog.

3.3.4 EASE OF USE

In order for the OPAC to be accepted by the general users of different background ability, one of the main factors for its successful assessment is its ease of use feature. Early studies by Dowlin accounted around 91 per cent**(15)**, Pease and Gouke's findings resulted with a 90 per cent**(16)**, Steinberg and Metz's result amounted to 81.2 per cent **(17)**, Balaam with 39 per cent**(18)**,and while Burton and Hawkin's survey resulted in a 98 per cent**(19)** were some of the examples that provided a positive response by their respondents about the OPAC.

3.3.5 USERS' REACTIONS ON THE AVAILABILITY OF OPAC TERMINALS

In order for libraries to provide very effective, systematic and efficient services particularly when implementing the automated library system, a factor that is worth considering is the number of terminals allocated to every OPAC service. Only providing enough facilities can lead to ease of use and faster retrieval of library resources at any

time. Since the cataloguing function is to provide library users with library own collection records, it is a very important factor for the libraries to provide sufficient number of access terminals to its OPAC service points.

In a study carried out by Pawley**(20)** in the early 1980s it was discovered that most of the users found the terminals were conveniently located and distributed, with only 8.6 per cent indicating dissatisfaction. They also discovered that putting the terminals near the service points on every floor of the library appeared to be a good decision by the library administrator. The number of terminals allocated was also found to be reasonably enough, although there were still complaints about the time-waiting to use the service. 35 per cent of the users reported having to wait one or two minutes to use a terminal, 36.9 per cent reported having to wait three to five minutes or longer and only 10.8 per cent reported no wait time.

The use of independent variables method has also showed a significant role in determiningthe number of terminals needed and required by the library. Taylor**(21)** suggested that there are three independent variables that play an important part in estimating the number of terminals required. First variable is the rate of library users arriving at the catalogue, secondly, the variable which looks at the average user's use of the OPAC services and the final variable is by looking at the written and mandated policies of the library.

According to Taylor, the number of library users can act as a measure to determine the arrival rate at the catalogue. The service times were reported to be in between two to twelve minutes which was calculated between the search time session per item and session length per user. It is by the calculation method that Taylor had put his recommendation for the library to determine their OPAC terminals.

Users' satisfaction can be contributed not only from the success of their searches for information in the OPAC, but also on the number of OPAC terminals available in the library. Knox and Miller's(22) study at the Northwestern University Library found the queuing equation, known as Erlang delay formula, was used to predict the number of public terminals needed for the OPAC. The formula uses three variables, that is, the arrival rate, the departure rate and the number of terminals. The results of the study identified that seven terminals were found to be a satisfactory number, with the probability of waiting .028 or one out of 35 times during a heavy-use hour.

3.4 LIBRARY STAFF REACTIONS TO LIBRARY AUTOMATION

3.4.1 STAFF ACCEPTANCE OF LIBRARY AUTOMATION

A review of the literature reveals that some of the major reasons that library staff fear the introduction of a library automation system have to do with threat or reality of job loss, job displacement, reduced opportunity for advancement, and the feeling of human obsolescence. But such fears were not all necessarily true. In fact the introduction of library automation will mean that there will be changes at organisational

level. Library staff attitudes and behaviour will also be affected by the new system. According to Bednar**(23)** there exists a mixed reaction by the library staff to the introduction of the automated library system. The results of her findings showed that the majority of the professional library staff were able to accept the technology. But the study also found that most lower ranking library staff seem to have difficulty in accepting the introduction of the technology. They fear that the new system will eventually result in the decreasing number of manpower resources. Further to that, the study also identified that some of the lower-ranking staff have difficulty in learning the new system. But what changes this particular group is that as they work and become familiar with the system, they become more interested. Bednar's findings were similar with a study **(24)** conducted a year later at the Penn State University library. The study found that clerical staff are the majority who show difficulty in transition from the manual to the online system. The study also identified that there is a growing dissatisfaction among the staff to perform what they perceived as two separate jobs. However, as they make use of the system, the staff generally become enthusiastic about the variety and challenge of their jobs when they mastered both tasks and realised that in the automated environment the skills needed for the two activities greatly overlap.

3.4.2 JOB SATISFACTION

The effect of library automation on job satisfaction among library personnel were undoubtedly cannot be denied. Dakshinamurti**(25)** surveyed 118 respondents in

five different types of libraries : university, college, main public library, branch public library and special library. The results of the survey identified that 32 per cent of the overall respondents found the introduction of library automation to their job environment increased their job satisfaction.

The main reason for this increased job satisfaction was that in an automated system routine tasks can be reduced or to a certain extent eliminated thereby making the job more interesting and exciting. One terminal operator in the survey commented that before automation was introduced she did not pay much attention to cataloguing when typing, but now she has to, and finds the job more interesting and challenging.

3.4.3 ENHANCED SUPPORT STAFF RESPONSIBILITIES AND LEAD TO ORGANIZED CATALOGUING PROCESS

The introduction of automated systems has made the process of cataloguing become more faster, efficient, and systematic. As a result of such changes influenced by this technology, cataloguing productivity has increased and backlogs were slowly disappearing. Even more interesting is the trend toward centralization of terminal-intensive activities, such as copy cataloguing, and thus could increased the role of support staff in the processing activities. Automation enabled non-professionals to process the bulk of the material quickly. Those items left for the professionals were those that were much more difficult to catalog.

Dakshinamurti's survey results(26) also identified that 31 per cent of the respondents agreed that automation procedures will force staff members to be more organized and be more responsible in their work. This is because automation can also cause to a reduction in the need for supervision of day-to-day activities.

3.4.4 THE NEED FOR TRAINING

Library automation systems introduced to the library working environment do not necessarily reflect the librarians' inferiority in the use and knowledge of the system. Library personnel usually consists of professionals, semi-professionals and the non-professionals. To a certain extent, the professional librarians were very much well-informed in the application of library computerisation systems. According to Dakshinamurti(27) automation will lead to diversified jobs which either creates new jobs, needing new skills or more importantly new training. The results found that 44 per cent of the respondents surveyed believed that library staff would need more training. The need for training among the library staff should be properly organized. The training must be related to the application of the system and the best way to do this is through in-house or on the job training which could give the library staff the confidence about knowing what is to be expected.

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CHAPTER FOUR

LIBRARY AUTOMATION IN BRUNEI LIBRARIES

4.1 INTRODUCTION

The introduction and use of library automation is becoming increasingly common in today's libraries. Technological advances have made possible impressive achievements in improving services and streamlining operations. The rapid development of microcomputer technology had proven to be of great influence to the current development of library automation. As expected, the introduction of library automation promised to brings a lot of changes to the library working environment. Among the widely accepted implications to libraries are :-

a. the possibility to allow easy integration of various library activities;

b. facilitation of cooperation and the formation of library networks;

c. the ability to avoid duplication of efforts within a library;

d. the ability to eliminate some uninteresting and repetitive library work;

e. the ability to increase the range of services offered and;

f. the ability to increase efficiency and cost-effectiveness.

Besides these promising advantages, library automation also affects the library staff and users. To some extent, library automation provides library staff with the possibility

of erasing unnecessary and repetitive work and thus increase productivity and efficiency in services. But at the other end, the library automation also proved to be of great deterrent to the security of their work. Some of them even fear that with the introduction of library automation, it could create job displacement. To the library users, the introduction of library automation to library service operations has in such a way assisted them to be able to find the information in a more efficient and systematic approach. They can forget the irritating and complicating use of the library catalogue. They can now turn their attention to finding the information through the online public access catalog terminals (OPACs) which gives them a speedy and easy access to information.

4.2 EARLY DEVELOPMENT OF LIBRARY AUTOMATION IN BRUNEI LIBRARIES

The history of library automation in Negara Brunei Darussalam can be traced as far back in 1986 when the Brunei Institute of Technology library**(1)** installed the Sydney Micro Library System to automate their basic library operations. It was the first library automation that dealt with the cataloguing and circulation process. Although the library was not fully automated, it was considered enough to provide a more systematic and speedy library service operations. It was the implementation of the integrated library system at the Brunei Institute of Technology library that opened a new horizon in the use of computers in libraries. The enthusiasm by Brunei librarians to see the new technology applied widely by libraries around the country

became more apparent when the project on library networking among Association of Southeast Asian Nations (ASEAN) libraries organised by Association of Southeast Asian Nations - Committee On Cultural and Information (ASEAN-COCI) were studied. Brunei Darussalam took an early step to put the project in operation. Several meetings were held involving several libraries and government departments. The outcome of the meeting was a proposal report on the setting up of BRULINET - Brunei Library Network**(2)** which was forwarded for government approval. The BRULINET project will comprise six libraries namely the Language and Literature library, Institute of Islamic Studies library, the Museum library, the State Medical library, the Brunei Institute of Technology library and the University of Brunei Darussalam library. The implementation of the Brunei Library Networking will result in a nationwide development of library computerisation in the country. But the reality of the proposed BRULINET project was delayed due to several administrative and technical considerations that has to be dealt by various authorities.

In 1990 the Brunei Institute of Islamic Studies library**(3)** installed the Librarian Helper Online. But because of the unreliability of the system to support the ever increasing library collection, in 1994 the library migrated to Professional Software Library System. The idea of automating the library operations has slowly spread to a few government departmental libraries and specialised libraries. The Brunei Shell Petroleum library is one of the biggest special libraries in the country. In 1990, jointly with the company central archive, the library managed to convinced the company management of the

need to embark on a new and reliable system to support the increasing volume of library collections. After undergoing a lengthy examination and evaluation on various software packages such as STAIRS, STATUS, BASIS, CAIRS and ORACLE, the management supported the installation of a system known as STATUS**(4)** to provide a more flexible, reliable and efficient library and information retrieval service to its personnel.

Other departmental libraries that used a microcomputer system to automate their libraries include the Brunei Medical library**(5)** that used a CDS/ISIS database software, the Unit Petroleum library**(6)** of the Prime Minister Office used a Tiny Automatic System on Microcomputer for Information processing in Libraries software (TAMIL). But the most important development in the history of library automation is the involvement of secondary schools and colleges libraries. The use of CDS/ISIS database software**(7)** in the secondary schools and colleges libraries was initially pioneered by an individual school librarian who attended a two weeks workshop on the use of CDS/ISIS database software organised by the University of Brunei Darussalam libraries. The software was distributed and can be obtained freely from UNESCO. As a result of great enthusiasm and efforts, the CDS/ISIS database software was successfully installed to seven secondary school libraries across the state.

The University of Brunei Darussalam library has always been in the forefront in the application of library automation. The idea of implementing the automated turnkey

system for the library was first proposed in 1987**(8)**. The first proposal was delayed due to the development of a permanent campus at Tungku that was to be completed by the year 1995. After several years of delay, in 1998 the University library was able to go ahead with the library automation project and successfully installed the VTLS system**(9)**. At present, the library is continuing to transfer the rest of its bibliographic records to this new database.

The age of library automation in Brunei libraries can be said to be in its early stages of development. The effects on the application of automated library system in libraries of higher institutions such as the ITB and UBD library has greatly influenced the taste and enthusiasm of other librarians in different types of libraries to push the relevant authority to supply them with computers. But even having been supplied with computers, librarians will have to deal with other problems that will eventually affect the application of this technology. This main problem is associated with employing qualified library staff**(10)** with at least a knowledge and experience in handling computers. At present, the number of librarians having had exposure to the application of computer technology is small and most of them are employed in higher institutions. Apart from that staff training in computer skills**(11)** is needed to be conducted in order to educate the "non-experienced computer library staff" that constitute the majority of Bruneian librarians. Moreover the availability of appropriate budget**(12)** allocated for the purchase of library software packages will enable those libraries in secondary schools and colleges and in the departmental libraries to uphold a cooperative library network.

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CHAPTER FIVE

THE RESEARCH SETTING

This dissertation is concerned with a study of user reaction to library automation at the University of Brunei Darussalam library. As library automation is a new phenomenon to the library scenario in Negara Brunei Darussalam, it is essential for the study to explore its potential effects. The main attention of the study is to look at the two subsystem modules of the VTLS System, that is, the use of online public access catalog (VTLS EasyPAC) by library users, and the application of cataloguing (VTLS EasyCAT) module by the cataloguing staff of the University library. The subject of attention will involve looking at the reactions and key issues raise by the system to both library staff and users of the University of Brunei Darussalam library.

5.1 UNIVERSITY OF BRUNEI DARUSSALAM : BACKGROUND INFORMATION

The vision of a tertiary educational institution was first announced by His Majesty SultanHaji Hassanal Bolkiah Mu'izzaddin Waddaulah, Sultan and Yang Di-Pertuan of Negara Brunei Darussalam in 1976**(1)**. In his titah (royal command), His Majesty stressed the needs, in the interest of national development of Negara Brunei Darussalam, to have its own university. Among the reasons behind the establish-

ment of the University of Brunei Darussalam was the need among Bruneian students for a local institution where they could pursue their studies at the tertiary level. Another was the need to produce a competitive workforce to meet the manpower requirements of the country's development plan, a workforce which also possesses the characteristics of honesty and loyalty to Negara Brunei Darussalam and shares in creating an integrated harmonious society. A series of meeting of government officials was held to discuss and review comprehensively the country's higher education facilities. The meeting subsequently resulted in the appointment of a steering committee**(2)** which, with the assistance of the British Council, proceeded to engage a group of experts whose tasks and responsibilities were to devise a proposal for establishing the country's first university. But the idea of planning to set up the university has only been active since 1984-85**(3)**, when academics links were discussed with a number of universities in the United Kingdom and neighbouring Malaysia.

As a stepping stone to produce and create a solid human resource development, the University of Brunei Darussalam was set up in October 1985**(4)** in a temporary campus near to the Institute of Education Building. The latter was integrated as the faculty of education in 1988**(5)**. The University of Brunei Darussalam started its first intake of 176 students in 1985 offering only four degree programmes. The first batch of University of Brunei Darussalam students graduated in September 1989.

As part of its extension and development programmes, the University of Brunei

Darussalam has established and worked very closely with other overseas universities particularly in devising the degrees programmes and courses. Formal academic links were also established with the University College, Cardiff, and with the University of Leeds(**6**). The two universities provide assistance in the development of the English-medium programmes. For theMalay-medium programmes, assistance was provided by the Universiti Sains Malaysia and the Universiti Kebangsaan Malaysia(**7**).

In 1994(**8**), the University of Brunei Darussalam moved to its 2,500 acres permanent campus at Tungku, Gadong near the capital. Support facilities in the new permanent campus include the faculty blocks, twenty specialised laboratories, an administration block, a sports centre and staff and students accommodation. The academic services centre, a three-winged building housing the main library, the Educational Technology Centre and Computing Services Centre, offers a unique reading room in the Main Library which overlooks the South China Sea. In 1997 the University accommodates around 200 academic staff and 1,200 students attending thirteen degrees programmes in six faculties(**9**). The faculties are the Arts and Social Sciences, Management and Administrative Studies, Islamic Studies, Science and Computer Studies, Sultan Hassanal Bolkiah Institute of Education and the last is the Academy of Brunei Studies.

5.1.1 UNIVERSITY'S MISSION AND OBJECTIVES

Like any other universities around the world, University of Brunei Darussalam has set its target to achieve the following mission(**10**) and objectives(**11**).

MISSION

1. Teaching is the University's primary mission. University of Brunei Darussalam aims to produce quality graduates suitably equipped in terms of knowledge, skills, attitudes, moral and spiritual values, to support the development needs of

   the nation and consistent with the national philosophy
2. As the nation's only university, University of Brunei Darussalam will promote and undertake research, in areas where it has a comparative advantage and in accordance with national needs.
3. As the university's staff are highly skilled in a large and growing number of specialisations, University of Brunei Darussalam will make this expertise available to the community.

OBJECTIVES

1. Improve the quality of its graduates.
2. Give emphasis to applied research.
3. Actively promote its expertise within the community by offering advisory, consultancy and continuing education services.
4. Continue to improve the quality of its staff, in terms of qualifications and skills, and increase numbers to appropriate levels.
5. Continue to improve the level of support facilities in order to ensure excellence in teaching, research and management.
6. Respond effectively and appropriately to present and future needs and challenges.

5.2 THE LIBRARY

The University library started its services in October 1985**(12)** at the lower ground floor of the Sultan Hassanal Bolkiah Institute of Education library thus sharing the facilities and the exploitation of library staff. In June 1986**(13)**, both libraries were merged and the first Chief librarian was appointed to lead the university library. The merger also resulted in an increase of library staff and its collections. The library collections have increased tremendously for the last ten years. The 1985-1989 library report**(14)** indicated the total library stock at 107,397 while the 1989-1990 library report**(15)** stated a rapid increase at 122,143. In 1997**(16)** the collections rose to 200,000 volumes with 1,400 current periodicals subscribed to. The library followed the Library of Congress classification system to catalogue its materials.

The University library is considered to be the nerve centre of an institution of higher learning, as it plays a vital role in supporting its teaching, learning and research activities. Having the responsibilities of exploiting the vast volume of knowledge and information, and ensuring the library users benefit from the library resources, the university library has undertaken efforts to introduce a library culture**(17)** aimed at developing positive attitudes and behaviour among its users, so that the library facilities and resources are effectively and systematically utilized by all users. The following are the library culture aims which help to strengthen the knowledge culture among the library users.

1. To develop an awareness and understanding of the importance of the library in the educational process.

2. To realise that it is the user's responsibility to obtain maximum benefit from the library facilities.
3. To be aware that the library staff are always willing to assist users and provide proper service whenever necessary.
4. To cooperate in maintaining an atmosphere of peace and quiet conducive to learning and research in the library.
5. To value all library facilities and resources and to utilize them in a responsible manner.
6. To uphold the university motto: Towards Human Perfection.

5.2.1 LIBRARY ORGANISATIONAL STRUCTURE

The University library employs 55 library staff**(18)** which comprises of 12 professional librarians, 7 semi-professional assistant librarians, 4 senior library officers, 8 library officers and 24 library assistants. The University library is headed by a Chief Librarian who is on a three year contract. He is assisted by an Assistant Chief Librarian and eight other Heads of Divisions. The eight sections are the Circulation and Reader Services Division, the Reference and Information Services Division, the Special Collections Division, the Media Division, the Acquisition Division, the Cataloguing Division, the Serials Division, the Gifts and Exchange Division and the Automation Division.

5.2.2 THE CATALOGUING DIVISION

The Cataloguing Division has a total of 9 library staff**(19)**. They consist of 3 professional cataloguers, 1 subject librarian responsible for the Arabic materials, 1 contract library consultant assisting in the transferring and inputting of bibliographic data into the library computer system and 4 library assistants responsible for clerical and other cataloguing related tasks.

5.2.2.1 CATALOGUING PROCESSES AND PROBLEMS

The Cataloguing Division catalogues around 15,000 to 20,000 volumes of new materials annually**(20)**. For the last twelve years, library users relied heavily on the use of catalogue cards as a key source of finding materials on the shelves. The materials were catalogued using original and copy cataloguing and a lots of time was spent on the checking and typing of bibliographic data onto the card catalogues.

Apart from doing the original cataloguing, the Cataloguing Division has also installed a CD-ROM Bibliofile**(21)** and other CD-ROM bibliographic data such as the British Books In Print, Books In Print to assist in their cataloguing of the new materials. New materials that can be searched through these CD-ROM bibliographic data were automatically printed out to the catalogue card. For the materials especially on the Malay and Arabic background that cannot be traced through the CD-ROM bibliographic data, original cataloguing was applied by the library cataloguers.

The important development which happened in the Cataloguing Division was when the announcement of using the VTLS EasyCAT module to catalogue library materials. This development has taken the library staff by surprise and tasks of inputting bibliographic data to the new system had started once the system is in operation. To date, the Cataloguing Division had successfully transferred a total of 120,000 bibliographic records**(22)** from 200,000 items into the university library VTLS database.

The Cataloguing Division has encountered many problems in maintaining the standard of cataloguing of library materials. The main problems face by the Cataloguing Department is the lack of qualified and experience cataloguers**(23)** and subject specialists**(24)** in various fields of knowledge. Being outnumbered by the amount of work, the Cataloguing Division also needed to double the number of support staff in order to speed up the task of inputting new bibliographic records into the library database. The most experienced cataloguer was a contract librarian who has already completed her six years' contract with the University library. Despite having this disadvantage, the Cataloguing Division was able to reduce the number of uncatalogued materials to a minimum thus ensuring library users have access to the university library resources. Furthermore descriptive cataloguing is done by subject assistants. For books with card sets, the cataloguing on the card sets is checked for its accuracy and should be in accordance to Anglo-American Cataloguing Rules (AACR II). This process can cause delays in putting the books on the shelves. Besides that the preparation and typing of multiple entry cards for a particular material that has been catalogued, classified and

checked resulted in a waste of time. This repetitive and tedious tasks in producing catalogue cards has affected the maximum use of library resources. This has also resulted in library users feeling frustrated when they found out the materials which were actually available in the library could not be traced using the catalogue available.

5.3 AN OVERVIEW OF THE VTLS SYSTEM

The VTLS Incorporated grew out of library automation activities at Virginia Polytechnic Institute and State University, popularly known as Virginia Tech**(25)**. The original VTLS system dates back to 1974**(26)** when Virginia Tech initiated a software development project for a customized integrated system for its Newman Library. In 1980 the VTLS software was widely used by other libraries in the USA and in 280 libraries worldwide**(27)**.

5.3.1 SYSTEM DESCRIPTION

The VTLS system is designed in a modular application fashion**(25)**. The basic VTLS system includes applications subsystems for cataloguing (VTLS EasyCAT), authority control, online public access catalogue (VTLS EasyPAC), keyword and boolean searching, circulation control, serials control, acquisition control, reservations control and report production.

5.3.2 THE CATALOGUING (VTLS EasyCAT) MODULE

The VTLS EasyCAT module**(26)** is a Windows-based client that allows full-screen

editing and creation of MARC bibliographic and authority records. It can edit and transfer records from a VTLS database via VTLS EasyPAC connectivity.

The VTLS system employs an integrated database design. Cataloguing records are linked to authority records and holdings information. MARC formats are supported for all bibliographic materials, authority records, and holding information. The VTLS EasyCAT module**(27)** also allows record creation templates, or workforms, for all supported MARC formats. The system also supports and allows the application of other international MARC formats with of course, some modification to suit the needs of the University library.

Besides that the VTLS EasyCAT can retrieve MARC records from files and save MARC records to local files. Libraries can modify these templates to meet and suit their own needs. Since the University library is also relying on the use of CD-ROM BiblioFile to search for bibliographic data which used MARC formats, it can automatically transfer data to the VTLS Easy CAT system by making some modification to the outcome of the records to suit the University library database.

The VTLS EasyCAT module**(28)** supports a Windows-based cataloguing client that is workform-oriented. The cataloguing client supports full-screen entry and a choice of MARC tags or field labels for bibliographic data elements. It provides data entry templates with field labels for MARC tags.

Before adding bibliographic records to a library's database, the system checks for any common errors, such as omissions in fixed and variable fields, invalid MARC tags. Authority records can be done either using a key-entered process or imported in the MARC format from CD-ROM cataloguing support products such as the BiblioFile. The VTLS EasyCAT**(29)** validates headings for authors, uniform titles, series titles, and subject. Authority records are stored in a thesaurus-like format that includes references to broader and narrower terms.

5.3.3 THE ONLINE PUBLIC ACCESS CATALOG (VTLS EasyPAC)

The VTLS public access catalog (VTLS EasyPAC) offers a choice of menu or command-driven interfaces**(30)**. They are relatively easy to use. The menus list available fields andsearch options for user selection. The VTLS EasyPAC also provides users with on-screen instructions and examples of searching for bibliographic records. The command-driven mode search statements**(31)** consist of a single-letter abbreviation that indicates the field to be searched, followed by a slash and the desired field value (see appendix 3). Forward and backward paging commands permit easy navigation among search screens and menus. Another function available on the VTLS EasyPAC is enabling the user to make a reservation for library materials.

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CHAPTER SIX

QUESTIONNAIRE SURVEY RESULTS AND DISCUSSION

6.1 AN ANALYSIS OF THE QUESTIONNAIRE SURVEY RESULTS

The purpose of this chapter is to present the results of the questionnaire survey , to comment on the findings and to discuss the implications of these findings for both the two categories of users. The first category of users are the library users (lecturers, undergraduates and the teacher trainees). They were intended to provide their reactions on the introduction of online public access catalog. The questionnaire survey took three weeks to complete. The questionnaire survey was started on the 1st May 1998 until 25th May 1998. The second category of users were the cataloguing staff of the University of Brunei Darussalam library. A total of 9 questionnaires were also distributed and the same number were returned. Where possible, the data has been presented in a tabular form and has been arranged in such a way to provide a clear comparison of the responses from the respondents. The two questionnaire surveys can be found in appendix 1and appendix 2.

6.1.1 THE QUESTIONNAIRE SURVEY RECEIVED FROM LIBRARY USERS

A total of 200 questionnaires were distributed to the library users who have been using the online public access catalog. Out of that, a total of 186 completed

questionnaires were returned. A breakdown of the returned questionnaires can be summarised as follows - 103 (55.4 %) from the undergraduate students, 40 (21.5%) from the teacher trainee students and 43 (23.1%) from the lecturers of the University of Brunei Darussalam.

A. USER INFORMATION

The purpose of this section of the questionnaire was to collect general information about the respondents; their academic status or connection to the University of Brunei Darussalam; their faculty affiliation; their qualification; their gender and age.

Question no. 1 requested the respondents in to state their present status at the university.

TABLE 1 - Academic Status

User status	Frequency	%
Lecturers	43	23.1%
Undergraduate students	103	55.4%
Teacher trainees	40	21.5%
Total	186	100.0%

The highest proportion of respondents in the Table 1- were the undergraduate students with 103 (55.4%). This show the majority of the student population of the University of Brunei Darussalam. Apart from this group, 21.5 per cent of the respondents were teacher trainees attended a teacher training certificate course. The

reason for this is due to the integration of the Institute of Education in 1988 which became the Faculty of Education, University of Brunei Darussalam. Despite that 23.1 per cent of the respondents were received from the lecturers.

TABLE 2. Staff's Faculty Affiliation

Faculties	Frequency	%
Faculty of Education	8	18.6%
Faculty of Management	4	9.3%
Faculty of Science	14	32.5%
Faculty of Arts and Social Sciences	9	20.9%
Faculty of Islamic St	4	9.3%
Academy of Brunei St	4	9.3%
Total	43	100.0%

This section dealt in relation to question **1** and their affiliation with the University of Brunei Darussalam. Out of 186 respondents, 43 (23.1%) of them were lecturers from various faculties. Since the questionnaire requested the respondent to state which department they belong to, an analysis by the researcher had found out that the University of Brunei Darussalam use the "Faculty" instead of department. The "department" is considered to belong in either of the six faculties available at the University of Brunei Darussalam. Table 2 illustrates the number of lecturers belong to the six different faculties. Based on the Table 2 above the greatest proportion of

academic staff were those from the Faculty of Science with 32.5 per cent, the Faculty of Arts and the Social Sciences follow with 20.9 per cent. The Faculty of Education with 18.6 per cent and the Academic of Brunei Studies, Faculty of Management and Administrative Studies and Faculty of Islamic Studies with 9.3 per cent respectively.

In question 3, the respondents were asked about the type of course attended at the University of Brunei Darussalam.

TABLE 3. Breakdown of Courses

Courses	Frequency	%
B.A. Brunei Studies	9	6.3%
B.A. Business Administration	14	9.8%
B.A. Economics	5	3.3%
B.A. Education	34	23.8%
B.A. Islamic Studies	12	8.4%
B.A. Malay Literature	8	5.7%
B.A. Management Studies	12	8.4%
B.A. Public Policy & Admin.	9	6.3%
Certificate of Education	40	28.0%
Total	143	100.0%

Table 3, shows there are 143 respondents that fall in this category. Out of that 103 of them were undergraduate students and 40 were teacher trainees who are taking a

certificate course in teaching. There is no doubt that the majority of the respondents come from the undergraduate students as these group constitute the majority of the University of Brunei Darussalam population. Table 3 illustrate the breakdown of the respondents according to their courses.

In the Table 3 above 23.8 per cent of the respondents are from those taking the B.A. Education course and 28 per cent are from the certificate of Education course. But when taken into account the number of students taking a course in the field of education, both the B.A Education and the Certificate of Education students will constitute the highest proportion of the respondents. This reflects the main missions and objectives of the University of Brunei Darussalam that is to produce a sufficient supply of local and qualified teachers for the nation which is at present occupied by expatriate teachers from overseas.

Question no. 4, requested the respondent to state their highest qualification they achieved prior attending or coming to the University of Brunei Darussalam. There are three categories of respondents with various types of qualifications. They are the academic staff, the undergraduates and the teacher trainees. Table 4 shows the breakdown of their qualifications.

TABLE 4 - Breakdown of Respondent Qualifications

Type of Respondent	Qualification achieved	Frequency	%
Undergraduate Students	Diplomas	9	4.8
	Certificates	94	50.5
Teacher Trainee Students	Certificates	40	21.6
Lecturers	Ph.D	14	7.5
	Masters	29	15.6
TOTAL		186	100

The above table show most of the respondents (94 (50.5%) undergraduate students and 40 (21.6%) teacher trainees) are the certificate holders while only 9 (4.8%) of the undergraduates are diploma holders. The figures can be described that most of the University of Brunei Darussalam students (undergraduates and teacher trainees) were those completing higher secondary education either having achieved an 'A' or 'O' level General Certificate of Secondary Education. Besides that 29 (15.6%) of the lecturers in the survey have masters degree and 14 (7.5%) are Ph.D holders. It is also interesting to say that the majority of the lecturers working with the University of Brunei Darussalam are expatriate and contract staff. Only a few of them are locals and most of them are masters degree holders.

In question no. 5, the respondents were asked to state their gender. As mentioned above that there are 186 respondents responded to the questionnaire survey. These respondents are not equally distributed according to their sex group. Table 5 illustrate the distribution of respondents' sex group

TABLE 5 - Distribution of Respondents' Sex Group

User status	Male Count	%	Female Count	%	Total
Lecturers	35	32.4%	8	10.3%	43
Undergraduate students	59	54.6%	44	56.4%	103
Teacher trainees	14	13.0%	26	33.3%	40
Total	108	100.0%	78	100.0%	186

The distribution of respondents' sex group indicated that there is no big different among the male and female respondents at the undergraduates level. 59 (54.6%) male undergraduate students and 44 (56.4%)of the female undergraduate students were among the largest proportion of the survey. However, when it comes to sex group distribution, the male respondents (108) still dominate the highest proportion of the survey. It also illustrates that there were more male lecturers and more female teacher trainees

Question no. 6 sums up the user information background. There is a big distribution on the age group among the survey respondents. Table 6 show the distribution of this age group.

TABLE 6 - Respondents' Age Group

Age of Respondents	Lecturers		U'graduate Students		Teacher trainees		Total
	No	%	No	%	No	%	
Under 20 yrs	-	-	8	7.8%	23	57.5%	31
21-25 yrs	-	-	85	82.5%	17	42.5%	102
26-30 yrs	-	-	4	3.9%	-	-	4
31-35 yrs	1	2.3%	4	3.9%	-	-	5
36-40 yrs	10	23.3%	2	1.9%	-	-	12
41-45 yrs	23	53.5%	-	-	-	-	23
46-50 yrs	9	20.9%	-	-	-	-	9
Total	43	100.0%	103	100.0%	40	100.0%	186

Table 6, illustrates that 85 (82.5%) of the undergraduate students and 17 (42.5%) of the teacher trainees age between "21 to 25 years old" while 23 (57.5%) of teacher trainees and 8 (7.8%) of the undergraduate students aged "under 20 years old". The main reason for this is that in Brunei Darussalam, most of the teacher trainees were former students of various secondary schools who have completed their 'O' level examination but were unable to attend a sixth form education due to failure in reaching the entry requirements. Despite that, in order for this students to undergo a teacher training course, they must have achieved the standard entrance requirements of at least 4 'O' levels in the General Certificate of Secondary Education and a pass at the interviewing process. Besides that mature students were also constitute part of

the university population. But their number were too small as reflected in the survey. 4 (3.9%) of the undergraduate students aged between "31 to 35 years old" and 2 (1.9%) aged between "36 to 40 years old". On the other hand, the majority of the academic staff are aged between "36 to 45 years old". 23 (53.5%) of the academic staff age range between "41 to 45 years old" and 10 (23.3%) aged between "31 to 35 years old". Only 9 (20.9%) of the academic staff are aged over 45 years old.

B. USERS' EXPERIENCE IN USING THE LIBRARY

In question no. 7. Users were asked whether they have used the library before coming to the university. In Table 7, it showed that most of the respondents agree that they have used different types of libraries before coming to the University. The undergraduate students (55.4 %) indicated that they have at least used either the "college library" (78.4%) and the "public library" (60.7%) as shown in figure 2 of Table 7. The main reason for this outcome is that the undergraduate students were also former students who have attended their 'A' level studies at various colleges in Brunei Darussalam before continuing their study at the university. A similar response was also indicated by the teacher trainees (21.5%). Apart from the "school library" and the "public library" (20.2%), some of the teacher trainees (21.6%) as shown in Table 8 have also used the "college library". This is because some of them were also former students who have attended their 'A' level education but were unable to attend the university education.

TABLE 7. Library Usage

User status	Yes Count	%	No Count	%
Lecturers	43	23.1%	-	-
Undergraduate students	103	55.4%	-	-
Teacher trainees	40	21.5%	-	-
Total	186	100.0%	-	-

TABLE 8. Type of Library usually Visited

User status	University library Count	%	College library Count	%	School library Count	%	Public library Count	%
Lecturers	43	87.8%	-	-	-	-	17	19.1%
Undergraduate students	5	10.2%	98	78.4%	-	-	54	60.7%
Teacher trainees	1	2.0%	27	21.6%	12	100.0%	18	20.2%
Total	49	100.0%	125	100.0%	12	100.0%	89	100.0%

Question no 9 focus on the frequency of users come to the University of Brunei Darussalam library. By far the highest proportion of the respondents used the university library "several times a week". This includes 43 (27.4%) academic staff who prefer to use the library during the lunch-time and after their lecturing hours. Meanwhile, 86

(54.8%) undergraduate students and the 28 (17.8%) teacher trainees stated that they come to the library during the afternoon break and in the evening after attending the lecture. Some of them even mentioned that besides having a free period during the day time they also make use of their evening time (6.00 pm - 8.00 pm) using the library for course related purposes. They also stated that the most popular times that the university library will be fully utilised is when it is near to the examination period. The main factor behind this is that most of the respondents (both undergraduates and teacher trainees students) stayed in the university accommodation on campus and access to the university library did not create any difficulty for them.

TABLE 9. Frequency of Library Users Coming to the Library

User status	Everyday Count	%	Several times a week Count	%	Once a week Count	%
Lecturers	-	-	43	27.4%	-	-
Undergraduate students	6	60.0%	86	54.8%	8	57.1%
Teacher trainees	4	40.0%	28	17.8%	6	42.9%
Total	10	100.0%	157	100.0%	14	100.0%

User status	Several times a month Count	%	Less often Count	%	Total
Lectures	-	-	-	-	43
Undergraduate students	1	33.3%	2	100.0%	103
Teacher trainees	2	66.7%	-	-	40
Total	3	100.0%	2	100.0%	186

C. USERS' REACTIONS IN USING LIBRARY CARD CATALOGUE

Question no. 10 asked whether users use the catalogue cards to look for information on an item?. In this section, the respondents were asked whether they have used the library card catalogue to look for information. Table 10, indicated that 112 respondents has stated that they "often" used the library card catalogue. This includes the academic staff (27.7%), the undergraduate students (58.0%) and the teacher trainee students (14.3%). Apart from that, 49 respondents said that they "seldom" used the library card catalogue and only 22 respondents mentioned they "always" used the library card catalogue to look for information. The "Often" response was very high and these showed that the card catalogue was not very popular to the respondents. Besides stating the card catalogue system was very slow as shown in Table 11, most of the respondents commented that the card catalogue was very difficult to understand and the system used was very complex. The university library used the Library of Congress Classification which is very new to the university students as they are normally familiar

with the Dewey Decimal Classification. Furthermore, they commented that it was very tedious to browse the many number of catalogue drawers which sometimes make them feel dizzy and confused.

TABLE 10. Frequency of Library Users Using The Library Card Catalogue

User status	Always Count	%	Often Count	%	Seldom Count	%
Lecturers	3	13.6%	31	27.7%	9	18.4%
Undergraduate students	10	45.5%	65	58.0%	25	51.0%
Teacher trainees	9	40.9%	16	14.3%	15	30.6%
Total	22	100.0%	112	100.0%	49	100.0%

User status	Never Count	%	Total
Lecturers	-	-	43
Undergraduate students	3	100.0%	103
Teacher trainees	-	-	40
Total	3	100.0%	186

with the Dewey Decimal Classification. Furthermore, they commented that it was very tedious to browse the many number of catalogue drawers which sometimes make them feel dizzy and confused.

TABLE 10. Frequency of Library Users Using The Library Card Catalogue

User status	Always Count	%	Often Count	%	Seldom Count	%
Lecturers	3	13.6%	31	27.7%	9	18.4%
Undergraduate students	10	45.5%	65	58.0%	25	51.0%
Teacher trainees	9	40.9%	16	14.3%	15	30.6%
Total	22	100.0%	112	100.0%	49	100.0%

User status	Never Count	%	Total
Lecturers	-	-	43
Undergraduate students	3	100.0%	103
Teacher trainees	-	-	40
Total	3	100.0%	186

Q 13. If you use the catalogue to look for information, how fast could you usually get details you required?

In relation to the used of library card catalogue, Table 11 illustrates the reasons behind why the respondents "often" or "seldom" used the library card catalog?. 132 respondents stated that the library card catalogue were "slow" in assisting them to look for information. This includes 26 (19.7%) academic staff, 77 (58.3%) undergraduate students and 29 (22.0%) teacher trainee students. Even worse, 42 respondents stated that the library card catalogue was "very slow" for them. Only 12 respondents agree that the library card catalogue was "quite quick". Perhaps it is true on certain occasions that after having used the library card catalogue system for many years, most of them found that the manual system was very irritating and time consuming. Moreover their frustration did not stop at that point. After spending so much time browsing the card catalogues, they found out that the item they wanted was not on the shelves.

TABLE 11. Users' reactions in using library card catalogue

User status	Very quickly Count	%	Quite quickly Count	%	Slowly Count	%	Very slowly Count	%	Total
Lecturers	-	-	-	-	26	19.7%	17	40.5%	43
Undergraduate students	-	-	9	75.0%	77	58.3%	17	40.5%	103
Teacher trainees	-	-	3	25.0%	29	22.0%	8	19.0%	40
Total	-	-	12	100.0%	132	100.0%	42	100.0%	186

D. USERS' COMPUTER EXPERIENCE

Q 14 and 15. Do you have any experience in using computer?

TABLE 12. Users' computer experience

Student's computer experience						
User status	Regular computer user		Course related only		None	
	Count	%	Count	%	Count	%
Undergraduate students	40	69.0%	40	88.9%	23	57.5%
Teacher trainees	18	31.0%	5	11.1%	17	42.5%
Total	58	100.0%	45	100.0%	40	100.0%

	Academic staff's computer experience					
User status	Yes		No		Total	
	Count	%	Count	%		
Lecturers	43	100.0%	-	-	43	
Total	43	100.0%	-	-	43	

Even though library computerisation seems to be a new scenario to Bruneians, this does not mean to indicate that the use or influence of computers to Bruneians especially the university students are at the very early stage. In fact, computers have become a commodity to the majority of Bruneians, especially in the student's life. Table 12 above show the breakdown of users' computer experience. In fact 40 (69.0%) of the under-

graduate students and 18 (31.0%) of the teacher trainees are the regular computer users as opposed to only 23 (57.5%) and 17 (42.5%) of the same category that have no experience in using the computers. The category is usually the people who have computer at home and have used them for either study purpose or just hooking into the internet site.

On the other hand, All 43 (100.0%) academic staff have experience in using the computers. The result is not a surprise but merely an indication that the academic staff did widely use the computers both at work and at home. Another reason is that most of the academic staff employed by the University of Brunei Darussalam were expatriate officers who have been using and exposed to computer technology long before they came to work with the University of Brunei Darussalam

E. USERS' EXPERIENCE USING LIBRARY COMPUTERISATION

Q 17. Have you experience in using the library computerisation before?

TABLE 13. Users' Experience in using the Library Computerisation

User status	Yes Count	%	No Count	%	Total
Lecturers	43	82.7%	-	-	43
Undergraduate students	9	17.3%	94	70.1%	10
Teacher trainees	-	-	40	29.9%	40
Total	52	100.0%	134	100.0%	186

Table 13 illustrate users' experience in using the library computerisation. It show that there are two type of response. The first were those who have the experience in using the library computerisation and secondly were those who have never been using the system before. 43 (82.7%) of the academic staff and 9 (17.3%) of the undergraduate students fall into this category. The reason for respondents having experience in the library computerisation is that the academic staff were mostly expatriate and contract officers who have been working with various universities in their home countries while the undergraduate students were those who have been studying at either universities or higherinstitutions overseas which use the online public access catalog system before they continue their studies at the University of Brunei Darussalam.

The second category were those who have never been using the system before. The number of respondents falling in this category was expected to be much higher than the first category. It is stated that 94 (70.1%) of the undergraduate students and 40 (29.9%) of the teacher trainees have indicated that they have never been using or heard about the library computerisation before. The reason behind this situation is that most of the respondents who fall in this category were the former students who have attended their high schools in Brunei Darussalam where most of the libraries use the traditional card catalogue system as a tool to look for information. Even the public library in Brunei Darussalam has not yet installed any library computerisation system.

Q 18. I use the search for information

Frequency of search done by library users to look for information using the online public access catalogue can vary considerably, depending on the user's needs. As indicated in Table 14 below very few students used the online public access catalog every library visit. This includes 4 (33.3%) academic staff, 2 (16.7%) undergraduate students and 6 (50.0%) teacher trainees. The main reason behind this is probably that most of them come to the library for course related purposes or simply spending their time on reading newspapers. Not so surprisingly, all the three categories of library users involved in the survey do agree that they have occasionally been using the online public access catalog. The undergraduate students 83 (59.7%) constitute the highest proportion. The outcome of this survey is very understandable that every time library users come to the university library, they were not necessarily using the online public access catalog. They will only use the system when they feel that there is a needs to search for a particular item or information related to their work.

TABLE 14. Frequency of Search for Information by Library User

User status	Every library visit Count	%	Occasionally Count	%	Rarely Count	%	Total
Lecturers	4	33.3%	33	23.7%	6	17.1%	43
Undergraduate students	2	16.7%	83	59.7%	18	51.4%	103
Teacher trainees	6	50.0%	23	16.5%	11	31.4%	40
Total	12	100.0%	139	100.0%	35	100.0%	186

i. Improved library services

Q 19. Do you think that with library computerisation now in operation, the university library has improved its services?

Even though library computerisation seems to be a new library technology introduced to the majority of users of University of Brunei Darussalam library, the response achieved in the survey is very positive. Most of the respondents agree that the introduction of library computerisation to the University of Brunei Darussalam library has improved most of the library services. Table 15, indicated that 103 (55.4%) of the undergraduate students, 43 (23.1%) of the academic staff and 40 (21.5%) of the teacher trainees have stated a "yes" response to this section. This positive response shows that the introduction of library computerisation into the University of Brunei Darussalam library has come at the right time and has been well-accepted by the majority of the university students.

Table 15. Improved Library Services

User status	Yes Count	%	No Count	%	Total
Lecturers	43	23.1%	-	-	43
Undergraduate students	103	55.4%	-	-	103
Teacher trainees	40	21.5%	-	-	40
Total	186	100.0%	-	-	186

ii. Ease of use

Q 20. Do you think the online public access catalog is easy to use?

Table 16. Ease of Use

User status	Yes Count	%	No Count	%	Total
Lecturers	43	23.1%	-	-	43
Undergraduate students	103	55.4%	-	-	103
Teacher trainees	40	21.5%	-	-	40
Total	186	100.0%	-	-	186

Table 16, show that all the 186 respondents stated a "yes" response when asked about whether the online public access catalog is easy to use or not. From this response it shows users feel happy with the introduction of the online public access catalog as a replacement for the library card catalogue system. They even said the new system have save a lots of their time in searching for item they want. The findings of this study are similar to Markey's findings**[1]** why library users accept the new online public access catalog system. The first reason was that of the users' perception of computer terminals as being more fun to use that the traditional access means. Secondly, the online public access catalog provided users with either new informational service or new approaches that are not available in the traditional catalogue. And the third reasons given by Markey for user acceptance of the online public access catalog is that users believe that the new system saves a lots of their time.

iii. Efficient and fast

Q21. Do you think the online public access catalog is very efficient and fast?

Likewise to its ease of use, all the 186 survey respondents as indicated in Table 17, agree that the online public access catalog system is very efficient and fast as opposed to the old library card catalogue system. The respondents also stated that the searching by author and title has always produce a good results to the item they wanted.

Table 17. Efficient and fast

User status	Yes Count	%	No Count	%	Total
Lecturers	43	23.1%	-	-	43
Undergraduate students	103	55.4%	-	-	103
Teacher trainees	40	21.5%	-	-	40
Total	186	100.0%	-	-	186

F. USERS' REACTIONS ON USING THE ONLINE PUBLIC ACCESS CATALOG

In response to question 22 whether they received any kind of assistance before using the online public access catalog, Table 18 illustrate that 118 respondents received help from a member of the university library staff. Apart from that 62 of the respondents said that they used the printed instruction provided. In Table 19, 171 respondents would welcome an individual demonstration, that is, by asking any

any member of library staff to show them how to use the online public access catalog system on the spot. From this result, it can be summed up that before they start to use the online public access catalog, most of them were very dependent on the assistance of the library staff either in terms of verbal assistance or on-the-spot demonstration.

TABLE 18. Type of Assistance Received

User status	Received a group demonstration Count	%	Received help from member of staff Count	%	Used the printed instruction provided Count	%	Total
Lecturers	-	-	20	16.9%	23	37.1%	43
Undergraduate students	4	66.7%	76	64.4%	23	37.1%	103
Teacher trainees	2	33.3%	22	18.6%	16	25.8%	40
Total	6	100.0%	118	100.0%	62	100.0%	186

Table 19. Individual Demonstration

User status	Yes Count	%	No Count	%	Total
Lecturers	43	25.1%	-	-	43
Undergraduate students	94	55.0%	9	60.0%	103
Teacher trainees	34	19.9%	6	40.0%	40
Total	171	100.0%	15	100.0%	186

Q 24. Are the printed instruction

Table 20. Effectiveness of Printed Instruction

User status	Very helpful Count	%	Useful Count	%	I have not used them Count	%
Lecturers	23	34.3%	14	25.0%	5	9.6%
Undergraduate students	31	46.3%	25	44.6%	38	73.1%
Teacher trainees	13	19.4%	17	30.4%	9	17.3%
Total	67	100.0%	56	100.0%	52	100.0%

User status	I did not know there were any Count	%	Total
Lecturers	1	9.1%	43
Undergraduate students	9	81.8%	103
Teacher trainees	1	9.1%	40
Total	11	100.0%	186

Since the online public access catalog system is very new to the majority of the university of Brunei Darussalam library users, there is a strong indication that apart from practical demonstration by the university library staff, the used of printed instruction has produced an important impact on the users of the online public access catalog

system. Table 20, illustrates that 67 respondents stated that the printed instruction is very helpful to them and another 56 respondents indicated that the printed instruction is useful. Although the response is very positive, there is still room for improvement on the way the printed instruction is designed. Firstly, the printed instruction should be written in both English and Malay language, taking into account not all the university students understand English very well. This is to take into consideration of the students who were undertaking courses in the Malay stream programme. Secondly, that, there should be more examples on method of using various searching techniques and not only heavily dependent in illustrating examples on most popular search, that is, Author, Title and Subject search. Thirdly, the printed instruction should be clear and simple, which should include a glossary of terms used in the online public access catalog.

Q 25. Compared to the manual system, is the computerised system of searching an item in the catalogue faster?

Table 21. Speed of Searching using the Online Public Access Catalog

User Status	Very quicker Count	%	Quite quicker Count	%	Slower Count	%	Total
Lecturers	35	25.4%	8	17.8%	-	-	43
Undergraduate students	78	56.5%	22	48.9%	3	100.0%	103
Teacher trainees	25	18.1%	15	33.3%	-	-	40
Total	138	100.0%	45	100.0%	3	100.0%	186

In relation to speed of retrieving information between the online public access catalog system against the manual library card catalogue, Table 21, provides a clear picture of the online public access catalog performance. 138 respondents which comprise 35 (25.4%) academic staff, 78 (56.5%) undergraduate students and 25 (18.1%) teacher trainees agree that the online public access catalog provides a " very quick" response in retrieving information as opposed to the manual card catalogue system. This suggests that the computer system was met with favour because most of the respondents perceive that a computer is intrinsically efficient, that is, they think that, when they input information, the computer, because of its efficiency, will automatically provide users with all the information relevant to their search.

Q 27. What types of searches have you done?

Respondents were asked about the types of searches they have done on the online public access catalog. From the survey in Table 22, 183 respondents agree with the title search and another 173 of them agree with the author search. Not very surprising is that the undergraduate students were the highest proportion with 105 (55.2%) that usually conduct the search using the title. The main reason behind this outcome is that some of the respondents said the title search is much easier and straight forward. They also stated that everytime they use the online public access catalog, they will always bring their reading list provided by the lecturers which included complete bibliographic detail. The findings of the survey was similar to Moore's study in which known item searches exceeding the subject search **[2]**.

The author search on the other hand is the second most popular search types. Again the undergraduate students comprise 99 (57.2%) of the survey respondents that used the author search. One main reason why the author search is popular is that it is also very easy and a straight forward method of searching. The author search will usually ask the user to indicate the author's surname and initials. This leads to a faster retrieving on the result of the search. Besides these two most popular searches some of the respondents also use other search types such as the keyword and subject search. Such searches are normally used when searching is made without relying on the reading list but more on the known subject or a simple keyword search.

Table 22. Types of searches done

User status	Author Count	%	Keyword Count	%	Subject Count	%	Title Count	%
Lecturers	34	19.7%	22	40.0%	42	24.4%	43	23.5%
Undergraduate students	99	57.2%	25	45.5%	93	54.1%	101	55.2%
Teacher trainees	40	23.1%	8	14.5%	37	21.5%	39	21.3%
Total	173	100.0%	55	100.0%	172	100.0%	183	100.0%

Question 28 interrelates with question 27 but asked the respondents on the most specific search that they most often use. They were also asked to state their reason why they use this search. Table 23 indicated that the title search is the most often used search method by all the three type of users, that is, 19 (17.8%) lecturers, 68

(63.6%) undergraduate students and, 20 (18.6%) teacher trainees. Most of the reasons why they choose the title search were:-

1. The title search is very straight forward and easy because they usually have their reading list whenever they use the online public access catalog.

2. Most of the respondents were very familiar with author and title card catalogue since they attend their higher secondary schools and colleges before attending their university education.

Table 23. Type of search most often use

User status	Author Count	%	Title Count	%	Subject Count	%	Keyword Count	%
Lecturers	13	21.7%	19	17.8%	18	34.6%	6	33.3%
Undergraduate students	34	56.6%	68	63.6%	20	38.5%	10	55.6%
Teacher trainees	13	21.7%	20	18.6%	14	26.9%	2	11.1%
Total	60	100.0%	107	100.0%	54	100.0%	18	100.0%

Table 24 illustrate the outcome result of the search in relation to question 27 and 28 whether they have found the item they want or not. There are 153 respondents stated a "yes" response that they have achieved their target in finding for a particular information. The likely type of search technique use by the respondents were the title search and author search. This often resulted in the retrieval of information related to the title or the author.

Table 24. Frequency of Search Success

User status	Yes Count	%	Partially Count	%	No Count	%	Total
Lecturers	38	24.8%	5	15.6%	-	-	43
Undergraduate students	79	51.6%	23	71.9%	1	100.0%	103
Teacher trainees	36	23.5%	4	12.5%			40
Total	153	100.0%	32	100.0%	1	100.0%	186

Q 30. Now that the university library has an online public access catalog system, do you think that information is easier to find than before?

The highest proportion of the respondents that agree with the online public access catalog provide an easy way to find information is the undergraduate students with 55.2% as illustrated in Table 25.

Table 25. Users' Opinion about OPAC

User status	Yes Count	%	No Count	%	It makes no difference Count	%	Total
Lecturers	43	23.5%	-	-	-	-	43
Undergraduate students	101	55.2%	1	100.0%	1	50.0%	103
Teacher trainees	39	21.3%	-	-	1	50.0%	40
Total	183	100.0%	1	100.0%	2	100.0%	186

It is understandable that after many years of using the card catalogue system, most of the students felt the old system was very difficult, time-consuming and sometime even led to frustration when the item is not on the shelves after spending too long on browsing the card catalogue. But with the online public access catalog, they felt that by keying a particular search method to look for information regarding the wanted item, all the information can be seen in the display screen including the status of the item whether it is on the shelves or out on loan. They did not need to go to the shelves thus saving their time. The way to browse for information is even faster than browsing using the card catalogue.

Q 34. How do you rate your satisfaction about the overall university library services after the computerisation process?

TABLE 26. Users' Satisfaction Rate

User status	Very satisfactory Count	%	Quite satisfactory Count	%	Satisfactory Count	%	Not very satisfactory Count	%	Total
Lecturers	42	26.9%	1	4.2%	-	-	-	-	43
Undergraduate students	89	57.1%	10	41.7%	4	66.7%	-	-	103
Teacher trainees	25	16.0%	13	54.2%	2	33.3%	-	-	40
Total	156	100.0%	24	100.0%	6	100.0%	-	-	186

The respondents were asked to rate their satisfaction about the overall university library services after the computerisation process. Table 26 indicated that 156 respondents stated that they were very satisfied with the overall university library services after the introduction of library computerisation. This is because most of the time-consuming process of library services such as the browsing of card catalogue has been replaced by the online public access catalog system, the process of borrowing and returning of books were now fully computerised and thus minimising the long queue and time-waiting that usually happened before.

Q 35. Do you think that the online public access catalog terminals are well-located?

TABLE 27. Location of Online Public Access Terminals

User status	Yes Count	%	No Count	%	Total
Lecturers	35	23.6%	8	21.1%	43
Undergraduate students	77	52.0%	26	68.4%	103
Teacher trainees	36	24.3%	4	10.5%	40
Total	148	100.0%	38	100.0%	186

In order for the online public access catalog to be well-used by users, the location of the online public access catalog terminals within the university library plays an important factor. In relation to the University of Brunei Darussalam library, the majority of respondents in the survey agree that the location of the online public access terminals

were conveniently located in every floor of the university library. Table 27, shows that 148 respondents that includes 35 (23.6%) lecturers, 77 (52.0%) undergraduate students and 36 (24.3%) teacher trainees were satisfied with the location. Only 38 respondents did not agree with the location and no reasons were stated when asked about it. The result of this survey is similar to the findings carried out by Pawley **[3]**.

Question 36, asked respondents whether the online public access catalog terminals available at present are enough or not. In Table 28, it was found that most of the respondents were not satisfied with the number of online public access catalog terminals available in the university library.

At the time of the survey, there were only two online public access terminals available in the main floor and one each at every level of the university library. Most of the respondents felt that there should be at least three terminals on every floor of the university library. With the increase in the number of terminals it can at least deminish or minimise the queueing problems. There are two possible factors that lead to the queueing problems.

1. Not all users know well enough how to use the online public access catalog. Since the system is very new, users tend to ask for more on the assistance from members of the library staff when they were using the system at the main floor of the library. But when they were at other floors they used the printed instruction and the online help screen available to guide them on how to do the searching.

2. As mentioned in the previous discussion, most users tend to refer to the reading list when searching for a particular item they need. This sometimes can cause them to spend a lot of time on checking that resulted in other users have to wait for them to finish.

Table 28. Number of Online Public Access Terminals

User status	Yes Count	%	No Count	%	Total
Lecturers	13	15.1%	30	30.0%	43
Undergraduate students	50	58.1%	53	53.0%	103
Teacher trainees	23	26.7%	17	17.0%	40
Total	86	100.0%	100	100.0%	186

In response to question 37 and 38, whether the respondents like to use the online public access catalog system and do they like to use it again, Table 29 and 30, indicated that all 186 respondents stated to a "yes" response that they like using the online public access catalog. This positive response is very much reflected in their comments on the previous questionnaire of this survey. Its ease of use, the presentation of information, the level of searching success and the assistance both provided by the library staff and printed instruction are some of the main reasons that the online public access catalog is well-accepted by the users of University of Brunei Darussalam library. Their preference for using the online public access

catalog is not beyond expectation. The findings by Balaam[4], Moore[5], Pease[6] and Pawley[7] have shown similar findings.

TABLE 29. Users' preference in using the OPAC

User status	Yes Count	%	No Count	%	Total
Lecturers	43	23.1%	-	-	43
Undergraduate students	103	55.4%	-	-	103
Teacher trainees	40	21.5%	-	-	40
Total	186	100.0%	-	-	186

TABLE 30. Users' acceptance in using the OPAC

User status	Yes Count	%	No Count	%	Total
Lecturers	43	23.1%	-	-	43
Undergraduate students	103	55.4%	-	-	103
Teacher trainees	40	21.5%	-	-	40
Total	186	100.0%	-	-	186

6.1.2 THE QUESTIONNAIRE SURVEY RECEIVED FROM LIBRARY STAFF OF THE CATALOGUING DEPARTMENT

A. LIBRARY STAFF BACKGROUND INFORMATION

Q1. Please state your present position?

TABLE 1. Respondent's Status

User status	No	%
Assistant librarian	2	22.2%
Senior library officer	1	11.1%
Library consultant	1	11.1%
Assistant cataloguer	1	11.1%
Senior librarian	1	11.1%
Library assistant	3	33.3%
Total	9	100.0%

Table 1 above shows the breakdown of respondents' status in the cataloguing department. The number of library staff employed in the cataloguing department is very small as opposed to other technical departments within the university library.

Q2. What is your highest qualification?

In terms of qualifications, there are only a few library staff having a professional qualifications in librarianship attached to the cataloguing department. In Table 2, it was found that there is only 1 Bruneian having a Master degree and another 2 hold a

diploma besides 4 certificate holders. The other 2 library staff are expatriate officers who were employed on a one year contract. There seems to be a strong emphasis in recruiting more local qualified library staff with cataloguing experience background. This is particluarly true since to be a good cataloguer, a librarian should at least be able to work under the guidance of experienced and knowledgeable cataloguer. In the case of the present cataloguing staff the more experienced cataloguer will be leaving the department due to either the expiry of their contract (Library Consultant and Assistant Cataloguer for Arabic materials) or have been reaching their retirement age (Senior Librarian).

TABLE 2. Respondent's Qualification

User status	Masters degree No	%	Undergraduate degree No	%	Diplomas No	%	Certificates No	%
Assistant librarian	-	-	-	-	2	100.0%	-	-
Senior library officer	-	-	-	-	-	-	1	25.0%
Library consultant	1	50.0%	-	-	-	-	-	-
Assistant cataloguer	1	50.0%	-	-	-	-	-	-
Senior librarian	-	-	1	100.0%	-	-	-	-
Library assistant	-	-	-	-	-	-	3	75.0%
Total	2	100.0%	1	100.0%	2	100.0%	4	100.0%

Q3. Which gender are you?

Table 3 showed the cataloguing department have more female workers than male. The main reason for this is because most of the work involved in the cataloguing process related to the paper based works in which females were more patient and careful workers than the male. Further to that most of the male staff were not very interested to work in the cataloguing section. Further observation by the researcher showed that they were more female than male staff employed by the University of Brunei Darussalam library. Apart from that, there were more male library staff attached to the Reader's Service Section and the Audio-visual Section.

TABLE 3. Respondent's Sex Group

User status	Male		Female	
	Count	%	Count	%
Assistant librarian	1	50.0%	1	14.3%
Senior library Officer	-	-	1	14.3%
Library Consultant	1	50.0%	-	-
Assistant Cataloguer	-	-	1	14.3%
Senior librarian	-	-	1	14.3%
Library Assistant	-	-	3	42.9%
Total	2	100.0%	7	100.0%

Q4. Please tick your age group?

There is no big difference in terms of library staff age group as shown in Table 4. Most of the library staff fall in the age category between 26 to 35 years old. Only 1 library staff member is over 50 years old and is within two years of reaching her retiring age

TABLE 4. Respondent's Age Group

User status	26-30 years Count	%	31-35 years Count	%	36-40 years Count	%
Assistant librarian	-	-	1	50.0%	1	100.0%
Senior library Officer	-	-	-	-	-	-
Library Consultant	-	-	-	-	-	-
Assistant Cataloguer	-	-	1	50.0%	-	-
Senior librarian	-	-	-	-	-	-
Library Assistant	3	100.0%	-	-	-	-
Total	3	100.0%	2	100.0%	1	100.0%

User status	41-45 years Count	%	Over 50 years Count	%
Assistant librarian	-	-	-	-
Senior library Officer	1	50.0%	-	-
Library Consultant	1	50.0%	-	-
Assistant Cataloguer	-	-	-	-
Senior librarian	-	-	1	100.0%
Library Assistant	-	-	-	-
Total	2	100.0%	1	100.0%

Q5. How long have you been working in this library?

Most of the staff in the cataloguing department have been working with the university of Brunei Darussalam library between 6 to 15 years. Only 3 of them, 2 contract officers and 1 local staff joined the university library between 1 to 5 years. In term of working experience, most of them have been with the University of Brunei Darussalam library since it was established.

TABLE 5. Respondent's Working Experience

User status	1-5 years Count	%	6-10 years Count	%	11-15 years Count	%
Assistant librarian	-	-	-	-	2	50.0%
Senior library Officer	-	-	-	-	1	25.0%
Library Consultant	1	33.3%	-	-	-	-
Assistant Cataloguer	1	33.3%	-	-	-	-
Senior librarian	-	-	-	-	1	25.0%
Library Assistant	1	33.3%	2	100.0%	-	-
Total	3	100.0%	2	100.0%	4	100.0%

B. CATALOGUING EXPERIENCE

Q6. What is your job/tasks in the Cataloguing department?

TABLE 6. Respondent's Job/Tasks

User status	Cataloguer of English books Count	%	Clerk/ other Count	%	Cataloguer of Malay books Count	%	Cataloguer Arabic books Count	%
Assistant librarian	2	40.0%	-	-	2	50.0%	1	100.0%
Senior library officer	-	-	1	25.0%	-	-	-	-
Library consultant	1	20.0%	-	-	-	-	-	-
Assistant cataloguer	1	20.0%	-	-	1	25.0%	-	-
Senior librarian	1	20.0%	-	-	1	25.0%	-	-
Library assistant	-	-	3	75.0%	-	-	-	-
Total	5	100.0%	4	100.0%	4	100.0%	1	100.0%

Table 6, shows that the professional librarians were mainly responsible for the cataloguing of materials received by the university library. The Assistant librarian, the Assistant cataloguer and the Senior librarian were all given tasks to catalogue books in both English and Malay language. Since there is a course in Islamic studies offered by the University of Brunei Darussalam, a subject specialist cataloguer was employed on a contract basis mainly with the task of cataloguing the Arabic materials. On the other hand the non-professional library staff were given an easy task of inputting

straightforward cataloguing data to the library database.

C. LIBRARY STAFF'S COMPUTER EXPERIENCE

Q9. How long have you been using computers?

TABLE 7. Respondent's Computer Experience

User status	1-5 years Count	%	6-10 years Count	%	11-15 years Count	%
Assistant librarian	-	-	2	40.0%	-	-
Senior library Officer	-	-	1	20.0%	-	-
Library consultant	-	-	-	-	1	50.0%
Assistant Cataloguer	-	-	1	20.0%	-	-
Senior librarian	-	-	-	-	1	50.0%
Library Assistant	2	100.0%	1	20.0%	-	-
Total	2	100.0%	5	100.0%	2	100.0%

Most of the cataloguing staff have been using computers either at work or in their home. In relation to their experience in using computers, the professional library staff were more computer literate than the non-professional staff. Table 7 above showed most of the professional library staff have been using computers for between 6 to 10 years. A simple reason for this is that the professional library staff have been exposed to computers either during their study abroad or have been attended many seminars and other in-service training on library related courses.

D. LIBRARY STAFF'S REACTION TO LIBRARY AUTOMATION

Question 10, 11, 12 and 13 asked about staff's reactions to the introduction of library automation at the university library. First, they were asked whether they have experienced any changes after the introduction of library automation to their work. It was found that all the library staff in the Cataloguing department agree that the technology has made their job much easier, faster and systematic than before. Secondly, they were asked on the speed of accomplishing their task. They also agree that with library automation now in operation, it has also helped them to increase their work production and more importantly they have managed to minimise the backlogs. And thirdly, respondents were asked about the quality of their work. Besides making the cataloguing work more easier, speedier and systematic, most of the respondents also agree that the introduction of library automation has assisted the process of cataloguing more accurately with only minimal errors in typing the data. The non-professional library staff also agree that having started inputting bibliographic data into the library database which they thought would create difficulty and hard work, their work production has been improved as opposed to the manual processing of typing card catalogues. Similar findings have also been previously identified in Dakshinamurti's study**[8]**.

In relation to their feeling about working with computers , 31 per cent said they felt very excited, 24 per cent said it was very enjoyable, 27 per cent indicated their pleasure and 17.3 per cent agree that the library automation has made them more competent in

their work. None of the library staff felt negative about the new technology. The result of this study is similar to Bednar's findings[9]. Perhaps, most of the respondents have greatly benefited from the effective use of computer technology that assists them to work faster, more accurately and more systematically organised. With the positive response shown by the respondents, it is believed that the majority of the university library staff welcomed the introduction of library automation at the university library.

Q14. When I have to learn a new technology

In relation to the method of learning the new technology, 8 (88.9%)of the cataloguing staff said that they look forward to learning it and only 1 (11.1%) staff have no particular reaction. Their acceptance to learn has shown a positive interest of the library staff to the new technology.

When asked about staff reactions in relation to the pace with which the library automation was introduced into their work area, it was found that 5 of the library staff said the pace was too slow. They said the process of automating the library should have been started as early as 1987. On the other hand 4 of the library staff said the process of library automation came at the right time with the new building and more members of the library staff having exposure to this technology by attending seminars, job placement and courses abroad.

Q17A. Did you received any training on the library cataloguing module?

Before the library automation process took effect, all the library staff attended a very short in-house training on the use of the subsystem module of the university library database. The cataloguing staff have organised their in-house training on the use of the cataloguing module. The main importance of the training is to allow all the cataloguing staff to be able to use the various techniques provided by the module.

When asked about the type of training received by the cataloguing staff, 4 (44.4%) of the cataloguing staff agree that the training was very good and another 5 (55.6%) of them said it was very moderate. But some of the cataloguing staff still insist that the training should be regularly and properly organised in order to develop new skills and techniques and more importantly to give the library staff the confidence about knowing what is to be expected.

Q18. How would you prefer to learn how to use the library cataloguing module?

Cataloguing staff were also asked about how they prefer to learn to use the cataloguing module. There is a mixed reaction stated by the cataloguing staff as shown in Table 8. Two of them (Senior Library Officer and Senior Librarian) prefer to learn the cataloguing module in a structured class, 3 (2 Assistant Librarian and 1 Library Assistant) prefer to learn in a workshop session, 1 Library Assistant prefers to learn it from the supervisor and another 3 (Library Consultant, Assistant Cataloguer and Library Assistant) prefer to learn it using the manual. Most of the respondents were also

agreed that there should be proper and more in-house training on the use of the real cataloguing module that will enable the cataloguing staff to get more in-depth skills on the various functions available in the module.

TABLE 8. Learning Techniques in using the Cataloguing Module

Position	In structured class Count	%	In a workshop Count	%	From your supervisor Count	%	On your own with a manual Count	%
Assistant librarian	-	-	2	66.7%	-	-	-	-
Senior library officer	1	50.0%	-	-	-	-	-	-
Library consultant	-	-	-	-	-	-	1	33.3%
Assistant cataloguer	-	-	-	-	-	-	1	33.3%
Senior librarian	1	50.0%	-	-	-	-	-	-
Library assistant	-	-	1	33.3%	1	100.0%	1	33.3%
Total	2	100.0%	3	100.0%	1	100.0%	3	100.0%

Question 19 asked respondents whether the introduction of library automation has affected their job responsibilities. The introduction of library automation has also affected the overall responsibilities of the staff's day-to-day work or tasks. In relation to this, it was found that 5 of the cataloguing staff shown in Table 9 above, agree that

their level of work responsibilities were increased. New tasks that have never been happened before the process of automation were introduced to the member of staff. This result was also identified by Dakshinamurti**[10]** who stated that automation will lead to diversified jobs which either creates new tasks/jobs. Despite that, 1 respondent has said the library automation has diminished her work responsibility in a small scale but further agreed to the fact that her new tasks which involved the inputting and checking of bibliographic data into the library database has add a new responsibilities to her job. The outcome of this result is also related to question 6, where the same respondent (Senior Library Officer) was not given any cataloguing task but rather was handling more clerical work. On the other hand 3 respondents (1 Assistant Librarian and 2 Library Assistants) felt that their work responsibilities remained the same. The only change is that they are now using library computer system instead of typing up piles of card catalogues and rechecking of entries in the manual library catalogue.

TABLE 9. Respondent's opinion on the influence of library automation into their work

Position	Added more responsibilities Count	%	Diminished responsibilities Count	%
Assistant Librarian	1	20.0%	-	-
Senior Library Officer	-	-	1	100.0%
Library Consultant	1	20.0%	-	-
Assistant Cataloguer	1	20.0%	-	-
Senior Librarian	1	20.0%	-	-
Library Assistant	1	20.0%	-	-
Total	5	100.0%	1	100.0%

Position	Had no effect on the amount of responsibility your carry Count	%
Assistant Librarian	1	33.3%
Senior Library Officer	-	-
Library Consultant	-	-
Assistant Catalogue	-	-
Senior Librarian	-	-
Library Assistant	2	66.7%
Total	3	100.0%

Q20. After the introduction of library automation do you interact and communicate with other cataloguing staff regarding your work?

TABLE 10. Respondent's communication pattern after the introduction of library automation

User status	More than previously Count	%	About the same Count	%	Less than previously Count	%
Assistant librarian	-	-	2	100.0%	-	-
Senior library officer	1	16.7%	-	-	-	-
Library consultant	1	16.7%	-	-	-	-
Assistant cataloguer	1	16.7%	-	-	-	-
Senior librarian	1	16.7%	-	-	-	-
Library assistant	2	33.3%	-	-	1	100.0%
Total	6	100.0%	2	100.0%	1	100.0%

In relation to staff communication and interaction regarding cataloguing related work, it was found that 6 of the respondents said there had been more communication and interaction between themselves regarding their work. Perhaps one possible reason is that having introduced to the new system which most of the staff were not very familiar even though they have been undergoing a short training, they seem to help each other and are thus able to gain other staff knowledge on the application of the system that they haven't been able to apply yet. It is only through communication and interaction that the staff can increase and develop their understanding of the new

system. Apart from that 2 respondents (Assistant Librarian) said their communication pattern remained the same and 1 respondent (Library Assistant) stated her communication and interaction pattern was less than previously. This is probably true in a sense that due to work load, a few people tend to spend more time interacting and communicating with their computer rather than with their colleagues.

6.1.3. MOST POPULAR PERIOD

TABLE 11. Most Popular Period for Users to use the Online Public Access catalog

User status	Morning Count	%	Lunch Count	%	Afternoon Count	%	Total
Lecturers	7	16.7%	23	25.0%	13	25.0%	43
Undergraduate students	28	66.7%	52	56.5%	23	44.2%	103
Teacher trainees	7	16.7%	17	18.5%	16	30.8%	40
Total	42	100.0%	92	100.0%	52	100.0%	186

During the three weeks period of conducting the questionnaire survey, the researcher noticed that 92 respondents have spent their lunch break visiting the library and using the online public access catalogue to look for the item they wanted as opposed to the morning session with 42 respondents and the afternoon session with 52 respondents, as shown in Table 11. It was also found that the undergraduate students constitute the highest majority of online public access catalog users in all the three time periods.

There were two reasons stated why the "Lunch" period seem to attract many users to use the online public access catalog service.

1. Most of the university students spend their "Lunch" period in the library either to do their course-related work or simply to use the online public access catalog service to look for items they wanted.
2. The university students consider the "Lunch" period is the most convenient time to do the searching on the online public access catalog. This is because most of the university students have no experience in using the online public access catalog and thus need a longer time to get a successful result to a particular information they need.

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CHAPTER SEVEN

CONCLUSION AND RECOMMENDATIONS

7.1. CONCLUSION

The introduction of library automation at the University of Brunei Darussalam library has been well accepted by the university population and staff of the University of Brunei Darussalam library. It is perhaps one of the most beneficial and profitable changes made by the university library. It is also aimed as a prime mover for the university library to provide a more modern, reliable, effective and systematic library service towards the millennium period. The installation of the VTLS library system has also been seen by the members of the university library staff as an opportunity for them to work in a more encouraging environment. They don't have to do the repetitive work anymore such as the typing of entries in the card catalogues, the processing of user's borrowing cards, the arrangements of card catalogues into the catalogue cabinets which were not only time-consuming but also very expensive in term of staffing and the maintenance. As the University of Brunei Darussalam library becomes fully automated, these irritating and time-wasting tasks can be prepared in a more speedier, effective, systematic and accurate manner.

In the eyes of the university library users, the introduction of an online public access catalog system as a replacement to card catalogues has provided them with an

easy way of accessing the specific information they need. Furthermore, they have also commented that the University of Brunei Darussalam library is on the right track in the provision of the online public access catalog system.

It is amply confirmed that users will readily accept the online public access catalog as an alternative to a more traditional type of catalogue. But above all, the positive response stated by users of this new VTLS library system must not be wholly accepted without looking at the odds that may arise from the unforeseen problems. Problems generated from the users' lack of knowledge, skills and experience on the use of online public access catalog facilities such as the use of Boolean operators, lack of knowledge in the keyword search in order to get more good searching results, or on how to use the library cataloguing module more systematically and effectively by the cataloguing staff.

7.2. RECOMMENDATIONS

Most of the survey respondents have underlined several comments that need to be considered thoroughly by the university library management as a preliminary step to improve more on the operation and relevant information regarding the new library automation system. The following are the recommendations that need to be investigated comprehensively by the university library management.

A. THE ONLINE PUBLIC ACCESS CATALOG SYSTEM

7.2.1. THE SEARCH FACILITY

There is no doubt that the author, title and subject search facilities will be the most popularly used search facilities. It is in this context that there is a need to increase user's awareness on the use of other search facilities available such as the keyword search, the author/title search, the use of truncation and the Boolean operators. Based on the survey results, it was found that most respondents did not know what is a "keyword search" and "author/title search" or "Boolean operators". This lack of knowledge on the definition of search facility must be clearly stated either in the printed instruction or during the demonstration session.

7.2.2. THE PRINTED INSTRUCTION

Not all the OPAC users make use of the help menu available in the online public access catalog system. Some of them even commented that the printed instruction does assist them much better but needs more examples on the way other search facilities are used. As has been known that the online public access catalog is very new to the majority of university library users, the printed instruction should be provided in a simple, concise, effective and self-explanatory approach. It is recommended that :-

1. The printed instruction should include examples on every method or technique of searching. It must not only illustrate examples of the most popular search but also of the less used search, that is the keyword and the

author/title search. With the clear examples, it will encourage users to try these search facilities more often and not rely on the popular search methods that is, author, title and subject search.

2. Since the University of Brunei Darussalam offered degree programmes both in English and Malay language, there is a strong evidence that not all students understand the English language well. It is in this respect that there is a needs to provide a Malay language version of the OPAC printed instruction. This is to assist students who were not very fluent or have language difficulty in understanding the English language version.

7.2..3. USER EDUCATION ON THE USE OF ONLINE PUBLIC ACCESS CATALOG

In order for the new system to be fully used, the university library staff must be made aware and prepare when a user or group of users ask for the online public access catalog demonstration. It is in this respects that the university library should devise a user education programme with the main priority on the use of online public access catalog system. The programme should not only be targeted at the new undergraduate or teacher trainee students but also at the existing students who are still not able to use the online public access catalog system properly.

In regard to a user education programme for the new students of the University of Brunei Darussalam, an effective way for the new students to understand the online

public access catalog system is by providing them with a practical exercise on using the search facilities to look for information.

7.2..4. THE NEED TO PROVIDE SUFFICIENT ONLINE PUBLIC ACCESS CATALOG TERMINALS

In response to the comments provided by the survey respondents on the lack of online public access catalog terminals, it is recommended that a sufficient number of online public access catalog terminals must be provided on every floor of the university library. Most of the comments made by the respondents stated that there must be at least three to four online public access catalog terminals available. It is the task of university library management to produce a formula for the appropriate number of online public access catalog terminals. A preliminary investigation into this matter should be given priority.

B. THE LIBRARY CATALOGUING MODULE

7.3.1. THE AVAILABILITY OF THE LIBRARY CATALOGUING MODULE MANUAL TO MEMBERS OF THE CATALOGUING STAFF

As the VTLS library cataloguing system module is very new to most of the cataloguing staff, there is clear evidence that a sufficient library cataloguing manual should be available on hand for each member of the cataloguing staff. This is essential for two reasons. First, the manual can act as a "Quick Reference guide" for the cataloguing staff whenever they come across problems related to the application of the system.

Secondly, the availability of the cataloguing module manual will also encourage cataloguing staff, especially the library assistants to train themselves to get familiar with the system.

7.3.2. THE NEEDS FOR TRAINING

There is sufficient evidence on the need for continuous in-house training for all members of the cataloguing staff. This is especially true with library assistants who have now engaged in assisting the professional librarian in the inputting of bibliographic data into the VTLS library system database. In order for the cataloguing staff to be familiar withthis cataloguing module, the training must be properly conducted using the same cataloguing module. The training must be made compulsory to all levels of library staff in the cataloguing department. It should be heavily focuses on everything from the very basic to the more advance technique of using the VTLS library cataloguing module.

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APPENDIX I

LOUGHBOROUGH UNIVERSITY 1998

LIBRARY STAFF QUESTIONNAIRE SURVEY

A STUDY OF USER REACTION TO LIBRARY AUTOMATION AT THE UNIVERSITY OF BRUNEI DARUSSALAM LIBRARY

I am conducting a questionnaire survey for my master's dissertation on '**A study of user reaction to library automation at the University of Brunei Darussalam library** '. I would very much appreciate your cooperation and participation in completing this questionnaire.

All replies will be treated in confidence and you are not required to give your name.

Most questions are answered by placing a **tick** in the appropriate box (☑) but feel free to write any comments you wish to make.

Thank You.

Pg. Haji Mohd Shahminan bin Pg. Haji Sulaiman.

A. Library staff background information

1. Please state your present position

_____

2. What is your highest qualification?

Ph.D degree	☐
Masters degree	☐
Undergraduate degree (BA, Bsc)	☐
Diplomas	☐
Certificates	☐
Others	☐

Please specify

_____

_____

3. Which gender are you?

Male ☐ Female ☐

4. Your age group?

20 - 24 years 
25 - 29 years 
30 - 34 years 
35 - 39 years 
40 - 44 years 
45 - 49 years 
Over 50 years 

5. How long have you been working in this library?

_____

B. Cataloguing experience

6. What is your job/ tasks in the cataloguing department?

Cataloguer of English books 
Cataloguer of Malay books 
Cataloguer of Arabic books 
Assistant cataloguer 
Typist 
Clerk 
Others 

Please specify?

_____

C. *Library staff's computer experience*

7. Did you have any experience in using computers before the library automation?

Yes ☐ No ☐

8. If yes, was it mainly

At home? ☐
At work? ☐

9. How long have you been using computers?

_____ years

D. Library staff's reaction to library automation

10. The introduction of library automation has made my work

Easier ☐
Harder ☐
No change ☐

11. With the introduction of library automation, the speed with which I accomplish my work has

- Increased ☐
- Decreased ☐
- Remained the same ☐

12. The introduction of library automation have made my work-production

- More accurate ☐
- Less accurate ☐
- Same as before ☐

13. My feelings about working with computers are described by the word (tick any that apply. You can tick more than one)

- Excitement ☐
- Irritation ☐
- Enjoyment ☐
- Dislike ☐
- Tolerance ☐
- Pleasure ☐
- Inadequacy ☐
- Competency ☐
- Frustration ☐

14. When I have to learn a new technology

- I want to learn it, but feel uneasy ☐
- I look forward to learning it ☐
- I fear learning it ☐
- I have no particular reaction ☐

15. Do you think the pace with which the library automation was introduced into your work area was?

- Too fast ☐
- Too slow ☐
- Just right ☐

16. Do you feel that library staff are expected to learn too many new things too fast?

- No ☐
- Yes ☐
- No opinion ☐

17 a. Did you receive any training on the library cataloguing module?

Yes ☐ No ☐

b. If yes, was the training you received in this library cataloguing module

- Excellent ☐
- Very good ☐
- Moderately good ☐
- Not very good ☐
- Poor ☐

18. Would you prefer to learn how to use the library cataloguing module

- In a structured class ☐
- In a workshop ☐
- From your supervisor ☐
- On your own with a manual ☐
- From a friend ☐
- Not at all ☐

19. Do you feel that the introduction of library automation has

- Added more responsibilities to your job ☐
- Diminished the responsibilities of your job ☐
- Had no effect on the amount of responsibility you carry ☐

20. After the introduction of library automation do you interact and communicate with other cataloguing staff regarding your work

More than previously ☐

About the same ☐

Less than previously ☐

Thank you for your cooperation and participation in completing the questionnaire

Please return the completed questionnaire to PHM Shahminan or hand to Head of Cataloguing department, University of Brunei Darussalam Library

APPENDIX II

LOUGHBOROUGH UNIVERSITY 1998

LIBRARY USERS QUESTIONNAIRE SURVEY

A STUDY OF USER REACTION TO LIBRARY AUTOMATION AT THE UNIVERSITY OF BRUNEI DARUSSALAM LIBRARY

I am conducting a questionnaire survey for my master's dissertation on '**A study of user reaction to library automation at the University of Brunei Darussalam library** '. I would very much appreciate your cooperation and participation in completing this questionnaire.

All replies will be treated in confidence and you are not required to give your name.

Most questions are answered by placing a **tick** in the appropriate box (☒) but feel free to write any comments you wish to make.

Thank You.

Pg. Haji Mohd Shahminan bin Pg. Haji Sulaiman.

A. User information

1. What is your status?

Lecturers, (Please go to Q. 2) ☐
Non-teaching staff ☐
Part-time postgraduate students, (Please go to Q. 3) ☐
Undergraduate students, (Please go to Q. 3) ☐
Teacher trainees, (Please go to Q. 3) ☐

2. Please write the name of your department: _____

_____

3. Please write the name of your course: _____

_____

4. What is your highest qualification?

Ph.D degree ☐
Masters degree ☐
Undergraduate degree (BA, Bsc) ☐
Diplomas ☐
Certificates ☐
Others ☐
Please specify _____

_____

5. Which gender are you?

Male ☐ Female ☐

6. Please tick your age group?

Under 20 years ☐
21 - 25 years ☐
26 - 30 years ☐
31 - 35 years ☐
36 - 40 years ☐
41 - 45 years ☐
46 - 50 years ☐
Over 50 years ☐

B. Users' experience in using the library

7. Did you use a library before coming to the University?

Yes, (please go to Q. 8) ☐
No ☐

8. What type of library did you usually visit?

University library ☐
College library ☐
School library ☐
Public library ☐
Special library ☐

9. I come to this library

- Every day ☐
- Several times a week ☐
- Once a week ☐
- Several times a month ☐
- Every few months ☐
- Less often ☐

C. Questions about users' reactions to using library card catalogue

10. Did you use the catalogue cards to look for information on an item?

- Always ☐
- Often ☐
- Seldom ☐
- Never, (please go to Q. 11) ☐

11. Why didn't you use the catalogue cards to find the information?

- It was very hard to understand the catalogue system ☐
- It always take too much time to do the browsing ☐
- I go directly to the shelving and look for the item there ☐
- I don't know how to use the catalogue. (Please go to Q. 12) ☐

12. If you don't know how to use the catalogue, did you

usually ask the library staff for assistance? ☐
read the instructions provided? ☐
ask a friend how to use them? ☐
Other? ☐
Please specify

_____

_____

_____

13. If you used the catalogue cards to look for information, how fast could you usually get the details you required?

Very quickly ☐
Quite quickly ☐
Slowly ☐
Very slowly ☐
Cannot find the required information ☐

D. Questions about users' computer experience

Question no.14 is for students (postgraduate, undergraduate and teacher trainee)

14. Do you have any experience in using computer?

Regular computer user ☐
Course related only ☐
None ☐

Question no.15 is for academic staff and non-teaching staff

15. Did you have any experience in using computer?

Yes ☐ No ☐

16. If yes, was it mainly

At home? ☐

At work? ☐

E. Questions about users' experience using library computerisation

17. Have you experienced in using the library computerisation before?

Yes ☐ No ☐

18. I use the search for information

Every library visit ☐

Occasionally ☐

Rarely ☐

Never ☐

19. Do you think with library computerisation now in operation, the university library has improved its services?

Yes ☐ No ☐

20. Do you think the online public access catalog is easy to use?

Yes ☐ No ☐

21. Do you think the online public access catalog is very efficient and fast?

Yes ☐ No ☐

F. Questions about users' reactions using online public access catalogue

22. Before using the online public access catalogue, had you previously

Received a group demonstration? ☐
Received help from member of staff? ☐
Used the printed instruction provided? ☐
None of these? ☐
Other? ☐

_____

_____

23. Would you have welcomed an individual demonstration?

Yes ☐ No ☐

24. Are the printed instructions

Very helpful ☐
Useful ☐
Too technical ☐
I have not used them ☐
I did not know there were any ☐

25. Compared to the manual system, is the computerised system of searching an item in the catalogue? (Please **circle** on the scale below).

Quicker				Slower
1	2	3	4	5

26. Compared to the manual system, is the computerised system of searching an item in the catalogue? (Please **circle** on the scale below).

Helpful				Unhelpful
1	2	3	4	5

27. Which type(s) of search(es) have you done? (you may tick more than one)

Author search ☐

Title search ☐

Subject search ☐

Keyword search ☐

Author/ title search ☐

Other ☐

Please specify _____

_____

_____

28. Which search have you done **most often**?

_____

Please explain why _____

_____

_____

_____

29. Did you find what you wanted?

Yes	☐
Partially	☐
No	☐

30. Now that the University library has an online public access catalogue system, do you think that information is easier to find than before?

Yes	☐
No	☐
It makes no difference	☐

31. How easy or difficult do you find the online public access catalogue to use? (Please **circle** on the scale below)

Very easy very difficult

1 2 3 4 5

32. If you find the online public access catalogue difficult to use, please say why (you may tick more than one)

Never used an online public access before ☐

Language difficulty ☐

The instructions are not clear ☐

Other ☐

Please specify _____

_____

_____

_____

33. If you find the online public access catalogue easy to use, please say why (you may tick more than one)

I have used the online public access catalogue before ☐

The instructions are very clear ☐

Other ☐

Please specify _____

_____

_____

_____

34. How do you rate your satisfaction about the overall university library services after the computerisation process?

Satisfactory				Not satisfactory
1	2	3	4	5

35. Do you think that the catalogue terminals are well-located?

Yes ☐

No ☐

If no, where should they be? ☐

_____

_____

36. Do you think that there are enough online public access catalogue terminals in this University library?

Yes ☐

No ☐

If no, how many would you suggest?

_____

37. Did you like using the online public access catalogue?

Yes ☐ No ☐

38. Would you use it again?

Yes ☐ No ☐

Thank you very much for your participation and your time.
Please return the completed questionnaire to the Library staff at the Circulation counter.