

# Migration of Digital Content And Provision of Viable Platform for Effective Library Operations: The Millennium Experiences of Two Academic Libraries In Nigeria

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**ABSTRACT:** *As the number of internet users and searchable content is increasing day by day, the text and documents become more complex and are becoming more difficult to find and investigate. Efficient search and retrieval of the required information is very critical for the internet users which is becoming a challenge day by day. In this paper we present an ontological model for efficient text based search functionality. The goal is to let the user explore all available options to find and retrieve the required piece of information. The ontological model is presented for a university website as a case study and some usage scenarios are given.*

**Keywords:** Text Processing, Ontology, Web Search, Web Retrieval, Document Processing

**Received:** 15 December 2013, Revised 16 January 2014, Accepted 21 January 2014

## 1. Introduction

The role of any University library is to support teaching, learning, research and community services of the parent body. However, only a viable library with a robust collection will enhance academic activities of the institution. Thus the Library is the heart and sustainer of all academic activities in the University, and to achieve its purpose the library must meet the world class standard in its physical environment, financial and material resources, availability and accessibility of quality information resources.

The trend for library operations now is tilted to provision of more electronic information resources and the library of the 21<sup>st</sup> century holds combination of virtual and existing print resources. This is geared toward achieving the major goal of the library which is how to provide users with access to more and better information with a quicker and easier approach that is anchored on availability of effective information and communication technology (ICT). ICT has changed the work of libraries and information centers. More than ever, the libraries of the 21<sup>st</sup> century need this technology. An increased number of users, a greater demand for library materials, an increase in the amount of materials being published, new electronic formats and sources, and the development of new and cheaper computers and the advent of a global information society are some of the reasons for the growing need for ICT in libraries. The libraries in Africa and especially Nigeria have not made equal progress in this area. Therefore, librarians, library patrons, supporters and all stakeholders must help develop ICT- based libraries to meet the changing demands of the users.

Also technology advancement presents the library service profession a platform for easy resource management. Thus many library software have emerged in recent times to facilitate acquisition, organization and retrieval of information. Many academic

libraries in Nigeria are already running in this direction with other libraries of the world in a quest to attaining technological based libraries. However, not many of these libraries have the wherewithal to successfully establish a viable automated system. Yet there are many and varied hardware and software available for library operations. According to Iwu & Iroaganachi (2012), presently, in Nigeria majority of the academic libraries are using KOHA open source library management software irrespective of the challenges that accrue open source software. Only three libraries in Nigeria are using MILLENIUM innovative library management software. Out of the three libraries, only two have migration experience as the third started its library system management with the software. This paper seeks to investigate the migration experiences of these two academic libraries.

### **1.1 Rationale for the Study**

The library software to adopt is the most important decision to make apart from the hardware, in library automation. It is tantamount to database management in every sphere of information management. However, the rule of the thumb for automation used to be, selecting the software first, and then the selection of the hardware would be narrowed to the computers on which the software could operate but with the advent of library software in Nigeria which dates back to the 1970s, came the challenge of acquiring and maintaining software packages because of cost. Many potential users apparently view these systems as competitive, and find themselves in dilemma not knowing which one to adopt. However, a commitment to any comprehensive software system, no matter how tentative, involves some effort in choosing, acquiring, installing, and considerably more effort in learning how to use it. Thus to simply investigate the effectiveness and efficiency of a software requires a lot of work. Also considering the investment required creating new collections, digitizing existing ones and migrating to new software, can be a herculean task. It is on these bases that this study on migration of digital content and provision of viable platform for effective library operations: the MILLENNIUM experiences of two academic libraries in Nigeria is being carried out.

### **1.2 Objectives of the Study**

The specific objectives of a study such as this will help librarians in choosing, preparing and subscribing to more appropriate library software for better operations, these include, to:

- ascertain the effect of the migration experiences for the librarians
- determine the librarians' opinion of both software ( former and present)
- determine the current pace of work effectiveness between both software
- determine the software that librarians would prefer
- determine which of the two software is more user-friendly
- ascertain the challenges faced with the use of any of both software
- ascertain the possible solutions to these challenges

### **1.3 Research Questions**

The research questions we have posted in the paper are as follows:

What was the effect of the migration experience for the librarians?

What is the librarians' opinion of both software bases (former and present)?

What is the current pace of work effectiveness now compared to when the other software was in use?

Which of the software do the librarians prefer?

Which of the software is more user- friendly?

What are the challenges faced with the use of any of both software?

What are the possible solutions to these challenges?

### **2.1 Library Software and Academic Libraries in Nigeria**

With the advent of library software in Nigeria which dates back to the 1970s, came the challenge of acquiring and maintaining software packages because of cost. Even with the variety of library software available in the ICT market, which came either as integrated or modular package, Nigerian libraries did not adopt any until 1984 when International Institute of Tropical Agriculture (IITA), library in Ibadan replaced her card catalogue with a fully computerized integrated software called, Battelle Automated Search Information Systems (BASIS) (Oyinloye in Madu 2004).

Academic libraries in Nigeria were not in the scene of library software usage until the National Universities Commission (NUC) acquired TINLIB for only federal University libraries and UNESCO introduced CDS/ISIS. After these two, different software came into market and Nigerian universities have acquired based on their affordability and the result is different software in different universities. This inconsistency and lack of uniformity in the use of library software is one major problem in the academic environment which militates against effective resource sharing and cooperation (Obajemu et al 2013). Some library software packages available in the Nigerian academic environment are, MASTERLIB, TINLIB, ALICE, GLAS, X-LIB, CDS/ISIS, LIBERTY3, MILLENIUM, ALEZANDRA, KARLMARK, KOHA, SLAM and VTLS to mention but a few.

## **2.2 Preparing for Migration Exercise**

A successful migration certainly would begin with a feasibility study. The main purpose of the feasibility study is to consider all factors associated with the project, and determine if the investment of time and other resources will yield a desirable result. When a library is considering a new operation or the launch of a new product, the feasibility study is a logical tool to employ before any resources are invested in the new project. One of the most important aspects of the study is to make sure that the total investment needed to successfully bring the project to completion is considered. Often, this will include addressing components such as Hardware, Software and structure (OECD, 2013).

Also For any transformation to occur in any library, the existing information system must be restructured. In case of a library functioning manually and planning to computerize its operation, the development of a new information system would be essential. System analysis is the process of investigating a system, identifying problems, and using the information to propose improvements to the system. System design is the process of planning a new approach to system or one to replace or complement an existing system. (Nguyen, 2011) This stage is very important for any establishment desirous of transitioning from a window application to a web application.

More so, the availability of various kinds of integrated library software has enhanced the capacity of libraries to provide services to its users, even though it is obvious that library staff cannot easily meet this need without proper instruction, because of the expectation of library to provide twenty-four hour network access to a growing number of bibliographic and full-text databases as well as other electronic materials and that information in any formats from anywhere in the world can and should be delivered in a matter of days for their use (Chiesa, et al 2014). Thus to meet these expectations, library staff capacity development and training is imperative. Workshop, training and conferences should be an integral part of developing staff to enhance their ability to maneuver, manipulate and operate the new library technology, it is also important to review the curriculum of students in library schools to reflect the new development in library professional practice.

To ensure migration of data from Window based library software it is imperative to convert the old bibliographic record to the format that can be interpreted by the new software, this will save the time and energy of the library from creating a new library database. According to Tonta, (2008) a key part of the services that comprise an institutional repository (database) is the management of technological changes, and the migration of digital content from one set of technologies to the next as part of the organizational commitment to providing repository services. MARC is defined as a standard for entering bibliographic information into a computer record that can be used by a library automation system to provide a library catalog. Included in this bibliographic information, and therefore in MARC records, are: descriptions of library materials; searchable headings like authors, title and subjects; elements to organize collections, like classification numbers. (Fritz, 2003).

## **2.3 Academic Libraries and Migration Experiences in Nigeria**

Preparedness is the fundamental bases for any adventure in every facet of life, not precluding automation and a resultant migration from one software to another. Thus the present state of libraries in Nigeria is pertinent to a successful transition from software to software. Mortenson Centre for International Library Programs (2004) reported to the Carnegie Corporation as regards findings of its study of Nigerian academic libraries noting; that the majority library buildings showed signs of wear and tear and few buildings had the necessary or safe wiring facilities. That computer equipments e.g. computers and printers for students and staff access was inadequate, That network and bandwidth of the universities in the study was inadequate and insufficient due to cost. Also it was reported that Retrospective conversion is in a snowballing process in two of the libraries studied while others were still discussing strategies for the process. Vendor relations was poor due to the fact that the libraries were badly inhibited in their evaluation selection process, thus vendors were not willing to provide on- site demonstration. The libraries were isolated from what is happening in the library and information global environment as many librarians were still learning about technologies through literature rather than exposure to practical hands-on experience

which was not available at the time. Finally that, Nigerian librarians lacked the exposure to international standards and experiences.

However, Nwabuisi & Uche (2011) opined that many university libraries have used more than one software since the inception of their automation projects. The reason for the migrations being, lack of proper feasibility studies, high cost of maintenance and inadequate technical support. In essence, very few libraries in the country have sustainable software thus migration in majority of the libraries can be likened to empty drifting. For example, Obajemu et al (2013) revealed that Kenneth Dike library of University of Ibadan, Nigeria had earlier used TINLIB software and could not continue. Also, University of Ilorin started with TINLIB and later shifted to Alice software. University of Lagos was equally affected in the wrong choice of library software. This university started with TINLIB and later shifted to a modified version of TINLIB called Graphical Library Automation System (GLAS). When the latter software could not adequately sustain the library operations, the library then opted for Millennium software in 2012.

In same vein, Rilwanu (2014) purported that a critical limitation in automation and migration to internet based software is non cooperative attitude of policy makers and leaders in some institution, organisations and departments.

According to him, Nigerian government should provide more funding to procure ICTs and e-resources as they emerge. He added that there should be legislation to encourage and enhance the provision of ICTs across libraries. Consequently, only few academic libraries in Nigeria especially some libraries of privately owned universities, have successfully migrated from one software to another. Rather, majority of other libraries in the country are in a state that evoke a sense of struggling and survival phase of development which is characterised by survival instincts devoid of standards, ideals, values and ethics as a result of the helplessness of operators in the ICT environment thereby living in a mentality of justifiable mediocrity (Nkiko 2014).

### 3. Research Method

The survey, method was adopted for this study; the reason is that it is a study of two social units – University of Lagos Library, Akoka, Lagos Nigeria and Covenant University Ota, Ogun State Nigeria. The academic librarians and Para-librarians who use the software for their daily routine in both libraries form the population of the study. 18 Librarians/5 Para-librarians from Covenant University and 20 Librarians/8 Para-librarians from University of Lagos constitute the target population. The variant in study populations is dependent on the size and staffing of both libraries. The purposive sampling technique was adopted.

Instrument of data collection are interview, Focus Group Discussion (FGD) and Questionnaire with structured and open-ended Questions. The questionnaire were personally administered and retrieved over a period of two weeks; the descriptive statistical method of analysis was used for the study. The descriptive statistical tools used were mean, standard deviation and simple percentage. Data obtained through the questionnaires, FGD and interviews were discussed in relation to the research questions.

Issues of Versatility and Idealness of the software were derived from our evaluation of same with open source software checklist by Goh et al (2008).

### 4. Presentation of Data and Discussion of Findings

| Sex Distribution | Covenant University |     | University of Lagos |     |
|------------------|---------------------|-----|---------------------|-----|
|                  | N                   | %   | N                   | %   |
| Male             | 5                   | 25  | 14                  | 54  |
| Female           | 15                  | 75  | 12                  | 46  |
| Total            | 20                  | 100 | 26                  | 100 |

**Table 1: Sex Distribution of Participants**

The table above showed that majority 75% of respondents from Covenant University are female while that of the University of Lagos are males 54%.

| Age Distribution | Covenant University |     | University of Lagos |      |
|------------------|---------------------|-----|---------------------|------|
|                  | N                   | %   | N                   | %    |
| 20-29            | 4                   | 20  | 1                   | 4    |
| 30-39            | 7                   | 35  | 13                  | 50   |
| 40-49            | 9                   | 45  | 10                  | 38.4 |
| 50-59            | -                   |     | 2                   | 7.6  |
| 60-69            | -                   |     | -                   |      |
| 70 and above     | -                   |     | -                   |      |
| Total            | 20                  | 100 | 26                  | 100  |

Table 2. Age Distribution of Participants

Table 2 above revealed that 9 (45%) of the total number of respondents from Covenant university falls within the age bracket of 40- 49 and 7 (35%) are within 30- 39. On the other hand, 13 (50%) of respondents from university of Lagos are within the age of 30- 39 while 10 (38.4%) are in the group of 40-49. This indicates that majority of the work force in both Libraries are between ages 30 and 49.

| Educational Qualification | Covenant University |     | University of Lagos |      |
|---------------------------|---------------------|-----|---------------------|------|
|                           | N                   | %   | N                   | %    |
| BLS                       | 1                   | 5   | 3                   | 11.5 |
| MLS                       | 14                  | 70  | 14                  | 54   |
| PhD                       | -                   |     | 1                   | 4    |
| HND                       | 3                   | 15  | 5                   | 19.2 |
| SCE                       | 2                   | 10  | 3                   | 11.5 |
| Total                     | 20                  | 100 | 26                  | 100  |

Table 3: Educational Qualification Distribution of Participants

Table 3 above showed that majority of staff (70% and 54%) in both libraries are masters' degree holders. only 1 (5%) and 3 (11.5%) are first degree holders others are para-librarians with Higher national Diploma (HND) and School Certificate Examination (SCE) results. This distribution of staff clearly indicates that the universities being studied seem not to be keen on engaging first degree holders as librarians. This could be as a result of the ongoing debate on who qualifies to be a librarian.

Table 4 above revealed that majority of respondents in Covenant University are librarian II officers while in University of Lagos, Librarian I form majority of respondents. This is an indication that there are more Librarians within the status bracket of librarian II and librarian I in both universities.

Table 5 above revealed the distribution of participants in the sections of the library where they worked as at the time of this study. It showed that majority of them were working in the cataloguing and circulation sections.

Table 6 revealed that majority of respondents with a mean of 3.2 at a variance of 0.2 in covenant university found the training materials and encounter for MILLENIUM easy to understand and work with. This was not quite same for respondents in the university of Lagos library rather the experience of majority with a mean of 3.3 at a variance of 0.3 that of necessity being laid on every staff to do a more perfect job because they are in the global domain in essence, the job is being done under some form of compulsion and because it is enjoyable. Even when respondents in Covenant University seemed to be more comfortable with the speed of work using MILLENIUM, Libraries in University of Lagos were not finding so easy using the software. This could

| Academic Status of participants | Covenant University |     | University of Lagos |      |
|---------------------------------|---------------------|-----|---------------------|------|
|                                 | N                   | %   | N                   | %    |
| Library Assistants              | 3                   | 15  | 3                   | 11.5 |
| Library Officers                | 2                   | 10  | 5                   | 19.2 |
| Librarian III                   | -                   |     | -                   |      |
| Librarian II                    | 8                   | 40  | 5                   | 19.2 |
| Librarian I                     | 4                   | 20  | 10                  | 38.4 |
| Senior Librarian                | 3                   | 15  | 1                   | 4    |
| Principal Librarian             | -                   |     | 2                   | 7.6  |
| Deputy University Librarian     | -                   |     | -                   |      |
| University Librarian            |                     |     | -                   |      |
| Total                           | 20                  | 100 | 26                  | 100  |

Table 4: Academic Status Distribution of Participants

| Sections/Units of the Library where participants work | Covenant University |     | University of Lagos |      |
|---|---------------------|-----|---------------------|------|
|   | N                   | %   | N                   | %    |
| Circulation Desk                                      | 4                   | 20  | 4                   | 15.3 |
| Serials   | 3                   | 15  | 2                   | 7.6  |
| Acquisition   | 2                   | 10  | 3                   | 11.5 |
| Cataloguing   | 5                   | 25  | 7                   | 27   |
| Readers Service                                       | 1                   | 5   | 1                   | 4    |
| Reference Services                                    | 1                   | 5   | 2                   | 7.6  |
| Registration  | 2                   | 10  | 4                   | 15.3 |
| Reserved  | 2                   | 10  | 3                   | 11.5 |
| Total   | 20                  | 100 | 26                  | 100  |

Table 5: Sections of the Library where Participants Work.

be fall out of the training experience which was not easy for them.

Both Universities acknowledged that the transition exercise took more time than was expected. However, it was more problematic for University of Lagos Library to have their records converted from non- MARC to MARC format. According to respondents, the Library is still faced with the challenge of having all its bibliographic record converted to MARC format, meaning that they are still in process of migration while Covenant University has long stabilized from the migration shock.

It can be deduced from findings of the study therefore, that Covenant University Library Staff are more ICT friendly than those of the University of Lagos. However, Software developer should endeavour to make ease of usage a priority when planning to develop one. Goh et al (2006) opined that the popularity of any software can be due to its apparent ease of use apart from the cost.

| STATEMENTS   | Covenant University |      |         | University of Lagos |      |         |
|--|---------------------|------|---------|---------------------|------|---------|
|  | Mean                | SD   | Ranking | Mean                | SD   | Ranking |
| It was an easy transition exercise that lasted for a very short period of time.                      | 2.5                 | -1.5 | 4       | 2.2                 | -2.3 | 6       |
| There is nothing different from the previous software.   | 1.4                 | -5.7 | 7       | 1.9                 | -3.2 | 7       |
| Work is faster with MILLENIUM than my library's previous software.                                   | 3.1                 | -0.1 | 2       | 2.6                 | -1.3 | 4       |
| My library is still facing the challenge of converting our content to MARC format.                   | 2.3                 | -2   | 5       | 3.1                 | -0.1 | 3       |
| The training materials for MILLENIUM were easy to understand and practice.                           | 3.2                 | 0.2  | 1       | 2.4                 | -1.7 | 5       |
| Conversion from the previous format to MARC format was a challenge.                                  | 2.1                 | 2.7  | 6       | 3.2                 | 0.1  | 2       |
| Necessity is laid on every cataloguer to do a more perfect entry because it is in the global domain. | 3.0                 | -0.4 | 3       | 3.3                 | 0.3  | 1       |

Table 6: Migration Experience for the Librarians

Table 7 showed that the strongest opinions of Covenant University respondents of the two software are; satisfaction with the degree of MILLENIUM's compliance with Library 2.0, its superiority over the previous software because of the advantage of being protected against the dreaded virus attacks and its consideration as an ideal Library Software due to its provision for upgrade to suit emerging demand. In same vein, University of Lagos respondents were of the strong opinion that MILLENIUM is an ideal software because of its wide range of operations and upgrade option to suit any emerging demand as the future is well represented in the product although with the support of the developers Goh et al (2008). They also are satisfied with the software's degree of compliance with Library 2.0 and its protection against Virus attacks. From the focus group discussion, it was gathered that MILLENIUM's web presence makes it a better platform for library operations. The strongest negative opinion of respondents from UNILAG was the major backup system which is domiciled with the vendors thereby hindering the verification of actual content of database per time by the subscribing Library. While for Covenant University respondents, it was the software's authorization protocols which according to them slow down the pace at which some basic operational changes can be made. Even though, it allows for authentication and access control, it should be discretion and role-based access control (Danah & Ellison 2007). The other is backup issue. The implication according to respondents is that during verification of library holdings for accreditations by stakeholders a challenge will arise unless with recourse to the vendors.

Tables 8, 9 and 10 revealed that 13 (65%) of CU respondents rated work effectiveness of MILLENNIUM as good while 2(10%) rated it as excellent and 5 (25%) rated it as fair. 16 (80%) rated ALICE work effectiveness as fair and 4 (20%) rated it as majority 21 (81%) of University of Lagos respondents rated Glass as good while 19 (73%) rated MILLENNIUM fair, 7 (27%) rated it as good and 5 (19%) rated Glass as fair. The indication is that respondents from the University of Lagos are more comfortable with their previous software (Glass) than MILENNIUM, while those from C. U are more comfortable with MILLENNIUM. This may have informed their choices of preferred library software which is MILLENNIUM. However, discussions with University of Lagos respondents revealed that if Glass were to be web based, they would have preferred it, majority of Respondents from both Universities adjudged their previous software (ALICE/GLASS) as being more user friendly than MILLENNIUM which is more recent Covenant University 85% and UNILAG 81%. This contradicts the assertion by Wallace and Sheetz (2014) that software developers should make it most easy for everybody to use otherwise librarians will be compromising timeliness in processing and giving clientele access to resources due to difficulty in the usage of software.

Table 11 above revealed that majority of the respondents from the two universities identified subscription to individual pot in MILLENIUM which basically limits the number of staff who can have access to it and work at a time, thereby limiting the volume

| STATEMENTS   | Covenant University |     |    |    |         | University of Lagos |    |    |    |         |
|--|---------------------|-----|----|----|---------|---------------------|----|----|----|---------|
|  | Yes                 | %   | No | %  | Ranking | Yes                 | %  | No | %  | Ranking |
| Does the subscription to individual pot in MILLENIUM restrict staff access to the software?  | 17                  | 85  | 3  | 15 | 4       | 19                  | 73 | 7  | 27 | 5       |
| Does the backup system make it impossible for subscribers to verify the actual content of their database per time?   | 18                  | 90  | 2  | 10 | 3       | 17                  | 65 | 9  | 35 | 7       |
| Does authentication for different operations slow down the pace at which some basic changes are made with MILLENIUM?                                       | 16                  | 80  | 4  | 20 | 5       | 18                  | 69 | 8  | 31 | 6       |
| I am satisfied with its degree of compliance to library 2.0  | 20                  | 100 | -  | -  | 1       | 23                  | 88 | 3  | 12 | 2       |
| Do you consider MILLENIUM software as best over the previous one your library adopted because of its protection against virus?                             | 20                  | 100 | -  | -  | 1       | 22                  | 85 | 4  | 15 | 3       |
| Do you consider MILLENIUM software as best over the previous one my library adopted because of its versatility?  | 19                  | 95  | 1  | 5  | 2       | 20                  | 77 | 6  | 23 | 4       |
| Do you consider MILLENIUM software to be an ideal library software because its wide range of operations and provision for upgrade to suit emerging demand? | 20                  | 100 | -  | -  | 1       | 24                  | 92 | 2  | 8  | 1       |

Table 7. Librarians' Opinion of the different Software

| Work Effectiveness | Covenant University |     |            |     | University of Lagos |     |            |     |
|--------------------|---------------------|-----|------------|-----|---------------------|-----|------------|-----|
|                    | ALICE               |     | MILLENNIUM |     | GLAS                |     | MILLENNIUM |     |
|                    | Frequency           | %   | Frequency  | %   | Frequency           | %   | Frequency  | %   |
| Excellent          |                     |     | 2          | 10  |                     |     |            |     |
| Good               | 4                   | 20  | 13         | 65  | 5                   | 19  | 7          | 27  |
| Fair               | 16                  | 80  | 5          | 25  | 21                  | 81  | 19         | 73  |
| Poor               | -                   | -   | -          | -   | -                   | -   | -          | -   |
| Very Poor          | -                   | -   | -          | -   | -                   | -   | -          | -   |
| Total              | 20                  | 100 | 20         | 100 | 26                  | 100 | 26         | 100 |

Table 8. Summary Analysis Rating work effectiveness of The Previous Software in Your Library and MILLENNIUM

of work per time as the most serious challenge. Also frequent lose of data because of irregular backup activities with ALICE/GLASS software ranked next in order of seriousness, followed by the backup system that makes it impossible for subscribers to have total control and be able to verify the actual content of their database per time. Virus attack on ALICE/GLASS software that

keeps the databases under perpetual threat of loses of bibliographic record. This is an indication that respondents are very much concerned with access to the various module of operation, thus open access to same is required to allow as many staff as would need to carry out any assignment do so. Respondents from the two universities are of the opinion that if a thousand patrons can access the catalogue interface at same time, all other modules should be accessed by those inputting data without limitations as it is with their previous software. According to them, input determines output therefore, one is as important as the other.

| Librarian's preference of Library software | Covenant University |     |    |     | University of Lagos |     |    |     |
|--|---------------------|-----|----|-----|---------------------|-----|----|-----|
|  | Yes                 |     | No |     | Yes                 |     | No |     |
|  | N                   | %   | N  | %   | N                   | %   | N  | %   |
| I prefer ALICE/GLAS to MILLENIUM software  | -                   | -   | 20 | 100 | 1                   | 4   | 25 | 96  |
| I prefer MILLENIUM software to ALICE/GLAS  | 20                  | 100 | -  | -   | 25                  | 96  | 1  | 4   |
| Total                                      | 20                  | 100 | 20 | 100 | 26                  | 100 | 26 | 100 |

Table 9: Summary Analysis of preferred Library software

| More user friendly Library software   | Covenant University |     |    |     | University of Lagos |     |    |     |
|---|---------------------|-----|----|-----|---------------------|-----|----|-----|
|   | Yes                 |     | No |     | Yes                 |     | No |     |
|   | N                   | %   | N  | %   | N                   | %   | N  | %   |
| MILLENIUM software is more user friendly than ALICE/GLASS software.         | 3                   | 15  | 17 | 85  | 5                   | 19  | 21 | 81  |
| ALICE/GLASS library software is more user friendly than MILLENIUM software. | 17                  | 85  | 3  | 15  | 21                  | 81  | 5  | 19  |
| Total   | 20                  | 100 | 20 | 100 | 26                  | 100 | 26 | 100 |

Table 10: Summary analysis rating the software that is more user-friendly

## 5. Conclusion and Recommendations

It can be concluded from the findings of the study that the advancement of library software development still leaves room for perfection. Until library management software gets to a point where gaps are reduced to the barest minimum, developers will continue to modify their products. This point is in tandem with the affirmation by Goh et al (2008) that although every software has unique strengths and weaknesses, and each may be the best fit under different circumstances and needs, there is the need to continue to improve all of the packages available.

Consequently, conclusion from the experiences of the two libraries under study include; that MILLENIUM software is not easy to use as expected by librarians compared to ALICE and GLAS and the place of timeliness in processing and giving clientele access to resources cannot be compromised due to difficulty in the usage of software. MILLENIUM is an ideal library software because of its wide range of operations and upgrade option to suit any emerging demand as the future, its protection against Virus attacks, degree of compliance with Library 2.0 and web presence. The place of global accessibility cannot be overemphasized for library operations in this era of information society, thus having access to other people's resources and others accessing our resources is highly commendable. This was aptly supported by Fagbola et al (2011) and Omona & Ikoja-Odongo R. (2006) when they affirmed that the library today, is a technologically driven one that uses the principles of traditional library services to organize knowledge and communicate same to clients in the global community essentially by electronic means. Also, they rated their previous software (ALICE/GLAS) as better, considering work effectiveness however, they preferred MILLENIUM even

| STATEMENTS   | Covenant University |     |    |    |         | University of Lagos |    |    |    |         |
|--|---------------------|-----|----|----|---------|---------------------|----|----|----|---------|
|  | Yes                 | %   | No | %  | Ranking | Yes                 | %  | No | %  | Ranking |
| Virus attack on ALICE/GLASS software keeps the databases under perpetual threat of lose of bibliographic record.                                 | 14                  | 70  | 6  | 30 | 4       | 22                  | 85 | 4  | 15 | 3       |
| There is the challenge of frequent lose of data because of absence of automatic backup with ALICE/GLASS software                                 | 17                  | 85  | 3  | 15 | 2       | 24                  | 92 | 2  | 8  | 1       |
| Restricted authorization for different operations slow down the pace at which some basic changes are made with MILLENIUM.                        | 15                  | 75  | 5  | 25 | 3       | 19                  | 73 | 7  | 27 | 5       |
| The subscription to individual pot in MILLENIUM limits access to the different modules of the software.  | 20                  | 100 | -  |    | 1       | 23                  | 88 | 3  | 12 | 2       |
| The subscription to individual pot in MILLENIUM limits the number of staff who can work at a time, thereby limiting the volume of work per time. | 20                  | 100 | -  |    | 1       | 24                  | 92 | 2  | 8  | 1       |
| The backup system makes it impossible for subscribers to verify the actual content of their database per time.                                   | 17                  | 85  | 3  | 15 | 2       | 21                  | 80 | 5  | 20 | 4       |

Table 11: Challenges Faced by Librarians with the Use of Any of Both Software

though they claim that it is not as user friendly as others. The challenges faced by the librarians include; subscription to individual pot in MILLENIUM which basically limits the number of staff who can have access to it and work at a time, Also frequent lose of data with ALICE/GLAS software, vendor/host controlled backup system with MILLENIUM and frequent virus attack on ALICE/GLAS software.

In order to proffer solutions to these challenges therefore, the study recommends that subscription to any software should not be based on individual pot or module as with MILLENIUM software but be open and integrated. Authentication for different operations it should be discretion and role-based access control (Danah & Ellison 2007), while backup system should be liberal enough to make for easy access and management of activities on the software and usage. In fact, every software developer should develop automatic backup system that subscribers can fully have access to and control to avoid the challenge of frequent loses of data because of manual backup exercise and absence of actual bibliographic records per time. Also, all software should be hosted on LINUX in order to minimize virus attacks on libraries' database thereby minimizing the nightmare. Libraries in Nigeria should only subscribe to web-based software as it is the zeitgeist of the time in order to maximize access to their resources. Consequently, Government and stakeholders should provide the enabling environment for all academic libraries implement a sustainable migration.

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