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Retrospective Conversion of Bibliographic Records in Nigerian Academic Libraries: An Empirical Study of Libraries using KOHA ILS

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ABSTRACT

Retrospective conversion of bibliographic records is not a recent practice among Nigerian academic libraries. However, the end product of this process, which is a functional Online Pubic Access Catalogue (OPAC) has been underwhelming. This is due to various challenges that have hindered the libraries from achieving a successful retrospective conversion. Some of these challenges include unreliable software, lack of a union catalogue, and sheer absence of exchange of information among the libraries. This study therefore measures the practices and experiences of twenty Nigerian University Libraries in the course of carrying out retrospective conversion of their resources using the KOHA library software. The study adopted a survey method of research with a self-developed questionnaire as the instrument of data collection. Data analysis was with the aid of the SPSS software and the presentation was done using simple frequency and percentage. Findings show that erratic power supply and low Internet bandwidth are the major challenges facing Nigerian libraries in the course of retrospective conversion.

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KEYWORDS
Retrospective conversion; library automation; OPAC; academic libraries; KOHA

Introduction

As early as the 1970s, Nigerian academic libraries have realized the limitations of the traditional manual catalogue and the advantages of having a web based, searchable, automated catalogue. A functioning Online Public Access Catalogue (OPAC) provides better visibility and enhances the utilization of the library collection. Other advantages include easier management of cataloguing routine, availability of accurate data collection, and most importantly, the opportunity to create a union catalogue that opens the door for libraries to access materials not available in their own collections. Thus, attempts to build a form of electronic catalogue by

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Nigerian academic libraries started in 1975 at the Kenneth Dike Library, University of Ibadan.[1] This was followed by many other universities and research institutions across the country.

However, many of the early attempts by Nigerian academic libraries to automate catalogues had resulted in disappointment. Many libraries had to go through several library management systems only to return to the manual system due to incessant system failures.[2] A search through available literature revealed that inadequate library software, more than any other problem, is responsible for the low rate of OPACs in Nigerian academic libraries. Studies have shown in detail of how Nigerian libraries adopted various software in their quest to build OPACs and automate their entire operations.[3] Once a particular software failed, they bravely moved on to another one; hence their challenges and frustrations discouraged others from attempting automation projects.

It is therefore not surprising that the availability of relatively free open source software such as KOHA has led to sharp increase in the number of libraries that have embarked on automation projects and consequently built OPACs to aid better access to their collections. The increasing rate of retrospective conversion projects in Nigerian libraries is indeed a good indicator of the growth of library automation in Nigeria.[4] There are various studies detailing the experiences of Nigerian libraries in building library OPACs with different software. These studies include the analysis of the experience of the Kenneth Dike Library, University of Ibadan, Nigeria in building its library OPAC;[5] a narration of how the Nigerian Institute of Advanced Legal Studies, Lagos is going about building its OPAC through manual retrospective conversion;[6] and comparative analyses of retrospective conversion processes in several universities in Nigeria.[7,8] What is common to all libraries studied is that they have built their OPACs to a the level where they can be made available to their users. However, these reported success stories and many others not mentioned here constitute a tiny portion of libraries with operational library software in Nigeria.

For instance, out of eleven libraries in Osun state that claimed to be automated, only 14% (1) has a functional and remotely accessible OPAC.[9] This is not surprising as it took the University of Lagos and the University of Ibadan thirteen and ten years respectively to complete the retrospective conversion of their manual catalogues.[10,11] The available literature is unanimous on the fact that retrospective conversion is a long process especially when it is done manually with in-house staff as is the common practice among Nigerian libraries.[12] If not carefully and meticulously approached, retrospective conversion may soon become another abandoned project or done in a manner that defeats the purpose of building an OPAC in the first place – easy access. Consequently, documenting the experiences of those

libraries that have successfully carried out the retrospective conversion of their records in spite of the overwhelming problems encountered in developing economies is one way to boost the chances of others planning to embark on the same project.[13] It is in line with this that this study examines the experiences of selected Nigerian academic libraries who are either in the process or have completed the retrospective conversion of their collections using the KOHA library software.

Statement of problem

There is a growing number of reports of successful adoption and implementation of integrated library systems (ILSs) in Nigeria fueled by the availability of open source software such as KOHA.[14] However, no library automation project is complete without a library OPAC through which users can gain remote and easy access to an entire library collection.[15] Building an OPAC involves retrospective conversion of existing bibliographic records, a task that requires time, funds, commitment, and scrupulous planning if it is to be successful. It is therefore imperative to document the experiences of libraries currently engaged in retrospective conversion as a way of providing guidance, not only to those planning to start a retrospective conversion project, but also for those who are currently facing various challenges in the process of building their library OPACs.

Research questions

The study seeks to find answers to the following questions:

- What is the predominant method adopted by academic libraries implementing the KOHA ILS during retro-conversion projects?
- Is there any cooperation among academic libraries implementing the KOHA ILS during retro-conversion projects?
- What categories of staff are involved in the retro-conversion project?
- What are the challenges faced by academic libraries implementing the KOHA ILS during retro-conversion projects?
- What are the innovative solutions provided for various challenges faced by these libraries?

Methodology

A survey research method was adopted in the conduct of this study. The population of the study includes all academic libraries in Nigeria who have successfully implemented the KOHA ILS. However, in the absence of official data, convenience and purposive sampling techniques were adopted to

select the respondents. The instrument used for data collection was a self-developed questionnaire which was sent electronically through various media such as WhatsApp, email, discussion forums, etc. Responses were received from 23 institutions. Three of these are not automated and so were excluded from the study. The 20 responding institutions include Federal, State, and privately-owned universities across Nigeria. The data collected for the study are presented and analyzed using descriptive statistics such as percentages, mean, and standard deviation.

1. Ajayi Crowther University Oyo
2. Lead City University Central Library Ibadan.
3. Samuel Adegboyega University, Ogwa
4. Wesley University library, Ondo
5. Federal University of Technology Akure
6. University of Ilorin
7. University of Lagos, Akoka, Lagos
8. Ondo State University of Science and Technology Okitipupa
9. Nigeria Police Academy, Kano
10. Kwara State University, Malete, Kwara State
11. Federal University Dutse, Jigawa State
12. National Open University of Nigeria
13. Federal University of Technology, Minna, Niger State
14. Technical University Ibadan, Oyo State
15. University of Port-Harcourt
16. Summit University, Offa, Kwara State
17. Bowen University, Iwo
18. Adeleke University, Ede
19. Redeemed University Ede
20. Ladoke Akintola University, Ogbomoso, Oyo State

Analysis and discusion

Table 1 provides a representation of the demographic characteristics of the respondents. Out of the sixty respondents, 12% (7) have Doctorate degrees, 52% (31) have Masters' degrees while 36% (22) hold either Higher National Diploma (HND) or Bachelor degrees. In term of status, 5% (3) of the respondents are University Librarians; 10% (6) are Principal or Senior Librarians; 51% (31) are Librarian I/II; 7% (4) of them hold the rank of Assistant Librarian. Also, there are 6 Library Officers which means this category constitutes 10% while the Technical Staff (n = 10) constitutes 17%. An analysis of the specializations revealed that specialists in e-library and

Table 1. Demographics.

Academic Qualification	Percentage	Frequency
PhD	12%	7
MLIS/MSc	52%	31
HND/BLS	36%	22
Position Held		
University Librarian	5%	3
Principal /Senior Lib	10%	6
Librarian I/II	51%	31
Assistant Librarian	7%	4
Library Officer	10%	6
Technical Staff	17%	10
Specialization		
Cataloguing and Classification	32%	19
Serial Management	8%	5
Circulation	15%	9
Reference Services	8%	5
E-library/Automation	33%	20
Acquisition	4%	2
Working Experience		
1-5 Years	30%	18
6-10 Years	52%	31
11-20	15%	9
20+ Years	3%	2
Gender		
Male	72%	43
Female	28%	17

automation services constitute 33% (20), closely followed by experts in cataloguing and classification who make up 32% (19).

Fifteen percent (9) specialize in circulation; 8% (5) indicated that they specialized in serial management and reference services, respectively. Specialists in acquisition were the fewest at 4% (2). Regarding work experience, 30% (18) have between 1 to 5 years of experience, 52% (31) have 6 to 10 years, 15% (9) have between 11 and 20 years, while 3% (2) have been librarians for more than 20 years. Analysis of the gender revealed more male 72% (43) than female 28% (17) survey respondents.

Figure 1 provides data to show that majority of libraries that have adopted KOHA began the retrospective conversion of their bibliographic data more than three years ago. Ten of the responding libraries are in this category. Two of the libraries started the project exactly three years ago while six libraries began the retrospective conversion two years ago. The remaining two responding libraries indicated that their project started a year ago.

Status of the retrospective conversion project

Figure 2 examines the status of the retrospective conversion project in each of the responding institutions. Thirteen of the projects are ongoing while four are reported as completed. Two of the projects are reported as abandoned while one is 'suspended until further notice'. Comparison with

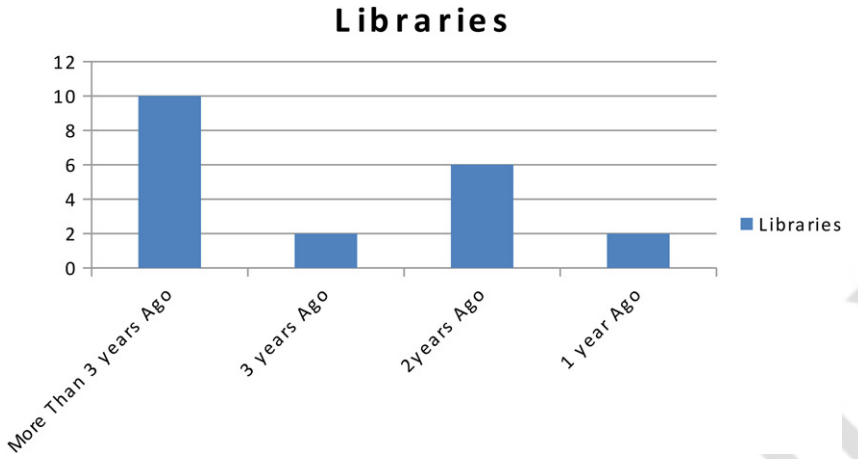


Figure 1. Commencement of retro-conversion project.

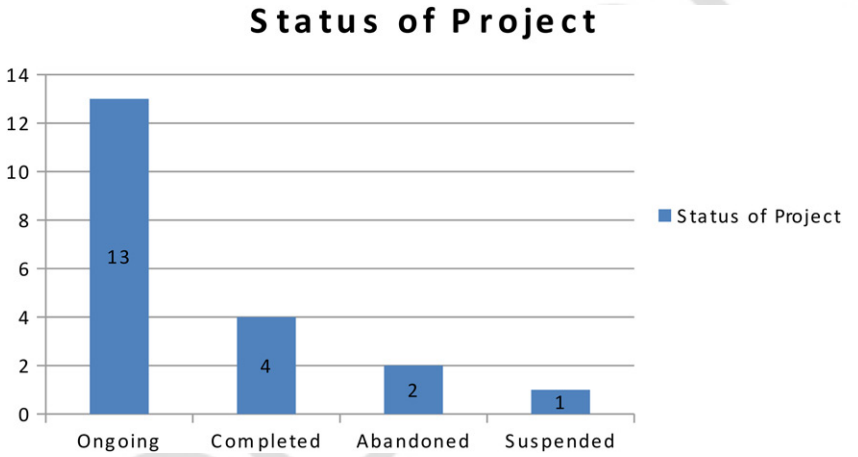


Figure 2. Status of the retro-conversion.

Figure 1 shows that all the completed retrospective conversion projects started more than three years ago. Another interesting fact that can provide a proper perspective is the fact that none of the libraries with a complete conversion project has a collection of more than 30,000 volumes. (See Figure 4.)

Collection analysis

There is a good argument for conducting a thorough analysis of the collection before beginning a retrospective conversion project.[16] A proper analysis of the collection provides a clear picture of the state of the collection enabling the library to make decisions on issues such as weeding, streamlining the catalogue and, most importantly, choosing the most appropriate approach for the conversion. The data presented in Figure 3 indicates that 50% of the

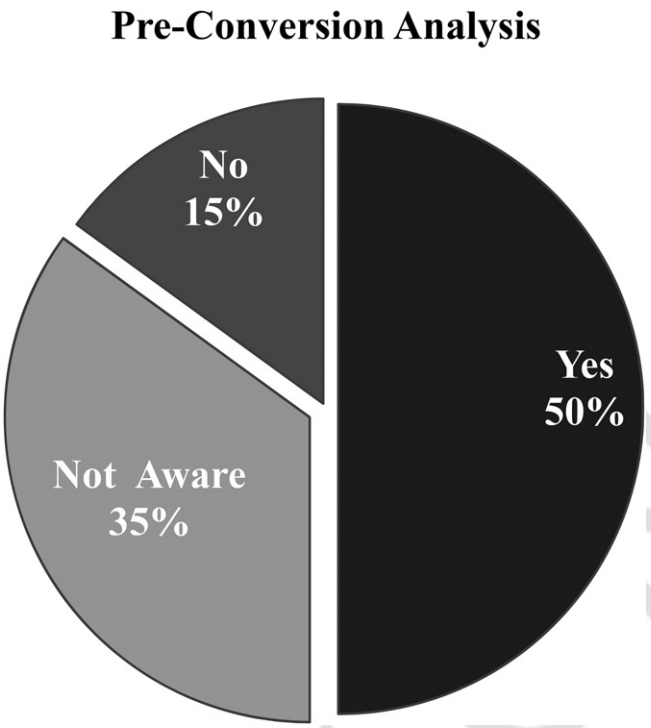


Figure 3. Pre-Conversion Analysis of the Collection.

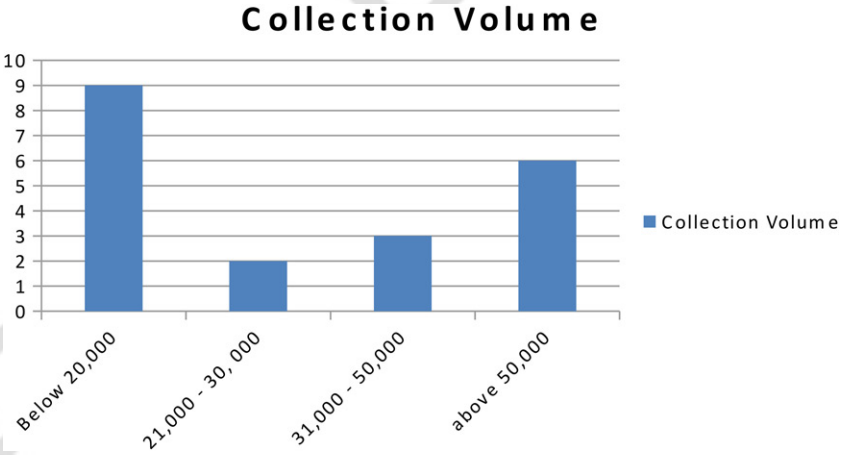


Figure 4. Collection volumes in the responding libraries.

responding libraries conducted a pre-conversion analysis before the start of the project while 15% indicate no pre-conversion analysis happened in their libraries. Thirty-five percent claimed that they are not aware of any pre-conversion analysis. This could mean no analysis took place or it was not thorough enough to be known to members of staff.

Collection Sizes

Figure 4 indicates the collection size of the responding libraries. Nine of the libraries have collections of fewer than 20,000 volumes while six respondents indicate that their library has collections of more than 50,000 volumes. In between these two extremes are libraries with collections that range between 21,000 to 30,000 volumes (2) and 31,000 to 50,000 volumes (3). It is safe to assume that the reported volumes represent the physical book collections in these libraries, and that adding the journal collection would increase the reported size. Being aware of the actual collection size is essential as a guide in setting objectives and evaluating the completed conversion project. It can answer the questions of whether the completed OPAC is a true reflection of the holdings of the library or whether it has unearthed hitherto 'hidden' or 'misplaced' bibliographic records.

The Approach

Eighty percent (16) of the libraries that responded adopted an in-house conversion approach where the library utilizes its in-house human and material resources to execute the retrospective conversion project. African libraries often choose this method because the cost of engaging contractors are exorbitant and time to convert data often takes much longer than desired.[17] Fifteen percent (3) of the libraries that responded chose the contract method. This method is often preferred because it does not require additional personnel or equipment for the contracting library, nor does it heavily impact existing personnel. Also, if handled effectively, it can be less expensive than an in-house project.[18] Only 5% (1) of the responding libraries indicates that they adopted the hybrid approach which involves the utilization of both in-house staff and contracted firms.

Exchange of bibliographic information

The importance of automated libraries in Nigeria to share bibliographic data to enhance development has been highlighted in several studies. Sadly, the efforts to create a National Union catalogue have not yielded any tangible results.[19] With the absence of a national initiative toward the exchange of bibliographic data, it is not surprising that 74.2% of the responding libraries indicate that they had no cooperation with other libraries in their retrospective conversion project. Another 12.9% percent claimed ignorance of any cooperation with other libraries while only 12.9% actually indicates some sort of alliance with other libraries in their attempt to achieve successful retrospective conversion project.

Sources of data for the retrospective conversion

Figure 7 presented data concerning the source of data for the retrospective conversion. It is obvious that catalogue cards and the worksheet prepared by the cataloguing unit is the main source of information (68.8%) followed by the items themselves (18.8%). Apparently, the items themselves must be used in cases where the catalogue cards and worksheet are lost or damaged or contain illegible or incomplete information. The shelf list is also used as a source of information as a last recourse (15.6%) since the information it contains is also detailed enough.

Items prioritized in retrospective conversion

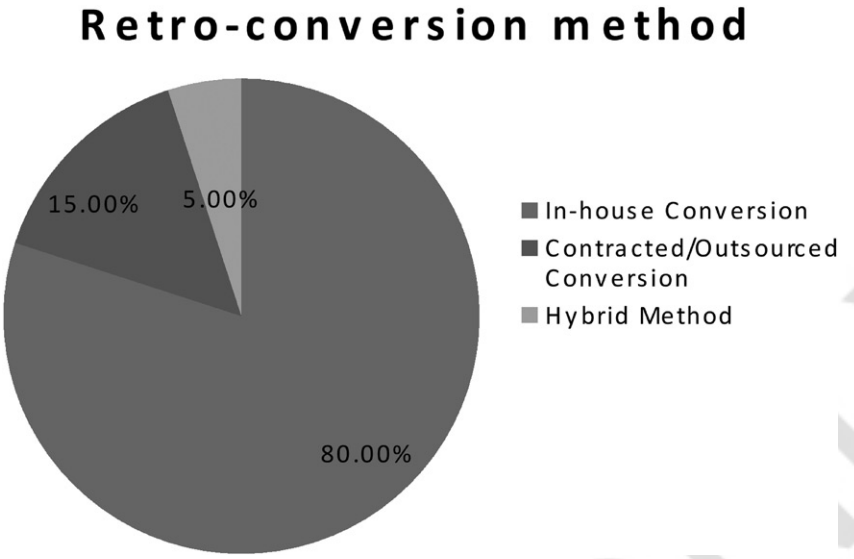
Due to the high costs of carrying out a retrospective conversion, few libraries can carry out a complete conversion all at once, and so must prioritize parts of the collection. Figure 8 shows that book materials are the most prioritized in retrospective conversion projects at 75% response rate. Only one library (3.1%) indicated that they prioritized the serial collections. 21.9% of the respondents indicated that all resources were given the same level of importance during retrospective conversion.

Average number of staff involved in retrospective conversion

Figure 9 shows the average number of staff committed to the project by academic libraries Nigeria. About 40% of the survey respondents committed between 10-15 employees followed by 25.8% who assigned between 5-9 staff while 19.4% of the respondents indicated that they committed about 1-4 staff to the project. Libraries with more than 15 employees constitute 16.1% of the total respondents. This shows that in-house retrospective conversion is a labour intensive project and libraries must prudently assigned staff to ensure a balance between achieving a successful retrospective conversion and undisrupted library services to the users.

Category of staff involved in data entry

In view of the staff requirements, it is necessary to know the categories of staff usually assigned by Nigerian libraries to bibliographic data entry onto the OPAC. Sixty-one percent of the respondents involved both professional and paraprofessional staff in the library while 25.8% involve every available hand; professionals, paraprofessionals, and even students on Industrial Training programs. Just a mere 12.9% of the respondents restrict the operations to only professional staff.



Q1 **Figure 5.** Approach to data conversion.

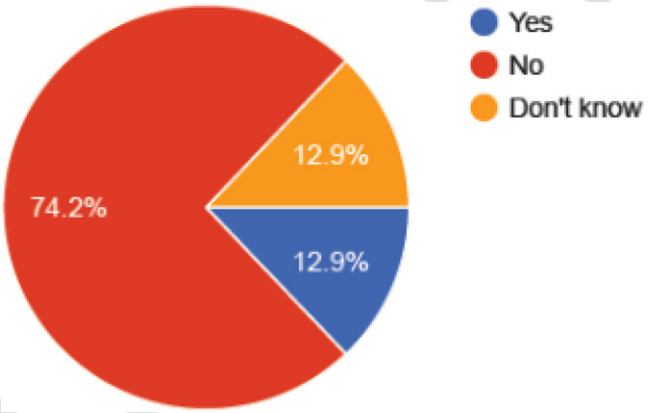


Figure 6. Library cooperation/data exchange.

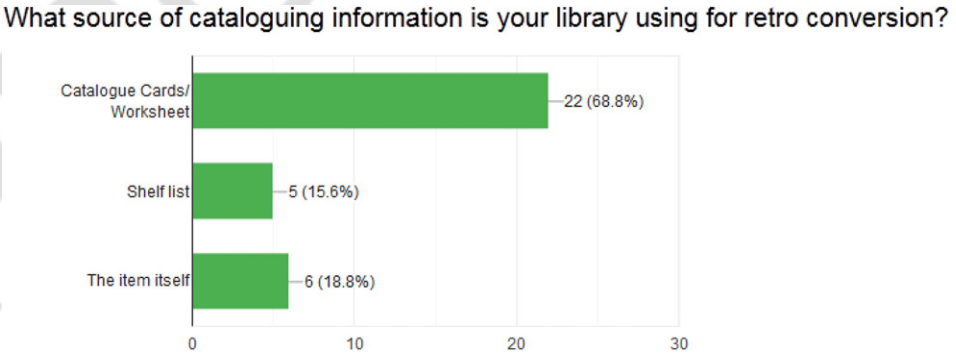


Figure 7. Sources of cataloguing information.

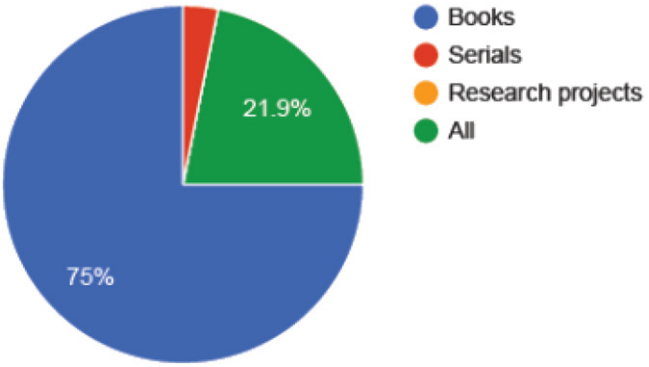


Figure 8. Items prioritized for conversion.

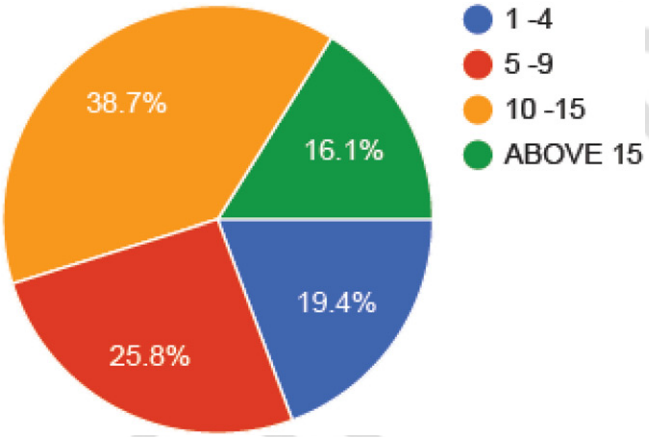


Figure 9. Average staff member assigned to retro-conversion.

There have been various cases made for the involvement of all available hands in the library. For instance, the Arizona State University Library made use of student workers and student volunteers to carry out the retrospective conversion of its East Asian language materials.[20] The involvement of all available staff with the provision that experience and professional librarians oversee the project can ensure a better project outcome.[21]

Hours spent on data entry per day

Keeping in mind that other library routines cannot be abandoned in the course of the retrospective conversion project, the survey respondents were asked about the hours dedicated to bibliographic data entry daily. The majority of the respondents (46.9%) indicated that they allocate between 1-3 hours daily. This is closely followed by those who allocate between 4-6 hours daily to the bibliographic data entry process. A minority (12.5%) of

the survey respondents dedicated between 6-8 hours daily which means that staff assigned to the bibliographic data entry task are exempted from other responsibilities throughout the day.

Average records converted daily

It is important to apply project management principles to retrospective conversion activities. Therefore, we asked the survey respondents to provide the average number of records converted daily. In 50% of the responding libraries, each staff converted an average of 10-20 records daily. About 22% of the libraries reported that individual staff converted between 21-30 records daily. In 15.6% of the libraries, staff converted more than 40 records daily while only 12.5% of the survey respondents said that the average daily conversion rate by their staff is between 31-40 records. Having these figures is important for planning and forecasting. When planners combine the numbers of records converted per day with the number of staff assigned and the collection size with the number of hours dedicated per day, it is possible to estimate how long it would take to convert a given collection under different circumstances. However, it is important to point out that the number of records converted depends on various factors such as the competence of the staff, nature of the material, and the available infrastructure like Internet bandwidth, etc.

Network preferences

Figure 13 analyses the network preferences among the responding libraries. It shows that the majority of the responding libraries (51.6%) use a combination of Local Area Network (LAN) and Wide Area Network (Internet). The remainder is split between those who use just the Internet (22.6%) and those that stay on their Local Area Network (25.9%). For libraries using the KOHA ILS, copy cataloguing can be done through the Z39.50 gateway. Users can search by author, title, or ISBN among other access points. It is a fast and efficient way for retrospective conversion and building the OPAC but it depends on an efficient and reliable Internet connection. Libraries that use a LAN, especially where a dedicated network is created for the purpose of the project, can be assured of high-speed data migration as they may not experience any downtime. Erratic or slow Internet connections can frustrate the staff and slow down the work. When the Internet connection is bad or the institution does not subscribe to the Internet, manual conversion is the best option. Each library will therefore choose the option it considers as the most practical under the circumstances.

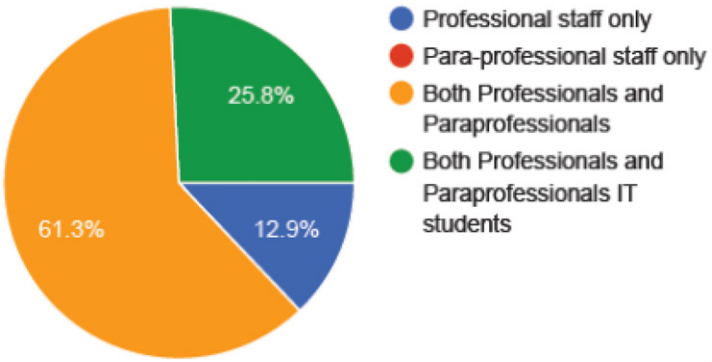


Figure 10. Category of staff involved in bibliographic data entry.

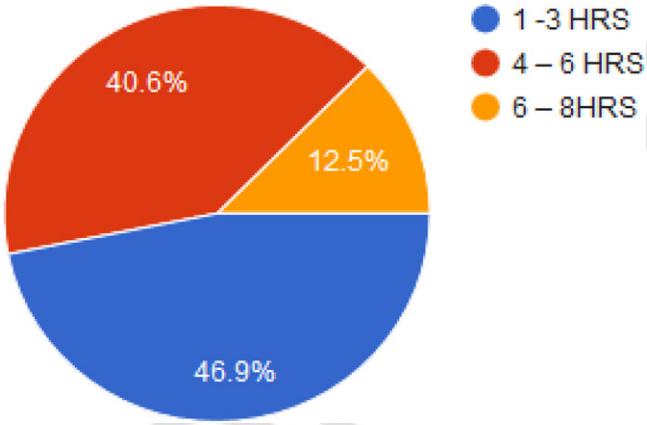


Figure 11. Average Hours Spent on Retro-Conversion Daily.

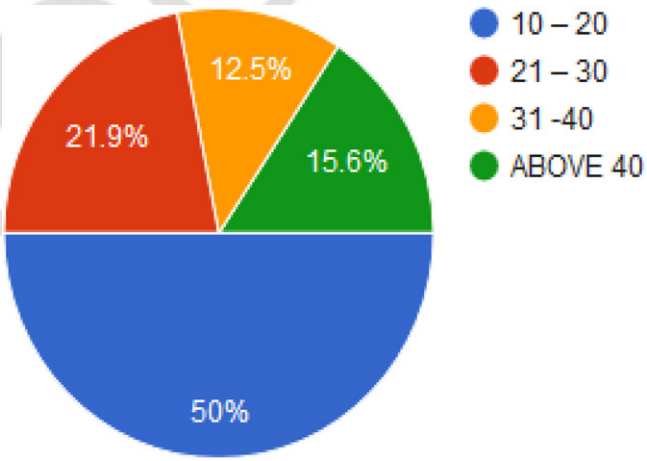


Figure 12. Average Records Converted Daily Per Person.

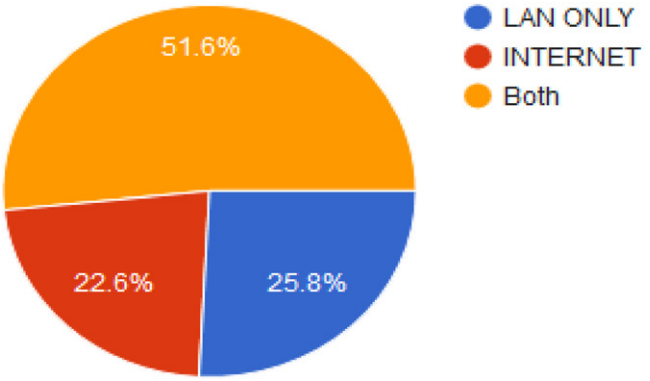


Figure 13. Network preferences

Challenges faced by libraries in carrying out retrospective conversion projects

Table 2 outlines the challenges faced by libraries in carrying out retrospective conversion projects. It is obvious that the most significant challenge is that of an erratic power supply with a mean score of 3.28. This is closely followed by low Internet bandwidth which has a mean score of 3.00. Other critical challenges reported include 'Inadequate staff' (mean score = 2.88) and 'staff apathy' (mean score = 2.58). There is also the issue of incomplete cataloguing records which hampers effective and speedy retrospective conversion. This factor has a mean score of 2.50. It is interesting to note that 'inadequate funding' is way down the list with a mean score of 2.42. This is probably due to the fact that KOHA is a free software. Also, the issue of computer workstations (mean score = 1.90) is less significant than other challenges. This is not surprising as studies have reported that many of the libraries already possess computer workstations and other basic infrastructure required for automation and retrospective conversion projects.[22] Another less significant challenge is 'lack of proper organisation' which has a mean score of 2.25. This shows that more library administrators are putting effective structures in place to ensure successful retro-conversion projects.

Solutions to challenges faced in the course of retrospective conversion

Each problem affecting a project should be seen as a challenge to be overcome so the survey respondents were asked to state, in their own words, the working solutions they have found for each challenge. The responses varied but what they pointed out reflects the foremost challenges being faced by the libraries. To solve the problem of erratic power supply for instance, the respondents revealed that they have invested in alternative sources of power such as power generating sets, inverters, and

Table 2. Challenges faced in the course of retrospective conversion.

	HR	R	SR	NR	Mean	Std. Deviation
Erratic power supply	60% (36)	8% (5)	17% (10)	15% (9)	3.28	1.075
Low Internet bandwidth	53% (32)	13% (8)	13% (8)	20% (12)	3.00	1.221
Inadequate Staff	47% (28)	8 (13%)	20% (12)	20% (12)	2.88	1.195
Staff apathy	33% (20)	11 (18%)	17% (10)	32% (19)	2.58	1.253
Incomplete cataloguing records	33% (20)	13% (8)	25% (15)	17 (29%)	2.50	1.242
Inadequate funding	19 (32%)	8 (13%)	20% (12)	35% (21)	2.42	1.266
Lack of proper organisation	23% (14)	20% (12)	27% (16)	30% (18)	2.25	1.188
Inadequate computer workstation	17% (10)	3% (2)	33% (20)	47% (28)	1.90	1.085

solar panels. Those who cannot afford these reported that 'we work with what we have' meaning that they work whenever there is power supply.

Among the solutions found to the issue of slow Internet connections is to host the KOHA server on a LAN for increased speed. The LAN is faster than the Wide Area Network (WAN) and is preferable for those wishing for speed for data entry onto their database. Others also resorted to the use of modems and mini routers to achieve a faster internet connection. Both approaches are seen as temporary solutions because an OPAC requires a functioning internet connection.

Another challenge for which the survey respondents seem to have found a working solution is the issue of staff apathy. The solution to this problem seems to be multi-pronged with libraries combining training and development, reorientation programs, effective supervision, and mentoring. The solution also involves a bit of 'carrot and stick' with some libraries reporting that they set targets and sanction those who fail to meet them.

Another important approach to solving the emerging issues in retrospective conversion among the survey respondents is collaboration. This happens both formally and informally and it involves tapping the expertise of colleagues and associate institutions to find solutions to various challenges.

Conclusion

Despite various challenges, more Nigerian academic libraries are building OPACs through the process of retrospective conversion. It may be a slow and arduous task fraught with various pitfalls and dogged with seemingly insurmountable challenges, but these libraries are developing ingenuous solutions to ensure that they are able to provide quick and efficient access to their collections in order to satisfy the contemporary information user. The analysis of the practices and experiences in this study is a veritable source of information for libraries planning to embark on retrospective conversion. It is clear that, while the majority of libraries adopt the methods that they feel are better suited to their current situation, their successes and struggles can provide a useful insight, both for them and for others in

the future. Libraries can use these experiences to gauge their own performance or to avoid potential pitfalls.

Notes

1. Phillip Ogedegbe and Dickson Umukoro, "Retrospective Conversion of Card Catalogue at the Kenneth Dike Library, University of Ibadan, Nigeria," *Frontiers of Library, Information and Computer Sciences* 2, no. 1 (2016): 65-72. http://internationalscholarsjournals.org/download.php?id=908127805518266727.pdf&type=application/pdf&op=1
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