Review

Retrospective conversion of card catalogue at the Kenneth Dike library, University of Ibadan, Nigeria

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Automation of university libraries becomes very imperative in order to optimally realize their mission statement. The purpose of this study is to provide a detailed review of the success story of RECON adoption and implementation at Kenneth Dike Library (a pioneering University in Africa and library automation in Nigeria) in order to resolve issues and problems slowing down RECON adoption in the developing world. The survey method was used to collect data. A face-to-face interview of some library staff knowledgeable about the RECON process (including the system librarian, cataloguers and those involved in the retrospective conversion of card catalogue in Kenneth Dike library) was used. Information about users' experience was obtained through a questionnaire survey of registered patrons of the library, especially those directly involved in the use of the new OPAC system. The sole method of data analysis is the use of simple frequency analysis and percentages. This study will help to eliminate the erroneous believes about what library automation/RECON entails, thereby, facilitating adoption rates in those parts of the world that are still IT challenged. With increased adoption rate, there will be easy retrieval of information, improved library networking, and uniformity, integration of new and varied operations and services as well as elimination of repetitive boring library activities, and backlog of unprocessed materials in libraries. The study found out that Kenneth Dike Library made use of shared RECON and data input manually. The study also revealed that the RECON process took reasonable amount of time, involved well skilled manpower and cost moderately. The study further diagnosed some constraints inhibiting the library's RECON. In spite of the numerous inhibiting factors such as human, economic, cultural and social barriers. The library's OPAC had been successfully opened to users.

Keywords: Retrospective conversion, Card Catalogue, Library.

INTRODUCTION

The organization of bibliographic records of library resources has evolved over the years. The middle of the nineteen-century saw the birth of an international movement towards the unification of catalogue constructions. This process was aided by the advent of computers and other information technologies such that by the 1970s, the International Standard Bibliographic Description (ISBD) rules to harmonize cataloguing rules emerged. This harmonization not only led to the emergence of machine readable bibliographic format, it brought some element of compatibility with the 1976 international Universal Machine Readable Catalogue (UNIMARC) format, which standardized the different varieties of MARC format in use in the U.S.A and several European countries (Belaid, 1998). It has since spread to Asia, Africa and other parts of the developing world.

But due to the digital divide between the developed and developing economies, the adoption rate of retrospective conversion of card catalogue to machine-readable catalogue (RECON) has been very uneven with the developing world, especially African countries, lagging behind. Though high rates of RECON adoption do exist in some African countries like Botswana, Malawi and Nigeria (Ehikhamenor, 1990; Adeniran, 1997; Edoka, 2000), the bulk of the countries in the continent are yet to introduce RECON to their library systems. Even in countries where RECON has been adopted, only a handful of their libraries have converted their services to varying degrees of automation and are still moving at very slow pace. For example, in Nigeria where some elements of computerization of the serial catalogue began in the 1970s very few libraries out of over 500

libraries in the country are RECON compliance (Nwalo, 2000). This dismal record of RECON adoption is not surprising because automation efforts have been persistently frustrated by lack of man power, funds, computing facilities, poor maintenance culture, destructive interruption of electric power and other infrastructural factors (Menou, 1983, Thomps, 1984; Eres, 1985; Ehikamenor, 1990; Idowu and Mabawonku, 1999; Faniran and Oyemakinde, 2000). Furthermore, only a few libraries have a clear automation goal that seems realistic presently (Ehikhamenor, 1990). But in spite of these problems, RECON has been successfully adopted in a number of Nigerian libraries like: Kenneth Dike Library (University of Ibadan), Obafemi Awolowo University library, International institute for tropical Africa (IITA), Ibadan, Centre for Management Development (CMD) Lagos, Central Bank of Nigeria (CBN), National library of Nigeria, Lagos and Abuja. Nonetheless, there is still the glaring need to speed up the rate of RECON adoption not only in Nigeria but also across Africa.

A logical first step in boosting the rate of RECON adoption is to review the success steps and problems encountered by those libraries that have fully implemented RECON in spite of the overwhelming problems encountered in developing economies and to proffer solutions to the problems, for the benefit of those libraries that are still looking forward to the actualization of their dream of automation. For this reason, the purpose of this current study is to provide a detailed review of the success story of RECON adoption and implementation at Kenneth Dike Library (KDL) at the University of Ibadan (a pioneering University in Africa and library automation in Nigeria) in order to resolve issues and problems slowing down RECON adoption in this part of the world. Such a focus is apt for a number of reasons. First, the world has long moved beyond card cataloguing such that RECON implementation in Africa is no longer a luxury but critical for easy retrieval of information, library networking and uniformity, integration of new and varied operations and services and helps to eliminate repetitive boring library activities, backlog of unprocessed materials, in addition to saving time, cost, and space. Siror, J.K (2010) ascertained that automation helps in solving the greatest challenge and weakness of manual based verifications.

For a successful automation, libraries need to learn by examples and for them to learn in this way there must be documents to fall back on so as to know what worked and what did not yield good result. Secondly, it will eliminate some of the erroneous believes about what library automation/RECON entails, thereby, facilitating adoption rates in those parts of the world that are still IT challenged.

The rest of this paper is divided into five sections. The next section is a short presentation of the research method adopted followed by a historical background to KDL RECON process to highlight some of the special circumstances, challenges as well as the series of events that culminated in a decision to adopt RECON. Section three describes the actual steps taken at KDL for a successful RECON implementation. Section four is a discussion of the key problems encountered and how they were resolved while section five is the summary and conclusion.

RESEARCH METHOD

The basic information about KDL RECON conception and implementation were obtained through a face-to-face interview of some library staff knowledgeable about the RECON process. They included the system librarian, cataloguers and those involved in the retrospective conversion of card catalogue in Kenneth Dike library. A total of five library staff was interviewed. Twenty-three questions were directed at the selected library staff. The questions sought information on identifying and determining the processes involved in retrospective conversion of card catalogue (RECON), financial/material implications of RECON as well as human resources necessary for a successful retrospective conversion.

Information about users' experience was obtained through a questionnaire survey of registered patrons of the library, especially those directly involved in the use of the new OPAC system. The categories of users included undergraduate and graduate students. A total of 25 users were randomly selected for questionnaire administration. The questionnaire was randomly distributed to the selected users, with adequate instructions given to assist them in completing the questionnaires. The researcher waited for all the respondents to return the completed questionnaires at the circulation desk. A hundred percent return rate of the completed questionnaire was achieved. The user experience questionnaire collected information on the efficiency and effectiveness of the OPAC in comparison with the old card catalogue.

Also, the researcher was present to observe the catalogers and the procedures involved in retrospective conversion of card catalogue, e.g. manual data entering. In addition, secondary data such as the university calendar and other publications relevant to the study were utilized. The sole method of data analysis is the use of simple frequency analysis and percentages.

Historical background to KDL recon process

University of Ibadan library was established in 1948 and its RECON process started as far back as 1975. The first product of RECON was the catalogue of serials published in one bound volume in March 1975 and the years that followed were backed by a flurry of activities, against a backdrop of increasing enthusiasm. However, a library automation committee was formally set up at the Ibadan

University library in 1977 to facilitate planning for automation. Between 1978 and 1979, the Ibadan University Library engaged consultants from three organizations namely Soeni Konsult, Inter University Council for Higher Education Overseas, and Long borough University of Technology Library. This effort broke down in 1982 mainly as a result of financial crisis that struck Nigerian Universities. Nevertheless the computer application unit started functioning in February 1991 with a systems analyst and a computer. Two senior typists were trained locally and developed as data entry clerks, and five librarians were trained locally and abroad in computer use and information retrieval on CD-ROM.

According to Faniran and Oyemakinde (2000) Tinlib software was prescribed by the World Bank Loan Project for University Libraries, so Kenneth Dike Library resuscitated the re-classification of her records. At this stage of the RECON exercise at the University of Ibadan, several options were considered. Among these were (a) to engage another outside agent, (b) to derive records from external database and (c) in-house re-conversion. However, a combination of these three options was chosen.

In 1994, titles on the Shelf list were cross checked on the shelves, the ISBN and the class marks were compiled, copied on a diskette and forwarded to the library of congress, Washington, for re- conversion. Unfortunately, the diskette was returned for formatting, non-conformity and non-compliance. In 1997, a RECON committee (RCC) was constituted to co-ordinate the RECON project to be handled by contractors. Expert Edge handled the RECON but they ran into problems and would not continue because it could not get suitable software to arrange the record of the cards scanned into relevant fields as provided for by the Tinlib software. Also Busicon Nigeria Ltd. picked up the project. Though it recorded reasonable amount of success but later failed to complete the assignment. Following the poor experience with both foreign and local contractors, KDL opted for an in-house RECON exercise handled by a team headed by Deputy Librarian Technical Services. This in-house RECON exercise happened in 2002, a date generally regarded as when KDL RECON started and serious effort channeled towards its actual implementation. As at 2010, the RECON implementation process is still ongoing.

Implementation of Recon at KDL

The implementation of the KDL RECON process involved the following steps: (i) Planning process of KDL Recon, (ii) Evaluation and selection of RECON approaches and hardware, (iii) Evaluation and selection of software, (iv) Assessment of human resources and financial implications. Each of these steps is discussed in the following paragraphs and the problems encountered at

implementation and how KDL in-house RECON team resolved them within a developing economy setting also presented.

Planning process of KDL Recon

Planning is deciding in advance what to do, how to do it, when to do it and who is to do it. In fact, planning is the process of establishing objectives and suitable causes of action before taking action. According to Koontz, O'Donnell and Weihrich (1980) planning has four important goals, namely: (i) to offset uncertainty and change, (ii) to focus attention on objectives, (iii) to gain economic operation, and (iv) to facilitate control. Since planning has to do with making decisions that will affect the future, it must be done with much care. According to Ehikhamenor (1990), lack of proper and adequate planning and focus had led to the failures of some libraries in the process of RECON in this part of the world.

Kesner and Jones (1984) as cited in Oketunji (2000) reported that in choosing an automated library system, the following guidelines could be considered: (a) a need analysis, (b) consideration of all alternatives available, (c) request for proposals from library automation (computer) vendors, (d) proper examination of the financial options and implications, (e) proper record keeping of all transactions on the purchase or lease of the computer system by the contracting firm and the library manager. All these can only be put in place with effective planning. And for planning any automation process, Diloreto (2004) has highlighted seven key questions to consider.

1.   When do I need a library automation consultant? You need a consultant for a quick start and quick result and when your budget will not support additional staff.

2.   How do I select a reliable consultant? Ask other librarians who have automated their libraries. Formal education can be basis for confidence in consultant's ability. A library science degree (an MLS or MSL degree) from an accredited college and courses in automation or information managerial can be an indication of knowledge; however experience can be more relevant than education, especially in this quick evolving field.

3.   How can cost be minimized? Ask for consultants' advice on software and they can provide this free of charge. Beware of the consultants who would create elaborate or overly customized system for your library. Seek simplicity and all arrangements should be based on mutual trust.

4.   What are the "ground rules"?

5.   What are my responsibilities over the consulting bargains? Communication is the keyword – keep track of the consultants' progress.

6.   What should I expect from my consultant? The person should be willing to present a summary of the

7. project to your manager.

8. How can I ensure good results? Calculating your goals and expectations can help you ensure success. Ask your consultant to help you clarify your needs and identify the options they can provide to solve them.

In respect of KDL RECON process, thorough and adequate planning was put in place and a library automation committee was formally set up to facilitate planning for automation. The planning committee met regularly in order to define quite clearly the focus of the exercise, the strategies to go about it, to identify a team of competent staff, to make funds available; to weigh and evaluate different options of RECON, to make management responsible for monitoring the progress made; to ensure that moderate marginal latitude is given to accommodate mistakes or errors among other considerations. *There were five important areas of focus of the planning committee and these included the following: identification of records, organization of the record, costing and funding, staffing and equipment.* Finally, a project implementation plan was developed as specified by Deloreto (2004).

Evaluation and selection of RECON approaches and hardware

Based on local exigencies specific to less developed economies, Adeyemi (2001) preferred to group retrospective conversion approaches into two, namely:

(a) an in-house approach and (b) getting the records converted by reputable library consultancy service, which is properly equipped to handle the task in accordance with the data structure in use by the library. In support of this view Diloreto (2004) added that when the time or the staff for building the knowledge and skills for the automation challenge aren't available, let your consultant be your guide. But in general, the process of retrospective conversion can be handled in different ways, the common options available are basically three:

☐   In-house retrospective conversion. This means applying all the necessary tools for the exercise using the staff and materials on ground internally.

☐   Using vendors and/or agencies: these agencies include Saztec Europe LTD, OCCC Europe, North-West data systems, Ebsco, the periodicals subscription agents. The best of these agencies in Sabtec.

☐   Shared retro-conversion. This is a situation where the two options identified above are combined. Some part of the records can be sent to agencies to handle while staff can handle the remaining records in-house

The shared retro-conversion approach, which is a combination of the in-house and the use of vendors, was eventually adopted for Kenneth Dike Library RECON. The reason behind the choice of the shared RECON approach was to eliminate errors. According to Ola

(2000), the detailed RECON automation methods involved the use of: manual keying, optical character recognition (i.e. scanning), resource database (i.e. the use of resource databases in matching of records through the use of ISBN or LCCN or other bibliographic particulars as authors, titles, publication data and other data elements) and finally editing. This list is informed by the limited options available in Africa on this side of the digital divide. KDL RECON process started with 2 computers which has gradually climbed to 100 computers

Evaluation and selection of software

The most important decision in automation is the software requirement, and which of software development and use of software packages should be adopted in the automation process (Ajala, 1997). Gibbarelli (1996) suggested that an automation exercise should start with the acquisition of software. KDL RECON team evaluated two sets of software, namely: CDS/ISIS and Tinlib and Alice for this purpose. From the study conducted by Valantin (1981), CDS/ISIS software possesses the following attributes:

☐ ability to handle variable length records, file, occurring fields, sub-fields and long descriptive abstracts,

☐ use of more than one index per file to generate the inverted file in order to ensure rapid access to stored data;

☐ ability of user to specify the field to be indexed.

According to Shirley, Perry and Willet (1983), the inverted file consists of a set of lists each of which contains pointers to the document records, which have been previously indexed by one particular term in the set of terms used for the characterization of the documents in the collection. Manjunath (2004) advised that if a library wants to make a beginning; CDS/ISIS is best suited as it involves minimum investment on both hardware and software. He advocated the following criteria that will help in software selection:

☐   to identify the developers, whether they are institution, reputed company or few individuals (the preference is for institution)

☐   to find out how many times the software has been revised since the time of its first launch and the number of parameters available for each module.

☐   to find out whether the software has facility to import bibliographic data in 1802709 format and similar export of data in this format; And whether there will be training and guidance after use as well as availability of such software on the major operating systems.

However, from the study conducted by Ajala (1997), Tinlib software seems to be the toast of libraries most especially university libraries. He continued that despite the fact that CDS/ISIS is given free of charge, it was still not as used as Tinlib. Tinlib is more user friendly,

Table 1. Human resources need for the implementation of KDL RECON

RECON Staff	Total Number of Staff	
	Number	Percent
Professional staff	18	14.8
Para-professional staff	24	19.7
Other staff	80	65.5
TOTAL	122	100

Table 2. Retrospective conversion problems/ solution

RECON Problems	Solutions
☐ Lack or fund	☐ External support fund
☐ Erratic electric supply	☐ Purchase of stand by generator
☐ No staff training	☐ Staff training
☐ Rapid technological change	☐ On-the-job workshops by vendors
☐ Poor maintenance	☐ Budgeting for system maintenance
☐ Cultural barriers	☐ Constant workshops on how to minimize costs of cultural barriers
☐ Huge size of library volume	☐ Staff strength upgrades and funding plan
☐ Regular staff strikes	☐ Beyond the control of the unit

versatile, and takes care of all library operators and so suitable for large academic libraries. KDL opted for Tinlib and Alice (packaged software) because of its comprehensiveness and robust nature. From this point it can be inferred that the software a library can adopt will to some extent be determined by circumstances and peculiarity of the library. (Ajala, 1997) also noted that the ready-made package or the buying of existing software has been preferred by Nigerian libraries and this could be attributed to the fact that the in-house development is difficult, time consuming and even on the long run the software may work no better than the available packages would have done. The ready-made software packages also can be installed within a very short time period.

Assessment of human resources and financial implications

A human resource audit of KDL RECON shows that a total of 122 RECON staff is involved in its implementation (Table 1). A total of 14.8% of the RECON staff are professionally trained to administer all software and hardware operational issues involved in the RECON process. The para-professional staff makes up 19.7% of all Recon staff. This category of staff is trained to handle all the technical issues involved in keeping the hardware functional round the clock. The other staff category involved in the RECON process accounts for 65.5% of the staff strength and they are junior staff involved in shelve stocking and other miscellaneous activities.

Although any form of automation is usually expected to drastically reduce the overall staff strength of any facility and curtail costs, the 122 staff strength of KDL RECON is on the high but did not lead to increased operational costs. Rather, the overall operational costs have been described by the top management staff of the university as moderate and sustainable. Thus, an appropriate mix of staff and materials as achieved at KDL has helped to clear an erroneous believe of many that RECON is very expensive. *RECON at KDL shows that it is affordable and external funding sources are still available for RECON, especially for libraries in developing economies.*

Problems and Solutions of Retrospective Conversion at KDL

At each phase of RECON implementation at KDL, a number of problems was encountered. This is in line with the literature showing that automation efforts have been persistently frustrated by lack of man power, funds, computing facilities, poor maintenance culture, destructive interruption of electric power and order infrastructural factors (Menou, 1983, Thomps 1984, Eres, 1985, Ehikamenor, 1990, Idowu and Mabawonku, 1999, Faniran and Oyemakinde, 2000).

The next section reviews some of these problems and how they were resolved by the KDL RECON implementation team.

The major problems encountered during the planning phase are in the area of plan delay and revisions and the

Table 3. Effectiveness of the card catalogue

S/N	Effectiveness Rating	Respondents	
		Number	%
1.	Very Good	4	16
2,	Good	15	60
3.	Somewhat Good	6	24
Total		**25**	**100**

associated cost implications. The RECON planning phase started in1975 but only took off in 1978 when the university engaged the services of consultants to handle the RECON process. The delay was partially due to the high turnover of the high level personnel in charge of the project and the concomitant priority attached to it. Furthermore, the period was characterized by frequent student unrests that forced the library to close down. These issues resulted in plan inconsistency and distortion such that the RECON plan policy revisions became inevitable.

The delay in the planning process made it possible for the RECON gestation period to pass through different periods of financial fortunes. For example, the period of financial boom of the early to middle 1970s was missed and the project took off effectively in the late 1970s and 1980s when the structural adjustment program (SAP) led to belt tightening and fund allocations for library services became very lean and little or no attention was given to the library infrastructures and recruitment.

In spite of the plan delay, the RECON process at KDL was able to move forward because of the persistence of the core staff that was committed to the project. These dedicated members were able to gain the ears of the university administrators and given the opportunity to train in the best institutions in the world on computer use and information retrieval. Through series of workshops and presentations to other members of staff, the trained staff were able to communicate their knowledge to other members of staff to not only reduce training costs but to accelerate the RECON implementation process. Thus, focus, determination and commitment are the key ingredients of overcoming the plan delay problem that dog-down the RECON process at KDL.

Numerous problems were encountered during the evaluation and selection of RECON approaches and hardware. They include: decisions whether to adopt in-house RECON or use consultants and what number of hardware to start off with . When it was realized that the staff had not been adequately trained, consultants were considered initially, at this time the issue of which consultant to employ came up. Later the services of a Multiple consultants from three organizations namely Soeni Konsult, Inter University Council for Higher Education Overseas, and Long borough University of Technology Library were chosen. But with the breaking

down of the effort of the consultants in 1982 due to financial crisis that struck Nigerian Universities, the library opted for in-house RECON, which was proceeded by staff training. Also considering the financial crisis, there was a decision to start off with what the budget can afford and that was just two computers.

The main problems during the evaluation and selection of software phase include the following: Problem of software reliability and comprehensiveness. Considering the varieties of softwares available, the confronting issue was which software is reliable and can accommodate the large volume of the library. Tinlib and Alice for windows were picked because they are comprehensive and user friendly.

During the assessment of human resources and financial implications phase, a number of problems emerged. They include: Low professional staff strength compared to the enormous task of KDL RECON process, even the lean budget was not favorable to accommodate the task. The fund allocation was far below the Recon budget. It was later resolved that professional staff strength should be augmented with paraprofessional and support staff, and that RECON implementation phases should be prioritized with the fund available.

Concerning the resolution of the problems, the study revealed that UI was still battling with some of the problems. However, with ongoing staff training, adoption of in-house Recon and support funds from outside organizations (e.g. MacArthur Foundation), the library has made a remarkable progress in RECON and the online public catalogue has now been successfully opened to users

Users Interphase

This section presents the user experience of RECON at KDL in terms of the effectiveness and accuracy of the card Catalogue, the effectiveness and efficiency of the OPAC system, user friendliness of the OPAC, user satisfaction with the OPAC and catalogue accuracy. A total of 13 undergraduate and 12 graduate students who regularly use the card catalogue and OPAC system in the library were randomly selected to share their user experiences as RECON came on stream at KDL.
When respondents were asked to rate the effectiveness

Table 4. Speed of access to catalogue using OPAC

S/N	Speed Rating	Respondents	
		Number	%
1.	Slow	1	4
2.	Fast	9	36
3.	Very fast	15	60
Total		**25**	**100**

Table 5. Accuracy of Catalogue using OPAC

S/N	Accuracy Rating	Respondents	
		Number	%
1.	Very Good	18	72
2.	Good	7	28
3.	Not good	0	0
Total		**25**	**100**

Table 6. User friendliness of OPAC

S/N	User Friendliness Rating	Respondents	
		Number	%
1.	Very Good	13	52
2.	Good	10	40
3.	Poor	2	8
	Total	**25**	**100**

Table 7. Users Satisfaction with OPAC

Users Satisfaction	Respondents	
	Number	Percent
Yes	23	92
No	2	8
TOTAL	**25**	**100**

of the card catalogue, the result of the survey is presented in Table 3. Sixty percent thought that the card catalogue was mainly "good" and only 16% thought that it was "very good". From the responses one could infer that the card catalogue was not good enough and tend to re-emphasize the need for RECON implementation in all libraries (Edoka 1992, Idowu and Mabawonku, 1999). But when respondents were asked to rate the speed of access to catalogue using the OPAC system introduced by the RECON process, 60% of the respondents thought that it is a very fast system with only 4% (or one respondent) thought that it is slow (Table 4).

Overwhelmingly, 72% of the respondents thought that the level of accuracy of the catalogue retrieved using OPAC is "very good" and only 28% thought it is "good" (Table 5).

None of the respondents thought that the accuracy level of the OPAC system was not good. Table 6 showed the respondents assessment of the OPAC in terms of user friendliness. While majority of respondents (52%) were of the view that the OPAC was good, minority of users (8%) claimed that the system was poor in user friendliness (Table 7). That means there is still the need for further improvement.

By comparism with manual card catalogue, the survey of users ascertained that OPAC system is better than card catalogue. This proves the point of Aramide (1974) that mechanization has proved its superiority over traditional method in terms of accuracy, speed and consistency. Though there is still plenty of room for RECON improvement at KDL, the study also revealed

that major of the respondents (92%) felt satisfied with the OPAC system (Table 7).

SUMMARY AND CONCLUSION

This study was directed towards the retrospective conversion experience at the University of Ibadan library manual card catalogue .It delved into the processes and approaches, financial/material and human implication as well as problems and solutions and effectiveness and efficiency of the OPAC.

Kenneth Dike Library (KDL) adopted the shared RECON (i.e. both in-house and vendors in RECON) approach because it involves the combined approaches which is well known to complement each other and helps to eliminate errors. Indeed errors were eliminated as this manifested in the users response to satisfaction with OPAC.

The financial implication of RECON was described as moderate, this could be attributed to support fund from external funding sources. The Library started with just two computers and now has one hundred computers, this underscores that no number of computers is too small for any library to start RECON but the library must plan to improve. Proper planning is imperative in RECON, to spell out quite clearly the focus of the exercise and how to make funds available. From the study KDL is currently making use of two software: Tinlib and Alice, and it is quite obvious that the library is still short of staff.

The problems of RECON as revealed in this study include lack of fund, poor maintenance culture, poor skilled manpower and poor electricity supply and other infrastructural problems. This finding agrees with literature (Menou, 1983, Thomps, 1984; Eres, 1985; Ehikamenor, 1990; Idowu and Mabawonku, 1999; Faniran and Oyemakinde, 2000), that automation efforts have been persistently frustrated by lack of manpower, funds, computing facilities, poor maintenance cultures, destructive interruption of electric power and other infrastructural factors.This is also in line with Bansode, S.Y. and Periera,S. (2008) that traditional barriers like insufficient funds, lack of space, and lack of training are the problems faced by many libraries. His finding agrees with literature that automation efforts have been persistently frustrated by lack of manpower, funds, computing facilities, poor maintenance cultures, destructive interruption of electric power and other infrastructural factors. The findings revealed that though adequate solution to these problems has not been put in place, but the library has made remarkable progress even in spite of these glaring hindrances. The effectiveness and efficiency of the OPAC system was measured by speed of access of information, accuracy of information retrieved and user friendliness of the system. Based on the users' responses, the OPAC system was very fast, accurate and user friendly.

It could be concluded that KDL has made a remarkable effort as far as RECON is concerned despite the numerous inhibiting factors. The library's OPAC had been successfully opened to users. Other libraries that are still nurturing the dream of automating their systems are here by appealed to take a leap from conceptualization stage to actualizing their ideas. If Kenneth Dike Library can record such a tremendous progress in the mist of some glaring problems, any determined library can overcome barriers and achieve full automation.

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