

## INTEGRATED LIBRARY SYSTEM SWITCHING IN NIGERIAN UNIVERSITY LIBRARIES

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### **Abstract**

*Integrated Library System (ILS) switching is a very crucial project in the life of any library, and capital intensive. However, Nigerian university libraries have continued to switch ILS within a short period after deployment without reaping the cost of investment made in the first instance. This study sought to determine the implications of switching ILS among Nigerian university Libraries. A qualitative research approach using multiple case study design was used to gain a better understanding of the problem; purposive sampling technique was used to select the participants. Interview was the instrument used for data collection, and the researcher conducted five interviews with five (5) participants from university libraries across the geo-political zones of Nigeria. Data were collected from June 2016 through July 2016. The analysis of data was done using themes derived from the objective of the study. Findings of the study discovered the implications for switching as delay; inability of users to use the online public access computer; time taken to populate the new ILS; and cost in terms of manpower training. The study, therefore, recommended among others that Nigerian university libraries should conduct adequate and thorough feasibility study based on the peculiar needs of their libraries before selecting the appropriate library software, libraries should adopt and deploy open source ILS which are more cost effective and easier to maintain rather than buying proprietary ILS which were developed based on US and UK standards and which might not fit their needs. The study concluded that the switching over from one ILS to another by NUL studied is too frequent. The frequency of change is associated with lack of proper feasibility study and knowledge involved in determining the implications of frequent switching on the libraries.*

**Key words:** Integrated Library System, Switching, Nigerian University Libraries

### **Introduction**

University libraries are grappling with enormous challenges due to high turnover rate of integrated library systems (ILS). In many organizations, information technology (IT) has become crucial in the support, sustainability, and growth of their businesses, university libraries inclusive. As the rate of publication increased, libraries realized that they could not process resources fast enough with traditional manual systems and that automation could be a way out which could also control costs on labour-intensive operations. Gbaje (2013) posits that an automated library is one where a computer system is used to manage one or several of the library's key functions such as acquisitions, serials control, cataloguing, circulation and public access catalog.

Library automation no doubt offers many opportunities to improve library services to patrons. It makes materials easier for patrons to locate as well as allow staff to serve patrons better by facilitating a multitude of tasks. For any automation process to commence, the choice of an appropriate Integrated Library System (ILS) has to be made which will drive the automation process. The adoption and implementation of Integrated Library System is expensive as opined by Gbaje and Murtala (2014), whereas the budget of most libraries is inadequate.

Therefore, libraries cannot afford the huge repercussions as a result of frequent switching of integrated library systems. In spite of the huge implications, as revealed by Chetty et al. (2007) university libraries in Nigeria have a high turnover rate of integrated library system. An ILS, according to Deewil (2013), is an automated package of library services that contains several functions. These functions usually include circulation, acquisitions and cataloguing etc. He further revealed that ILS usually comprises a relational database, software to interact with that database, and two graphical user interfaces (one for patrons and one for staff).

Most ILSs separate software functions into separate modules, each of them integrated with a unified interface. Many integrated library system packages are available in the Nigerian market. These includes Liberty, LIBS+(X-Lib), CDS/ISIS, TINLIB, GLASS, Alice for Windows, Innovative Millennium, Virtua, KOHA, Voyager and more recently NewGenLib. Libraries in developing countries such as Nigeria have depended on ILS imported from developed countries like UK and USA. These ILS are very expensive to purchase, maintain, implement and deploy.

Implementing a new ILS, according to Deewil, (2013) is probably one of the biggest and most expensive projects undertaken in a library. Previous studies such as Omoniwa (2001), Bozimo (2006), Nok (2006), and Imo and Igbo (2011) clearly revealed that within a short span of time many university libraries have switched from one integrated library system to another without fully implementing and deploying the old system.

This pervasive use of automation software has created a critical dependency on the software by university libraries which calls for a specific focus on the implications of switching integrated library systems. This notwithstanding, organizations are regularly confronted with the decision to renew an existing contract or evaluate the market and switch products.

University libraries, according to Spiers (2010) are generally the most developed libraries in Nigeria as they are the core of any university and therefore are at least minimally sustained. The primary purpose of university libraries as posited by Emwanta (2012) is to “support teaching, learning and research in ways consistent with and supportive of the institution’s mission and goals”. Thus, university libraries are considered the most important resource centre of an academic institution. No university can develop or function effectively without a strong library at its centre. This emphasizes the saying that an educational institution is rated largely by its library.

### **Statement of Problem**

One of the most crucial decisions in library automation is the choice of an appropriate Integrated Library System. Having taken such crucial decisions to adopt specific Integrated Library System, it is expected that university libraries will use this software for some time before considering switching to another, but unfortunately the researcher had observed that few years into the deployment of these software the libraries abandon them for another with substantial implications.

Due to the enormous cost of acquiring and deploying Integrated Library Systems it is not expected, in the view of Deewil (2013), that ILS turnover rate for library automation should be high. According to Applegate, Austin and Mcfarlan (2007), IT system should ideally be easy to adopt and deploy but difficult to stop using. Customers drawn into the system through series of increasingly valuable enhancements should willingly become dependent on the systems functionality. In developed countries, technology savvy executives switch to new technologies

because of among others their flair for new innovations these technologies have to offer in anticipation of solving an identified need and their quest to try out something new.

In Nigerian university library system, studies have revealed a high ILS switching rate. According to Imo and Igbo (2011), Nigerian university libraries switch software averagely within five years of use. This is a colossal waste of resources with huge implications on the libraries quest for automation. These notwithstanding, Nigerian university libraries continue to switch from one ILS to another Oketunji (2006) and Zaid (2004). Perhaps the management of these libraries are ignorant of the implications of switching ILSs. In the Nigerian university libraries system, the implication of this frequent switching is yet to be ascertained. This study determined the implication of switching ILS by Nigerian University libraries. This is due to the need to provide empirical data on the implications of ILS switching in Nigerian university libraries.

### **Research Question**

The study was guided by the following question:

1. What are the implications of Integrated Library System switching in Nigerian university libraries?

### **Literature Review**

An "integrated" library system, according to Lopata (1995), is an automated system in which all of the functional modules share a common bibliographic database. The National Library of Medicine used the term "integrated" in referring to a system in which all automated library functions are processed against a single, master bibliographic file (Goldstein & Dick, 1980). Genaway (1984) expanded the definition and described the integrated online library system (IOLS) as "a library system that uses a common machine-readable database and has two or more subsystems operational and accessible online". Lopata (1995) further explains that, in a system which is not integrated, there might be a bibliographic record in the catalog for a book and, if that book were to be checked out, there would be another bibliographic record for it in a circulation file. Therefore, an integrated library system usually consists of a number of functional modules, such as acquisitions, circulation, cataloging, serials, and an OPAC (Online Public Access Catalog). Hence, in an integrated system, there would be one bibliographic record for a book, probably created when the book was ordered, then expanded when it was cataloged. If that book were to be checked out, the patron record for the borrower would be attached to the bibliographic record, but there would not be a duplicate bibliographic record for the book in a circulation file. An integrated system is superior in several ways to one which is not integrated as revealed by Lopata (1995) in the following ways:

- The duplication of effort to create and maintain multiple copies of bibliographic records is eliminated in an integrated system.
- Opportunities for errors are reduced when records are entered only once, and changes are automatically propagated throughout the system.
- Library staff and patrons can have access to all pertinent information at different locations.

The migration experience is not always of a smooth transition as revealed by Singh (2013) who reported on the situation in U.S. libraries and found out the following: There were delays in the migration schedule and even after the delay not all of the key features were complete. In the process of the migration there were merger and separation of the vendors e.g

LibLime (a proprietary vendor) with whom they were working announced their separation from the Koha open-source community, which caused additional confusion. Data migration problem, due to differences of the fields of the old system and the new system Inability to use the right terminologies in the contract terms which affected migration of patrons' current checkouts record, which was a big issue.

It is very important to do data mapping very carefully because if you lose anything during migration it is difficult to get it back. Check it to make sure that all the fields will be transported correctly, and run tests while the old system is still up to make sure everything is there. Inconsistencies in data due to improper clean up. Difficulties in using the new systems by the patrons because there is no adequate marketing for the patrons most libraries have not done anything elaborate, generally just announcements through posters, local papers, flyers, and on websites. If the migration is greatly changing the situation for patrons, then more marketing is needed. Set up a demo computer for patrons to try or hold classes once the system is up. High cost due running two systems simultaneously because the old system has to be run for a month or two until you are sure that all the data got migrated over properly. Staff has to have the technical knowledge of (Linux, SQL, and coding) which were lacking.

On their part, Gutierrez and Givens (2014) reported the following challenges in the migration process:

- The process would have been completed earlier but their library chose to go live at the beginning of the spring 2014 semester in order to lessen any complications for their students.
- We did have one hang-up where a group of our records was not imported and that was not detected until later.
- The reporting in WorldShare Management Services is still a big work in progress and the biggest hurdle for us at this point. The problem with the current reports is they are mainly canned reports and there are so many they are hard to sort through. The other issue is that reports are not all accessible from one place. We may need to login to 2 or 3 different areas to pull everything together. Also, with canned reports we cannot produce these on demand they are for example only created on a certain day each week.
- Cleanup of records is another challenge in WMS. The library made the decision to shift some books, 30,000 items approximately. The location needed to be changed manually for each item. This example illustrates why we need certain functionalities in our system. We need to be able to create reports on demand that show all items in a given location. We also need what our previous system called global updates where we could make changes to batches of records in a short amount of time.
- In the area of serials we have stopped checking in our journals in WMS as we do not like the way this affects the appearance on the public side of the discovery layer. We have heard from other libraries using WMS that they have taken this approach as well. This could be an area where changes will be made and we will start using this functionality but at this point we are not. While not ideal this change has actually led to less work for staff.
- The transition to a new library system was a huge change for our staff. As with any change certain individuals are impacted more than others and those impacted the most tend to be the ones most hesitant to change or the biggest critics. This is very understandable. We do however have to face the new reality and embrace it so that we can provide the best level of service for our patrons.

- Getting our staff to transition to WorldShare Management Services in their daily workflows was a challenge. The way WMS works to some extent dictates the new workflows. For example, in the acquisitions module in WMS some of the traditional tasks our cataloger would complete needed to be completed earlier in the workflow which required us to move those duties to our acquisition staff. Changes like this can be stressful to staff as we not only change how you do something but also give you less or more work. Helping staff with these changes through training and identifying resources on best practices through the online support center is key.
- Wang (2009) in his study of academic libraries in U.S. reported that “no system is perfect” and that libraries should not “believe everything said by the vendor's sales team.” So also they should not expect the vendors to tell them all the problems. He also reported that the respondents reported not having enough in-house technical personnel to support the new systems.

Raju, Moodley, Jagarnath, Chetty, Shongwe, and Raju (2007) reported the implications of ILS switching in their study of libraries in KwaZulu Natal Province as follows:

While most library staff have no experience with systems migration, for technical services and systems staff, it is likely to be one of the largest and most complex projects of their careers. The challenges are to make the shift as seamless as possible, to re-invent workflows and re-examine library policy, and to make certain that the public is getting all possible benefits from the new ILS.

- A successful implementation of migration requires considerable commitment from all stakeholders. If the choice is a commercialized product, there has to be formal agreements between the vendor and the library with regard to timeframes. However, Khurshid and Kadry (2006) advised that timeframes must be realistic yet sufficiently flexible to cope with unforeseen delays.
- The traditional course of action would be to choose the system, configure it, train the staff and then implement using the 'big bang' approach and thereafter 'wait and see'. There is the option of a phased approach which makes provision for some freedom for manipulation and slow configuration ensuring a system that will meet, almost immediately, the needs of the organization. However, this would be a little more costly as the library would have to work with a dual system during the period of transition.
- Given that there are huge financial and human resource implications, there is a need for an individual to take charge and steer the ship. Under the directorship of such an individual, the library can make decisions about the approach to be adopted for implementation, then configure the system and train the staff.
- Provision must be made to market the system and do an evaluation.
- The appointment of the above mentioned project managers limits complications that may arise when too many people are participating in the decision making process.
- The approach to be adopted for the implementation of the migration process is another key consideration for the individuals that are directing the project.
- Library's environment must be seamless and simple for users to navigate. No matter how complex the system is behind the scenes, there is a responsibility to have a simple and coherent user interface.
- The fluidity of the vendor system makes a mockery of the time, effort and finances invested in choosing a vendor and its system. A typical example of the negative implications of the fluidity is the Jordanian experience. Eight universities in Jordan did an

extensive evaluation in 2005 of the different systems, including Sirsi's Unicorn, that were on offer and eventually settled on Dynix's Horizon as the best fit for the eight Jordanian universities. Implementation was scheduled for March 2006. In 2006 Dynix merged with Sirsi to form SirsiDynix. A year later (2006) SirsiDynix was sold to Vista. The question that begs an answer is: What about the effort and resources expended to get to the decision to purchase Dynix's Horizon?

- It has been acknowledged that costs are deterrent when dealing directly with the Vendor, especially if there is a requirement for more training. On the other hand, it is cheaper and easier to deal with a supplier from within the country. Notwithstanding the cost implications, it would seem that the institution dealing directly with the vendor gets better support. Queries, via email, are dealt with promptly. However, going via an intermediary causes prolonged delays. Another significant comment made was that the office of the intermediary "was not always as knowledgeable and experienced as their intermediary counterparts".
- KZN institutions were criticised for not exercising their consumer rights. The impression created from the interviews was that the vendor was in control and prescribed many of the processes in accordance with their capabilities as opposed to addressing the needs of the client. The client had to conform as opposed to the vendor conforming. As product consumers, the said institutions should not have let this happen.

### **Methodology**

This study adopted a qualitative research approach. On his part, Samkange (2012) said that the methodology can be used to study different problems. It's use is therefore determined by the problem being studied. On his part, Willis (2007) posit that the qualitative research methodology makes use of traditional research methods such as ethnographic research, case studies, histography, and experience narratives. This provides a varied choice in terms of methods to employ, therefore, found suitable for this study. Multiple case study design was adopted for the study as Creswell (2003) posits that it enables the study of processes, activities, and events. The population of the study comprised of six (6) federal university libraries in Nigeria, one from each geo-political zone of the country and seven staff in the project management teams, departments and units. The study used purposive sampling technique specifically expert sampling which identified the automation experts in each of the libraries studied. Only libraries that have switched from one ILS to another in their automation projects were selected. Only four libraries out of the six had switched from one ILS to another therefore only four of the libraries were used for the study. The instrument used for data collection in this study was face to face and telephone interviews. Interview was suitable because it enabled an in depth understanding of the issue under study. In order to ensure trustworthiness in this study, the researcher used credibility, dependability, conformability and transferability criteria to present the research methods and findings in a transparent manner. Data collected were analyzed using thematic analysis.

**Table1: Sample Distribution**

Name of Institution	Geo-political Zones	Library	No. of participants
Abubakar Tafawa Balewa University Bauchi	North East	ATBU Library	1
Ahmadu Bello University Zaria	North West	Kashim Ibrahim Library (KIL)	2
University of Jos	North Central	University of Jos Library	1
University of Lagos	South West	University of Lagos Library	1
University of Nigeria Nsukka	South East	Nnamdi Azikiwe Library	1
University of Port-Harcourt	South South	Donald EU Ekong Library	1
<b>Total</b>		<b>6</b>	<b>7</b>

### Results and Discussion

The interview responses produced ten (10) narratives, which were analyzed and discussed under the following theme: Implications of Switching Integrated Library Systems in Nigerian University Libraries.

On the implication of switching ILS on NUL studied, UNN Library reported three implications; delay in the automation process, inability of students to use the online public access catalogue, and the time taken to populate the new ILS. KIL revealed several implications as demonstrated in this quote “You know because for us we had reasons to switch but if you look at the other side of it, when you switch from one system to another cost implication is one very serious issue, manpower which is also related to cost because you have to train people on how to manage, people must understand and be able to manage the system. Like here in ABU even after we switched we also discovered that we had problem with Sun Solaris operating system so at some point we had to change the Operating System to Reddart leading to incurring hardware cost. One other very serious implication is that you are likely to lose data and that is actually the most terrible one and time was also an issue”.

For UNILAG Library, the project was capital intensive and the library staff were already used to the old system so they found it difficult to adapt to the new ILS, and delay in the release of funds by the University Management for the project. A sample quote from the response further buttress the implications on the Library. “The implications are many it is capital intensive. People are already used to the old one so there is this legacy it was not easy to adapt to the new system. There was no delay once you have your money, immediately we paid there was no delay though it took series of memos and series of meetings before the University could release money but eventually when it was released it was bound up”. UNIJOS Library reported implications such as; staff being used to the old system and the new system was a new environment for them which is different from what they were used to in their practical operation.

From the implications identified by the NUL studied, one can deduce that majority of the libraries revealed that ILS switching is capital intensive as confirmed by Tebbetts (2006), this is serious considering the continuous decline in library budget. Another implication revealed by the libraries is time since the libraries before the switch were either partially or fully automated, switching ILS results in setback to the Library automation quest especially where the switch over was not done in phases, which cripples the entire library system for months making users unable to access the library resources through the OPAC. Data loss is another very serious implication of switching ILS. In the process of switching, data could be lost if not handled carefully by

professionals. This was buttressed by Tebbetts (2006) who notes that “of primary importance in the process of migrating to a new system is the transfer of data, it is important to remember that your database is the essential element in your online platform and restoring lost or corrupted data will be time consuming and costly”.

Adaptability to the new ILS was also a major challenge to the libraries because most of the libraries reported difficulties in adapting to the new environment of the ILS; thereby causing delay in the full exploitation of the new system. Yeh and Walter (2016) suggested early staff user involvement, interdepartmental communication, staff user education and training as well as managing staff user emotions as critical success factors for implementing ILS in academic libraries and this will help overcome the challenges of adaptability to the ILS.

### **Conclusion**

From the findings of this study it can be concluded that the switching over from one ILS to another by NUL studied is too frequent. The frequency of change is associated with lack of proper feasibility study and knowledge involved in costing switch over as well as neglect of cost benefit analysis of the implication of frequent switching on the libraries. It can also be concluded that the absence of information technology strategic plan and strategic planners which should guide information technology projects like ILS switching is bane of the Nigeria University libraries studied.

Libraries position as an information provider is challenged in the 21st century by alternative sources such as search engines and increasing demand from information technology savvy patrons. For libraries to cope with this challenge and maintain its patrons, automation is key, using Integrated Library systems. However technology doubles every six months and no integrated library system is designed to last for a life time So Nigerian university libraries will continue to grapple with new innovations in the ILS market place which they will need to adopt in order to cope with the current trends of information service provision.

### **Recommendations**

Based on the findings, the study recommends the following:

Nigerian university libraries studied should conduct adequate and thorough feasibility study based on the peculiar needs of their libraries before selecting the appropriate library software. This can be done by planning ahead and coming up with a comprehensive plan on how the ILS switching will be conducted, before the actual switch over starts. This can be achieved by setting up a committee of all stakeholders of the library including students and faculty members as well as experts with ILS switching experience. The committee can consider site visits, vendor demo, and online site comparisons.

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