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# Challenges of Integrated Library System (ILS) Migration in selected Academic Libraries in Oyo State, Nigeria.

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## **Challenges of Integrated Library System (ILS) Migration in selected Academic Libraries in Oyo State, Nigeria.**

### ***Abstract***

*This study was conducted among the academic libraries within Oyo state to share their experience with an integrated library system (ILS) migration project, as a review of an emerging national discuss on ICT and library services for sustainable development in Nigerian Education sector. This study takes a systematic approach to provide a snapshot of the adopted ILS functions and key factors affecting the outcome of the library's Software migration project. Stratified sampling was used in the administration of questionnaire and the result reveals the challenges and opportunities facing academic libraries in an environment with rapidly changing technology and increasingly sophisticated academic users. Recommendations were made on how to improve the current existing systems based on the findings, these includes; making extensive feasibility study on the migration project, training of staff in key aspects of migration as well as payments of additional incentives to staff as a motivational tool.*

*Keyword: Integrated Library Systems - ILS, computer technology, automation, software migration; functionality, challenges.*

### **Introduction**

Integrated Library Systems, ILS Controls the series of functions and routine management of the library services and also manages the growth and development of library collections. Therefore, migrations in a library settings involves changing the library management systems or ILS either from one different software to another or a switch from manual to an automated systems. Common example includes; TINLIB, X-LIB, GLAS, ALICE for Windows, VTLS and many others at the proprietary class while MyLibrary, Libki (Library Kiosk Management), KOHA, MLA(Mandarin Library Automation) just to mention a few belongs to the Open Source world.. Although, different reasons might have accounted for such movement among the migrating

libraries, for instance, cost and functionality had been the most common reasons; other also includes portability and ease of use of the ILS. Whatever the reasons are, notwithstanding, migration to a new system will definitely bear its effect on the library in terms of its' pros and cons which may be otherwise termed as opportunities and challenges. According to Singh, (2013) there are two ways to do a software migration; at once, or in stages. Doing migration at once is otherwise known as the direct changeover, while the one in stages is also referred to as the phased approach. Meanwhile, the database is critical in any library management systems and typically includes; the records of different catalogue, loaning information, and also various notices generated by the library on users as well as materials. Therefore, movement of data in and out of any library system signifies the importance of data entry as a very sensitive aspect of migration that cannot be compromised owing to the rigor of the exercise as well as the cost. Thus, it makes it mandatory for save data import and export just to ensure data re-use. Software suitability, selection, adoption, functionality, performance, updating and maintenance are some of the factors to be considered in choosing a new system and a defect in any of them accounted for the challenges encountered in an automation project by the libraries but the opportunities are fully derived when the new systems performs to its full expectations and justifies its benefits, this only happens when the new ILS perfectly replaces the old systems and the library routines and services is enhanced.

### **Literature review**

The findings of the Carnegie Corporation (2004) on grantees in East and West Africa having visited some of their universities revealed some of the challenges working against the full performance of the libraries, for instance, it found that most of the universities cannot afford the high cost of proprietary Library Management Systems, it also found that very few university librarians have any experience with a functional state of the art library and as such lead to difficulty in planning. The libraries were also confronted with paucity of funding which has created a lot of barriers for effective library automation.

Adogbeji et al....,(2013) on the study of Software Migration in Selected University and Special Libraries in Nigeria revealed that among the seven libraries covered by the study, four have changed from one library application software to another within few years of implementation while some are still in search of the library software to adopt and this was partly attributed to the

factors like not fully conducting the process of systems analysis before and after embarking on the selection and adoption of the new software, lack of maintenance or technical support, limitation of software, as well as absolute nature of the operating systems on which the software run.

Matoria and Upadhyay, (2005) recounts their experiences in migrating from one library management systems to another and described the step by step approach involved. The paper also discussed the peculiarities of the software and lessons learnt from such an exercise; for instance, libraries were discouraged from purchasing software with a proprietary database which could lead to depending on only the vendor of such program for data migration, among others. Ajala and Ayankola (2012) surveyed different software that has been used previously in a Nigerian library and those that are still in use, the causes of the failures of the previous ones, and the attempt to adopt new ones such as in software migration and the challenges of having to migrate to another software, the frustration posed by a second failure. The study also examined suggestions by libraries for improved software performance. The study of Gbadamosi, (2011) had previously done some critical analysis of the level of library automation and virtual library development in some academic libraries in Oyo and come with the findings that none of the libraries was adequate in terms of deployment of technology to aid the library services. Meanwhile, Ogunrombi and Oladokun (1992) in their study on TINLIB Application to library Automation in a Nigerian University of Technology, did found out that the task of choosing and adopting software package for a library is often difficult, because the package must be sufficiently powerful, user friendly and versatile to cope with all library processes and operations. Although, there is high enthusiasm on the part of academic libraries towards the move from traditional methods to modern technologies, but this must be done rightly in accordance to the standard format so as to make the best use of the library package. These should include; selection and evaluation of the proposed ILS. Similarly, Fauty (1994) revealed that taking the library through the implementation of a new system can be overwhelming if not properly planned. Adogbeji and Adomi (2005) also corroborated the findings that selecting high quality software requires some processes or guidelines which a library needs to follow. Joint (2006), while examining the process of evaluating library software and it fitness for purpose, identified some criteria needed for evaluating software quality which will be more suitable for

information retrieval and educational applications in the library environment. These include; functionality, reliability, usability, efficiency, maintainability and portability.

### **Statement of the problem**

Modern day writers have emphasized the role of online public access catalogue in making the resources of the library accessible in many locations and to an extent that is absolutely impossible with the card catalogue (Lawani et al 1992). In recent times, Nigerian libraries have experienced a lot of failed automation projects resulting from the usual associated challenges encountered during the pre and post implementation stages of the systems' life cycle as reported by Adogbeji, Nwalo, Okonoko and Toyo (2013) and this had caused many of them to fall back to the old or manual methods. Since, it is almost practically impossible for libraries to cope with the information needs of the ever sophisticated users with just only the traditional collection of print materials (Vasanth, 2016). There must be synergy of effort directed at making sure that the library information systems works and performs to its optimum expectations. This research explores some of the problems of software migration with the aim of providing solutions to them.

### **Objective of the study**

The study examines the challenges that are posed by the selection, adoption and maintenance of Integrated Library Systems among the academic libraries in Oyo State, Nigeria with the aim of making the best advantage of these challenges, while also making suggestion for an improved future endeavors.

### **Significance of the Study**

The findings of this study will go a long way in helping the libraries to make best decisions and also help them to discover the best ways to their migration exercises in spite of all the inherent challenges. It will also help to expose the likely challenges working against successful migration programme and prefer solutions to such. Furthermore, the study will identify the common choices among the libraries and most importantly, the study will help to forestall the occurrence of failed migration projects among academic libraries and further enhanced the appreciation of computer technology in library routine and services.

## **Research question**

The following research questions were raised to guide the aims of this research;

1. What is the LIS package adopted by the library?
2. What is the major challenge faced during installation?
3. How will rate your vendor on support during implementation?
4. What aspect of implementation did you consider difficult?
5. How will you rate the performance of your LMS?
6. How will you justify the benefits of LMS in terms of cost?
7. What are the effects of installation challenges, implementation difficulties, and vendor's support on the performance of the new system?

## **Methodology**

Questionnaire was used to elicit information in this study. Stratified sampling was employed in administering the instruments because of its suitability. It is a type of probability sampling, in which first of all the population is divided into various mutually exclusive, homogeneous subgroups (strata), after that, a subject is selected randomly from each group (stratum), which are then combined to form a single sample. A stratum is nothing but a homogeneous subset of the population, and when the entire stratum are taken together, it is known as strata. Powell (1998) reasoned that the first step in stratified random sampling is to split the population into strata, i.e. sections or segments. The strata are chosen to divide a population into important categories relevant to the research interest. In this case, the strata was created along the professional path, that is, the selection of staff that is directly concerned with the library technology and computerization; be it computer personnel; Systems Analyst, Technologists, Librarians, Library Officers among others. They will be in the best position to answer the related questions. The research make use of descriptive statistics using simple tabulated frequency counts at first, while a one-way ANOVA was later used to test the effects of some variables on the performance of the LIS package.

## **Results**

### **Demographic information**

Table1. Name of the libraries covered

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Keneth Dike Library, U.I	7	30.4	30.4	30.4
	F.C.E Oyo College Library	6	26.1	26.1	56.5
	E.A.C.O.E.D Library	6	26.1	26.1	82.6
	M.T.K Library, F.S.S Oyo	4	17.4	17.4	100.0
	Total	23	100.0	100.0	

The total respondents of the study as shown by table1 includes; Keneth Dike Library, University of Ibadan, Ibadan 7(30%), F.C.E Oyo(special) college library 6(26.1%), library, Emmanuel Alayande College of Education, Oyo 6(26.1) and M.T Kontagora Library, Federal School of Surveying, Oyo 4(17.4%).

Table2. Gender distribution.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	16	69.6	69.6	69.6
	Female	7	30.4	30.4	100.0
	Total	23	100.0	100.0	

The gender distribution table 2 clearly showed that 16 male (69.6%) and 7 female (30.4%) female took part in the study, this represent about 2:1 in terms of ratio, while the total number of respondents was 23.

Table3. Age Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30-39yrs	15	65.2	65.2	65.2
	40-49yrs	5	21.7	21.7	87.0
	50 and above	3	13.0	13.0	100.0
	Total	23	100.0	100.0	

The age distribution (table 3) presented the 30-39yrs as the highest group in the study 15(66.2%), followed by 40-49yrs with 5(21.7%) and the last group 50 and above 3(13%).

Table4. Staff designation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	U.L	1	4.3	4.3	4.3
	P.L	2	8.7	8.7	13.0
	S.L	1	4.3	4.3	17.4
	L1	8	34.8	34.8	52.2
	LII	2	8.7	8.7	60.9
	Others	9	39.1	39.1	100.0
	Total	23	100.0	100.0	

**Question1. What is the LIS package adopted by the library?**

Table 5. Name of LIS used by the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ALICE	2	8.7	8.7	8.7
	KOHA	14	60.9	60.9	69.6
	VTLS	2	8.7	8.7	78.3
	OTHERS	5	21.7	21.7	100.0
	Total	23	100.0	100.0	

The responses as shown in table5 revealed about four different LIS being used by the various academic libraries. It includes; KOHA, ALICE for Windows and U.I customized version U.I LMS which was captured in OTHERS. Also from the table, KOHA 14(60.9%) remains the most used among libraries.

**Question 2.What is the major challenge faced during installation?**

Table 6. Challenges encountered during installation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Software Compatibility	4	17.4	17.4	17.4
	Networking Problems	14	60.9	60.9	78.3
	Data input	3	13.0	13.0	91.3
	Maintenance charges	2	8.7	8.7	100.0
	Total	23	100.0	100.0	

Among the major challenges recorded by the study (table6) are: Software Compatibility 4(17.4%), Networking Problems 14(60.9%), Data input 3(13%), and Maintenance charges



2(8.7%). However, networking issues portends greatest threats in terms of challenges encountered going by the findings. Iroaganachi, Durodolu and Omatseye (2016) had similarly reported the cumbersome nature of the migration process.

**Question3. How will rate your vendor on support during implementation?**

Table7. Assessment of vendor's support after migration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very supportive	14	60.9	60.9	60.9
	supportive	4	17.4	17.4	78.3
	fairly supportive	4	17.4	17.4	95.7
	not supportive	1	4.3	4.3	100.0
	Total	23	100.0	100.0	

Assessment of the vendor’s support during implementation (table7) distinguished the vendor as very supportive with overwhelming 95% cumulative responses. Therefore, the question bordering technical support aspect of the migration has been answered.

**Question4. What aspect of implementation did you considered difficult?**

Table 8.Major difficulties encountered during implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	software installation	6	26.1	27.3	27.3
	resource sharing	2	8.7	9.1	36.4
	Operating Systems	4	17.4	18.2	54.5
	hardware malfunctions	4	17.4	18.2	72.7
	understanding manuals	6	26.1	27.3	100.0
	Total	22	95.7	100.0	
Missing	System	1	4.3		
Total		23	100.0		

Respondents were asked about the aspect of implementation considered difficult (table 8), they responded this way; software installation 6(26%), resource sharing 2(8.2%), Operating Systems 4(17.4%), hardware malfunctions 4(17.4%), as well as understanding manuals 6(26.1%).

**Question5. How will you rate the performance of your LMS?**

Table9. System performance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very high	5	21.7	23.8	23.8
High	14	60.9	66.7	90.5
Low	1	4.3	4.8	95.2
Poor	1	4.3	4.8	100.0
Total	21	91.3	100.0	
Missing System	2	8.7		
Total	23	100.0		

The assessment of the LIS performance shown in (table 9) indicated that the cumulative counts of Very high and High put together is 19(90.5%). This finding affirms that the LIS has a very high performance in terms of conducting library routine and services as seen from the ratings.

**Question6. How will you justify the benefits of LMS in terms of cost?**

Table10. Cost benefits analysis

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid highly beneficial	6	26.1	28.6	28.6
Beneficial	10	43.5	47.6	76.2
Averagely	4	17.4	19.0	95.2
not beneficial at all	1	4.3	4.8	100.0
Total	21	91.3	100.0	
Missing System	2	8.7		
Total	23	100.0		

Reports on Cost benefits analysis of the LIS shown on (Table10) reflected that the system is beneficial, the cumulative of the beneficial is 19(95.2%) while that of the Not beneficial at all 1(4.8%).

Table11. Duration of the Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1yr +	2	8.7	9.1	9.1
	6 months +	2	8.7	9.1	18.2
	less than 6 months	7	30.4	31.8	50.0
	just 1 month	3	13.0	13.6	63.6
	in few days	8	34.8	36.4	100.0
	Total	22	95.7	100.0	
Missing	System	1	4.3		
Total		23	100.0		

Table12. Type of Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	data entry	13	56.5	61.9	61.9
	system program installation & configuration	2	8.7	9.5	71.4
	software customization	2	8.7	9.5	81.0
	resource sharing & networking	4	17.4	19.0	100.0
	Total	21	91.3	100.0	
Missing	System	2	8.7		
Total		23	100.0		

The arrays of training given to the staff as shown on (table 12) has data entry 13(58.5%) as the highest form of training done on migration process while others are: system program installation & configuration 2(8.7%), software customization 2(8.7%) and resource sharing & networking 4(17.4%). It implies that, the training is not focused and grossly inadequate. Doering (2000) had earlier underscored the importance of comprehensive training in a migration process. The finding is also similar to the experience of Omeluzor *etal*.....,(2012) which presented data entry as well as exporting data from X-LIB in CSV files, conversion to MARC flavours usable files and it's importation to KOHA platform were the major problems encountered in their migration. But

Uzomba, Oyebola and Izuchukwu (2015) expressed doubts whether librarians can be equipped to take responsibility on this new technologies.

**Question7. What are the effects of installation challenges, implementation difficulties, and vendor’s support on the performance of the new system?**

Table13. Test of factors influencing system performance

		Sum of Squares	Df	Mean Square	F	Sig.
Assessment of vendor's support	Between Groups	2.443	3	.814	1.294	.309
	Within Groups	10.700	17	.629		
	Total	13.143	20			
Challenges during installation	Between Groups	.895	3	.298	.221	.880
	Within Groups	22.914	17	1.348		
	Total	23.810	20			
Difficulties in implementation	Between Groups	5.681	3	1.894	.739	.543
	Within Groups	43.557	17	2.562		
	Total	49.238	20			
Type of Training	Between Groups	8.652	3	2.884	1.159	.354
	Within Groups	42.300	17	2.488		
	Total	50.952	20			

The effects of installation challenges, implementation difficulties, and vendor’s support were tested at .05 level of significance on the performance of the new LIS (table13) using one-way Anova in order to ascertain whether any of these factors determines the performance of the new system, and the results showed that none of the factors is significant since they all ranked above the .05 level of significance, for instance, vendors’ support .309, challenges during installation .880, difficulties in implementation .543 and type of training .354. Therefore it means that all this factors are artificial and not natural with the performance function of the LIS based on this finding. Pinfield (2001) reported that systems and technical issues are major challenges specially, integrating different components of the library together as a coherent one

**Conclusion**

The study has examined the migration exercise in four (4) academic libraries in Oyo State, Nigeria namely; Keneth Dike Library, University of Ibadan, Ibadan , F.C.E Oyo(special) college library, library, Emmanuel Alayande College of Education, Oyo and M.T Kontagora Library, Federal School of Surveying, Oyo with the aims of understudying the challenges and

opportunities associated with the exercise. Among the LIS in were KOHA, GLAS, ALICE for windows and the U.I LMS. Among the major challenges faced during migration were: software compatibility, networking issues, data input as well as maintenance charges. But networking problems was the most reported. The software vendors were assessed to be very supportive according to the finding, there was a mild reports on the difficulties encountered during the migration exercise and this borders on; software installation, understanding the manuals, operating systems, hardware malfunctions and resource sharing. Meanwhile, the packages were rated on the performance scale and were also seen to be cost beneficial based on the finding of this work. But on the other hand, training and its duration as gathered by this study constitutes the major backlash, as it was grossly inadequate and does not meet operational requirement of the process, another problem relating to this is that the time allotted to training was also too short and far below expectations. However, none of the identified factors; vendors' support, challenges during installation, difficulties in implementation and type of training received are of significant effect on the system performance, and this is the great opportunity offered by the emergence of the ILS.

### **Recommendations**

This study recommends an extensive feasibility study on all migration process within the academic library, there must be an intensive and well focused training program which will be detailed enough to cover all aspects of the exercise, for instance. Librarians should learn the basics of networking and resource sharing, system configuration, software installation and data inputting. So, the library must get a well-trained trainer to handle all these, while also recommending a follow up in-house training to any vendor training just to ensure perfection. The libraries using the same ILS can come together to form a Software Consortium so as share their experiences and developments and also possibly reach out to the copyright owner with a one voice. Furthermore, the libraries should engage more technology savvy or I.T focused Librarians in order to ease out most of the technical issues, solves issues within thereby reducing charges incurred on frequent calls for maintenance. Most importantly, the libraries must have a well structured programme for migration, these may include formation of a standing committees, creation of a well funded automation section, emerging technology unit or networking group. Bye and large, a successful project can be best achieved when the entire library staff are brought

together as stakeholders such that the strengths of each participant is fully exploited, communication will be a veritable tool in this aspect; communication of what individual role is, current efforts; and when specific duties, decisions, and training are to be delivered. Refreshments and addition of other incentives will also serve as motivation and this way a smooth and hitch free migration exercise is guaranteed.

## **Reference**

- Adogbeji, B.O. Nwalo, K.I.N. Okonoko, N.V and Toyo, D.O (2013).** Software Migration in Selected University and Special Libraries in Nigeria. *International Journal of Academic Research in Business and Social Sciences*.3 (4):33-43
- Adogbeji, O.B. & Adomi, E. E (2005).** Automating Library Operations at the Delta State University Library, Nigeria", *Library Hi Tech News*, 22(5): 13 – 18.

- Ajala, S.F & Ayankola, I.A (2012).** The Challenges and Frustration Of Software Adoption in Nigeria Libraries: A Survey of Some Selected Libraries" (2012). *Library Philosophy and Practice (e-journal)*. Paper 856. <http://digitalcommons.unl.edu/libphilprac/856>
- Carnegie Corporation (2004).** Opportunities and Challenges for the Academic Libraries of Carnegie Grantees in East and West Africa. A Report to the Carnegie Corporation of New York on visits of African universities By staff of the Mortenson Center for International Library Programs, University of Illinois Library at Urbana-Champaign: June2004. [www.library.illinois.edu/mortenson/activities/reports/Africa\\_report](http://www.library.illinois.edu/mortenson/activities/reports/Africa_report) ret. 3/516
- Doering, W (2000).** Managing the Transition to a New Library Catalog: Tips for Smooth Sailing. *Computers and Libraries*, 20(7):1-2
- Fauty, K. G. (1994).** Implementing an Automated Circulation System: Neal- schuman, New York.
- Gbadamosi, B.O (2011).** Assessing Library Automation and Virtual Library Development in Four Academic Libraries in Oyo, Oyo State, Nigeria. *US-China Education Review*, 8(5):711-717
- Iroaganachi, M.A Durodolu, O and Omatseye, T.J (2016).** Migration to Viable Platform for Effective Library Operations: Millennium Experiences of Two Academic Libraries in Nigeria. *DESIDOC Journal of Library & Information Technology*, 36(4):240-244
- Joint, N (2006).** *Evaluating Library Software and its Fitness for Purpose*. *Library Review*, vol. 55 (7) pp. 393-402 (www.emeraldinsight.com accessed on 15.03.2007).

**Lawani, S. M., Azubuike, A. A. and Ibekwe, G. O. (1992):** Large Scale Library Automation: an African Success Story. *African Journal of Library, Archives and Information Science* 2(1), 1-6.

**Matoria, R.K & Upadhyay, P.K( 2005):** Migration of data from one library management system to another: a case study in India. *Emerald insight* 39(2): 160-166

**Ogunrombi, S.A. & Oladokun, S.O. (1992).** TINLIB: Application to library Automation in a Nigerian University of Technology. *Nigerian Libraries: Journal of the Nigerian Library Association*. Vol. 25 & 26 (1 – 4). 1 – 8.

**Singh, V. (2013).** Experiences of Migrating to an open source integrated library system. *Information technology and libraries*. P36 – 53.

**Taylor-Powell, E (1998):** Sampling in Extension, Texas Agricultural Extension Services.  
<http://learningstore.uwex.edu/assets/pdfs/G3658-3.PDF> retrieved on 19/11/16

**Vasanth kumar. R (2016):** A Study on challenges and opportunities for academic libraries in migrating to e-Resources. *International Journal of Digital Library Services*, Vol. 6, July – Sept. 2016, Issue 3 pp85-94