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Management of electronic resources in Private Universities in South-West Nigeria

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ABSTRACT

This paper focused on management of electronic resources in Private Universities in South-West Nigeria with the main objective of finding out the level of implementation of Electronic Resources Management Software (ERMS) in the management of electronic information resources in these universities. The survey method was used and questionnaire was distributed to the Systems Librarians within the universities selected. Findings show that ERMS awareness among the Systems Librarians is high while the level of implementation in managing electronic resources is still very low. It was further found out that electronic resources are not being catalogued/classified in the universities under study. Part of the suggestions offered is that University Libraries should, as a matter of professionalism and importance, introduce ERMS software in the management of their electronic resources.

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Introduction

Electronic resource management (ERM) is the practices and software systems used by libraries to keep track of important information about electronic information resources, especially internet-based resources such as electronic journals, databases, and electronic books. The development of ERM became necessary in the early 2000s as it became clear that traditional library catalogs and integrated library systems were not designed to handle metadata for resources as mutable as online products a re. (Wikipedia, 2011).

The idea of developing electronic resource management systems emerged in 2001-2002, growing out of research by Tim Jewell at the University of Washington. The Digital Library Federation and NISO began work in May 2002 to develop standards for ERM data. These standards were published in the 2004 as *Electronic Resource Management: Report of the DLF ERM Initiative*. Since the publication of the report, several vendors of integrated library systems have released ERM products.

Smith (2006) viewed that electronic resource management (ERM) is an area of technical services responsible for the evaluation, selection, pricing, securing, maintenance and provision of electronic resources such as e-journals, e-books and databases. As electronic collections continue to grow exponentially in both size and use, ERM has emerged as a distinct activity within acquisitions units, and a dedicated specialization for librarians.

Objectives of the study

The objectives of this paper are to:

1. determine the availability of electronic resource management system (ERMS) programmes in Nigerian private universities
2. determine the management strategies of electronic resources in Nigerian private universities

Literature Review

Grover and Fons (2004) have related that since the late 1990s, electronic publishing has increased dramatically. Libraries have increased their purchasing of electronic resources and simultaneously increased the proportion of their collections budgets allocated to supporting electronic resources. During this period, a number of authors have reported on the growing complexity and problems with managing information about electronic resources, as well as emerging solutions. As the portion of collections budgets dedicated to electronic resources increases, so does the need to systematically support electronic resources through databases that provide a locus for management information related to staff and patron needs. These database functions range from producing reports to managing acquisition workflows and end- user access to publicly displaying terms of use.

The most significant large-scale research effort to address the terminology and requirements is the Electronic Resource Management Initiative (ERMI), a project sponsored by the Digital Library Federation. The federation's ERMI grew out of research written by Timothy Jewell, *Selection and Presentation of Commercially Available Electronic Resources: Issues and Practices* and tracked in a Web site created by Adam Chandler and Jewell known as the "Web Hub." According to the DLF Web site, "this project will develop common specifications and tools for managing the license agreements, related administrativ e information, and internal processes associated with collections of licensed electronic resources. (Groover and Fons, 2004, Ellin gson, 2004, Smith, 2006)

The DLF ERMI deliverables include functional requirements, entity relationships, data structure, work- flow, and research into the possible use of XML as a markup standard, any or all of which could he used for the creation of an ERM system. Throughout the development stage of the Innovative ERM project, the development partner libraries used successive

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drafts of the DLF documents as external resources in defining their ERM system requirements.

Smith (2006) has identified four phases in ERM system development which he says overlap in time to a great extent. The first of the phases is the one which he referred to as an "in-house solutions". His paper which quoted Kennedy (2004) noted that librarians recognized the need for tailored ERM systems by the early 1990's. With no systems existing or in the works by third-party providers, however, several institutions embarked on efforts to develop their own solutions. Pioneering projects included Pennsylvania State University's Electronic Resources Licensing and Information Center (ERLIC) in 1998, MIT Libraries' Virtual Electronic Resource Access (VERA) system in 1999, and the more recent University of California, Los Angeles (UCLA)'s Electronic Resource Database (ERDb) in 2003. Developed independently, each of these products was built using different system architectures and terminology, but still reflects common ERM goals.

The second stage of "collaborative ventures" he noted was borne out of recognizing the drawbacks of individual efforts libraries. Libraries began to communicate with each other, discussing the challenges of ERM systems design, sharing their experiences, exchanging knowledge and providing general community support. In several cases, these conversations led to collaborative ERM systems development projects involving two or more library institutions. He further quoted Kennedy (2004) who discusses the Tri-College Consortium's Electronic Resource Tracking System (ERTS), a joint venture of Haverford, Swarthmore and Bryn Mawr Universities. HERMES, an ambitious open source freeware project developed by Johns Hopkins University and Gold Rush, the product of a twelve library consortium known as The Colorado Alliance of Research Libraries as examples of these consortia.

The third face, which Smith (2006) called "third-party solutions", he discussed ILS vendors owing to the fact that dedicated modules have been produced for routines such as acquisition and serials management, are pressed by the yearnings of the librarians for a vendor produced ERMS. He mentioned Dynix Horizon ERM and Sirsi ERM, Endeavor Meridian, Ex Libris Verde, Innovative Interfaces ERM and VTLS Verify as examples.

In the fourth phase, Smith (2006) reported that the market has clearly shifted from a dearth to a wealth of options for ERM system applications. In just a short two years since the debut of DLF ERMI, the concern of technical processes units has transitioned from how to develop a solution to the "e-resource problem" to how to pick among the many systems now available. Collins (2005) provides useful advice on this issue, recommending the consideration of such factors as standalone vs. ILS-integrated systems, ILS vs. third-party vendor applications, interoperability and functionality issues.

Ellingsen (2004) has dedicated a sub topic to the need for electronic resources management systems (ERMS) in his paper Electronic Resource Management Systems. He stated that computer applications which deal with electronic resource management (ERM) are quite a recent development. They have grown out of the need to manage the burgeoning number of electronic resources particularly electronic journals. Typically, in the early years of e-journal acquisition, library staff provided an easy means of accessing these journals by providing an alphabetical list on a web page. Some went as far as categorizing the e-journals by subject and then grouping the journals either on a single web page or by using multiple pages. It didn't take long before it was recognised that it would be more efficient to dynamically generate the pages from a database rather than to continually edit the pages manually.

Smith (2006) posited that the unique demands of ERM have resulted in administrative processes and workflows that diverge considerably from those developed for the management of print resources. Traditional integrated library systems (ILS) were not designed to address e-resource management activities; as a result, librarians have faced increasing frustration in their efforts to maintain growing e-collections. The clarion call grew for "a system that supports management of the information and workflows necessary to efficiently select, evaluate, acquire, maintain, and provide informed access to electronic resources in accordance with their business and license terms"

Yu and Breivold (2008) have identified as important the provision of one-stop shopping of journal information. They argued that offering one-stop shopping for journal holdings is key to making a library's journal collection user-centered and user-friendly. They further quoted Dempsey (2006) on the role of the library in a network age provide some relevant arguments to support the one-stop shopping concept. According to Dempsey, libraries can make life easier for their users by aggregating supply and demand. One aggregates supply through consolidation, combining lots of materials into one central source. That large central source (Google™, NetFlix™, or a database of journals) then attracts more users than would be attracted by several smaller sources, thereby aggregating demand and making it more likely that each item in the collection will be found by an interested user—or in Ranganathan's words, "Every book its reader". This argument suggests that the one-stop shopping concept can include making journal holdings accessible to users at the point of need, for example from citation databases.

Finally, Dempsey reminds librarians that libraries are no longer the only—or even primary—source of information for users, writing, "In our current network environment, libraries compete for scarce attention. This suggests that if the 'library long tail' is to be effectively prospected then the 'cost' of discovering and using library collections and services needs to be as low as possible".

Before long, many institutions were devoting resources to developing and maintaining systems which could manage a range of electronic resources, including information regarding abstracting and indexing services as well as electronic journals. In early 2001, Tim Jewell of the University of Washington carried out a survey for the Digital Library Federation (DLF) of such in-house developments in North American universities (Jewell, 2004). This showed that libraries were trying to present and maintain information regarding e-resources, which often focused on particular subsets of this information but that - as one would expect - there were many common features across the different systems being developed. One of the most well known of these systems is the one developed by MIT called VERA (Virtual Electronic Resource Access) (Hennig, 2002).

However, these in-house developments were not confined to the US. For example, my own institution in the UK, the University of Bristol has also developed an ERM application, which allows staff to input metadata and users to search and browse titles. What is interesting, however, is that these applications were developed in-house to respond to the lack of functionality within existing library management systems which handled the major part of library processes (Ebenezer 2003). It has taken some time for library system vendors to catch up and

one can now find a list on the ERM Web Hub, provided by Cornell University, although this does not claim to be comprehensive. However, as yet there has been no comprehensive comparison of the functionality provided by these systems similar to the one produced by Tim Jewel for in-house developed applications. As systems mature this will become an important task to help libraries make an informed choice.

Method and instrument

The survey method was selected with questionnaire as the instrument. The targeted population for this study comprised University Librarian, Head Multimedia Resources, and System Persons. They are located within the ten private universities under this study.

The questionnaire (Management of Electronic Resources in Private Universities in South West Nigeria) which contained eight sections of thirty questions was administered on the Systems Librarian of the ten university libraries under this study.

All questionnaires collected were fully checked to ensure they were completed. The data was represented in tables and analyzed appropriately.

Table 1 Distribution of respondents

Institutions
Afe Babalola University
Bells University of Technology
Bowen University
Caleb University
Crescent University
Covenant University
Fountain University
Lead City University
Oduduwa University
Wesley Univ. of Sci. & Tech.

Data analysis

This section focuses on the analysis of questionnaire on Management of electronic resources in private universities in south west Nigeria. A descriptive analysis of responses in tabular form was adopted. This was due to the few population sample of ten System Librarians and response rate of seven. The questionnaire contained eight (8) sections of A to H. Each section is captioned by its title, presented by a table and interpreted below.

Table 2 Demographic information of respondents

Institution	Highest Qualification	Rank	Duration of Experience
Bells University of Technology	MSc. (Tech.)	Senior System Analyst/Engr.	8 Years
Bowen University	MLS	Librarian I	15 Years
Crescent University	MLS	Librarian I	22 Years
Covenant University	MLIS	Librarian II	5 Years
Fountain University	MLIS	Librarian II	4 Years
Lead City University	HND	System Analyst	6 Years
Wesley Univ. of Sci. & Tech.	MLS	Librarian I	23 Years

Table 1 indicates the distribution of Systems Librarians in the seven out of ten universities that responded to the questionnaire. This table covers questions one to four (1 - 4) in the questionnaire. It reveals the institutions that responded, the highest educational qualification of the Systems Librarian, designation and years of experience.

Section B.

Availability of Electronic Resources Managements System (ERMS) programme/policy.

Eight questions were asked under this section, the aim is to determine the awareness of the Systems Librarian about ERMS, availability of ERMS policy/programme in the library, type of ERMS software and status of the ERMS programme/policy. The table for the response of each institution on the eight questions is presented below.

Table 3 covers the response from eight questions raised under section B of the questionnaire as explained above. It shows that all the Systems Analyst or Systems Librarians in the selected universities are aware of the availability of Electronic Resources Management System (ERMS) software. Only three out of the seven respondents affirmed the availability of ERMS programme/policy in their institutions while two out of the three institutions bought existing ERMS software with only one having its ERMS software developed in-house. The ERMS software in the three institutions which claimed to have ERMS programme/policy is functioning while the other four institutions have their ERMS software yet to be implemented.

Section C.

Above table represents the results of questions in section C of the questionnaire. It indicates that most of the universities acquire their electronic resources through open access and purchase. The open access is through HINARI, JSTOR, AGORA, OPEN DOAR and DOAJ while the purchase is done through Ebscohost, Brave Content Online Library and Science Direct. E-journals enjoy wide acquisition among the selected electronic resources.

Section D

Table 5 Processing Management

This section is aimed at finding out whether electronic resources in private universities undergoes a cataloguing processes

Institutions	17. Our e-resources undergoes cataloguing processes	18. If yes; through which means? Electronic, Manual or Both
Bells University of Technology	Yes	Both
Bowen University	Yes	Both
Crescent University	No	-
Covenant University	Yes	Electronic
Fountain University	Yes	Electronic
Lead City University	No	-
Wesley Univ. of Sci. & Tech.	No	-

The table above indicated that four out of the seven respondents do catalogue their electronic resources either through electronic, manual or both methods.

Section E

Table 6 indicates that access is being created for the use of electronic resources in the universities. Five of the universities made access to their electronic resources available anywhere through remote access while two others restrict access to their university campus. Majority of the university also made their e-resources full text downloadable. Staff training is also being conducted to augment access.

Section F.

Table 7 Preservation and Conservation Management

This section is aimed at examining the preservation and conservation of electronic resources in the universities. Three

questions centring on backup, antivirus database and users' guidance on the use of electronic resources were asked.

Institutions	23. Our e-resources are	24. Antivirus database is installed and regularly updated on our systems	25. Users are guided on the use of the e-resources
Bells University of Technology	Backed-up	Yes	Yes
Bowen University	Backed-up	Yes	Yes
Crescent University	Backed-up	Yes	Yes
Covenant University	Backed-up	Yes	Yes
Fountain University	Non-Backed-up	Yes	Yes
Lead City University	Backed-up	Yes	Yes
Wesley Univ. of Sci. & Tech.	Non-Backed-up	Yes	Yes

Result from table 7 above indicates that majority of the private universities under this study do back-up their resources. It further shows that antivirus database are regularly installed and updated on their computer systems while users' guidance are also carried out in order to forestall problem that might arise from users to the electronic resources.

Section G.

Table 8 Back Issue and Continuity Management

The main purpose of this section is to determine the back issue access and continuity of the subscription to the electronic resources. Two questions were asked in this section for the purpose.

Institutions	26. The access terms of the subscribed e-resources gives access to back issues	27. The library will continue to subscribe to the e-resources
Bells University of Technology	Yes	Yes
Bowen University	Yes	Yes
Crescent University	Yes	Yes -
Covenant University	Yes	Yes
Fountain University	Yes	Yes
Lead City University	Yes	Yes
Wesley Univ. of Sci. & Tech.	Yes	Yes

All respondents indicated they have access to the back issues of the electronic resources and that they will continue to subscribe to electronic resources.

Section H

Table 9 ERMS as a factor for use of e-resources

Section H is aimed at finding out the influence ERMS has on the use of electronic resources. Two close ended questions were asked with five scales of Strongly disagreed, Disagreed, Neutral, Agreed and Strongly agreed. The last question is an open ended requesting the respondents to indicate ways by which ERMS has improved the use of e-resources in their libraries.

Institutions	28. Since the implementation of ERMS programme in our library, the use of e-resources has improved positively	29. ERMS is more a conundrum than solution to e-resources for libraries
Bells University of Technology	Agreed	Disagreed
Bowen University	Agreed	Disagreed
Crescent University	-	Disagreed
Covenant University	Strongly agreed	Disagreed
Fountain University	-	Disagreed
Lead City University	Neutral	Disagreed
Wesley Univ. of Sci. & Tech.	-	Disagreed

The above table reveals that the three institutions which have fully deployed ERMS software in their libraries have agreed that it has influenced positively the use of electronic resources in their libraries.

Section G

State ways by which ERMS has improved use of e-resources in your library

Responses

Bell University of Technology: Users can make a search for a specific book through title, journal titles, articles or related search in any area of interests.

Bowen University: Easy searching and quick access

Covenant University: Back issue access, easy cataloguing and classification and quick searching. Others institutions have responded with 'not implemented' or leaving the section blank.

Discussion of findings

This research found out that all the Systems Librarians sampled are aware of the availability of Electronic Resource Management System (ERMS) softwares.

The level of implementation of ERMS policy or programme in Private Universities in South-West Nigeria is still low. Only three out of the ten universities studied have implemented ERMS programme and it is functioning. It was also found out that majority of the universities relied on open access repositories in acquiring their electronic resources. This is evident in the fact that it is only four out of the ten universities indicated they acquire electronic resources through aggregators.

Electronic resources aggregators are the middle men between the institutions and publishers of electronic resources. With the existence of aggregators, institutions will be able to select appropriately their needed electronic resources in priorities rather than open access which will contain both the needed and unneeded, which in most cases poses searching and selection problems to the intending users.

Electronic journals have been found to be the highest ranked acquisition among electronic resources with electronic databases and electronic books following in successive ranking.

This study also found out that electronic resources are not being processed, that is being catalogued or classified by majority of the institutions. This situation has defeated the aim of libraries in bringing resources to its users and users to his resources.

Though majority of the institutions studied have created free access to their electronic resources, this study equally found out that few still charges and restricts access to electronic resources within their university campuses. This may have adverse effect on the eventual use of these resources.

In preservation and conservation of electronic resources, this study revealed that half of the institutions studied do back-

up their e-resources for future access and use. In addition, computers within the university libraries are being disinfected from time to time with antivirus database/software while users equally from time to time are being guided on the use of electronic resources (software and hardware) in order to forestall human error that may cause damage to the systems.

Access to back issues of the electronic resources is also guaranteed as the 'access terms' in the subscription clause for the acquisition of electronic resources of these universities allows access to back issues. The study also revealed that libraries have resolved to continue to subscribe to acquisition of electronic resources.

This study ultimately found out that a proper management of electronic resources will enhance and influence its use positively. The three universities which have fully deployed electronic resources management programme have indicated agreement. Some of the ways by which ERMS software influences the use of electronic resources has found by this study are;

- Users can make a search for a specific book through title, journal title, articles or related search.
- Easy searching and quick access is guaranteed
- Back issues access, easy cataloguing and classification and quick searching is made possible.

Conclusion

This study examined management and users' demographic background as factors influencing use of electronic resources in private Universities in South-West Nigeria. The study concluded that management of electronic resources influences, enhances, improves and promotes use of electronic resources when fully implemented.

Recommendations

The following recommendations were made based on the outcome of this research;

- University Libraries should as a matter of professionalism and importance, introduce ERMS software in the management of their electronic resources. There should also be professional awareness about the availability of ERMS software which are free on open access. This will assist small and impoverished libraries to at least start ERMS programme
- Systems Librarians and System Analysts should learn how to lobby and advocate for the University's management to buy into the idea of implementing ERMS policy. Implementing ERMS programme in earnest will allow the institution to gain experience and confidence and will in the long run safe cost of deploying its future besides improving access and use of electronic resources among staffs.
- Integrated Library Software (ILS) developers should be sensitized about the importance of including ERMS in their software to save Libraries and Universities the cost of buying separate softwares for ERMS.
- ILS aggregators should encourage libraries through subsidy of products to enhance wide acceptance and use of ERMS software.
- Developed world through grants and gifts should encourage impoverished universities in deploying and developing ERMS.

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