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Introduction

Library has been a collection of information materials for ages and print media have been the bulk of the library resources. However the advent of information technology in the early 1990s led to the emergence and continuous exponential growth of digitally or electronically borne information resources. (Parker, 2007). Other factors such as provision of space economy; ease of access through numerous metadata, search engines, online catalogues, O.P.A.Cs, and protocols; access which is not hindered by distance or boundaries and simultaneous consultation of the same e- resources by many users, provided the pre-eminence of e-resources over print format. Electronic resources include CD-ROMs, e-journals, e-text or electronic books, locally loaded databases, websites and abstracting and indexing databases such as MEDLINE. According to Bothmann and Holmberg (2010), " e-resources also include products that aid in resource access for patrons such as A-Z lists, Open URL, servers, Federated search engines and resources that provide full- text content such as publishers' electronic journal content, journal content platforms such as Project Muse or Jstor and content aggregators such as EBSCOHOST's Academic Search Premier and proxy servers or other authentication tools" (Bothmann and Holmberg, 2010: 4)

An e-resource can also be " a package of e-journals or a database of abstracts and indexes that include the full text of some or all articles referenced by the indexes" (Sadeh and Ellingsen, 2005: 04) For e-resources, the interface through which it is offered should be considered because these elements are intricately linked, even though they can be licensed separately. In addition, among e-journals package, published by a publisher, a specific journal could be governed by a different set of license terms. (Sadeh and Ellingsen, 2005).. Other factors that are specific to e-resources and do not apply to the traditional print include patron authentication, access, administration, usage, manner of acquisition, accession, licensing and bibliographic control.

The issue of transition from acquiring print to acquiring electronic resources requires managerial ability as the need to adapt the internal organization to the new situation is indispensable. Gronvall (2009) emphasized that in Kenolinska

Instituttet University Library, the budget for e-resources was leveraged from 45% to 96% in 2006 and a decision not to duplicate print and electronic media was enforced. For example, collection of "grey materials" was stopped as most of them are now in the Internet.

Bibliographic control in the online environment is an issue of great concern in the management of e-resources. Mitchell and Surratt (2005) noted that the developments in the online environments have necessitated the overhaul of traditional cataloguing practices for electronic resources. The overhaul has brought in a conceptual model for cataloguing practices such as Functional Requirement for Bibliographic Records (FRBR). This is concerned with element relationships which improve the way resources are catalogued and described. It collates resources in a way that make sense for patron's usage. The cataloguing department has the onerous task to demonstrate how libraries can perform records and record sets as well as strategize for reviewing and updating entries.

In the electronic environment, there have been some efforts to find some alternatives to cataloguing e- resources. Mitchell and Surratt (2005) enumerated three alternatives to cataloguing. They were, web list, context-sensitive linking and federated searching, as strategies to bibliographic control in the online environment. This directs the library's bibliographic tools and practices to meet its own unique access needs. Cataloguers are required to provide an easy-to-understand introduction to the record content and cataloguing rules and guidelines involved in organizing digital resources. They are also expected to be able to identify the bibliographic characteristics of online information for efficient organization and management of electronic resources.

Management of electronic resources often refers to the tools and processes used to organize administrative metadata, such as license terms, vendor contracts and usage statistics.(Mitchell and Surratt, 2005). There are other definitions by Pinfield, (2001), Bothmann and Holmberg (2010) and Ballard & Lang, (2007). Details of these definitions can be found in the literature review. The avalanche of online resources was forcing the beginning of change on the traditional library organization. Managing of the acquired digital resource created sets of challenges for libraries. The journey to effective management of e-resources according to Parker (2007) started as a result of Digital Library Forum (DLF) held in Atlanta, Georgia, in April 2000 with a view to reviewing the shift needed to adjust from project to production perspective in digitizing efforts in libraries. This gave birth to Digital Library Federation (DLF)-Electronic Resource Management Initiative (ERMI).There were development of policies and practices and building of tools to help in the management of the over- whelming e-resources and the information therein as the structures of Library Management System (LMS) could not sustain it. "Adam Chandler of Cornell University developed a Web Hub for developing administrative metadata for electronic resource management for promoting sharing of what different individuals and libraries were building in terms of tools to support electronic resource management." (Parker, 2007 : 02.)

Electronic Resource Management System developed out of the quest to support functions which the library management system could not support fully. Parker listed these functions as follows:

(i) Generating and maintaining alphabetic and subject lists of journals and/or databases

(ii) License term negotiation, tracking, and communication processes.

(iii) Multiple staff and department involvement in selection and support of e-resources, i.e. communication and workflows.

(iv) Problem tracking and troubleshooting activities including escalating/triage support.

(v) Planned, cyclical product reviews or reviews associated with unplanned change

(e.g. when a product is shifted between publishers).

(vi) Systematic usage reporting and tracking.

The Electronic Resource Management Initiative Steering Committee led by Timothy Jewell of University of Washington produced a project report which collectively became a pseudo-standard for work in the area of Electronic Resources Management Systems, (ERMs). What is then Electronic Resource Management System (ERMs) ? This is an analysis of workflow: a listing of functional requirements: a wire-frame diagram providing a snapshot view of concept relationships: a definition listing of involved elements: a detailed analysis of the relationships amongst needed elements; and a hint of future XML (Extensive Mark-up Language) work to come (Jewell et al., 2004) It is an alternative bibliographic approach to managing electronic resources.

Wikipedia, (2010) enumerated some of the features of ERMs as:

(a) Supporting acquisition and management of licensed e-resources

(b) May be integrated into other library system modules or may be standalone system

(c) May have a public interface, either separate or integrated into the OPAC.

(d) Providing descriptions of resources at the package (database) level and relate package contents (e.g. e-journals).

(e) Encoding and perhaps publicly displaying licensed rights such as e-reserves, course packs and interlibrary loan.

(f) Tracking electronic resources from point of order through licensing and final access.

(g) Providing information about data providers, consortial arrangements, and access platforms.

(h) Providing contact information for all content providers.

(i) Logging problem with resources and providers.

(j) Providing customized e-mail alerting system (e.g. notices to managers when actions are expected or required).

(k) Linking license documents to resource records.

(l) Supports retrieval of SUSHI usage statistics.

Statement of the Problem

Proliferation of digital products and changing modes of access have made managing electronic resources a complicated and arduous task. As the e-resources continue to grow exponentially, libraries are faced with the problem of sustaining adequate staffing levels and constant change in resources and budget issues. Graham and McAdam, (2004) found from their study that most of the challenges in response to the demands of processing and managing of electronic resources occurred in cataloguing section. Cataloguing staff need to know when and how a resource can be accessed and dates of coverage, coupled with the fact that an efficient electronic resource management system should be a "one-stop shopping" place for all the disparate pieces of information related to electronic resource subscription. The e-resources management landscape and specific techniques for managing, accessing, and cataloguing online information with ease, need serious attention. Maintenance of URLs, cataloguing and communication challenges (with vendors, users and colleagues) as well as those of licensing and

integrating processing of electronic resources into existing organizational structure, are problems cataloguers have to contend with.

Objectives of the Study

The study intended to find out:

1 The extent of availability of e-resources in university libraries in Southeast Nigeria

2 The role of cataloguers in the management of e-resources in these libraries

3 The challenges faced by these cataloguers in the management of electronic resources

4 The strategies employed by the libraries in the management of e-resources

Review of the Literature

Libraries are moving from the traditional library to automated, and then to electronic

library system. Pinfield (2001) warned that developing and maintaining electronic library is expensive and many electronic products come as cross-disciplinary packages and as such, funding allocation models need to be constructed to ensure that libraries have the flexibility to respond to the available deals on behalf of all the users. Electronic products also have life cycles.

Life Cycle of an E-Resource.

The life cycle of an e-resource includes these stages:

(a) Discovery:

This can originate from a faculty member's request, a recommendation from a subject librarian, an advertisement, or a message in a forum. The librarian then locates information about the e-resource. This includes bibliographic details and coverage period available. The packages include e-journal and the interface/s through which such packages are offered.

(b) Triage

The librarian activates the e-resource in the desired area of the library environment, notifies the relevant audience and obtains feedback. Positive feedback will determine if the library will decide to purchase a license for it. During the testing, the librarian pays considerable attention to the technical infrastructure requirement by the user interface such as documentation on issues related to web browser and plug-in compatibility. Others are selection, acquisition, access decision to renew or cancel (Sadeh & Ellingsen, 2005). To place this paper in the right perspective necessitates providing the definition/ explanation of management of electronic resources

Management of Electronic Resources

According to Pinfield (2001), management of electronic resources demands expertise in handling systems which are more complex than library management systems. (LMS) It requires setting priorities on staff times, deciding how and who presides over the functionality of all things electronic, such as A-Z lists, federated search engines, e-journals, abstracting and indexing databases, dark archives, and ERMs (Electronic Resource Management Systems) It also involves providing the library users with convenient ways to find and access them and providing

library staff with the tools to keep track of them. Bothmann and Holmberg (2010) extended the definition to include focus on an approach to budget management, provision of administrative functions and tracking of license agreements. They also addressed electronic resource management from the perspectives of planning, policy and workflow issues experienced by libraries .Ballard and Lang (2007) posited that effective management of electronic resources means getting the right information to the right people at the right time.

Effective management requires planning. Planning starts with libraries developing a prioritized list of goals for electronic resources to guide their work Bothmann and Holmberg (2010) noted that creating a small electronic resources committee of key players in a library's electronic resource management work is the first step. The key players should come from various divisions of the library. The committee would then identify all of the staff involved in electronic resources workflow from administrative support personnel to administrators (Mi & Sullenger, 2006) They gave other aspects which the committee should consider as budgetary concerns such as creating a list of electronic resource types, such as A-Z lists, open URL, and full text databases. The list may be used to prioritize what a library has, what it needs but is lacking and what it wants to have but is not essential for service to patrons.

Breeding (2004) observed two fundamental aspects to managing electronic resources: back-end acquisition functions and a front-end content delivery.

Front End Content Delivery Access to users is achieved through:

1 Provision of online catalogues.

2 Linkage and cross searching. In this scenario, Z39.50 protocol is a major facility.

3 Cross-searching alternative which engages the use of Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)

4 Use of E-journal Locator Resources

5 Linking to Full Text is possible through the use of Digital Object Identifiers (DOI) that can be used to provide links to full text

6 Open URL-Based Link Resolvers.

Some major Linking products available include:

i SFX from ExLibris

ii Link Source from EBSCO

iii Link Finder Plus from Endeavour Information Systems.

iv Web Bridge from Innovative Interfaces

v Sirsi Resolver from Sirsi Corp

vi Article Finder from Serials Solutions

vii Icate from Openly Informatics

{ culled from Breeding, M. 2004: 5-6 }

7 Federated Search

This involves applications that allow users to search multiple sources simultaneously, so they do not have to decide which resource might have the information they need. This approach is also known as cross searching or metasearch. Some of the major products in this category include:

- Encompass from Endeavour Information Systems

- Metalib from EX Libris
- Sirsi Single Search from Sirsi
- Webfeat Prism from Webfeat
- MuseSearch from Muse Global
- ZPORTAL FROM Fretwell-Downing
- Verde from ExLibris.
- (Breeding 2004 : 06)

He submitted that managing the business details of back-end staff functions, related to acquisition payment and licensing. The traditional online catalogue approach depicts the back –end management tool for library staff. In this respect, the integrated library system (ILS) is used to manage e-journals and other electronic content. However, the ILS lacks some of the needed features largely due to its orientation toward print resources. The lack falls within the parameters of licensing. With electronic resources, the library signs a license for each electronic resource, be it for a single title or more often for a large aggregation of materials such as: ProQUEST, EBSCOHOST and Web of Science. Licensing of e resources involves a number of details such as the cost, the duration of the license and when it needs to be renewed, the number of simultaneous users allowed, whether the library retains access to the content, the telephone number to call for technical support and whether one is allowed to use the resource to fulfill an interlibrary loan request. These are a few of the demands of licensing e-resources. Because of the limitations of ILS, ERMs was developed to overcome these limitations.

The electronic resource management system will no doubt arrest the issue of the management of e-resources. Ballard and Lang (2007) pointed out that ERMs help libraries to keep track of their online subscriptions and license agreements. They will equally enable libraries to view all information related to a particular resource without having to consult multiple files and spreadsheets. They also facilitate elimination of staff redundancy and duplication of efforts. Workflows can be examined more carefully and streamlined where necessary: cataloguing problems can be identified and corrected, and unlikely partnerships and alliances can be formed between departments within and outside the library. Some ERM systems such as Meridian developed by Ex Libris provides space to store additional information such as branding, Z39.50 access and availability of MARC records, open URL support, special hardware/software requirements, and the location and availability of training and user documentation (Ballard and Lang, 2007).

Methodology

The study was a descriptive survey designed to obtain data which would describe electronic resource management and the role of cataloguers in Federal University Libraries in South East Nigeria. The Federal Universities are, University of Nigeria ,Nsukka, (54): Michael Okpara University of Agriculture Umudike, (8): Federal University of Technology Owerri, (24) and Nnamdi Azikiwe University, Awka (9) Population comprised 95 academic librarians in these four universities.

Copies of a 33-item questionnaire constructed by the researchers were used for data collection. Cronbach alpha reliability coefficient was used to establish the reliability of the instrument at 0.76. The instrument contained four sections (A,B,C,D). Items in part of section A and sections B, C, and D were based on a four point weighting scale. 95 copies of the questionnaire were distributed and 65 copies were returned, giving 68.42% return rate. Of the returned copies of the questionnaire, 52 (80.00%) were found usable. Analysis of the items was done using percentages and mean scores. Items that had mean scores of 2.5 and above were accepted.

Results

Section A

Biodata from returned usable copies of the questionnaire showed that:

i 21 (40.38%) Assistant Librarians

ii 15 (28.85%) Librarian II

iii 2 (3.85%) Librarian I

iv 7 (13.46%) Senior Librarians

v 5 (9.62%) Principal Librarians and

vi 2 (3.85%) Deputy University Librarians participated in the study.

Availability of E-Resources

i CD-ROMs were identified by 45 (86.54%) respondents

ii E-Journals were identified by 40 (76.92%) respondents

iii E-Books were identified by 19 (36.54%) respondents

iv Locally loaded databases 19 (36.54%) respondents

v Abstracts and Indexes 14 (26.92%) respondents

vi Dark Archives Not Available respondents

vii A-Z lists Not available respondents

viii Federated Search Engines 3 (5.77%) respondents

i x EBSCOHOST 32 (61.54%) respondents

x ProQuest Not Available respondents

xi Web of Science 4 (7.69%) respondents

xii Websites 24 (46.15%) respondents

Respondents were asked to identify categories of staff that should be responsible for e-resources management. Below are their responses.

33 (63.46%) respondents ticked library professionals.

7 (13.46%) respondents ticked para-professionals

1 (1.92%) respondent ticked cataloguers only.

23 (44.23%) respondents ticked cataloguers and other librarians

21 (40.38%) respondents ticked both professionals and para-professionals.

Respondents were also asked to state the number of professionals and para-professionals that should be responsible for e-resources management.

Responses were as follows:

Category of Staff Responses Number of Respondents

Professionals Few [1 respondent: (1.92%)]

8 [2 respondents:(3.85%)]

20 [1 respondent: (1.92%)]

52 [1 respondent: (1.92%)]

All of them: [1 respondent: (1.92%)].

Para-professionals.

1 [1 respondent: (1.92%)]

2 [2 respondents:(3.85%)]

Selected few: [1 respondent: (1.92%)]

42 [1 respondent: (1.92%)]

TABLE 1 : PROVISION OF ACCESS TO ELECTRONIC RESOURCES BY LIBRARIANS

S/N Access $\bar{X}$ Decision

1 Through links from online catalogue 3.09 Accepted

2 Through linking and cross searching by use of Z39.50 2.12 Unaccepted

3 Through open archives initiative protocol for metadata harvesting 1.81 Unaccepted

4 Through linkage to full text through digital object iden tifier 2.29 Unaccepted

5 Through e-journal locator resources 2 .73 Accepted

6 Through open URL-Based Link resources 2.52 Accepted

7 Through Federated Search 2.00 Unaccepted

Table 1 shows that items 2, 3, 4 and 7 have mean scores which are below the criterion mean of 2.5. They are therefore unaccepted as means through which access is provided to e-resources by librarians in these libraries. Low mean scores of items 2, 3, 4 and 7 were a reflection of the status of availability of the applications with which access to electronic resources were provided.

TABLE 2: MANAGEMENT RESPONSIBILITIES OF CATALOGUERS WITH RESPECT TO E-RESOURCES

S/N	Management	$\bar{X}$	Decision
8	Cataloguers are involved in cataloguing e-resources	3.42	Accepted
9	Cataloguers are involved in devising methods of organizing e-resources	3.23	Accepted
10	They provide access points to information collections	3.27	Accepted
11	They provide online public access catalogue (OPAC)	3.48	Accepted
12	They provide web list	2.80	Accepted
13	They provide content sensitive linking	2.73	Accepted

14	They provide federated searching	2.77	Accepted
15	They provide cross-searching	2.70	Accepted
16	Cataloguers carry out licensing of e-resources	2.29	Un accepted
17	They provide in-service training to their junior members	3.19	Accepted
18	Cataloguers ate involved in constructing workflows	2.87	Accepted

Table 2, item 16, has a mean of 2.29. This implies that respondents did not agree that cataloguers perform licensing of e-resources. The observation is in consonance with the findings of Grahame and McAdam (2004).

TABLE 3 CHALLENGES OF E-RESOURCES' MANAGEMENT

S/N	Challenges	$\bar{X}$	Decision
19	Acquisition of skills to handle current e- tools	3.52	Accepted
20	Budgeting to cover high cost of e-resources	3.46	Accepted
21	Metadata knowledge for cataloguing e-resources	2.85	Accepted
22	Expertise in licensing e-journals	3.06	Accepted
23	Maintenance of URLs	3.12	Accepted
24	Deealing with frequent changes in models of e- resources	3.25	Accepted
25	Problems in communicating with vendors	3;02	Accepted
26	Problems in communicating with users	2.94	Accepted
27	Problems in communicating with colleagues	3.02	Accepted
28	Integrating processing of electronic resources into existing organizational structure	3.25	Accepted

Respondents agreed that all items in Table 3 constituted challenges to management of e-resources. Each of the items had a mean score above the criterion mean of 2.5.

TABLE 4: STRATEGIES FOR ENHANCING MANAGEMENT OF E-RESOURCES

S/N	Strategies	$\bar{X}$	Decision
29	Library schools should provide pragmatic training for student librarians, to enable them handle e- resources	3.69	Accepted

30	Institutions should provide fund for procurement of e-resources	3.79	Accepted
31	There should be sufficient staffing to handle diversified and interoperable functions in cataloguing	3.67	Accepted
32	There is the need to implement Functional Requirements for Bibliographic Records (FRBR) as it will improve metadata details of e-resources during cataloguing	3.15	Accepted
33	E-resources should be evaluated to ascertain their acceptability	3.42	Accepted

Respondents agreed that all items in Table 4 constituted strategies which could enhance management of electronic resources. Each of the items had a mean score above the criterion mean of 2.5

Results and Discussion

SECTION A

Biodata showed that, of the 52 respondents, 21 (40.38%) were Assistant Librarians; 15 (28.85%) were Librarian II ; 2 (3.85%) were Librarian I ; 7 (13.46%) were Senior Librarians; 5 (9.62%) were Principal Librarians; and 2 (3.85%) were Deputy University Librarians

Availability of e-resources.

Available e-resources in this study have been shown above. However, Dark Archives, A-Z List and ProQuest were not available in the libraries surveyed.

Identification of categories of staff that should be responsible for e-resources management

Respondents in this study believed that both library professionals and para-professionals could be responsible for e-resources management. Only one (1.92%) respondent believed that only Cataloguers were capable. [(Graham & McAdam, (2004)]'s survey, which involved 123 Association of Academic Libraries showed that "Cataloguing had the highest number of new positions, (19 or 45%) in electronic resources organizational changes p.11" They also discovered from their study that majority of e- resources management staff were library professionals. In this study, 33 (63.46%), which is a majority of the respondents, would like only librarians to manage electronic resources. 21(40.38%) respondents preferred both professionals and para-professionals to manage electronic resources

Number of professionals and para-professionals required for e-resources management

For professionals, figures presented by respondents ranged from few [1 respondent (1.92%)] ; 3 [1respondent (1.92%)] ; 8 [2 respondents (3.85%)] ; 20 [1respondent (1.92%)] ; 52 [1 respondent (1.92%)] ; All of them [1 respondent (1.92%)]

For para-professionals, figures presented by respondents ranged from 1 [1respondent (1.92%)] ; 2 [2 respondents (3.85%)] ; selected few [1respondent (1.92%)] ; 42[1 respondent (1,92%)]. Bothmann and Holmberg (2010) discovered that most of the libraries involved in their survey, "employed only one to three professional librarians to manage electronic resources , often with little or no paraprofessional support " p.5.

The situation in the present survey is that there are no librarians designated as electronic resources management librarians. Functions, particularly unique to

electronic resources such as licensing, access set-up, link maintenance, inter-database linking (e g. .between catalogues, federated search tools and OpenURL resolvers) are either non-existent or are at their embryonic stages of implementation. Few electronic management services available are done by professionals.

Provision of access to electronic resources is the hallmark of cataloguer's service and Chan, Kirsop and Arunachalam (2005) stated that Open Archives Initiative Protocol for Metadata Harvesting enables distributed OAI compliant archives to be searched seamlessly. In spite of this fact, OAIPMH had a mean of 1.8I in Table 1. Also Z39.50 had been described as a major facility in the area of exchange of bibliographic data and in the use of various cross-searching and linking technologies (Pinfield, 2001). This observation by Pinfield (2001), was yet to be appreciated by the libraries involved in this survey. Also, linking and cross-searching by use of Z39.50 had a mean of 2.12. In the same vein , Digital object identifier had been described as "an internet-based global naming and resolution system that provides for the precise identification, retrieval and trading... (MacGraw-Hill, 2003)". URL*http://www.doi.org/tropics/je-mh-doi-030970.pdf*., yet it did not attract a higher mean score than 2.29. Federated search is one of the applications that allow users to search multiple sources simultaneously so that they do not have to decide which resource might have the information they need, (Breeding,2004). This important application had a mean of 2.00 in Table 1.

Only item sixteen in Table 2 had a mean of 2.29 which was below the criterion mean of 2.50. The item borders on licensing negotiations of e-resources by cataloguers. Grahame & McAdam (2004) who were earlier mentioned in this study, revealed in their research, that majority of libraries reported that one person had primary responsibility for negotiating, signing and managing licenses for electronic resources. They also added that eleven of the eighteen libraries that distributed negotiating responsibility across a number of staff also shared that task with their consortium. The situation was the same for signing licenses for electronic resources. (Grahame & McAdam,2004 :12). *http://www.arl.org/spec.*

All items in Table 3 had mean scores above the criterion mean of 2.5. Item 19 which was on acquisition of skills to handle current e-tools, had the highest mean score of 3.52, and could be said to be the greatest challenge to e-resources management as determined by the respondents.

Item 30 in Table 4 had the highest mean score of 3.79, while item 29 had the second highest mean score of 3.69. Item 30 stated that institutions should provide fund for procurement of e-resources, while item 29 stated that library schools should provide pragmatic training for student librarians to enable them handle e-resources. From the respondents' point of view, items 29 and 30 were the greatest strategies for enhancing management of e-resources.

Recommendations

1 Human Capital Development

The greatest investment an institution could have is investment in human capital. There is need for people to be given exposure irrespective of the staff's rank or age. The impact of linking qnd cross searching by use of Z39.50 to provide access to electronic resources is crucial and central to provision of information. The same could be said of DOI and Open Archives Initiative Protocol for Metadata Harvesting (OAIPMH).Cataloguers need to acquire skills to manage these applications. They should also acquire new techniques of analysis for dealing with networked resources

2 Maintenance of Hybrid Libraries

In view of the fact that no library can be self -sufficient in either print or electronic

resources, hybrid libraries can provide the needed redress

3 Library Schools' Curricula.

Our library and Information Science Schools' curricula should be structured to reflect acquisition of knowledge and skills demanded by current market forces. Library Schools should be equipped with the state-of-the-art facilities in all fields of librarianship, especially in cataloguing of e-resources. Consequently, skills acquired from these institutions could be gainfully employed by school graduates to meet the challenges of market demands.

4 Models of Bibliographic Records

Currently, there are models of bibliographic records such as AACR2, Dublin Core, FRBR (Functional Requirements for Bibliographic Records), and FRAD (Functional Requirements for Authority Data). The latest addition to bibliographic records is RDA (Resource Description and Access). The latter is a synthesis of FRBR and FRAD. RDA is meant to be used in digital environment as well as for cataloguing electronic resources for which Dublin Core was hitherto used. It is possible to fashion out a metadata for cataloguing networked resources (e-resources) and another for print resources. In this wise, the problem of fashioning a conceptual model of metadata that will accommodate both print and e-resources could be addressed.

Conclusion

The study delved into appreciation of current developments in electronic resources management by cataloguers in academic libraries in South East Nigeria. Considering the digital divide between developing and developed countries, availability and management of e-resources are still at the sensitization stage with rooms for development. Human development is a sine-qua-non for massive improvement in e-resources management by academic librarians in the area studied.

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