ICTs and LIBRARIES: A BASIC TEXT

Edited by Esharenana E. Adomi

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Chapter Fourteen

Knowledge and students' use of university repository: A theoretical review

Saheed Abiola Hamzat, PhD, Titilayo Comfort Ilesanmi and Abraham Olalekan Adekunjo, CLN

Summary

Institutional repository (IR) is an online locus deployed to manage intellectual outputs emanating from universities. Nigerian universities have witnessed an increase acceptance and subsequent contributions and use of the system. However, as the stem of the development keep increasing, there is a reported case of low awareness of the presence, types and usefulness of the systems particularly among the university students. The need to address this ugly development necessitated this study, a theoretical approach was employed and theories such as Actor Network Theory (ANT) as well as the Theory Constructivism were the theoretical frameworks were employed to underpin the study. The need to upscale effort at creating awareness on the type, purpose and potential benefits inherent in the IR was recommended as means of enhancing firm contribution and use of the system among the university community.

Keywords: Institutional repository, intellectual outputs, student, visibility, knowledge

Introduction

Before the advent of Information Communication Technology (ICT), the business of managing, maintaining, preserving and providing access to intellectual outputs and memoirs of the universities were being handled manually in the libraries. However, with the emergence of ICT, most libraries in synergy with their parent institutions have risen up to the challenges of planning and building repositories thereby fulfilling their professional mandate of collecting, organizing, preserving and providing access to information in digital format at immediate and remote locations. development has also brought about the deployment of central information management storage area known as institutional repository (IR). Institutional repository is an online locus developed and deployed to manage intellectual outputs of academic institutions. The intellectual outputs include the lesson notes, conference papers, seminar papers, journal articles, patents and other research exploits. Nevertheless, there have been reported cases of low contribution and use of the system among the students owing to a number of factors. It appears that these factors have a role to play in students' understanding of the workability and use of institutional repository.

This chapter therefore, discusses institutional repository as a concept, the opportunities therein, challenges, theoretical framework and conclusion was made to round up the chapter.

Concept of institutional repository

Since the acceptance of the concept 'institutional repository', it has received a considerable attention from researchers across disciplines and around the globe. The system has been voted to possess the potential of increasing the public value, ranking, prestige and visibility of relevant researchers and universities. Institutional repository therefore serves as a central digital archive for scholarly works of an institution and projects the visibility of such institution and also proffer solution to serial crises. An institutional repository (IR) consists of formally organised and managed collections of digital contents generated by faculty, staff and students at an institution. It serves as collective intellectual output of an institution, recorded in form that can be preserved and exploited. Crow (2002) defined IR as online locus deployed to manage collection of intellectual works emanating from a particular institution. It is set up to project the strength of an institution in terms of patents and other intellectual outputs (Krause, Eickholt & Otto, 2017). The vision of the system is to collect, secure and provide access to novel scholarly publications and usually initiated by the institution library. More often than not, there is growing demand for IR owing to the fact that it serves as indispensable component of information and knowledge management. Researchers such as Ocholla (2011); Philips (2010) among others noted that traditional scholarly communication landscape has experienced exponential transformation through IR because of the inherent technological advancements. Institutional repository also

serves as alternative channels for disseminating and communicating research findings. Since institutional repository is fast becoming a significant player in the provision of scholarship, as well as information resources. Therefore, it is onus on universities worldwide to adopt these new ways of accessing and communicating faculty research findings for visibility and competitiveness (Frankland & Ray, 2017).

Saini (2018) noted that institutional repositories stand as podiums for publishing original and peer-reviewed contents in an open access environment. The repositories are essentially being used for acquisition, preservation and dissemination of locally generated scholarly information. In espousing the importance of IR, Ukwoma and Dicke (2017) averred that access to scholarly information, use of scientific information and author citations and visibility are made possible by IR. The contents of IR could include lecture notes, dissertation, thesis, memos, minute, journals, articles, conference papers and other original documents emanating from a particular institution (Rieh, Markey & Yakel, 2009). Mgonzo and Yonah (2014) postulate that institutional repository is an electronic store of web based scholarly documents owned by the institution. According to Lynch (2003) IRs emerged as a new strategy that allows universities to apply serious systematic leverage to accelerate changes taking place in scholarship and scholarly communication. The author further stated that many technology trends and development efforts came together to make the strategy possible.

As the face of IT keep evolving and changing, the number of institutional repositories (IR) keeps changing, thereby leaving academic institutions with no choice than to plan how best IRs can be used to create wider visibility for their research outputs. As a result, IR could be said to have played a key role in the visibility of the university's intellectual contents, as the system captures local contents which can be accessed remotely without necessarily visiting such library. Academic institutions use IRs to manage articles and other relevant resources for teaching, learning and research development. In corroborating this assertion, Trotter et al. (2014) noted that 'the

proliferation of repositories worldwide could be said to offer new possibilities for universities to take greater control of their scholarly communication. In Nigeria like the case in most developing countries, there was no record of functional IR until the year 2008 (Christian, 2008). According to the author, the first institutional successful repository implementation in Nigeria was through the University of Jos in June, 2009. Later on, the Covenant University, Ota and Ahmadu Bello University, Zaria followed suite in the late 2009. Since then, there have been numerous developments by institutions such as University of Nigeria, Nsukka IR (2010) and Federal University of Technology, Akure (2011). However, as at September 2017, there are twenty (20) functional open access IRs in sixteen (16) Nigerian Universities out of 152 universities (NUC website, September, 2017).

As these information resources keep growing, it brings about challenges of harnessing the potential and immediate benefits. This expansion has facilitated the development of central repository tagged institutional repository (IR). Contents of these information sources are very essential to students, lecturers and researchers hence the need comprehensive and central platform where such information can be accessed and use. University community members could get to know about the presence of IR through various channels of communication such as noticeboard, signage, print and electronic bulletin, flyer, library website, and social media platforms. It is expected that the knowledge of the existence of IR will enhance the visibility and subsequent use of the university intellectual works. In espousing this development, Ilesanmi (2018) studied the web presence of some of the University of Ibadan, lecturers' publications and found that IR was found to be one of the main contributors to the wider visibility of their intellectual works. It is also assumed that, as the universities continue to grow, the IR will continue to be populated with more intellectual works hence, immediate community members and the society at large will be privileged to access more intellectual works for the enhancement of their academic activities.

Opportunities

Institutional repository (IR) is a platform upon which the intellectual works of a particular institution is being managed. The institutional repository as a system was developed with inherent benefits and some of the opportunities include:

- Wider visibility of an institutional collection: Many outputs of an institution are made accessible to wider audience. Wherever the users may be, the digitised and born digital resources are made accessible to them regardless of time and location.
 - Many intellectual works which ordinarily could have been known and made accessible to immediate community members alone are now made known to larger population through the IR.External users of the university intellectual outputs are privileged to know the preserved holdings of the institution and access them freely without any restrictions.
- ii. It serves as centralised platform for the university intellectual outputs: Scattered intellectual works are gathered together in a centralised digital place for ease of access and use. All the intellectual outputs can be accessed on just one platform. Users can easily discover, locate, access and use these intellectual works conveniently. In support of this assertion, Library Technology Reports (2004) claimed that IR has evolved as a centralised platform to show cases the subject areas of prospects and scholarship of the institution. Moreover, the contents of an IR could lead to national and international research collaboration.
- iii. Use of the intellectual outputs at individual convenience and pace: Individual users can access and use the contents of the IR at their convenient time whereas physically based intellectual works consultation and use could be time restricted. The IR could be accessed at home, work, cybercafé, office, public space provided that there

- are computers or mobile devices with internet connection (Ratanya, 2017).
- iv. Free download and printing: Students and lecturers can freely download intellectual works of interest to them without restrictions so far, the publications are placed on the IR. Such works can also be printed at any time by the users' as the need arises.
- v. Simultaneous access and use of intellectual outputs: Most of the intellectual outputs are in paper format which can only permit a user per access. With the transformation of paper works to digital format, multiple users can simultaneously access digitised or born digital works at anywhere and at any location.
- vi. Better citation of these intellectual outputs: Placement of these intellectual works on the IR could increase the frequency of citation. As many users discover the availability and access to the full text works on the IR, they tend to increase in level of referencing of such intellectual works.
- vii. Self-update alert: Individual can register his/her email address on the IR platform using RSS feed. The RSS feed is set to automatically alert a potential user of availability of material in the field of interest. By this, there may be no need of cross checking the IR since RSS has been set to address the update issues.
- viii. Plagiarism will be minimised: As the university increases its intellectual outputs in the IR, publications emanating from such institution will be automatically made available on the internet, thus it will discourage replication of other people's intellectual work verbatim since similarity detector software is available to filter out such act

Challenges

Despite the usefulness and relevance of IR in university, the deployment of the system still left much to be desired. Some of the associated challenges identified include:

- i. Insufficient awareness of IR existence:
 Many students and lecturers exhibit low level of knowledge of IR which could be due to lack of sensitisation through different channels of communication.
 This may lead to underutilisation of the content of the IR by the stakeholders of the immediate university with negative effect on huge investment made on IR.
- ii. Lack of sensitisation: There could be lack of sensitisation about the availability of IR which would lead to lack of awareness and non-use of the contents of the IR. University community members should be sensitised about the latest development especially the one that will enhance study, learning and research activities of the staff and students.
- Irregular electricity supply: Irregular iii. electricity supply is known as one of the major hindrances to the use of technology related devices resources. Problem of irregular supply of electricity could prevent the use of IR because when energy on the computer related devices is exhausted no further activities can take place on such system again. Whenever there is problem of electricity supply to power the server that enable the visibility of the IR, staff, students and external users will be cutoff the platform until the IR platform is restored.
- iv. Poor Internet connectivity: There is slow connection of internet which serves as the link between the IR and its users. This issue is a common feature of internet use in Africa particularly in Nigeria due to poor bandwidth experience through university internet provider and other internet providers.
 - v. Difficulty in downloading some files: Intellectual works on the IR are expected to download easily when choice of such files is made. Some of these files failed to download and sometimes carry the tag 'file damaged'. This type of experience could discourage users as information found on the IR could not be accessed to

satisfy their information needs. Though difficulty in opening some files could be as a result of heavy download of the files or technical issue.

Theoretical frameworks

Out of the gamut of theories explaining the adoption of Institutional Repository among different stakeholders, the Actor Network theory and the Theory of Constructivism were considered appropriate to serve as the theoretical frameworks underpinning the paper.

Actor Network Theory

Actor Network Theory (ANT) is a social theory that originated from the field of science and technology. Institutional Repository is used by different stakeholders to support their learning and enhance visibility process. The ANT explains how, over time, networks of actors are built to support claims to specific knowledge by those who contribute into IR. This specific knowledge is referred to as a 'claim' (Lantour, 1999) owing to the fact that it may or may not be accepted by others outside the network. The theorist emphasized that all elements of the networks need to play their part at the appropriate time for the networks to remain stable, committed, they need to cooperate (Law, 2007) since the elements depend on each other, regardless of whether they are human or nonhuman. Since an actor can be human, technology or animal, to maintain generalised symmetry, it is important to use the same vocabulary and repertoire for all actors. Therefore, ANT constitutes a significant theoretical base to espouse the importance of IR to the learning activities of IR among university students.

Theory of Constructivism

The Theory of Constructivism was the second theory employed to explain students' knowledge of the importance of IR to their learning. The theory of constructivism was developed by Piaget (1971). The theorist believes that learning is a process where individuals construct new ideas or concepts based on prior knowledge and/or experience. He noted that every individual generates own mental models, which

can be used to make sense of the experiences. Learning, therefore, is simply the process of adjusting mental models to accommodate new experiences. The concept of constructivism has influenced a number of disciplines, including psychology, sociology, education and the history of science. During its infancy, constructivism examined the interaction between human experiences and their reflexes or behaviour-patterns. These systems were later referred to as knowledge schemes. Schemes are not to be confused with schema, a term that comes from schema theory, which is from information-processing perspectives on human cognition. This theory is used to focus on preparing individuals to solve problems.

Therefore, to be successful, the learner needs a significant base of knowledge upon interpret and create which to ideas. Additionally, with Constructivism, outcomes are not always predictable because students are constructing their knowledge. Thus, constructivism does not work when the results always need to be consistent. The theory has been applied in simulation, case studies research projects, problem-based learning, brainstorming, collaborative learning / group work and learning discovery. This theory is therefore relevant to the study due to its provision of significant base of knowledge upon which to interpret and create ideas by learners. The theory has also been criticised to be misleading or contradict known findings. Several educators have also questioned the effectiveness of this approach toward instructional design, especially as it applies to the development of instruction for novices' While some constructivists argue that 'learning by doing' enhances learning, critics of this instructional strategy argue that little empirical evidence exists to support this statement given novice learners.

Conclusion

Institutional repository has become the mechanism for managing the intellectual output emanating from lecturers, students, researcher and other community of scholars. Despite the fact that, the university students constitute an integral part of the stakeholders expected to contribute to the development and use of IR, the

rate of awareness is still abysmally low. This chapter has discussed the concept of institutional repository, pattern of development, opportunities, challenges and the theoretical framework underpinning the concept. The chapter was rounded up with conclusion on the deployment of the concept and recommendations were made on possible means of stimulating the use of the system among the target group of users

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