Open-Source RIMS for Institute Publication Archiving and Management

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Abstract

The recent development in the institutional ranking by various magazines, private organizations, and government bodies has brought more importance to record management of research publication and research activity (Sunil, 2019). Libraries being the storehouse of knowledge, librarians own the responsibility of managing records about the institute intellectual output and provide data to meet the requirement by assessment, accreditation, survey, and decision-makers. This paper attempts to introduce some of the Research Information Management System (RIMS) tools available in the Open-Source platform to the librarian community. Further, this work discusses certain features that are identified as core or hygiene in RIMS.

Keywords: Research Information Management System, RIMS, Research Activity Reporting, Publication Archiving, Institutional Repository

Introduction

The changing dimensions of libraries and services have introduced different roles to the librarian. Awareness about the teaching-learning process, documentation, record management, publication activity, participation in academic gatherings such as conferences, and seminars, and association with academic networks, has made librarians extend their services beyond the library's responsibility. Today, librarians are involved in institutional record management responsibilities to match the roles they performed in an organization. The librarians have accepted the nomenclatures such as – Knowledge Manager, Record Manager, Head of Information Services, Information Manager, Head – Web Services, etc. – gracefully. Managing the institute intellectual output has added to the existing roles & responsibilities. This has made librarian to be part of any activity regarding publications and as a defined member in the committee which oversee the research publications. Hence, librarians own the responsibility of managing records of the institute publications and publications by faculty/research community too (Sunil, 2019).

The recent development in the institutional ranking by various magazines, private organizations, and government bodies has brought more importance to record management activity of research publication and research activity. Further, the publication data requirements by the assessment and accreditation bodies have made it more vital. Since libraries have maintained such records, librarians have become responsible for providing authentic and organized data to the questionnaire from theses bodies. The assessment and accreditation bodies demand the data pertaining h-index of author, impact factor, h-index for institution, social media presence analysis, research grants, etc.

To support the systematic archiving of publications, generation of reports, and to call out various analysis, technology has given a helping hand to librarians. 'Research Information Management Systems' in short RIMS are the technological solutions for such activity. To put it in simple terms 'technological solutions which support archiving, organizing, analyzing and reporting of academic publications of an organization is called as Research Information Management System (RIMS)'.

This study attempts to introduce some of the RIMS tools available in the Open-Source platform to the librarian community. Further, the paper discusses certain features that are identified as core or hygiene in RIMS.

Research Information Management Systems

The technology solutions providers for teaching-learning services, including libraries extend support to meet the needs right from the commencement of a course to alumni administration in an academic environment. But the solutions are focused on specific activity. For example, if we consider the available tools in an Open-Source environment for managing research publications in the institute - ePrints and DSpace cater to the archiving of publications, Omeka meet the record archiving, Drupal helps us in content organization and management. In all such solutions, the analysis and integration are the major lacunae. In such a situation, we do not have a specific tool which helps in aggregating, organizing, retrieving, analyzing, and integrating the publications in an academic environment.

Kannan (2017) in the article sharing roles of librarian in RIMS, says "RIMS has a potential new service category for libraries. Dempsey opines that RIMS collect and store structured data about faculty research and scholarly activities for one institution, with the intention of repurposing the information in a variety of ways".

Many commercial players introduced such value-added services to academic institutions during 2016. However, the products introduced the new features in due course and tuned to the requirement of the decision-makers and administrators. Some of the commercial products offering this service are Activity Insight (Digital Measures, 2019), Pure (Elsevier, 2019), Converis (Clarivate Analytics, 2019), and Symplectic Elements (Symplectic, 2019), which track publications and scholarly activities of faculty. The available open-source products for this service are discussed in detail in the next section.

The following diagram presents the functions of the Research Information Management System (RIMS)

Figure 1 Functions of the Research Information Management System (RIMS)

Some of the questions or data requirements seen in the assessment report, accreditation application, B-School survey questionnaire, and other institute profile forms are directly related to the research publications. For example, how many research publications were in 2018? how many academic publications are in 2018-19? what is the institute h-index? how many articles published in the international journal and the national journal? how many publications in UGC listed Journals (only)? Have you received research grants? If yes, please give details. What is the contribution of the department to the overall institute intellectual output? etc. It is difficult and mundane job to call answers for such questions. The author feels RIMS with a well-structured integration of functional features and adherence to interoperability standards can be a helping hand.

Functionally, in any RIMS the expectation is to integrate the publication details/bibliographical details, author social media presence, author or researcher registration IDs, affiliations, research activity, collaboration, and contribution to the profession. With such integrated functional features, RIMS benefits academic institutions by being a central repository to access information about faculty research activities, publication, scholarship collaboration, and contribution. The system gives the option to have multiple reports which can be exported to the desired format. By this, the system allows the administrators to efficiently capture and reuse the publication data. The basic functionality of such data capturing, and mining is to present analysis and metrics to help the decision-makers to understand the effectiveness of funding, grants, and overall institute intellectual output. Further, the report provides information about awards, honor, membership with professional associations, academic collaboration, and contribution to the research activity of the institute.

Open-Source Research Information Management Systems (RIMS)

The author has come across three Open-Source RIMS – DSpace-CRIS, Vivo, and Profiles. The core areas focused in these products are - analytical reports, performance assessment, the research impact analysis, research progress of the department, presenting faculty/research profiles, research collaboration, awards, and grants.

DSpace-CRIS

DSpace- Current Research Information System (CRIS) is originally developed at Cineca as a project funded by the Hong Kong University. Later, 2 DSpace Committers, Andrea Bollini & Luigi Andrea Pascarelli contributed to the project, and actively involved in the development and maintenance. The project was initiated in the year 2016. The webpage of the product is available in the URL https://dspace-cris.4science.it/ (DSpace-CRIS - LYRASIS Wiki, 2019)

The popularity of DSpace as a matured institutional repository software has broadened its functionalities by providing the RIMS features. The Current Research Information System (CRIS) provided a flexible data model layered on to DSpace, which allowing the collection and management of publications by defining the attributes with its associated links. DSpace-CRIS is known as the first free open-source RIMS.

The interoperability standards and ability to the integration with IDs such as ORCiD, Scopus ID, etc., give a greater additional value to the product. The graphical reporting formats, impressive profile presentation, option to configure different metadata schemas and inbuilt institutional repository features add value to the product (Atlassian, 2019; DSpace-CRIS, 2019).

Profiles – Research Networking Software

Profiles Research Networking Software is the product from Harvard Catalyst, The Harvard Clinical and Translational Science Center (President and Fellows of Harvard College, 2020) from the National Center for Research Resources and support from Harvard University and its

affiliated academic healthcare centers (Harvard Catlyst, 2019). The product is offered as Open-Source solution to society under the supervision of Dr. Griffin M Weber. The software Profiles was initiated in the year 2011 and made available in full-fledge active product during 2014 with research ID integration in 2014 (Harvard Catlyst, 2019b). This Open-Source RIMS is available in the URL http://profiles.catalyst.harvard.edu/ (Harvard Catlyst, 2019)

The author opines that Profiles is a typical CV presentation tool with data analysis and data visualization. Profiles is basically designed to present the research portfolios of institutions, faculty members, and research scholars. This RIMS supports the administrator to retrieve publication history, analyze the publishing pattern, offer reports on research interest & professional collaboration, and support the integration with website and other API applications.

VIVO

VIVO is developed by Cornell University Library (Cornell University, 2021) as a project initiated in the year 2003, but the author feels the most stable complete version of Vivo was the 1.9.3 Version released in 2017. Vivo is available in https://duraspace.org/vivo/ (Wikipedia, 2018).

Significant partners for VIVO includes CASRAI (Consortium Advancing Standards in Research Administration Information), EuroCRIS (Current Research Information Systems), and the ORCID (Open Researcher and Contributor ID) Initiative. VIVO is a network in which includes 140+ institutions and agencies in more than 25 countries are implementing VIVO or producing VIVO-compatible data (Duraspace, 2019).

VIVO a much-matured RIMS when compared to other open source tools - DSpace and Profiles - in terms of features, interoperability, and facilities available to the administrator. VIVO allows gathering, organizing, recording, editing, browsing, searching, and visualizing scholarly activity. The rich feature available to display the scholarly records, research impact analysis, and graphical representation of data is impressive.

VIVO has data compliance with Open-Source tool – Profiles, and commercial tools - Symplectic Limited, Clarivate Analytics', Web of Science, InCites, Converis, Elsevier's SciVal Experts and Pure.

Some of the early adopters of VIVO are the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, the American Psychological Association (APA) and some universities around the world (Duraspace, 2019; Kannan, 2017; Núñez, n.d.).

Indian Project in pipeline

There is another project called Indian Research Information Network System (IRINS) by INFLIBNET, which has a promising features and functionalities. It is noticed that the product is under testbed and offered to select institutions. IRINS is web-based Research Information Management (RIM) service developed by the Information and Library Network (INFLIBNET) Centre in collaboration with the Central University of Punjab (IRINS, 2018).

The product is fully implemented by Indian Institute of Science (IISc), Bangalore. The IISc IRINS is accessible at http://iiscprofiles.irins.org/. The rich publications and spread of departments help to visualize the features available in IRINS (IRINS, 2019). The author opines that this was one of the best RIMS implantations in India.

The author expects IRINS to be made available on Open-Source platform for the benefit of the Indian scholarly community.

Core Features in RIMS

Based on the study, an attempt is made record the core features and functionalities in the above discussed Open-Source RIMS, the author has identified following as the core features expected in any RIMS -

- Stores and manages data about research publications of an institutions
- Supports submission, gathering, organizing, searching, archiving, and managing the research data / publications
- Offers analytical reports to the stake holders – decision makers, faculty members, administrators, fund sanctioning authorities, researchers, and data managers.
- Adherence to interoperability and data transfer standards such as CERIF, IIIF, etc.
- Should facilitate institutional repository functionalities
- Provides information on institute intellectual output supporting to draw institutional strategies
- Allows to assess performance of individual, department, sector, and institutional research activity
- Present trend charts focused on – research area, funding agency, internal collaboration, and external collaboration
- Supports analysing the workflow of grants and funds
- Provides research assessment at National Level
- Supports integration of faculty profiles with institute website
- Offers reports on collaboration and external association in publication
- Integrate various research IDs to gather, harvest and track publication records

The list is indicative, the preference and requirement will vary from institution to institutions and geographical location.

Conclusion

The study clearly says that RIMS has already gained momentum in India. In near future, it will make its significant impact as a core technological tool for an academic institution. The policies of Government; data requirements specified by assessment bodies; research activity presentations demanded by accreditation bodies; necessity to understand the research life cycle for an institution; need of research activity report at individual, departmental and institutional level; etc., has made RIMS as 'need' to any institution.

In this situation, there is immediate need to carry out research in this domain and to share success stories of implementation of RIMS by library professionals in academic gathering and report the same in academic publications.

References

1. Atlassian. (2019). DSpace-CRIS Home - DSpace-CRIS - DuraSpace Wiki. Retrieved February 7, 2019, from https://wiki.duraspace.org/display/DSPACECRIS/
2. Clarivate Analytics. (2019). Converis. Retrieved February 7, 2019, from https://clarivate.com/products/converis/
3. Cornell University. (2021). Cornell University Library. Cornell University Library. https://www.library.cornell.edu/
4. Digital Measures. (2019). Faculty Activity Reporting Made Easy, Effective and Secure | Digital Measures. Retrieved February 7, 2019, from https://www.digitalmeasures.com/
5. DSpace-CRIS - LYRASIS Wiki. (2019). DSpace-CRIS Home [Software Webpage]. DSpace-CRIS. https://wiki.lyrasis.org/display/DSPACECRIS/
6. DSpace-CRIS. (2019). Home | DSpace-CRIS DEMO. Retrieved February 7, 2019, from https://dspace-cris.4science.it/
7. Duraspace. (2019). VIVO - Connect. Share. Discover. Retrieved February 8, 2019, from https://duraspace.org/vivo/

8. Elsevier. (2019). Pure | Helps Research Managers at your Institution | Elsevier Solutions. Retrieved February 7, 2019, from https://www.elsevier.com/solutions/pure

9. Harvard Catlyst. (2019). Profiles Research Networking Software. http://profiles.catalyst.harvard.edu/

10. Harvard Catlyst. (2019a). Profiles Research Networking Software. Retrieved February 7, 2019, from http://profiles.catalyst.harvard.edu/

11. Harvard Catlyst. (2019b). Profiles Research Networking Software | About Us. Retrieved February 8, 2019, from http://profiles.catalyst.harvard.edu/?pg=about

12. IRINS. (2018). Indian Research Information Network System. Retrieved February 8, 2019, from http://irins.org/irins/

13. IRINS. (2019). Indian Institute of Science Faculty Profiles - a TRD Tata Memorial Library Initiative. Retrieved February 8, 2019, from http://irins.inflibnet.ac.in/

14. Kannan, P. (2017). Role of Library in Research Information Management System using VIVO. Retrieved February 7, 2019, from https://www.authorea.com/users/93289/articles/167374-research-information-management-system-using-vivo

15. Núñez, I. P. B. (n.d.). Current Status of Research Information Management in Peru, 23.

16. President and Fellows of Harvard College. (2020). Harvard Catalyst [Software Webpage]. Harvard Catalyst - President and Fellows of Harvard College. https://catalyst.harvard.edu/

17. Sunil. (2019, March 12). Sunil Mysore says...: RIMS tool for analyzing research contribution. Sunil Mysore Says... http://sunilmysoresays.blogspot.com/2019/03/rims-tool-for-analyzing-research.html

18. Symplectic. (2019). Symplectic Elements - Experts in Research Information Management. Retrieved February 7, 2019, from https://symplectic.co.uk/

19. Wikipedia. (2018). VIVO (software). In Wikipedia. Retrieved from https://en.wikipedia.org/w/index.php?title=VIVO_(software)&oldid=869217310