Research Information Management by Sri Lankan Universities: A webometric analysis

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Abstract

Universities are playing a vital role in the research and development of the country. Rapidly growing scholarly communities are connected electronically to their peers, colleagues, academic administrators, funding agencies and policymakers. In this situation, research information management has become important for the universities to organize, manage, preserve, evaluate, assess and disseminate their scholarly work. Research information includes researcher profile and affiliation, grants, projects, funding, publications, patents, awards and scholarly impact. This study aims to observe how Sri Lankan universities manage their research information through their websites. Seventeen universities' websites were analyzed for its research information management, such as data on people, research facilities, research projects, and research output. The result of this study reveals that ten universities have a separate menu for "Research", three universities have staff profiles through a single link, eight universities have displayed their research facilities, and fifteen universities have maintained their research repository to showcase their research output. Further, research information displayed through the university websites was discussed and scattered under different web pages and systems. In this conjunction, research performance and its progress could not reach its target audience and did not satisfy the stakeholders' expectations. Finally, it was recommended to develop a single system to manage research information using suitable applications available in the market.

KEYWORDS: *Research Information Management (RIS), Research network, Sri Lankan Universities.*

Introduction

Research Information Management (RIM) has become one of the core functions of universities as the academic institutions priorities the organization, management, preservation, evaluation, assessment and dissemination of its rapidly evolving scholarly work. It also plays a critical role in university rankings. Research information encompasses the institution’s researcher profiles and affiliations, grants, projects, funding, publications, patents, awards, impact statements and media reports. Vast range of information can be used for seeking funding, research collaboration, finding educational or business opportunities, resource allocation, institutional visibility, research governance, and policymaking (Schöpfel, Prost, & Rebouillat, 2017). In addition, the advancement of information technology and the radical open-source movement resulted in a breakthrough in the management of research information as numerous tools and platforms facilitate efficient RIM in the digital space (Biesenbender, Petersohn, & Thiedig, 2019).

Sri Lankan universities utilize Institutional Repositories (IR) and content management systems to manage and provide access to their research information. They use the institutional repositories to spawn the movement toward the open-access initiative and also bridge the digital divide and improve their placement in various

accredited university ranking systems by increasing the visibility of their research output. These IRs primarily contain scholarly outcomes such as journal articles, conference papers, books, book chapters, dissertations and unpublished reports. Also, some IRs contain course materials, image files and datasets.

Besides, the universities use content management systems to showcase their staff profiles and affiliations, awards, projects, funding, and scholarly events such as symposiums, workshops and conferences. However, these platforms could help the institutions to achieve higher research impact, which includes assisting the relevant stakeholders in discovering, understanding, engaging, and promoting research. Increasingly, various bibliometrics and altmetrics methods are being used to measure the research impact, visibility and output quality. This study analyses how Sri Lankan universities manage the research information, how much it enhances research visibility, and the likely future trends of RIM.

Research objective

This paper aims to analyze how Sri lankan universities display their research information through their websites.

Research questions

The following research questions have been formulated to analyze the present situation of RIM in the Sri Lankan universities.

- How do the Sri Lankan Universities display their research information?
- Do these research information provide adequate visibility and accessibility for their research performance?

Methodology

The webometric analysis was designed to collect detailed information to address these research questions. This study collected data from the websites of seventeen universities which are under University Grant Commission of Sri Lanka to address the research questions.

Results

RIM has emerged as a strategic priority for universities. Higher educational institutions in Sri Lanka developed infrastructures to support researchers to manage their research information more effectively, with service ranging from advice to repositories (Cox & Pinfield, 2014). At present, Sri Lankan Universities are highly concerned on University ranking (Wijetunge, 2021). There are a number of international ranking systems in operation to rank the world universities. University ranking systems consider research performance as one of the measures based on research volume, research income, research reputation, research influence (citation), citation per faculty and international collaboration. Most of the ranking systems are using indexed databases and websites as data sources to measure research performance (URAP, 2021.). This study intended to find out how Srilankan universities display their research information and suggest modes to display our research information to reach more visibility and impact.

Figure 1 displays whether the universities have separate menu to display research performance in their respective websites and basic research information. Basic research information includes data on people, research facilities, research projects (funding details) and research output (publications) (Biesenbender et al., 2019). Out of seventeen universities under University Grant Commission of Sri Lanka 10 (58.8%) have a separate menu for research in their university webpages. However, the University of Visual and Performing Arts has a research menu under 'academic menu' on their website.

Profile of researchers includes their name, job title, affiliation, research interest/ skills, etc. Only three (17.67%) universities have displayed their university staff profile through unique links. Other universities have their staff profile under the respective departments or faculties. This results in navigating through the department or faculty websites, when a researcher is searching for an Expert related to his/her field of interest in a particular university. It is envisaged that if universities organize their staff profiles according to disciplines/subjects, it would give more visibility for their Experts.

Research facilities includes laboratory, special place, instrumentation, experiments, and research activities (present and past). In Sri Lankan university websites, 8 universities have displayed their research facilities in different forms and categories. Among them, University of Peradeniya displayed comprehensive details on their research performance including, research sessions, dissemination, impact, research support, people, journals, research policies, research centers, research partners, and institutional repositories. Even though, all other universities have created separate webpage to indicate their 'research performance', which is not updated on regular basis.

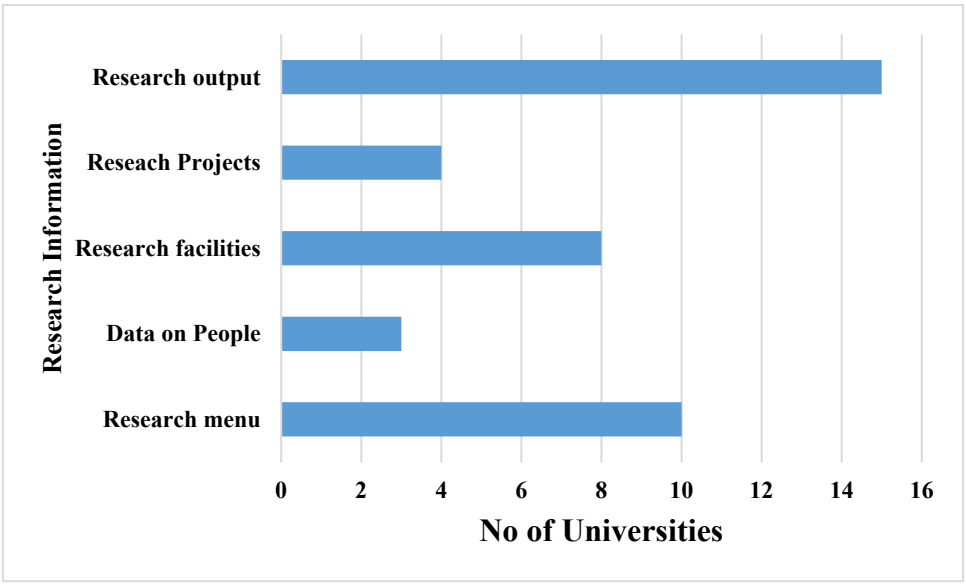

Figure 1: Relevant research information by the Universities

Research project includes name of the project, duration, funding details, programs, international collaboration, etc. Only 4 (23.5%) universities have updated their research project details under the title as "research grants", "project" or "grants".

Finally, research output includes publications, research data, patents, etc. Among the seventeen universities in Sri Lanka, 15 (88.2%) universities have developed their own repositories to manage their publications and

patents. These universities created their repositories using the content management system (DSpace). In all Sri Lankan universities, Libraries are managing these repositories to showcase their research output (Mashroofa & Seneviratne, 2016). Repositories are expected not only to preserve the scholarly publications but also to provide statistical information of its content (Aguillo,*et al* 2010). Three groups of indicators, such as activity related (document deposited by authors, institutions and subject), usage related (visits and downloads) and visibility related (citations and web links) could be deployed to monitor repository activities and its impact. University of Jaffna activated this facility for its repository. The relevant screen is shown in Figure 2.

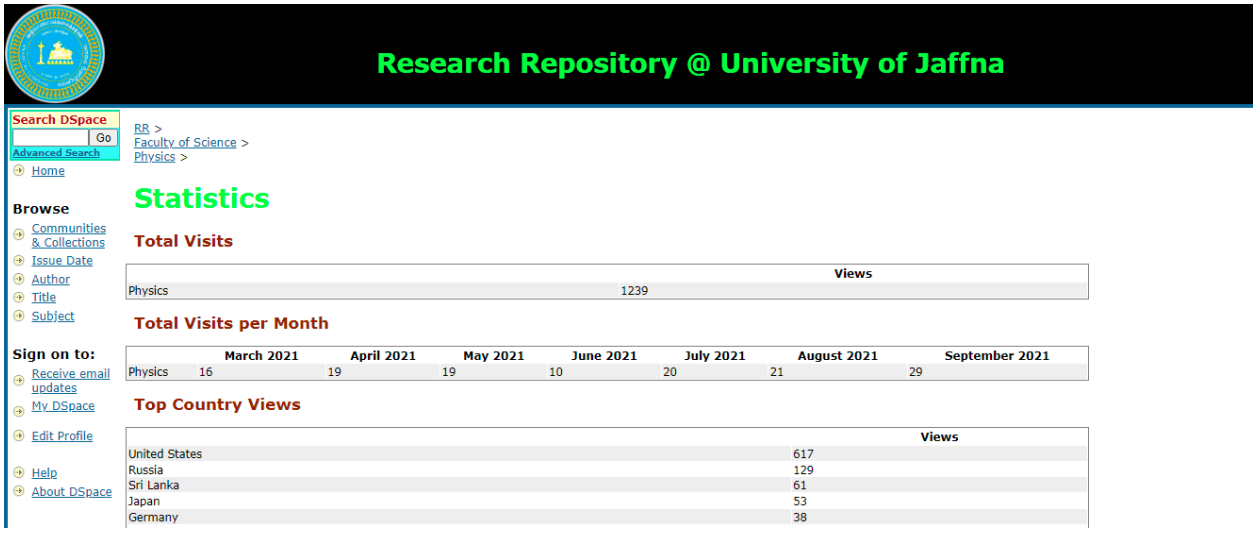

Figure 2: Statistics page of the Research Repository of the University of Jaffna

Discussion

Answer to the first research question, how do the Sri Lankan Universities display their research information? The findings of this study shows that Sri Lankan universities are displaying their research information and activities through their university web pages. However, that information is scattered in different webpages of the respective universities, such as, institutional repository, staff profile, grant management systems, funding agencies, open and commercial citation databases and scholarly publishers. In this conjunction, research performance and its progress of an institute is not reached to the target group due to lack of visibility and publicity.

Based on the second research question develop as Do this research information provide adequate visibility and accessibility for their research performance? The major stakeholders of research information are, researchers, faculty members, administrators, funding agencies, and publishers. These stakeholder's needs and expectations are different. A researcher may expect to find a mentor or advisor, locate facilities, recent research findings and fellowships on their field of interest. Academic research members may expect to minimize the time spent on searching repetitive data and its visibility to showcase their research findings to their peer groups and increase their funding opportunities. On the other hand, administrators may expect a system which could easily provide research reports, assess the research performance of an institute, and find research progress and area of expertise of faculty / department. Further there is a need for an institute to develop a single system, which

could manage all research information, assess its impact, and improve visibility according to international standards. There are a number of open source applications presently available to manage research information. These systems will support the collection, organize, and visualize scholarly activities and also enable the universities to showcase their research output, discoveries, funding details and collaboration (national/international) through a single system.

Conclusion

Developed countries are managing their research information through well-developed systems. Sri Lankan universities are lacking in displaying their research information. At present universities explore their researcher profile, grants, projects they are working on, funding they received, scholarly publications, patents and awards information through different web pages. It has failed to provide visibility and accessibility for the research community. India has developed its national level research information system referred as "Vidwan" using VIVO open source profile management system. Several other universities in India also developed their own research information system at university level. Developing a holistic research management system with easy accessibility and visibility has become important and inevitable, nowadays. Sri Lankan universities lack in displaying their research information. Hence, this study recommended the Sri Lankan universities to develop a holistic research management system which could provide all the research information with easy accessibility and visibility.

References

Aguillo, I. F., Ortega, J. L., Fernández, M., & Utrilla, A. M. (2010). Indicators for a webometric ranking of open access repositories. *Scientometrics*, *82*(3), 477–486. https://doi.org/10.1007/s11192-010-0183-y

Biesenbender, S., Petersohn, S., & Thiedig, C. (2019). Using Current Research Information Systems (CRIS) to showcase national and institutional research (potential): Research information systems in the context of Open Science. *Procedia Computer Science*, *146*(2018), 142–155. https://doi.org/10.1016/j.procs.2019.01.089.

Cox, A. M., & Pinfield, S. (2014). Research data management and libraries: Current activities and future priorities. *Journal of Librarianship and Information Science*, *46*(4), 299–316. https://doi.org/10.1177/0961000613492542.

Mashroofa, M. M., & Seneviratne, W. (2016). Open access initiatives and institutional repositories: Sri Lankan scenario. *Annals of Library and Information Studies*, *63*(3), 182–193.

Schöpfel, J., Prost, H., & Rebouillat, V. (2017). Research Data in Current Research Information Systems. *Procedia Computer Science*, *106*(June 2016), 305–320. https://doi.org/10.1016/j.procs.2017.03.030.

URAP - University Ranking by Academic Academic Performance. (n.d.). Retrieved September 29, 2021, from https://www.urapcenter.org/.

Wijetunge, P. (2021). Research productivity of sri lankan universities in the international ranking systems and mandatory contribution of librarians. *DESIDOC Journal of Library and Information Technology*, *41*(1), 54–60. https://doi.org/10.14429/djlit.41.1.16459