

## Research commons: bringing research support activities of the University of Moratuwa to the next level

Thushari M. Seneviratne and Ruwini C. Kodikara

### Abstract

*Research Commons is a dedicated library space for researchers. Research Commons in libraries is important to develop research culture in the university environment. The authors surveyed all academic staff of the University of Moratuwa to review the current status of the research support activities offered by the university library. The objectives of this survey were to: investigate the usage and importance of current research support services and find out the significance of some proposed research support services. The research questionnaire was developed after conducting a pilot study among eminent researchers and focus group interviews with the library academics. According to their importance to the research activities of academic staff members, current library services and new library services were ranked using average weighted scores. Access to online journals and databases, Plagiarism check, and electronic document delivery services are the library's most important current research support activities. Open access services, research impact assessment services, and assistance in scholarly publishing are the most important new research support services planned by the library. Since the ranking of the proposed services with the average weighted score provides an understanding of existing demand or the need among academics, it is essential to prepare a schedule for implementing following the strategic goals of the University of Moratuwa.*

**Keywords:** Research Commons, Research Support Services, University Libraries, University of Moratuwa

## **Introduction**

Though "Commons" in academic libraries came into the picture in the 1990s in the USA, it has become a popular word in Sri Lankan academic libraries only in the 21<sup>st</sup> century. As a result, "Information Commons," Learning Commons," "Knowledge Commons: etc., were created to cater to the modern library users. "Research Commons" was originated somewhat late in Library and Information Science literature. Though "Research Commons" has not been a popular word in Sri Lankan university libraries, Gunawardhana and Kodikara (2018) identified Research Commons as a dedicated library space for researchers. According to these authors, the Research Commons supports them from research proposal writing to publishing; it is a place for research workshops and seminars, a help desk for research consultations, a workstation with computers equipped with relevant software and hardware. Further, Gunawardhana and Weerasooriya (2019) recognised this as an umbrella covering all processors needed for new knowledge creation, and Gunawardhana and Weerasooriya (2020) branded Research Commons as a One-Stop-Shopping model.

Felix (2019) also recognized Research Commons as an umbrella term and identified seven distinct functions or roles, identifying as 'Club', 'Service Hub', 'Studio', 'Incubator', 'Lab', 'Connector', and 'Showcase'. Most of the Research Commons in academic libraries worldwide are established, combining at least a few of these services according to the preference of the mother organisation. Conducting content analysis of twenty foreign university library websites through purposive sampling technique, Gunawardhana and Weerasooriya (2020) highlighted the importance of creating Research Commons in libraries to develop research culture in the university environment.

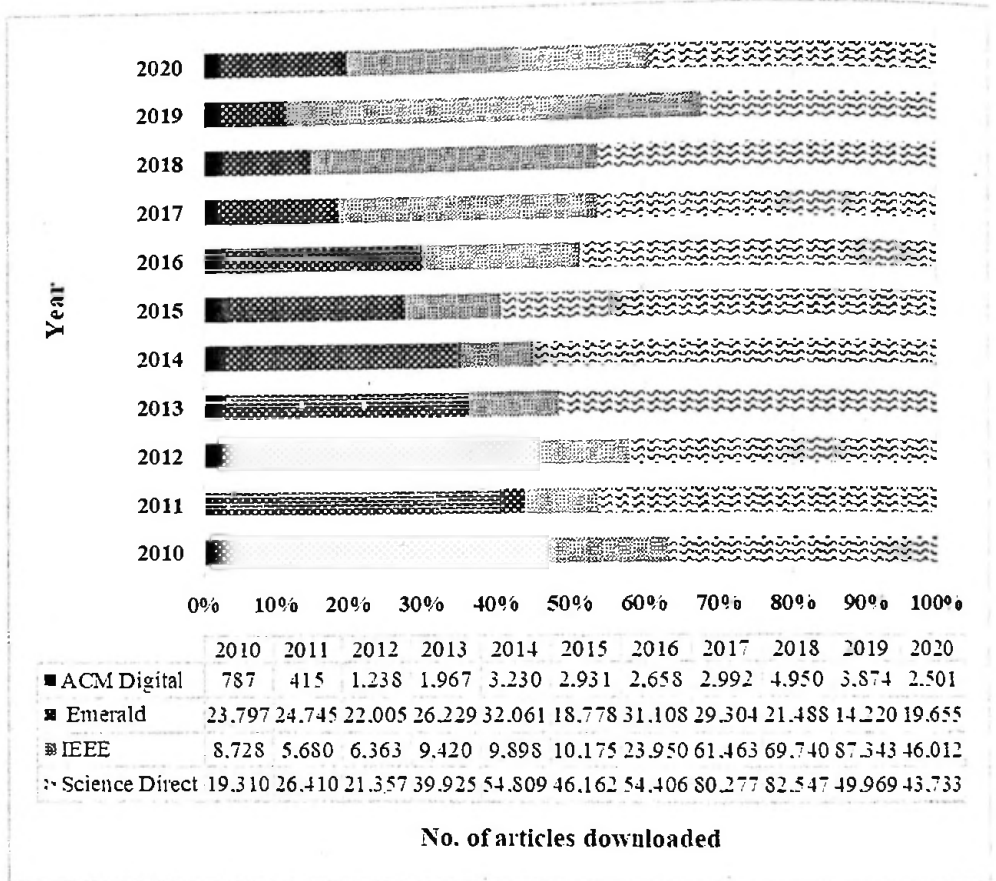
Academic libraries widely carry out various research support services to support the researcher at present. Si et al. (2019) identified research data management, open access, scholarly publishing, research impact measurement, research guides, research consultation, and recommendation of research tools as key services after exploring top 100 university websites in QS World Rankings in 2017. In 2020, Wijetunge et al. (2020) surveyed research support activities of Sri Lankan university libraries. This study established that the majority of the university libraries provide library collections with conducive environments (12), interlibrary loan services (12), document delivery services (12), an institutional repository (11), user education (11) use of reference management software (6) and checking similarity indexing using plagiarism detection software (6). Wijetunge et al. (2020) emphasised the need for

expanding library research support services such as data management, data curation, research impact assessment, etc., to support their mother organisations in achieving excellence in research productivity. Though research impact assessment has not been carried out as a library research support service to date, several Sri Lankan university librarians have conducted scientometrics studies to evaluate the research productivity of Sri Lankan universities. Pratheepan (2011), Navaneethakrishnan (2013), Navaneethakrishnan (2014), Pratheepan and Weerasooriya (2016), Seneviratne and Navaneethakrishnan (2018), Chandani and Wijayasundara (2019), Wijetunge et al. (2020) and Arumugam et al. (2021) are some such publications.

He et al. (2019) emphasised that research support services should be implemented based on an identified need. They also stressed that librarians should observe, learn, and understand the research process. Vaughan et al. (2013) recognised the importance of developing a research life cycle model for library services. It is essential to review the current status of research support activities of the library, University of Moratuwa.

According to Scimago institutional rankings in 2020, University of Moratuwa secured the 4<sup>th</sup> rank in innovation, 6<sup>th</sup> rank in research and overall 6<sup>th</sup> rank among the 15 Sri Lankan universities (Simago, 2020). In achieving excellence in research, University of Moratuwa has laid down two objectives in the Strategic Management Plan 2017- 2021. They are improving research culture in the university to cater to the research community and achieve at least 25% increase of research publications annually, at least 50% to be listed in SCOPUS indexed journals and conferences (University of Moratuwa, 2017). The academic excellence of the university is governed by the research attainments of its academic staff. On the other hand, research is a prime necessity for academic promotions, consultancy assignments, securing posts in reputed institutions to spend sabbatical leave, etc. Ultimately, research creates new knowledge (Chandrakeerthy, 2013). Postgraduate studies at University of Moratuwa were established through a special fund of the UNDP in 1974. With the establishment of the Faculty of Graduate Studies in 2015, the university widened its emphasis on promoting research. By 2021, the university offers more than 45 taught Postgraduate Degree Programmes in addition to MSc., MEng, MPhil, and PhD full-time and part-time research degrees. International and national research centres, industrial laboratories, research cells, studios, and incubators have been established with modern facilities to support the research culture in the university.

As the heart of the university, the University of Moratuwa (UoM) library has played a vital role in the teaching, learning, and research process since its inception. Currently, research support services are carried out by various divisions of the UoM Library. While developing library collections and maintaining traditional library services such as inter-library loans, document delivery services, referrals, etc., the library focused more on electronic information sources. In 2003, the library provided access to the IEE database. The library has maintained its subscriptions to major databases such as IEEE, ScienceDirect, ACM Digital Library, and many electronic journals for the last 20 years. Figure 1 depicts the usage of some databases from 2010 to 2020. Since 2013, the library has made these online resources accessible remotely (Punchihewa et al., 2013). The library implemented the Digital Repository of University of Moratuwa in 2011, creating databases of full-text theses and dissertations (Gamage et al., 2012). This has been developed into an Institutional Repository, archiving 1586 research articles, 3689 articles related to conferences, seminars, etc., and 4160 theses and dissertations by 31<sup>st</sup> March 2021. To face the hidden challenges of the digital information environment, the library subscribed to software to check plagiarism to enhance the quality of University of Moratuwa publications. (Kodikara & Kumara, 2015). Nearly 35,000 submissions had been made to this software only in 2020. Library took the initiative to establish a User Education Unit in 2006 (Seneviratne, 2009) to promote library resources and services. In addition to library orientation programmes, workshops and seminars are conducted on special topics such as 'Effective online searching techniques'; 'Online Public Access Catalogue'; 'Literature searching'; 'Electronic information sources'; 'Managing reference', 'How to avoid plagiarism', etc. for all user categories. Studying the perception of undergraduates and postgraduates, Punchihewa et al. (2018) highlighted the significance of continuing the library user education programmes in developing the research skills among the students to develop the research culture in the university.

**Figure 1***Usage of electronic databases (2010-2020)*

Creating a "Research Commons" would locate these services under one umbrella and further facilitate the improvement of research culture in University of Moratuwa. As He et al. (2019) pointed out, a needs analysis of the UoM researchers is required to initiate the process. As such, the objectives of the study are to:

- Investigate the usage of current research support services of the library, University of Moratuwa.
- Find out the importance of current research support services of Library University of Moratuwa
- Find out the importance of new research support services of Library, University of Moratuwa

## **Methodology**

Through a comprehensive literature survey, the research support services performed by the academic libraries were explored to formulate a questionnaire for the pilot study. The questionnaire was distributed *via* email among 15 academic staff members who were eminent researchers representing four faculties of University of Moratuwa and library academic staff. Based on the responses of academic staff members, telephone interviews and face-to-face interviews were conducted with eight researchers to identify research support services most relevant to research areas of University of Moratuwa. The questionnaire was revised to meet the requirements. A one-hour focus group interview was held with the academic staff members of the library to finalise the research instrument. Ultimately, a Google Form was developed. The questionnaire consisted of 11 questions. The first few questions targeted for demographic and general information of the academic staff members. Then a question was included to evaluate the usage of current research support services of Library, University of Moratuwa. Then, the participants were asked to rank ten current research support services and seven new research support services according to their importance to research activities. The last question was open-ended, and the participants were asked to make suggestions to improve the research support activities of the university library.

All the permanent academic staff members were considered as the participants of this survey (Table 1). The link to Google Form was distributed among permanent academic staff members *via* a group email. To increase the number of responses, three reminders were also sent. The responses were imported to SPSS for further analysis.

"Average weighted score" was calculated as shown below to determine the overall order of preference when analysing ranked data. (He et al., 2019). The largest weight was given for the most preferred choice.

$$\text{Average weighted score} = \frac{X_1 W_1 + X_2 W_2 + \dots + X_n W_n}{\text{Total response count}}$$

Where W = Weight of the ranked position

X = Response count for answer choice

**Table 1***Research sample*

Faculty	Senior Professor	Professor	Associate Professor	Senior Lecturer (Gr. I)	Senior Lecturer (Gr. II)	Lecturer (Trans.)	Lecturer (Prob.)
Architecture	0	6	0	27	21	1	42
Business	2	0	0	0	7	0	10
Engineering	18	26	4	74	72	4	48
Information Technology	1	0	0	3	16	2	5
Total	21	32	4	104	116	7	106

Source: Academic Establishment, Division, University of Moratuwa

Further, the Pearson  $r$  correlation test at 0.05 level of significance was used to identify the relationship between library research support services and variables such as gender, faculty, year of research experience etc. One-way ANOVA test was also used at the same significance level.

## Findings

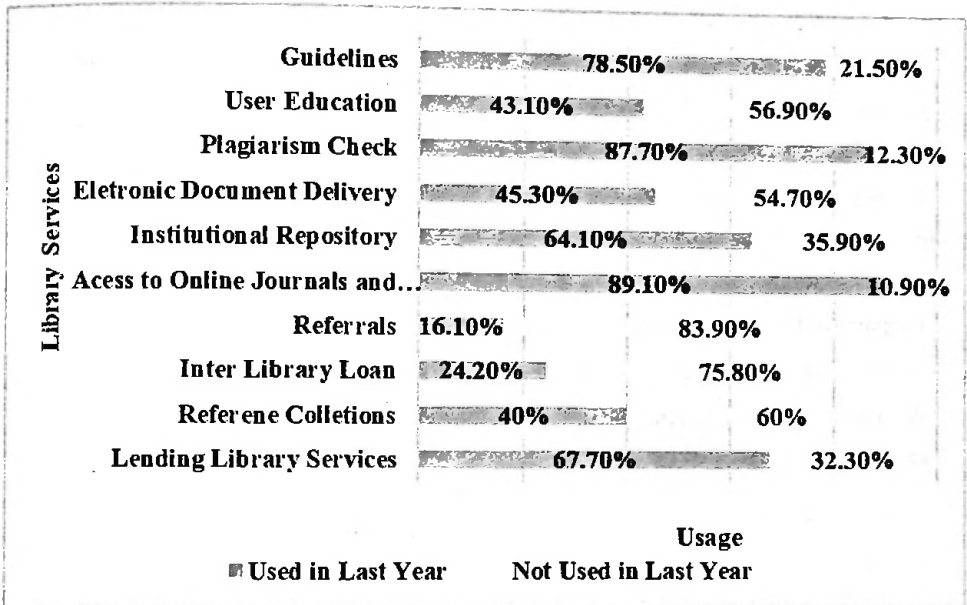
Out of 389 permanent academic staff members, 16.45% (64) responded. Forty-four responses were received from the Faculty of Engineering, 12 from the Faculty of Architecture, four responses each from the Faculty of Business and the Faculty of Information Technology. Among the respondents, 3.1% were senior professors; 7.7% were professors; 27.7% were senior lecturers (Grade I); 38.5% were senior lecturers (Grade II), and 23.1% were lecturers. Male academic staff members (55.4%) were higher than female academics (44.6%). More than 4% of the responses were received from academic staff members attached to the Department of Building Economics (8.1%), the Department of Mechanical Engineering (6.5%) and 4-8% each from the Department of Civil Engineering and the Department of Town and Country Planning. The majority of the respondents are senior researchers 43.6% reported having more than 0-10 years of research experience, and 11-20 years of research experience also amounted to 43.6%. Twelve point eight per cent of the respondents had more than 20 years of research experience.

*Usage of Current Library Services*

Respondents indicated their usage of existing library services of the library, University of Moratuwa in 2020 (Figure 2).

**Figure 2**

*Usage of current library services*



According to the above Figure, respondents are highly motivated to use online journals and databases subscribed by the library (89.1%). Checking plagiarism via Turnitin has been listed as their second most library-related activity; 78.5% of the respondents follow guidelines on Theses and Dissertations, Referencing Styles, etc., compiled by the library. Amidst the electronic information sources, 67.7% of respondents have used Lending Library in the past year. The majority of the respondents have used the institutional repository, which provides access to theses and dissertations, conference proceedings, senate research reports, etc. Further, electronic document delivery, user education, and reference collection have been used as 45.3%, 43.1%, and 40%, respectively. Referrals and interlibrary loans have not been used widely. A significant correlation was not found among usage of current library services and faculty, department, or gender of the respondents.



However, a significant negative correlation was found between the research experience of the respondent and plagiarism check at 0.05 level ( $r = -0.261$ ).

### *Library Services and Research Activities*

Respondents ranked the existing library services according to their importance to the research activities, and the results with average weighted score and rank are shown in Table 2.

**Table 2**

*Current library services according to importance to the research activities*

Service	Average Weighted Score	Rank
Access to online journals and databases	9.01	1
Plagiarism check	8.8	2
Electronic document delivery (e-books, journal articles, etc.)	8.0	3
Guidelines on thesis and dissertations, referencing styles, etc.	7.78	4
Institutional repository (Access to UoM Thesis and Dissertations, Conference proceedings, Senate Research Reports, etc.)	7.39	5
User education (Library orientation, sessions on literature search, plagiarism, patent searching, etc.)	7.06	6
Reference collections (Permanent Reference collection, Periodical collection, Sri Lanka Collection, Thesis and Dissertation Collection, etc.)	6.57	7
Interlibrary loan	6.46	8
Lending library services	6.22	9
Referrals	5.9	10

The highest weighted average score has been allocated to access to online journals and databases, and it has been ranked number one current research support activity. Plagiarism check has been listed as the second most important research activity. Though electronic document delivery is being used by 45.3% of the respondents, it has been ranked number three under research support activity. However, Lending Library Services received rank number nine, which was not recognised as a

prominent research support service though 67.7% used them. Significant correlations were found between usage of library services in the past year and ranking guidelines ( $r=0.502$ ); plagiarism check ( $r=0.37$ ), electronic document delivery ( $r=0.301$ ) and institutional repository ( $r=0.334$ ) at 0.05 level. At 0.01 level, user education ( $r=0.536$ ), access to online journals and databases ( $r=0.340$ ), reference collections ( $r=0.39$ ), and lending library services as research support services had a significant correlation with their usage.

### *Proposed Research Support Services*

Respondents also ranked new research support services planned by the library, University of Moratuwa according to their importance for research activities. Table 3 depicts the average weighted score and the ranks obtained.

**Table 3**

### *Proposed library services according to importance to the research activities*

Service	Average Weighted Score	Rank
Open access services (OA introduction, gateway, policies, journal checking, etc.)	8.74	1
Research impact assessment services (Research metrics – bibliometrics, citation analysis & altmetrics)	8.4	2
Assistance in scholarly publishing	8.22	3
Information on research funding, scholarships	8.19	4
Literature searching assistance	7.98	5
Research data management through a data repository	7.76	6
Provision of research guides and subject guides etc.	7.68	7

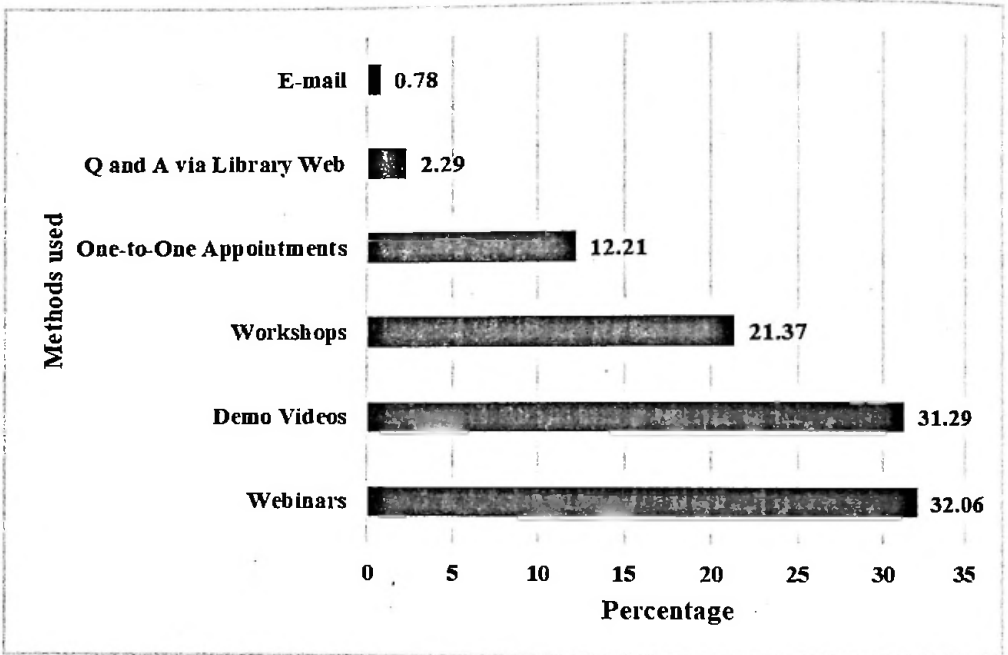
According to the above Table, Open access services, Research impact assessment services, and Assistance in scholarly publishing are the most important new research support services that the library, University of Moratuwa needs to plan. One-way ANOVA revealed statistically significant differences between groups in providing research guides and subject guides by various levels of research experience. Other than that, no statistically significant difference was found for faculty and gender.

### *Awareness of new library resources and services*

Responses on the methods of receiving awareness on new library resources and services are presented in Figure 3.

**Figure 3**

### *Methods of user education*



Webinars (32.06%), demo videos (31.29%), and workshops (21.37) are the most preferred methods of making researchers aware of new library resources and services.

### *Suggestions for improving research support services*

Out of 64 respondents, 33 respondents suggested improving the research support activities of the library, University of Moratuwa, and they can be categorised as follows (Table 4):

**Table 4**

*Suggestions for improving research support services*

Suggestion	% Responded
Access to electronic resources	51.6
<ul style="list-style-type: none"> <li>• Access to more high impact indexed journals</li> <li>• Acquiring e-books and other e-resources</li> <li>• Enhance non-engineering online journals and databases</li> <li>• Access to bibliographic databases such as Scopus</li> <li>• Provide remote access to subscribed electronic resources</li> </ul>	
Lending library services	3.0
<ul style="list-style-type: none"> <li>• Maintain a wish list of books and other resources</li> </ul>	
User Education	21.4
<ul style="list-style-type: none"> <li>• Arrange panel discussion for small groups with relevant information resources</li> <li>• Increase awareness of students about research support activities</li> <li>• Assign a library coordinator for every department to look after research needs</li> <li>• Conducting workshops and seminar series on research management at least twice a year.</li> <li>• Obtain regular feedback from staff and students</li> </ul>	
Library website	3
<ul style="list-style-type: none"> <li>• Redesign library website to cater to a pandemic situation</li> <li>• Improve OPAC search</li> <li>• Insert Frequency Asked Questions</li> </ul>	
Inter-library loan	6
<ul style="list-style-type: none"> <li>• Popularise inter-library loan system</li> <li>• Establishing access to an online central university library system</li> </ul>	
Scholarly publishing	6
<ul style="list-style-type: none"> <li>• Proofreading services</li> <li>• Awareness of predatory publishing</li> </ul>	
Research tool recommendations	3
Research Dissemination	6
<ul style="list-style-type: none"> <li>• Moratorium period for thesis and dissertation via the institutional repository</li> <li>• Need to index research publication in the institutional repository with Google Scholar</li> </ul>	
Unit for research support services	3

It is worthy of mentioning the following feedback received about the services of the library, University of Moratuwa, under suggestions for improvement.

*"I would first like to appreciate this amazing team in the library. They will go the extra mile for you to help do your research work in obtaining research articles, standards, etc. Very nice team headed with a very supportive person as the head of the institution. I appreciate their service, and my only suggestion is "not to change" and improve further; please support the researchers of this country to uplift their calibre! So glad I had the chance to work with such a nice team."*  
(Anonymous respondent)

## Discussion

Superior library facilities are considered one of the three factors influencing the research productivity of a researcher in terms of the number of publications and quality of publications. Empirical results indicated that publication productivity increases when access to relevant information sources and resources such as books, journals, databases, and library systems are provided in the relevant research area (Hadjinicola & Soteriou, 2006 cited in Kiran 2018). Seneviratne and Navaneethakrishnan (2018) established that the first 50% of the publications of University of Moratuwa appeared between 1981 and 2013, and the rest was from 2013 to 2017. This was a recorded growth of research publications in recent years. Online journals and databases are used by nearly 90% of the respondents. They ranked access to these online information sources and resources as the most important research support service with an average weighted score of 9.01. Undoubtedly, factors such as speed, round-the-clock accessibility, ease of judging subject relevancy, and completeness may have influenced respondents in choosing electronic information sources and resources over print sources and resources (Seneviratne, 2012). The majority of the online journals and databases subscribed to by the library are engineering-related information sources and resources. This is due to limitations in the funds as well a comparatively low number of beneficiaries. It is essential to have a basic knowledge of the research areas in the university and plan to deliver information services and resources in other three faculties: Architecture, Information Technology, and Business Studies. It is essential to add subject-specific e-books to this collection.

On the other hand, research areas are becoming interdisciplinary. Though any library could not respond to every new trend, Librarians must be aware of such trends

(Kiran, 2018). Further, academic libraries must provide immediate and practical steps on par with the mother organisation's strategic priorities (Maxwell, 2015). University of Moratuwa targets a 25% increase in the research publications annually and 50 % of such publications to be indexed in SCOPUS (University of Moratuwa, 2017). In this situation, the library has to improve links with local and foreign information networks to satisfy research needs through Interlibrary Loan and Electronic Document Delivery. It will be much easier for librarians and researchers if a union list of electronic journals available for Sri Lankan university libraries or Federated Searching facility is provided through CONSAL. According to the results, 45.3% of the respondents use this service and ranked it as the third most important research support activity with an average weighted score of 8.00. In addition, library staff should be made aware and use web-based electronic research archives such as Z Library, Semantic Scholars, and scholarly academic networks such as ResearchGate, Academia Edu, etc. Librarians should promote centralised document supply service established by the Consortium of Sri Lankan Academic Libraries (CONSAL). Library, University of Colombo coordinates this service through the British Library and fulfils the academic literature needs of the users attached to 15 state universities.

Guidelines on thesis and dissertations, referencing styles, etc., were used by 78.5% of the respondents, and it was ranked at 4<sup>th</sup> position with an average weighted score of 7.78. On the other hand, a plagiarism check was used by 87.7% of respondents, and it was placed at 2<sup>nd</sup> position with an average weighted score of 8.8. Guides and procedures like similarity checking increase the efficacy of researchers in producing quality research publications and advising fellow researchers. Hence such activities should be continued and promoted.

The institutional repository maintained by the library is accessed by 64.15% of the respondents and ranked at the 5<sup>th</sup> position with an average weighted score of 7.38. Since its inception, nearly nine million item views have been recorded by the 31<sup>st</sup> of March 2021. To add up, above 13000 user logins have been reported, and over 19 million searches have been performed. Institutional repositories increase the accessibility, availability, usage, and citation impact of research articles (Pratheepan, 2018). Hence the use of this facility should be promoted among researchers. The library should take an interest in uploading grey literature of the mother organisation to facilitate open access. However, Pratheepan (2018) recommends formulating a national policy for implementing institutional repositories in terms of copyright, and it will assist the operation and development of the institutional repository.

The majority of the respondents did not use user education as a research support activity, and they have ranked user education in the 6<sup>th</sup> position with an average weighted score of 7.06. Maxwell (2015) mentions that research is much more than finding and evaluating information sources. He stressed it should provide services at multiple points along the research lifecycle. —planning, project, publication, and digital preservation. For that, the librarians have to "understand the paradigmatic structure of several disciplines, anticipate the researcher's patterns, participate in data analysis and interpretation of results and form partnerships to facilitate the research process." (Kiran, 2018). Therefore, it is essential that the librarians need to be liaison officers at the departmental level and participate in departmental research committees. As most respondents stated, an awareness of library research support services could be offered via webinars and demo videos.

### **Proposed research support services**

Though Si et al. (2019) listed seven types of research support services exploring websites of top 100 universities listed in QS World Rankings in 2017, their implementation varies worldwide. Libraries in the United States of America excel in research data management and research consultations but are relatively insufficient in research impact assessment. The libraries of the United Kingdom are outstanding in research data management and open access. They are fairly strong in research impact measurement but weak in research guides and research tools recommendations. The Chinese libraries have a focus on scholarly publishing services and research guides, while the National University of Singapore Libraries and Nanyang Technological University Library perform all seven types of services. However, UoM will have to select the services that can be offered in its own context.

Library, University of Moratuwa identified seven new research support services that can be incorporated into current library divisions and services in coordination with Research Commons. Respondent academic staff members have prioritised proposed services according to the importance of their research activities. According to the survey results, the ranking of the offered services with the average weighted score provides an understanding of existing demand or the need among the research community at University of Moratuwa. Other than research impact assessment services, all services can be implemented with existing infrastructure with additional training and guidance. In providing open access services that received rank number one, the library needs to develop a policy statement since open access to grey literature has already been provided through the institutional repository: real-time

updates and linking research literature published in University Moratuwa conferences, conducting seminars and colloquiums.

Further, the library could select and provide links to open access platforms worldwide through the library website. It is important to educate about Sri Lankan platforms such as Sri Lanka Journals Online (SLJOL). Librarians have to be aware of different business models of open access journals to get maximum use. The majority of researchers are suspicious about the quality of open access journals and databases. Librarians can promote open access journals by identifying their impact factor. Mainly impact factor is a symbol of quality and usage. Implementing research impact assessment services-which ranked number two with an average weighted score of 8.4 - will be a value-added service to the entire university community as it directly affects institutional ranking. The library can organise awareness sessions on research metrics such as bibliometrics, citation analysis, and altmetrics. The library needs to continue subscription to bibliographic databases such as SCOPUS and or Web of Science. It is essential to calculate research metrics at a personal level, departmental level, and institutional level. Assistance in scholarly publishing ranked number three with an average weighted score of 8.22. The researcher always tries to publish his or her research work in reputed, prestigious publications. Librarians can guide researchers in finding quality publishers and publications with peer reviewing. Librarians need to be vigilant on predatory publishing and select online resources that guide scholarly writing (Ramanan, 2015). Librarians can also assist in solving ambiguity in schemes of promotion of academic staff about scholarly publishing and research dissemination

It is essential to prepare a plan of implementation since the need analysis is already carried out in this survey.

## **Conclusion and Recommendations**

Out of 389 permanent academic staff members, 16.45% (64) responded. Forty-four responses were received from the Faculty of Engineering. According to their importance to the research activities of academic staff members, current library services and new library services were ranked using average weighted scores. Access to online journals and databases, Plagiarism check, and electronic document delivery services are the most important current research support activities of UoM Library. Open access services, Research impact assessment services, and assistance in scholarly publishing are the most important new research support services planned by UoM Library.



According to the survey, the library has to continue existing services with further developments. Further, the role of the university accepting this service needs to be emphasised. The university should support the library to improve the existing services by allocating funds to purchase online databases, e-books, etc. By obtaining the expertise of library staff in sharing their knowledge on research methods and related course modules. The university should also support the improvement of the teaching role of the library staff. It is important to bring out how librarians can educate and guide the users on referencing. The library staff's role in research-based activities needs to be further stressed, and the library staff needs to become members in committees such as faculty research, Senate research, etc.

## References

- Arumugam, J., Balasubramani, R., & Maheshwaran, R. (2021). Scholarly research output of University of Peradeniya, Sri Lanka: scientometric analysis. In R. Maheshwaran, Champa N.K. Alahakoon, & K. Dehigama (Eds.), *Essays and reminiscences: a felicitation in honour of N TSA Senadeera: Librarian, University of Peradeniya (1982-2002)*. (pp. 91-108). Peradeniya: University of Peradeniya Library.
- Chandani, J. G., & Wijayasundara, N. D. (2019). Visibility of University of Sri Jayewardenepura in Scopus. Retrieved from <http://dr.lib.sjp.ac.lk/handle/123456789/8449>
- Chandrakeerthy, S. R. De S. (2013). *Research at Moratuwa: from the early beginnings to ERU and Beyond* [Keynote Speech]. National Engineering Conference: 18<sup>th</sup> ERU Symposium. Moratuwa: University of Moratuwa.
- Felix, E. (2019). *The seven roles of research commons: forecasting trends*. Retrieved from <https://www.brightspotstrategy.com/research-commons-roles-academic-libraries/>
- Gamage, R. C. G., Punchihewa, C. N. D., & Kumara, A. D. B. (2012). *Digital repository of Library University of Moratuwa*. Retrieved from <http://dl.lib.uom.lk/bitstream/handle/123/8866/dic01.pdf?sequence=2>.

- Gunawardhana, D. N. T. & Kodikara, R. C. (2018). Enhancing research skills through the "Research Commons" in Sri Lanka: concept being introduced at University of Moratuwa Library. In International Center for Research and Development (Ed.), *Proceedings of the Second International Conference on Multidisciplinary Research 2018*, (44p.). Retrieved from <https://asianstudies.info/wp-content/uploads/2018/12/MR2018-Proceedings-ISSN.pdf>
- Gunawardhana D. N. T. & Weerasooriya, W. A. (2019). Initiating the "Research Commons" in university libraries in Sri Lanka: exploratory review. In M. K. Weerasinghe & W.A. Weerasooriya (Eds.), *Proceedings of 3rd International Conference on Library and Information Management, Department of Library and Information Science, Faculty of Social Sciences, University of Kelaniya, Sri Lanka*, (pp.138-142). Retrieved from <http://repository.kln.ac.lk/handle/123456789/20711>
- Gunawardhana D. N. T. & Weerasooriya, W. A. (2020). Importance of "Research Commons" as a "one-stop shopping" model for researchers. In L. A. Jayatissa & R. Gamage (Eds.), *Proceedings of the NILIS Symposium 2020*, (pp.46) Retrieved from [https://nilis.cmb.ac.lk/wpcontent/uploads/2021/03/NRS2020\\_Proceedings\\_20210323.pdf](https://nilis.cmb.ac.lk/wpcontent/uploads/2021/03/NRS2020_Proceedings_20210323.pdf)
- He, H. Y., Gerbig, M., & Kirby, S. (2019). Needs assessment for improving library support services for dentistry researchers. *Journal of Medical Library Association*, 107(3), 352-363. doi: [10.5195/jmla.2019.556](https://doi.org/10.5195/jmla.2019.556)
- Kiran, K. (2018). Supporting research activities: the continuing challenges faced by academic librarians [Keynote Address]. In N. Wijayasundara, S. Perera, C. N. K. Alahakoon, T. M. Seneviratne, B.M.M.C.B. Hindagolla & M. A. L. Silva (Eds.), *Proceedings of 9<sup>th</sup> International conference of University Librarians Association of Sri Lanka*, (pp. xi-xviii). Sri Jayawardenapura: University Librarians Association of Sri Lanka.
- Kodikara, R. C. & Kumara, A. D. B. (2015). Plagiarism amongst research students in the University of Moratuwa (UoM) in Sri Lanka. *Sri Lanka Library Review*, (29), 65-81.

- Maxwell, D. (2015): The research lifecycle as a strategic roadmap. *Journal of Library Administration*, 56(2), 111-123. doi: [10.1080/01930826.2015.1105041](https://doi.org/10.1080/01930826.2015.1105041)
- Navaneethakrishnan, S. (2013). Sri Lankan research output at international level-A picture from Scopus. 2<sup>nd</sup> International Conference on Social Sciences organised by Faculty of Social Sciences, University of Kelaniya, 22<sup>nd</sup> – 23<sup>rd</sup> November 2013. Retrieved from <https://www.semanticscholar.org/paper/Sri-Lankan-research-output-at-international-level%3A-Navaneethakrishnan/c8f6d3e0383a9354ca01a501087eddaadc516f01>
- Navaneethakrishnan, S. (2014). Authorship patterns and degree of collaboration of Sri Lankan scientific publications in social sciences and Humanities – a picture from SCOPUS. *Library Philosophy and Practice*. doi: <http://digitalcommons.unl.edu/libphilprac/1153>
- Pratheepan, T. (2011). Research productivity of Sri Lankan universities during 1999-2010 based on the ISI Web of Science database: A Scientometric study. In C. Jayasundara & S. Somaratne (Eds.), *Proceedings of the University Librarians Association Sri Lanka*, 288 – 295.
- Pratheepan, T. (2018). Green open access vs copyright infringement: an assessment of self-archiving in selected institutional repositories of Sri Lankan universities. In N. Wijayasundara, S. Perera, C.N.K. Alahakoon, T.M. Seneviratne, B.M.M.C.B. Hindagolla & M.A.L. Silva (Eds.), *Proceedings of 9th International Conference of University Librarians Association of Sri Lanka*, (pp. 140-141). Sri Jayawardenapura: University Librarians Association of Sri Lanka.
- Pratheepan, T. & Weerasooriya, W.A. (2015). The publication output and impact of various faculties in Sri Lankan Universities: A scientometric assessment and policy implications. *Journal of the University Librarians' Association of Sri Lanka*, 19(1), 54-70. doi: <http://doi.org/10.4038/jula.v19i1.7875>
- Punchihewa, C. N. D., Kumara, A. D. B. & Kiriella, K. G. A. P. (2013). Remote access to online resources at University of Moratuwa. In *Proceedings in Annual Research and Achiever's Colloquium, University Librarians Association of Sri Lanka (ULA)*, 4-8.
- Punchihewa, C. N. D., Kiriella, K. G. A. P., Kumara, A. D. B., & Kodikara, R. C. (2018). Students' Perception towards the library user education programmes of the University of Moratuwa, Sri Lanka: A case study. *Journal of the University Librarians Association of Sri Lanka*, 21(2), 106-122. doi: <https://doi.org/10.4038/jula.v21i2.7920>

- Ramanan, T. (2015). Open access, peer reviewing and quality of research publications [Editorial]. *Journal of the University Librarians Association of Sri Lanka*, 19(1), 1-5. doi: <http://doi.org/10.4038/jula.v19i1.7872>
- Scimago (2020). Scimago institutional rankings. Retrieved from <https://www.scimagojr.com/>
- Seneviratne, T. M. (2009). Going the extra mile: information literacy development at University of Moratuwa. *Journal of the University Librarians Association of Sri Lanka*, 13(Special Issue), 37-51.  
doi: <https://jula.sljol.info/articles/abstract/10.4038/jula.v13i2.530/>
- Seneviratne, T. M. (2012). Print vs electronic: preferences for emerging research library: a case study. In *Proceedings of NILIS Symposium 2012*, (pp. 178-186). Colombo: National Institute of Library and Information Sciences.
- Seneviratne, T. M. & Navaneethakrishnan, S. (2018). Research productivity of University of Moratuwa; a study based on the Scopus database. In W. J. Jeyaraj, S. Santharoban & M. N. Ravikumar (Eds.), *Proceedings of International Symposium on Emerging Trends in Education and Library and Information Science*, (pp. 134-145). Batticaloa: Library Network, Eastern University, Sri Lanka.
- Si, L., Zeng, Y. Guo, S., & Zhuang, X. (2019). Investigation and analysis research support services in academic libraries. *The Electronic Library*, 37(2), 281-305.  
doi: [10.1108/EL-06.2018.0125](https://doi.org/10.1108/EL-06.2018.0125)
- University of Moratuwa (2017). *Strategic management plan (2017-2021)*. Retrieved from <https://uom.lk/strategic-management-plan-2017-2021>
- Vaughan K. T. L, Hayes, B. E., Lerner, R. C., McElfresh, K. R., Pavlech, L., Romito, D., Reeves, L. H., & Morris, E. (2013). Development of the research lifecycle model for library services. *Journal of Medical Library Association*, 101(4), 310-314. doi: <http://dx.doi.org/10.3163/1536-5050.101.4.013>
- Wijetunge, P., Silva, A., & Manatunga, P. K. S. (2020). Research productivity of the state universities of Sri Lanka: a case based on SciVal and the contribution of the libraries towards excellence. *Journal of the University Librarians Association of Sri Lanka*, 23(1), 91-118.  
doi: <http://doi.org/10.4038/jula.v23i1.7968>