

# The Role of Libraries and Librarians in Accreditation and Institutional Ranking: A Case Study of Indian Maritime University Library

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## **Abstract**

*Higher education is increasingly becoming a global business. The main factor to distinguish between different universities in university ranking. There are numerous university ranking systems that include a number of citations as one of the measuring indicators. The rest of the journey is dependent on disseminating the publications via proper utilization of the "Research Tools". Proper tools allow the researchers to increase their research impact and visibility. This study provides information about various activities such as learning management system, NPTEL, IRINS, Google Scholar Profile, ResearchGate, Web of Science, Shodh-Chakra, Digital Repository, e-Library Platform, Plagiarism tools and their adaptations in the Indian Maritime University, Chennai. Academic libraries play a key role in accelerating an institution's academic output and are underrepresented by many accreditation/ranking frameworks. This study aims to educate LIS professionals in preparing for the accreditation and ranking process.*

**Keywords:** University Rankings, University research performance, Bibliometric analysis, Research Tools, Research Visibility, Research Data Management, Performance Indicators, and IMU.

## **1. Introduction**

Nowadays the focus is on the role of librarians as professionals who are familiar with the organization of scholarly databases, as well as in managing their institutions' scholarly output. They are often able to resolve the issue of missing author affiliations and missing links between faculty and university affiliations. Furthermore, recognition of the librarians' efforts and achievements in supporting the faculties positioning within the university, and the universities positioning nationally could benefit the status and visibility of academic librarians within their communities (Dimzov et. al, 2021). The important role of librarians for handling huge institutional data and bending those validated data towards various frameworks/methodologies used by ranking organisations across the World. Libraries are playing an important role in dealing with tools and techniques to increase academic impact and visibility by promoting research findings (Gireesh Kumar, 2020).

University ranking systems provide annual benchmarks with that appearance the influence and success of the University. The Shanghai ranking system was the first ranking system, established in 2003 (Marope et al., 2013; Pandiella-Dominique et al., 2018). Quacquarelli Symonds World Universities Ranking (QS) and the Times Higher Education Ranking (THE) are the most commonly used systems today (Fowles et al. 2016; Hazelkorn, 2014; Marope et al., 2013).

Global university ranking systems are increasingly used by universities as indicators of institutional success (Fowles et al. 2016; Pandiella-Dominique et al., 2018; Safón, 2013). Publications volume and its impact of research to institutional reputation are the largest categories measured and consist of up to 70% of the total calculations (QS World ranking, 2019). Strategies and goals for how to provide the resources and sustainable infrastructures of research support are key factors for the university to achieve success in the ranking (Hazelkorn, 2014; Pandiella-Dominique et al., 2018).

The famous metaphor of Dr. Radhakrishnan “The library is the heart of the institution” has been around indefinitely and now is the time to recognize the importance of academic libraries in higher education institutions. Academic libraries are at the forefront of providing quality education, and although they are not specifically identified, libraries play an important role in accelerating the academic output of institutions. Global rankings in academia are measured by various national and international accreditation/regulatory bodies (i.e. National Assessment and Accreditation Council (NAAC), National Board of Accreditation (NBA), National Institutional Ranking Framework (NIRF), Times Higher Education University Ranking (THE Ranking), Quacquarelli Symonds (QS)), that takes into consideration scholarly output of an institution which can be enriched, enhanced and best served by academic libraries. The main purpose of this study is to understand the role of the library in assessment, accreditations and institutional ranking and to prepare their LIS professionals for the accreditation/ranking system through various innovative services (Bennett University, 2019).

## **2. Review of Literature**

Various studies have discussed several aspects related to the contribution of libraries and the role of librarians in preparation for the National Assessment and Accreditation Council (NAAC) and in appearing for National Institutional Ranking Framework (NIRF). For example, Jange (2020) has highlighted the significant contributions of librarians in appearing for NAAC accreditation process and their role in documenting key information in preparing reports and managing the institutional website. In a similar study Chandwani (2022) has mentioned the key roles of librarians in preparing NAAC self-study report (SSR) and extend their helping hand in implementing various e-learning related initiatives in the institution for enhancing the teaching and learning capabilities. There were other similar studies which have highlighted the importance of librarians’ role in NAAC assessment and accreditation process (Rashivedekar, 2008; Sivakumar, 2017; Kulkarni, 2018; Ram, 2020; Sengupta, 2021; Jange, 2022; More & Jadhav, 2022; Sharma & Ghildiyal, 2022). On the other hand, few studies have discussed about the libraries and their role in National Institutional Ranking Framework (NIRF). The study done by Ahirwar, Manu & Shihora (2019) on the impact of academic libraries in enhancing institutional NIRF ranking elucidated the various library services which plays an important role in enhancing the institutional ranking. The study has also discussed library best practices that could be implemented by other libraries for increasing their performance in institutional ranking. In another important study Kumar, Balaji & Monika (2020) have compared the national ranking of higher education institutions and funding of academic libraries. The study found that there was a strong correlation between library expenditure and higher institutional ranking score. The studies reviewed in this paper indicates that libraries and librarians play an important role in institutional assessment and ranking process. In this context, we have made an attempt to study the various initiatives that have been introduced at the Indian Maritime University Library to enhance its institutional ranking and research visibility.

### **3. Methodological Approach**

The purpose of this study was to understand the role of libraries and librarians in the institutional assessment and ranking process and also showcase the various initiatives introduced at the Indian Maritime University Library, Chennai. The data for the study was collected through log files and usage statistics available with the respective systems implemented at the Maritime University Library, Chennai and other means such as institutional Google Scholar Profile, IRINS, WoS database and academic social networking platforms like ResearchGate. The data collected through institutional e-learning platforms, online databases and other means have been brought together to showcase how libraries and librarians could participate and contribute significantly in enhancing the institutional performance in assessment and ranking process.

### **4. About the Indian Maritime University**

The Indian Maritime University (IMU) is a Central University established on 14<sup>th</sup> November 2008 (Act of the Parliament of India, 2008) as a teaching-cum-affiliating university under the aegis of the Ministry of Ports, Shipping & Waterways, Government of India, with Chennai as headquarters. It was set up to promote maritime education, training, research and dissemination with a focus on emerging areas such as oceanography, maritime history, maritime law, maritime safety and security, search and rescue, transportation of dangerous cargo, environmental research and other related fields, and to achieve excellence in these areas (IMU, 2023).

IMU has a total of 6 IMU Campuses in India as Chennai, Kochi, Kolkata, Mumbai Port, Navi Mumbai, and Visakhapatnam and also has 18 Affiliated Institutes across India.

#### **4.1 IMU Libraries**

Each campus has an independent Library which can be monitored by the respective campus Assistant Librarians. All housekeeping activities and services are automated with Web-OPAC facilities to increase the efficiency of the library system. The various Campus Libraries are.

Chennai Library, Kochi Library, Kolkata Library, Mumbai Port Library, Navi Mumbai Library, Visakhapatnam Library

### **5. Library Services in Learning Management System (LMS)**

LMS is a web-based software that allows instructors to deliver content, collect student work, and administer their classes. The following two LMS services are used by the university.

#### **5.1 INFLIBNET Learning Management Service (Moodle)**

A learning management system (LMS) has become a standard part of the higher education infrastructure for in-person and online courses. With the continued growth of online courses and digitally connected students, LMS has become essential for sharing course content and enabling communication between faculty and students. In addition to teacher-created exercises and teaching modules, the teachers add library-licensed content, free and open-source educational resources, and other public sources have been added to their LMS courses. This has provided a greater space for learners to engage with learning resources in their own time and space.

At present, the IMU Chennai Campus Assistant Librarian is the Nodal Officer for all IMU Campuses. The Moodle LMS Service is provided by the Information and Library Network Centre, an autonomous Inter-University Centre of UGC, New Delhi (Ministry of Education, Government of India) is used for all regular academic courses (INFLIBNET Centre, n.d.). It is provided to be very useful from both the student and teachers point of view.

### 5.1.1 Role of Librarians

Librarians provide consultation on content discovery and on copyright-protected educational materials and their use in day to day learning process. Following are the key points in successfully implementing learning modules in the institutions

- a) Be the source of course content and guidance on using it.
- b) Make sure faculty know what resources you already have.
- c) Work with e-learning instructional designers.
- d) Provide copyright and fair use assistance.
- e) Help faculty to find Open Educational Resources (OER).
- f) Conducting training programs for students and faculty members.

### 5.1.2 Basic information about LMS and its implementation

The following information is the overall statistics of Moodle LMS which mainly includes various activities including assignments, attendance, quiz, lesson, forum etc., followed by uploading books, files, folders, URLs, pages, etc. in resources:

**Table 1.** Basic information on LMS

<b>Sl.no</b>	<b>Description</b>	<b>Data</b>
1.	Moodle Version	4.0.4+
2.	Number of Courses	844
3.	Number of Students	3886
4.	Number of Faculty	251
5.	Number of files	66103
6.	Number of activities	4406
7.	Number of users with registered mobile devices	1768
8.	Number of IMU Campuses	06

### 5.1.3 IMU LMS – All Activity (all roles)

The Moodle learning management system was successfully implemented in the IMU with librarians taking the responsibility of its management. Table 2 depicts the usage statistics of Moodle LMS in the IMU Chennai campus. The usage statistics shows a considerable use of Moodle LMS.

**Table 2.** Usage Statistics of LMS

<b>Period ending (Month)</b>	<b>Students</b>	<b>Teachers</b>	<b>Manager</b>	<b>Total</b>
30-Apr-23	246768	111691	22	357380
31-Mar-23	194864	87334	193	281837
28-Feb-23	180391	83710	152	264253
31-Jan-23	54517	25230	0	79747
31-Dec-22	108939	20552	0	129491
30-Nov-22	145188	38810	365	184363
31-Oct-22	165886	35235	330	201451
30-Sep-22	151862	34470	685	187017
31-Aug-22	128875	25156	993	155024
31-Jul-22	24996	3815	856	29667
30-Jun-22	30038	4441	383	34862
31-May-22	10092	1408	12	11512
<b>Total users</b>	<b>1442416</b>	<b>471852</b>	<b>3991</b>	<b>1916604</b>

Link to LMS official website [http://117.240.228.76/ilms\\_imu/](http://117.240.228.76/ilms_imu/)

## 5.2 NeGD LMS (National e-Governance Division, Learning Management System)

Learning Management System from National e-Governance Division (NeGD) is a pioneer project under the Digital India programme initiated by the Government of India in 2015 (NeGD LMS, 2013). The LMS may be used for Post Sea/STCW Courses, Modular Courses, Some Micro-Credit Courses, Training, and Workshops etc. the following link lead to the IMU NeGD LMS: <https://imu.lms.gov.in>.

## 6. NPTEL – eLearning Facility

NPTEL (National Programme on Technology Enhanced Learning) is a joint venture of the IITs and IISc, funded by the Ministry of Education, Government of India and was launched in 2003. This initiative provides E-learning through online Web and Video courses in high-quality education to all areas of the country, and now offers close to 600+ courses for certification in around 22 disciplines every semester (NPTEL, 2023). The objective is to enhance the learning component and to reduce the tedious and mechanical aspects of some of the current learning methods.

Link to Site SWAYAM NPTEL Local Chapter: <https://nptel.ac.in/localchapter/statistics/4742>

## 7. Research Data Management (RDM)

Research data management (RDM) is a term that describes the organization, storage, preservation, and sharing of data collected and used in a research project. It involves the everyday management of research data during the lifetime of a research project (for example, using consistent file naming conventions)(University of Pittsburgh, 2021). It also involves decisions about how data will be preserved and shared after the project is completed (for example, depositing the data in a repository for long-term archiving and access. Research data management has various benefits to the researchers and also the institution that they associate. Various RDM related services have been introduced in the IMU library. Some of them have been discussed here.

## 7.1 IRINS (Indian Research Information Network System)

The Information and Library Network (INFLIBNET) Centre provides IRINS, a web-based Research Information Management (RIM) service. Academics, R&D organisations, faculty members, and scientists can use the portal to gather, curate, and promote scholarly communication activities, as well as to build a scholarly network for inter-institutional collaboration, collective learning, and knowledge dissemination (INFLIBNET Centre, 2023).

The IRINS would support integrating the existing research management system such as institutional repository, scholarly publishers, course management, grant management system, open and commercial citation databases, etc. It has integrated with academic identities such as Research ID, Scopus ID, Google Scholar ID, Microsoft Academic ID, and ORCID ID, ingesting scholarly publications from various sources (INFLIBNET Centre, 2023). IRINS has been implemented in the IMU Chennai campus which provides wider research visibility of the institution.

**Table 3. IMU Research Visibility through IRINS**

Sl. no	Name of School	No. of Faculty	Publications	Scopus Citations	H-Index	CrossRef Citations	Google Scholar Citations	H-Index	i-10 Index
1.	SMET	22	153	379	19	465	1068	36	30
2.	SMM	12	36	0	0	0	57	7	1
3.	SNS	20	50	3	1	0	1200	15	17
4.	SNOE Central	5	52	87	7	74	97	9	2
5.	Library	6	74	3	1	1	52	9	1
	<b>Total</b>	<b>65</b>	<b>365</b>	<b>472</b>	<b>28</b>	<b>540</b>	<b>2474</b>	<b>76</b>	<b>51</b>

Link to IMU IRINS website: <https://imu.irins.org/>

## 7.2 Google Scholar @IMU

We have recently discovered the possibility of using Google Scholar institutional-level data to evaluate university research in a relatively automatic way. We can track who created the Google Scholar profile easily and cull out the research publication data easily. Table 4 shows the GS Institutional publication profile of IMU

**Table 4. Google Scholar Publications Profile of IMU**

Sl.no	Description	Total
1.	Publications	193
2.	Citations	909
3.	h-index	16
4.	I10-index	28
5.	No. faculty and Researcher Profile	36

Link to Google Scholar:

<https://scholar.google.com/citations?user=CzFydg8AAAAJ&hl=en&authuser=1>

### 7.3 Research Contributions of IMU in ResearchGate

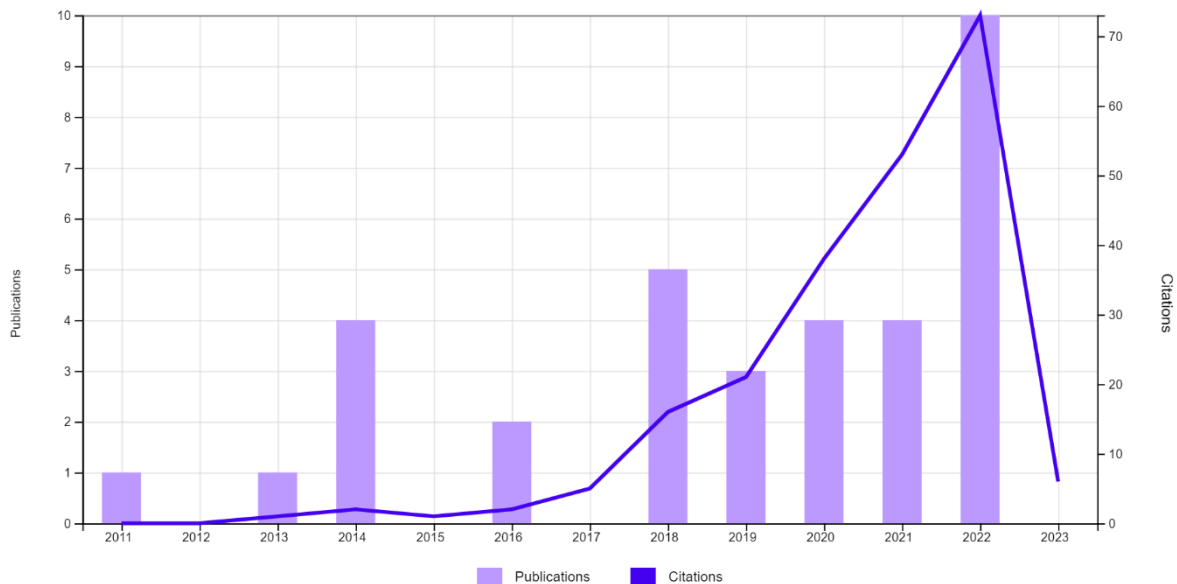
ResearchGate is a social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. The RG profile of the IMU institution provides the research visibility and enhance the possibility of finding research collaborators and institutional research strength.

**Table 5.** Research Gate Publications

Sl.no	Description	Total
1.	No. of Publications	238
2.	Authors	26
3.	Citations	1992
4.	h-index	45
5.	RG Membership	38
6.	Research Interest Score	1494.5
7.	Reads	74544

### 7.4 WOS Research Profile of IMU

Web of Science (WoS) of Clarivate Analytics is the famous citation database which includes Science Citation Index (SCI), Social Science Citation Index (SSCI) and Arts and Humanities Citation Index (AHCI). The WoS IMU institutional profile provides its publication details, citations that IMU affiliated authors have received and institutional h-index and other research publication information. Figure 1 indicates the publication pattern over the years and citations they received.



**Fig.1.**IMU Publications and Citations through WoS

**Table 6.** Web of Science Publications and Citations

Sl.no	Description	Total
1.	Publications	34
2.	Citing Articles	208
	Without self-citation	204
3.	Times Cited	218
	Without self-citation	2132
4.	Average per item	6.41
5.	H-Index	7

Due to the large number of organisations to which these authors belong some affiliations were misspelt and assigned incorrect geographical areas. We found that some authors who were doctoral students or external associates signed their papers with affiliation. The doctoral students who used the faculty's affiliation were those who did not work for some other higher education institution. In cases where the doctoral students were employed by a faculty other than IMU, they signed the affiliation of the faculty of their employment. Also, sometimes the doctoral students entered residential addresses, presumably their home addresses. Such uncoordinated practice related to doctoral students at IMU made it difficult to perform a database search. External associates of faculties also have different practices when it comes to entering the affiliation. While some enter the institution where they are permanently employed, others enter the institution (faculty) where they work as external associates, and some enter both. In addition to the different ways affiliations are entered, search accuracy is also affected by the length of affiliation names, i.e. by the number of characters. Due to a limitation in the number of characters, the database tends to cut off a part of the institution name in the affiliation field.

### **7.5 Digital Repository @IMU**

Institutional Digital Repository (IDR) provides uploading and managing of any kind of digital resources like PDF, audio, video, MS Office format, etc. The Central Library's creation of institutional repositories aids in the preservation of faculty courseware and lesson plans and their availability to the student community via the network. The articles, publications, research papers published by IMU faculty, Dissertation and thesis by IMU Research Scholars and webinars, workshops, videos, Books, book chapters, patents of interest to the research community.

Institutional repository role in scholarly communication

- Organize and present a comprehensive and up-to-date record of the university's published research.
- Increase access to and discovery of full-text research outputs (thus increasing their use).
- Support tools to track and explore the ways in which research is being used and referenced.

Link to IMU Digital Repository: <http://dspace-imu.refread.com/home>

### **7.6 IMU e-Library Platform:**

To achieve the above objectives as part of the learning and research process, the main aim and role of the Central Library have always been to provide access to resources. The IMU Library has always been on the front foot in terms of the adoption of new technologies and providing users with a convenient service. Now, in the digital library era, the services are different. Remote Access to Library Resources is one of the services in the digital Library era. Remote Access Software has the ability to access an e-resources desktop, specific network from outside location applications in a secured network for that internet is core component.

Usually, in any library, access to subscribed e-resources is made available on IP ranges/intranet environment which is limited to users residing on the campus. Providing access to e-resources in remote or off-campus among the user community, wherever they reside is the priority of the library. Remote access to e-resources is a best practice of libraries because it offers an opportunity for the best use of the e-resources, which is one of the objectives of a modern library. Remote access offers easy access to multiple resources subscribed by the library through its interface making simpler the task of the users.

This Remote Access Software is highly essential for all Research Scholars, Students, Faculty members, and Research Supervisors. The following resources are listed; can access all the Maritime Resources Off-Campus in the e-Library platform.

**Table 7.** Access to Electronic Resources

<b>Sl.no</b>	<b>Type of Resources</b>	<b>Collections</b>
1.	6 Campus Libraries Web OPAC – Bibliographic Details	109548
2.	Back Files Journals from 2016-19	Full-Text Access (12)
3.	Maritime Open-Access Journals	Full-Text Access (89)
4.	Maritime Journals – Bibliographic Details (Web of Science & Scopus Indexed)	121 Journals
5.	Open-Access Resources and Databases	Full-Text Access (16)
6.	Maritime Theses and Dissertations	Full-Text Access (17)
7.	Maritime Open-Access Magazines	Full-Text Access (24)
8.	Maritime Open-Access Books	Full-Text Access (10)
9.	List of e-Journals for the Period of 2023	Full-Text Access (22)
10.	List of e-Books for the Period of 2023	Full-Text Access (168)
11.	Ports and Shipping Reports –(Procured) and also Open Access	Full-Text Access
12.	Faculty and Researcher Publications (Institutional Repository)	Full-Text Access (296)
13.	Masters (MBA) Dissertations	Full-Text Access (300)
14.	Useful Video Links, Websites, and Research Support Tools	Access
15.	Maritime News Sources	Full-Text Access (16)
16.	Maritime Databases for the Period of 2023	Full-Text Access (04)

Link to IMU e-Library: <https://imu.refread.com/#/home>

### **7.7 Shodh-Chakra: A Gateway to Researchers for Resources**

Shodh-Chakra is an initiative of the Information and Library Network (INFLIBNET) Centre under the direction of the University Grants Commission (UGC) to support the academic community in its research lifecycle. Shodh-Chakra provides a unique space for the researchers, guide/supervisor and university to manage the research lifecycle of a research scholar. The portal is integrated with millions of resources along with the helping tools for the researchers which are required during the research work. It will provide the research trends of the country. Indian Maritime University (IMU) entered into an MoU between Information and Library Network (INFLIBNET) on 4<sup>th</sup> July 2022.

Link to Shodh-Chakra: <https://shodhchakra.inflibnet.ac.in/>

### **7.8 Tracking research output (Article, conference paper, patent):**

Libraries have opportunities to encourage quality research work among their clientele with the use of ICTs. They can promote the emerging concept of open access scholarly communication system among their researchers to make their research output accessible in public mode through publishing in open-access journals or self-archiving them online. Publishing in open access mode is the most effective way for the rapid and widespread dissemination of scholarly research output. Many studies show that research output available in the public domain has more usage, therefore, can receive significant citations than subscription-based resources. Libraries should also organize orientation programs among users to promote library resources and services. They can also create tutorials/guidelines for assisting researchers to raise their research profile.

Author workshops are another useful way through which libraries can promote quality research which in the long run, would help get higher rankings. Research productivity and scientometrics etc. To increase the need for libraries to provide research productivity software.

#### 7.8.1 Bibliometric and publication support and services:

“Focus on individual researchers' bibliometric footprints to increase the overall institutional research output. Visibility, geographical reach and the possibility of receiving career-building author citations and altmetrics are important factors when selecting publications. A growing interest in, and awareness of, the importance of research visibility and different types of research metrics. Higher demand for bibliometric and publication services and support at the IMU Libraries” (Hunt, 2020). Promoting the publication of research articles by the university community in Open Access Journals which increases the visibility of the articles which in turn increases the visibility of the University.

### **8. Research Support Services**

They are several Research support tools available at IMU to support our researchers to improve the quality of their publications. Following research services are offered at the IMU.

#### **8.1 Plagiarism Detection Software**

**Shodh-Shuddhi (Ouriginal):** A plagiarism detection software has been provided by INFLIBNET (An Autonomous Inter-University Centre of UGC) through the centrally funded scheme of MHRD, Government of India. The access to the subject resource at IMU Chennai started in June 2021. Now the user community of the University can use this resource for academic purposes after a one-time registration process through the following link. Faculty members and students can contact the Central Library to receive the invitation email from Ouriginal. Users can register themselves and start using this resource.

Link to Ouriginal official website: <https://secure.urkund.com/account/auth/login>

#### **8.2 UGC CARE List Journals in the field of Maritime Education and Research (120 Journals)**

A list of UGC-CARE journals approved by the University Grants Commission should be prepared by Librarians in order to promote publication in UGC-approved journals as well as those indexed in Scopus/ Web of Science or Indian Citation Index databases. Efforts are made to identify the number of research papers per teacher in the journals listed on the UGC website during the last five years.

#### **8.3 Training, Workshops, Orientation and Awareness**

The library takes an active part in the orientation programme organized by the University for the benefit of new students at the beginning of the academic year. They are taken around the library to familiarize themselves with the various resources and services available to them. Training sessions are also organized whenever a new product or service is introduced. Providing research-oriented workshops, seminars, and training events assist academics to identify the research gap and deal with relevant topics. Methods and techniques to research methodologies write research proposals, manuscript writing, etc. need to be arranged.

#### **8.4 Online Reference Management Tools**

Reference management software makes it simple to locate relevant material, gather references, organise them in a database, and insert citations in a work using a suitable citation style. The following reference management tools are facilitating across multiple devices and also assist to improve publication quality and research visibility.

- a) Zotero is a free open-source tool that you can use to collect, organise, manage, cite and share research sources.
- b) EndNote is a commercial reference management software package, used to manage bibliographies and references when writing essays and articles. It is produced by Clarivate Analytics.
- c) Mendeley is a free reference management tool and academic social network that allows you to manage your references. It also helps you discover new trends and statistics in your research area and to connect and collaborate with other researchers.

#### **8.5 Academic Social Networking Sites**

Social networks and professional connections are an important role in all human endeavours including academic activities which can increase the opportunity for sharing and collaborating. A researcher can obtain feedback and comments from other researchers, as well as expand their networks to enhance research visibility and citation impact. There are many such platforms available both free and fee viz., Academia.edu, ResearchGate, Penprofile, Semantic Scholar, MyScienceWork, Internet Archive, LinkedIn, Twitter, Facebook, Crossref etc.

#### **8.6 Research and Publication Ethics**

The course content/ structure as per the UGC guidelines (Letter No. D.O. No. F. 1-1/2018 (Journal/CARE) dated December 2019) approved two credit courses on "Research and Publication Ethics" as mandatory for all PhD Research scholars for their course work, irrespective of departments. It is to be noted that no one else has the authority to teach this syllabus as mentioned below other than Librarians, who are the real authorities with their theoretical and strong knowledge bases to impart the research skills.

#### **8.7 Research Identifiers and Profile Creation**

Author identity in the scholarly community is a recent issue. Hence, managing an author identifier/profile is necessary to promote intellectual output. Unique researcher identifiers and profiles help the scholarly publishing community to associate the creators with their works in a precise and unambiguous way to increase research discoverability at the international level. The individuality of a researcher should always be constant even if the researcher changes his name, discipline, organization, affiliation, etc.

One should consistently use the same version of the name throughout the career and also use a standardized institutional affiliation and address. ORCID, Researcher ID, Google Scholar Citation Profile, Publons Profile, Microsoft Academic Search Profile, Vidwan, IRINS, and International Standard Name Identifier (ISNI) are some of the way through which researcher or author profile can be created.

## **9. Role of Libraries and Librarians in Research and Academic visibility**

As research and citations are some of the indicators used by ranking agencies for measuring institutions' ranking, academic libraries can contribute a significant role in improving institutions ranking by following the strategies as discussed below:

- 1) Academic libraries play a major role in the dissemination of knowledge and information. Through Open Archive initiatives, collaboration, appropriate knowledge management procedures and participatory information sharing academic libraries can help improve the ranking of an institution.
- 2) Libraries should provide leadership in the production of scientific knowledge. From literature exploration through data analysis to publishing in good journals, the library has major roles to play. The library should assist researchers in getting access to current, relevant and authoritative materials in writing their researchers. Again, the library can assist by providing a list of quality journals in respective disciplines to researchers.
- 3) Research outputs are supposed to be public knowledge. They are meant to be circulated and used to solve societal problems. Through the use of open-access initiatives, libraries can help promote research outputs and this can lead to increased citations. For instance, through the use of Institutional Repositories (which are most often the library initiatives), most academic institutions are getting good rankings. More so, this could be achieved through social media.
- 4) Any research is based on existing knowledge. It needs to know what is happening elsewhere in the same field. Necessary information immaterial in which language and published from which place is needed.
- 5) Libraries are making it possible to provide access to any information to researchers. In changed circumstances, Open Access resources are increasing day after day.
- 6) Even researchers are trained to access information. In the context of ICT, the whole scenario had changed.
- 7) The libraries have a prime role in providing information for education, research and training. When the products get good jobs and produce good research output the institution gets a great name and fame.
- 8) Libraries play behind the screen for making any institution a top in the country or at the international level.
- 9) The librarians need to understand their responsibility to boost the quality of education and research.
- 10) Resource-sharing plans have to be designed for enhanced access to knowledge resources.
- 11) Public-funded research needs to be published as Open Access. Public-funded institutions should share their resources. But libraries indeed play a key role in making their institutions one of the top.
- 12) Library has a very significant role in the ranking of academic institutions because all the academic activities of institutions are directly or indirectly related to the library.
- 13) "Author and institutional affiliations must be tracked, and most bibliometric measures are based on institutional or individual author affiliations. Web of Science and Scopus are the main sources of academic bibliographic information. Academic libraries can help their institution and individual researchers monitor and correct relational information in databases".
- 14) Any user desiring to know more about library resources and services or to learn how to use a particular resource like OPAC, e-journals, databases etc.

- 15) As part of the Library's support for students undertaking field projects/ research projects/ internships, it should also provide them with resources on identifying research problems, literature reviews, statistical tools, etc. As part of the degree programme, students can also refer their friends to a variety of universities and research institutes to participate in internships, which are an important part of the programme.
- 16) ICT-enabled tools, such as online resources, should be used by teachers for effective teaching and research, primarily supported by the University Grants Commission and free national resources. These online resources should be made accessible and assisted by the Library.
- 17) Library professionals are well versed in citations, scientometrics, and bibliometric techniques, so they should compile the average Citation Index on Scopus/Web of Science/PubMed based on the requirements of teaching faculty, and identify the university's h-Index from Scopus/Web of Science.
- 18) There must be adequate facilities for teaching and learning, such as classrooms, laboratories, Libraries, computing equipment, language labs, etc. Library collections should be need-based, well-organized, and maintained with proper retrieval tools because it is a central hub of knowledge.
- 19) Providing students with innovative best practices when awarding the Best user award, motivational methods of encouraging reading habits, conducting exhibitions on different occasions, such as Librarian's Day, Teacher's Day, Women's Day, National occasions, as well as cultural and sports events, are all part of the library's mission.

## **10. Conclusion**

The impact of institutional research is one of the most important measures of the current global university ranking system. Academic libraries have a unique opportunity to lead the way in providing resources, services, and strategies to increase search visibility and outcomes for individual researchers and their institutions. Librarians can be valuable partners in scientific research and strategic planning, contributing to the overall ranking of the institution. Libraries have to play an important role in encouraging the use of self-archiving publications which are useful in exhibiting the published intellectual output of an individual. Institutional repositories can be used to preserve academic research output permanently and effectively. Social media networks provide greater exposure possibilities and considerably assist and influence more downloads and citations of scholarly publications.

Professionals who are most familiar with the scientific productivity of their institutions' scholars are academic librarians. They are also familiar with the structure and data organization of scholarly databases since they carry out database searches as a part of their reference work or as a support to research. Moreover, librarians are often asked to assist researchers in creating, as well as helping to maintain various researcher profiles such as Researcher ID (WOS), Scopus ID, and ORCID. They are frequently required to analyse the scientific output of institutions or an individual scholar for the accreditation process, internal and external rankings and awards, or to issue certificates of scholarly production needed by scholars to advance to higher titles. The librarians add value to the academic enterprise and provide important support to the overall institutional structure (Fleming-May & Douglass, 2014).

## Acknowledgement

Many thanks for direct or indirect cooperation and support in the implementation of Library and research activities, especially Dr. Malini V. Shankar, Vice-Chancellor and Dr Rajoo Balaji, Director of the Chennai Campus.

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