

**AWARENESS AND USE OF REFERENCE MANAGEMENT
SOFTWARE AMONG THE RESEARCH SCHOLARS OF THE
CENTRAL UNIVERSITIES IN INDIA: A CASE STUDY
OF LIBRARY AND INFORMATION SCIENCE
RESEARCH SCHOLARS**

A Abstract submitted to the
Babasaheb Bhimrao Ambedkar University, Lucknow
in fulfilment of Requirement for the Award of Degree of

Doctor of Philosophy
in Library and Information Science



by

Avinash Kumar Singh

Enrollment No. AC- 114/16

SUPERVISOR

Dr. K. L. Mahawar

Professor and Head

DEPARTMENT OF LIBRARY & INFORMATION SCIENCE
SCHOOL OF INFORMATION SCIENCE AND TECHNOLOGY
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY

(A CENTRAL UNIVERSITY)

VIDYA VIHAR, RAEBARELI ROAD, LUCKNOW-226 025
UTTAR PRADESH, INDIA

2022

ABSTRACT

Introduction

Reference management software (RMS) is also called "Citation management software" or "Bibliographic management software". Since the 1980s, reference management software has been a valuable tool for the research scholar, students, faculty members, or librarians. Managing references has always been a strenuous task in reporting research results and producing academic writings. Bibliographical information of cited references needs to be adequately provided so that readers perhaps find them if they need to. It is time-consuming to write down the bibliographic information of references manually, and, more importantly, this would invariably produce some errors.

Statement of the Research Problem

Reference management software makes it simple to cite all referencing styles in a matter of seconds and it can be a bit challenging to manually write all the referencing styles without making a mistake. Reference management software helps us manage bibliographic citations and satisfies S.R. Ranganathan's fourth law, which says that "save the time of the user," yet not all users are aware of this. The goal of the problem was to find reference management software tools that research scholars could use and manage references and bibliographic citations. It is necessary to identify which reference management software is user-friendly so that numerous research scholars to enable rely on that software's functionality.

The problem undertaken for the present study is entitled “**Awareness and Use of Reference Management Software among the Research Scholars of the Central Universities in India: A Case Study of Library and Information Science Research Scholars.**”

Significance of the Research

- 1 With the help of this study, research scholars are aware of the use of reference management software.
- 2 This research is also helpful for research scholars to write bibliographies because, manually, it undoubtedly leads to inaccuracy and it is challenging to access or find someone.
- 3 Reference Management Software saves research scholars' time and also promotes the scientific productivity of research scholars.
- 4 The study will be also useful for software's developer to minimize the bugs in software's and upgrades the reference management software's.

Objectives

The main objectives of the study areas: -

1. To check the awareness of Reference Management Software among research scholars of library and information science of Central Universities in India.
2. To identify the various Reference Management Software used by library and information science research scholars of Central Universities in India.
3. To explore the purposes of using Reference Management Software by the library and information science research scholars of Central Universities in India.

4. To know the features preferred by the library and information science research scholars in Reference Management Software.
5. To identify the problems faced by library and information science research scholars' research scholars while using Reference Management Software.
6. To know the overall satisfaction level regarding Reference Management Software among library and information science research scholars.

Hypotheses

This study attempts to test the following hypotheses:

H1: Library and information science research scholars are well aware of Reference Management Software of Central University in India.

H2: Zotero Reference Management Software is highly used by the research scholars of Central University in India.

H3: To prepare a bibliography is the primary purpose of using Reference Management Software's among the research scholars of Central Universities in India.

H4: Library and information science research scholars of Central Universities in India are overall satisfied with Reference Management Software's.

Methodology of the Study

In the present study, the Researcher used the Survey method to achieve the study's objectives.

The data was collected with the help of a structured web-based questionnaire. The questionnaire was made with the help of Google form, then it was mailed to the research scholars and the collected data was analyzed with the help of SPSS (v20), Microsoft Excel, and MS Word used for the tabulation and graphical representation.

Chapter 3 discusses the methodologies in detailed followed in this study.

Scope and Limitations of the Study

- At present, there are 54 Central Universities in India whereas only 21 Central Universities have the Department of Library and Information Science but only 18 universities are offered Ph.D. programme.
- The scope of the study was limited to the Central Universities of India having the department of Library and Information Science.
- The study was also limited only to the research scholars of the Central Universities in India.

The researcher has selected 18 central universities for the scope of the study which are as follows:

Name of the Central Universities in India

S.No.	Name of the Central Universities	Location	State
1	Aligarh Muslim University (AMU)	Aligarh	Uttar Pradesh
2	Assam University (AU)	Silchar	Assam
3	Babasaheb Bhimrao Ambedkar University (BBAU)	Lucknow	Uttar Pradesh

4	Banaras Hindu University (BHU)	Varanasi	Uttar Pradesh
5	Central University of Tamil Nadu (CUTN)	Thiruvapur	Tamil Nadu
6	Central University of Himachal Pradesh (CUHP)	Dharamsala	Himachal Pradesh
7	Central University of Gujarat (CUG)	Gandhinagar	Gujarat
8	Central University of Haryana (CUH)	Mahendragarh	Haryana
9	Central University of Punjab (CUP)	Bathinda	Punjab
10	Dr. Hari Singh Gour Vishwavidyalaya (HSGV)	Sagar	Madhya Pradesh
11	Guru Ghasidas Vishwavidyalaya (GGV)	Bilaspur	Chhattisgarh
12	Manipur University (MU)	Imphal	Manipur

13	Mizoram University (MZU)	Aizawl	Mizoram
14	Mahatma Gandhi Central University (MGCU)	Motihari	Bihar
15	North-Eastern Hill University (NEHU)	Shillong	Meghalaya
16	Pondicherry University (PU)	Kalapet	Pondicherry
17	Tripura University (TU)	Agartala	Tripura
18	University of Delhi (DU)	Delhi	Delhi

There are three Central Universities in India having the department of library and information science but offers only UG and PG program, namely Hemvati Nandan Bahugunna Garhwal University, Jamia Millia Islamia University, and the Central University of Jammu, so these universities were excluded from the scope of the study.

Findings, Conclusion and Suggestions

Findings of the Study

The following are the important findings and suggestions reached after analyzing the data acquired from a survey conducted on research scholars of specified universities:

➤ **Gender-wise Responses**

The study found that majority of the respondents (58%) were male and (42%) were females who contributed to the study. The highest number of male responses got from BHU, which is (29 out of 40) while GUH has not received any male responses. In terms of female response rate, researcher discovered that BBAU has most female respondents (19 out of 37), while AU, CUP, and GGV received the fewest. It states that the majority of the respondents were males, in comparison to females.

➤ **Age Group of the Respondents**

It was found that the age group of the respondents. The majority of the respondents (38.25%) were above 30 years old, followed by (30.68%) respondents were 25 to 27 years old, (25.37%) respondents were 28 to 30 years old, and the least number of respondents (5.68%) were between 21 to 24 years old.

➤ **Educational Qualifications**

The study also found that the educational qualifications of the respondents. In the context of qualifications, the highest respondents were in the Ph.D. course. Out of the total responses, the highest (90.90%) were Ph.D. research scholars and the lowest respondents were M.Phil. scholars. BHU has the maximum number of Ph.D. research scholars (40) and the maximum number of universities that have no M.Phil. research scholars.

➤ **Familiar with Reference Management Software**

The study findings revealed that respondents in India's central universities are familiar with reference management software. The maximum numbers of research scholars

(95.07%) were familiar with the reference management software, and (4.92%) of research scholars were not familiar with the reference management software.

➤ **Software used to manage references**

The findings of the present study show that the software used to manage references. Most of the respondents (80.30%) said yes that software manages references. And (19.69%) respondents said that software was not used to manage references.

➤ **Reasons to not using Software's to manage references**

The study findings revealed the reasons why software was not used to manage references. According to the data, the majority of the respondents (55.71%) prefer to manually manage the references. (24.28%) of the respondents tried, but didn't fit with researchers' need to manage references. (20%) of the respondent's lack of proper knowledge to manage references.

➤ **Sources of awareness about Reference Management Software's**

The study found that the sources of awareness about reference management software. The following data shows the majority of the respondents were aware through course content BLIS, MLIS, M. PHIL, and PH.D., i.e. (22.46%) responses, followed by (19.23%) through research articles, (19.68%) through colleagues, (14.24%) through website, (12.18%) through workshop, (10.86%) by self, (5.87%) through librarian, and only 3 respondents were aware through other sources.

➤ **Use of Reference Management Software's**

It is found that the use of reference management software by the research scholars. It is observed that Mendeley software was mostly used by the research scholars, i.e., (48.54%) followed by (34.70%) used Zotero, (13.34%) used EndNote, (1.69%) used Bookends, and (0.48%) used RefWorks, MS Word reference, and others, and 1 respondent used Citeme, and Scribbr.

➤ **Most dynamic Reference Management Software's**

The study found that the most dynamic reference management software's. It was perceived that the majority of the respondents 272 were satisfied with the reference management software. 38 respondents were satisfied with bookends RMS, followed by 61 respondents who were satisfied with EndNote RMS, 83 respondents were satisfied with Mendeley RMS, 69 respondents were satisfied with Zotero RMS, and 21 respondents were satisfied with other RMS.

➤ **First started using Reference Management Software**

The findings of the study reveal that research scholars first started using reference management software. According to the data, most of the research scholars (33%) used RMS for less than one year, followed by (25%) of the research scholars who used RMS for less than two years, (19%) of the research scholars used RMS for less than three years, (15%) of the research scholars used RMS for more than four years, and at least (8%) used RMS for less than four years.

➤ **Completed a training session on Reference Management Software**

The study found that the completed a training session on reference management software. The maximum number of respondents was (62.12%) who had not

completed a training session on RMS. (37.87%) respondents have completed a training session on RMS.

➤ **Need a training programme on Reference Management Software**

It was found that researchers need a training programme on reference management software. It was seen that the highest number of respondents, (52.65%), were moderately needed a training programme on RMS, (15.15%) of the respondents were mildly needed a training programme on RMS, (26.51%) of the respondents were severely needed a training programme on RMS, and (5.68%) of the respondents were undecided for training a programme on RMS.

➤ **Purpose of using Reference Management Software's**

The study found that the purpose of using reference management software's. According to the data, the majority of respondents (37.77%) used RMS for its ease of use, followed by (31.87%) who used it because it was open source, (22.05%) who used it because of suggestions from colleagues, (7.86%) who used it because it was provided by the institution, (0.21%) who knew nothing about it, and (0.21%) used it for other reasons.

➤ **Library provides for using Reference Management Software's**

It was found that the library provides for using reference management software of central universities in India. The majority of the respondents (34.35%) said yes, that their libraries have organized webinars for the use of RMS, followed by (33.74%) respondents said that their libraries have not provided for the use of RMS, (16.56%) of the respondents said that their libraries have received any kind of support, and

(15.33%) of the respondents said yes, that their libraries have received technical support.

➤ **Library subscribe a premium version of Reference Management Software**

The findings of the study depicts that a library subscribe a premium version of reference management software from central universities in India. It was found that the maximum number of respondents (55.30%) said yes, their library subscribes a premium version of reference management software. (33.33%) of the respondents said they may have subscribed a premium version of reference management software, and (11.36%) of the respondents said no, their library subscribes a premium version of reference management software.

➤ **Important features of Reference Management Software's**

The study found that important feature of reference management software by the research scholars of central universities in India. It was discovered that (19.99%) of respondents thought that importing references from databases was the most important feature of RMS, followed by (17.37%) who thought that creating a formatted bibliography was important, (15.86%) who thought that organizing references or documents for easy retrieval and management was important, (14.45%) who thought that editing references in the needed citation style was important, and (11.38%) who thought that the plugin for Microsoft Word was important. (8.59%) thought that collaborating on documents and reference lists with others was important, (8.51%) thought that highlighting documents was important, and automatic file renames were the least important (5.85%).

➤ **Features missing in Reference Management Software**

The finding of study explores that missing functionality of Reference Management Software. The research scholars from central universities in India need additional storage capacity (18%), while the availability of all types of papers with different referencing styles (16%) is the second most lacking feature in reference management software. 15% of participants indicated that reference management software does not provide the proper referencing format. On the list of missing features in RM tools are technical assistance, footnotes, and language options are also mentioned.

➤ **Overall satisfaction regarding Reference Management Software's**

The study found that 203 (77%) of responded are overall satisfied with provided features by Reference management software and 61 (23%) of responded are not satisfied with provided features by Reference management software.

➤ **Satisfactions level with the features of Reference Management Software's**

The study discovered that satisfactions level with the features of Reference Management Software. It was observed that the majority of the respondents (40.68%) was satisfied with the feature of RMS, followed by (23.83%) respondents were fairly satisfied, (22.98%) respondents were very good satisfied, (10.38%) respondents were excellent satisfied and (2.10%) respondents were poorly satisfied with the features of reference management software.

➤ **Aim of using a Reference Management Software's**

The findings of the study observed that aim of using reference management software. It was observed that the majority of the respondents (40.61%) aimed of using RMS for storing and organizing documents intention, (32.67%) aimed of using

RMS for review of literature intention and (26.71%) aimed of using RMS for editing bibliography intention.

➤ **Difficulties faced in using Reference Management Software**

It was discovered that the difficulty faced by the research scholars of central universities in India in using reference management software. It was found that (42.80%) of respondents experienced moderate problems while using RMS, (33.71%) experienced mild problems while using RMS, (21.96%) were unsure whether they experienced problems while using RMS, and only (1.51%) experienced severe problems while using RMS.

➤ **Usage of Reference Management Software on a Regular Basis**

The study illustrates that the usage of reference management software on a regular basis by the research scholars of central universities in India. The study found that the majority of (64.39%) of the respondents used RMS when it was needed, followed by (23.10%) who used RMS two to three times a week, (7.57%) used RMS once a month and the least number of respondents, (4.92%) used RMS daily.

➤ **Location where the Reference Management software used**

The study demonstrates the place of using reference management software. It was found that out of the total responses, (34.34%) used RMS software from home, followed by (34.12%) respondents using RMS from department and (31.53%) respondents using RMS from campus or library.

➤ **Space to store PDF Documents**

The findings of the study depict that memory space to store PDF documents. The maximum number of respondents (34.46%) requires less than 1 GB of space to store PDF documents. (28.78%) of the respondents require less than 2 GB of space to store PDF documents. (20.83%) of the respondents require more than 3 GB of space to store PDF documents. And (28.78%) of the respondents require less than 3 GB of space to store PDF documents.

➤ **Suggested Reference management Software's other to use**

The findings of the study revealed that the suggestion to others to use reference management software. It was found that the majority of the respondents (83.71%) suggested others use RMS. (16.28%) of the respondents were not sure whether to suggest others use RMS.

➤ **Prefer to used Referencing style**

The study found that most preferred to use the referencing styles of central universities in India. It was discovered that APA was the most commonly used referencing style by the research scholars. According to the data, (93.18%) of the researchers used the APA referencing style, followed by (4.92%) of the researchers who used the MLA referencing style, (1.13%) of the researchers used the Chicago referencing style, and (0.37%) of the researchers used Harvard, as per the publication requirements style.

Conclusion of the Study

In the era of the internet, technical improvements have created an almost limitless number of alternatives for managing references. Additionally, reference software has

developed to include newer features that assist downloading, integrating, collecting reference, data insertion, database searching, and producing reference output that adheres to different referencing styles. Writing scientifically now necessitates having up-to-date understanding of contemporary management techniques for referencing. The relevance of reference manual verification using hasn't gone away, either. To reduce referencing mistakes that may be prevented, it is wise to double-check the reference list that the software generates and the in-text citations.

Reference management software has been a helpful tool for researchers, students, faculty members, and librarians since the 1980s. There were few possibilities for reference management software in the 1980s, but as time went on, the variety of reference management software also grew. There are already more than 30 RMS available to users. The primary goal of the study was to determine whether research scholars at Indian central universities' departments of library and information science were aware of and using reference management software's tools. Only 18 universities currently providing Ph.D. programmes, out of the 21 central universities that currently offer the library and information science course. Reference management software can be used to build and maintain bibliographies as well as in other things, like building a personal library and reducing time spending on searching articles. Research scholars are aware of reference management software, but they still choose to maintain references manually, according to the study's findings. In order for users to build error-free bibliographies, reference management software need to have their problems fixed.

The results of the current study are very beneficial to postgraduate students and research scholars because reference management software is widely used among

library and information science research scholars at central universities in India. The present study found that the maximum number of research scholars were familiar with the reference management software. It is also found the majority of the respondents were aware through the course content through BLIS, MLIS, M. PHIL, and PH.D. Mendeley software was mostly used by the research scholars of central universities in India; the maximum number of respondents who had not completed a training session on reference management software. It is suggested universities have to conduct a training programme on reference management software. The study also discovered that the major purpose of using reference management software is its ease of use among research scholars of selected universities.

Suggestions from the Study

The Research scholars of Central Universities in India concerned with the Reference management software's have conveyed that they faced several constraints while the using of Reference management software's tools and their services.

For the Librarians and Teachers

1. To organize a webinar or training session on reference management software's to ensure that reference management tools will be used properly.
2. Teachers and librarians advise and encourage students and researchers to create error-free references using reference management software for any citation style.

For the software's developers

1. The report strongly advises the developers of reference management software to upgrade their programmes and reduce bugs because RM tools frequently directly cite titles that contain capital letters.
2. Improve reference management tool capabilities and minimize subscription fees to make them more user-friendly and enable error-free citation creation.

For the users

1. For creating or managing bibliographies, users must utilize reputable reference management tools. Before using or downloading reference management software, users should verify the software's legitimacy.

Areas for Further Research

Reference management software's tools platform is projected to play a significant role in the global environment, it is conceivable to broaden the scope of the research and perform another study. Other research fields are included below.

- I.**Awareness and use of Reference management software's among the Post Graduate Students of India: A Study.
- II.**Analysis of features and function of Reference management software's tools: Bookends, Endnote, Mendeley and Zotero.
- III.**Comparative study of Indian and Foreign Post Graduate Students on Reference management software's: A case study of library and information science students.