

Reference Management Software's (RMS): A Boon to Changing Scholarly Communication Landscape

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Abstract

This paper presents about the reference management software's (RMS) as a boon to changing the scholarly communication. With the rapid applications of ICT in academic and research area to scientific writing and scholarly communication, several significant reference management software's are available online and offline. Today, reference management software are widely used by academicians and researchers to reference management and fastly communicate to other researchers at global level. Reference management Software's are useful to create accurate and systematic referencing in research works carry out by academicians and researchers. RMS is key role changer to enhance the quality of work and changing the scholarly communication landscape. Currently, several popular reference management software's are freely available on Internet like RefWorks, EndNote, BibDesk, Zotero, Connotea, Mendeley, CiteULike, Reference Manager and Referencer etc. The advanced features of these software's is very helpful to support effective reference management. This paper also presents the practical approach with "Mendeley" (a Reference Management Software) to store references, automatically citing references and rapidly scholarly communication for future researches at global level. Lastly, I focus on features of RMS which are changing the scholarly communication landscape.

Keywords: Reference management tools, RMS, Citation Management, Mendeley, EndNote, Reference managers, Research management tools.

INTRODUCTION:

In the 21st century scholarly communication lifecycle is dynamic and transforming as advances in ICT environment. These technologies enable new ways to create, store, disseminate, access and use scholarly outputs of all types. The creation of an institutional or individual scholarly output, like research data, working papers, published works, theses, reports etc, is increasing scholarly communication. Today, RMS play key role to changing the scholarly communication landscape and increases the researchers potential to enhancing research quality. In educational and research institutions, scholar are engage in writing the research papers, reports, books, Phd thesis etc and they review the already published related literature. To systematic managing the research works, reference management software is a boon as automatic tool to store, insert and organise the references. Research output within institution/organisation has lately become predominantly collaborative based work which will be backbone for changing the landscape for future research. Reference management within research work is complex process for authors and scholars, who wish to insert these in research papers or reports or thesis etc. Reference management is a critical and time consuming work due to availability of many referencing style, but now it is manage and organise easily by reference management software. A reference management software allows collecting, organizing bibliographic references for books, articles, reports etc from online sources and offline computer. **Curry & Gray, (2008)** describes Reference management software also helps to construct the customized databases of literature references and manage the citation and formatting of a list of references, and insert new citation into a seamless operation. The understating the utilities of RMS in scholarly communication, some academic libraries provided the purchased licensed software of well RMS like EndNote. The main objective of RMS is to probe the perceived importance includes all the different ways of usage, gained a wide range of responses. Currently, many authors believe that in writing, storing and sharing a research work, RMS is boon for researchers as well as organisation. There are several online reference management software's are freely available, which you can using and enable to store, organise, share and cite/insert your references. Ultimately, the importance of the RMS in changing the scholarly communication landscape, considering these nuances, is generally considered high.

REFERENCING /CITATION STYLE:

The Referencing style is the systematic and standardized method of creating citations and organizing the bibliographic details (authors, title, journal, volume, issue, year and pages). Today, popular referencing styles are APA (American

Psychological Association) for Social and Behavioural Sciences, Chicago Manual Style for Humanities and Social Sciences, MLA (Modern Language Association) for Linguistics, CSE (Council of Science Editors) for Science and IEEE format for Engineering & Technology. Latest edition of almost referencing styles are available on the Internet and also available in printed format. To enhance the quality and quantity of research out, researchers and academicians must need a standard citation style to writing his/her research works (thesis, Project reports, books, research papers and articles etc) and create the proper citations. The popular citation styles adopted by the RMS are displayed in below pictures no. 1 & 2. The almost RMS has capability to cite while you write. It provides the plug-ins for Word and OpenOffice software. The EndNote, Zotera and Mendeley software's also follows the following standard citation styles to facilitate the creating citations and organising the bibliographies.

- ✓ American Medical Association (AMA)
- ✓ American Political Science Association (APSA)
- ✓ American Psychological Association (APA) Style, 6th Edition
- ✓ American Sociological Association (ASA)
- ✓ Modern Language Edition (MLA), 7th Edition
- ✓ Chicago Manual of Style, 16th Edition
- ✓ IEEE Format
- ✓ Council of science Editors (CSE)
- ✓ Others

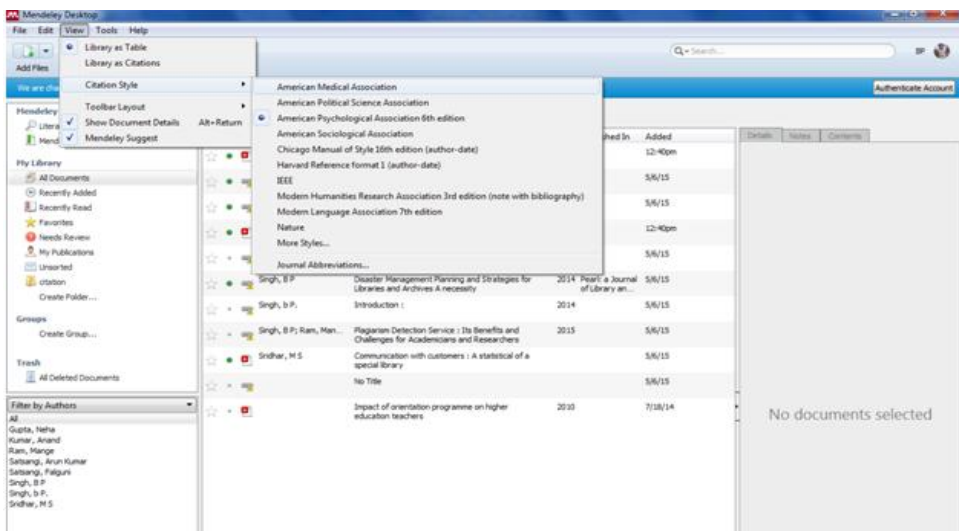


Figure 1: Citations Style @ Mendeley

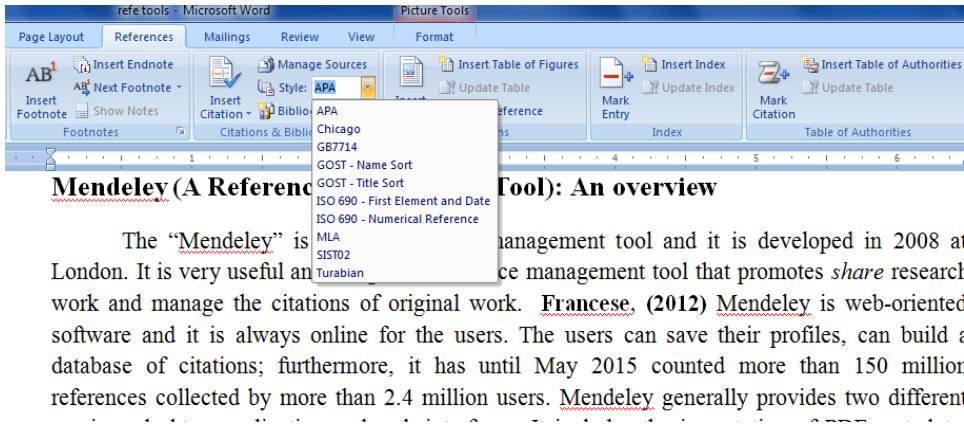


Figure 2: Citations Style @ MS Word

REVIEW OF RELATED LITERATURE:

Francese, (2013) conducted a study on usage of reference management software at the University of Torino and find out that 92% users are aware and usage RMS. Majority of users 79% responded that EndNote software is the best-known software, 25% users responded a know or heard about it, and among these, the its web counterpart EndNoteWeb. Reference Manager software used 32% uses and BibTex software 28% users were used. Only 19% users are used the Zotero and Mendeley software's and the rest are from 10% under. Some others RMS are ignored by the users.

Valentin, (2009) presents, EndNote is a commercial reference management software and it can be highly used for site-licensed by the institutions or by the researchers. It was authentically produced by Thomson Reuters in 1988.

Lorenzetti & Ghali, (2013) conducted a study and found that the total only 78 researchers responded to their survey and 79.5% researchers had used the reference management software to prepare to their research works. Furthermore, they also reported that only 4.8% used reference management software in their published studies and their choice of software was EndNote, Reference Manager, and RefWorks.

MacMinn, (2011) conducted a review survey on library support of bibliographical management tools by their website and identified only 111 websites provides information about use of reference management software.

Research Data MANTRA was established in Aug., 2010. The main goal of Research Data MANTRA was to develop online learning materials which reflect best practice in research data management, especially for three disciplines: social science, clinical psychology, and geosciences.

OBJECTIVES OF RMS TO MANAGING SCHOLARY COMMUNICATION:

To research work writing, referencing is a scientific art to delineate an original data source by providing a standard set of information to easily identification of information source. Referencing includes only original sources of information which were referred in the research paper, thesis, dissertation and reports. In text cited references are used to identify and validate authors' statements and to describe the interrelationship between several related studies. The academicians and researchers are writing/publishing the papers related to their research works. In a good quality paper adding proper citations and it is helps to avoid plagiarism. According to **Steele, (2008)** the purpose of reference management software is to store, organize, and format references within the manuscript. The main objectives of using reference management software's in research works are listed below.

- ✓ To organize, inserting the references in papers, books and scholarly output.
- ✓ To enhance the quality and efficiency of research papers.
- ✓ To creating text citations and references effortlessly.
- ✓ To store and disseminate the documents.
- ✓ To work on your references 24X7X365 anytime, anywhere.
- ✓ Sharing references with other users to allow for collaboration.
- ✓ To get full text of respective paper, if user want to access.

REFERENCE MANAGEMENT SOFTWARE (RMS):

The concept of reference management software has been started as useful tool for researchers since the 1980s. Today, several online and offline referencing tools are available to creating citations and scholarly communication. Reference management software's discretely identify and store the element data fields of a reference; so that different formatting rules comply as per referencing styles can be applied to individual elements. Reference management software maintains a database to references and the reference lists for the written research works. These tools helpful in makes easy to read and maintain the reference comprises such as authors name, publication year and the title of research paper, etc **Reiss & Reiss, (2002)**.

According to the **TELSTAR'S** (Technology Enhanced Learning supporting Students to achieve Academic Rigour) define; the reference management software has two main functions, namely, building a database of the citation for the researchers to organize their documents, and to format the bibliographies and citations for writing papers via plug-ins or add-ons for the Word processing software. To increase the institutional research output, some reputed libraries provided the licensed copy of EndNote or other commercial software with some

support information to their researchers. Currently, Mendeley (Desktop and Web versions), Zotero, RefWorks, EndNote (Desktop and Web versions) and Reference manager are popular reference management software's for researchers and faculty members. This reference management software's provide the six basic functions including create, store, Organize, change, Cite, and Share references. The functional lifecycle of reference management software is displayed by figure 3. The brief details of popular Reference Management software's are describes below.

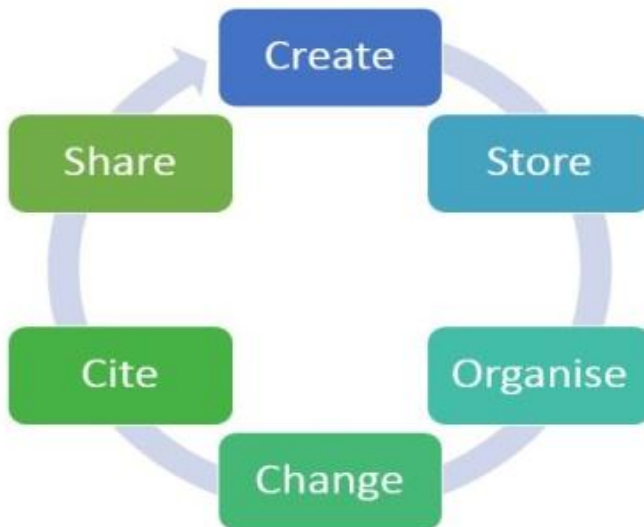


Figure 3: Research work lifecycle at RMS

(Source: <http://guides.library.unisa.edu.au/ManagingReferences>)

EndNote:-The EndNote is most popular reference management software. It was developed by Thomson Reuters in 1988. It is a commercial reference management software, used by researchers and academicians to manage bibliographies and references when writing thesis, dissertation and articles. Currently, EndNote is available in two versions: a full-featured desktop and EndNote Web. EndNote Web version serves as an online EndNote and users though it can be fully operational on its own.

Zotero:-Zotero is a free bibliographic and reference manager which was developed by George Mason University in 2006. Zotero has two platforms: the free add-on local computer and a web account. It is work only on Firefox

browser. The latest version of Zotero add-on extension is 2.1.8 and it requiring Firefox browser. Zotero has unique interface makes it friendly and more effectually for users to grab resources online while surfing the Internet. It is helpful to easily capture a web page, an article or a list of references from an online database and a book record from an online database. Zotero web is used to collect, manage, and cite research sources, compiles an own library that can be accessed remotely over the internet. It has three unique features; ability to create a timeline feature, assignment of shortcut keys and application of tags instead of folders to organize citations.

BibMe:-It is web based reference management software available freely and makes it easy to acknowledges other people's work, create citations, and builds bibliographies online. This software follows standard citation styles and generating automatic citations accordingly MLA, APA, Chicago/Turabian citation styles.

CiteULike:-The citeULike software is a free available web based services for creating, managing and discovering references and reference management websites by helping researchers streamline their research process to storing and managing academic references.

Connotea:-Connotea is also freely available online citation management software since 2004. It was designed and developed by Nature Publishing Group (NaaPG) to manage the citations by researchers, academicians and scientists. It is functioning as a social bookmarking tool. It has the sound capabilities to automatically extract the bibliographic information from scholarly resources. It is helpful to collect, organize, and share online resources with other researchers, academicians and colleagues.

RefWorks:-RefWorks is a reference management software which was developed by the ProQuest group in 2001. It is a commercial software. It is mostly used in academic libraries. It is notice that RefWorks is very helpful for researchers and academicians because it is very easy to use for citation management, collaboration, and sharing of research data. RefWorks software has no direct integration with any word processing software but it does allow saving the citations in various formats like RTF (Rich Text) file that can be read by most word processors.

Mendeley:-The "Mendeley" is a reference management tool and it was developed in 2008 at London. Mendeley is a powerful tool to systematically manage, collect and store research works (papers, articles and book chapters etc) in PDF. Mendeley is a part of work reputed publishers like Elsevier, ScienceDirect, Scopus and EVISE. Currently, it has different versions (Desktop, Web interface and Mobile/Portable device) to easily use by users anywhere. It can import related data from the Google Scholar citations for users. Also, its

helps to users, to manage back up of uploaded documents by users as my collection folder. It is an integrated reference management tool that promotes, share research work and manages the citations. **Francesse, (2012)** describes that Mendeley is web-oriented software and it is available online for the users. The users can create their profiles, can create and manage a database of references; furthermore, it has until Jan 2017 counted more than 150 million references collected by more than 2.6 million users.

Presently, Mendeley Web version is widely usage web-based service and users can freely register for web account at the Mendeley website. Mendeley website offers free 2GB web space for personal collections and five private groups. Also, Mendeley provide a commercial service (large space, training programmes etc) to individual and organisational user on demand. It provides accessibility 24X7X365 bases to users anywhere, anytime over the internet. The users online open the Mendeley and click on tools menu to install the Web importer and Microsoft Word plug-in, to insert citations in a research paper, thesis and dissertation.

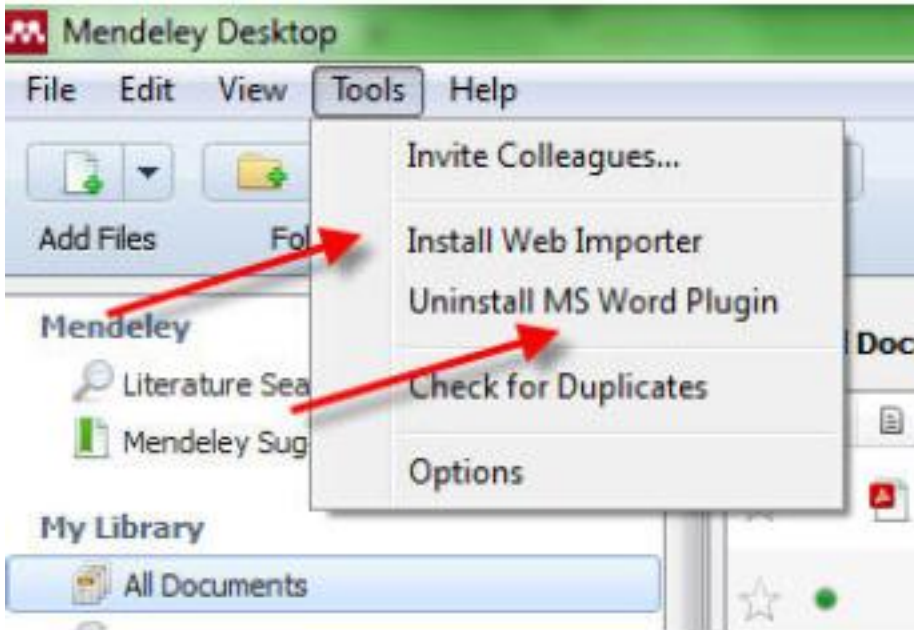


Figure 4: Mendeley Desktop installation from web

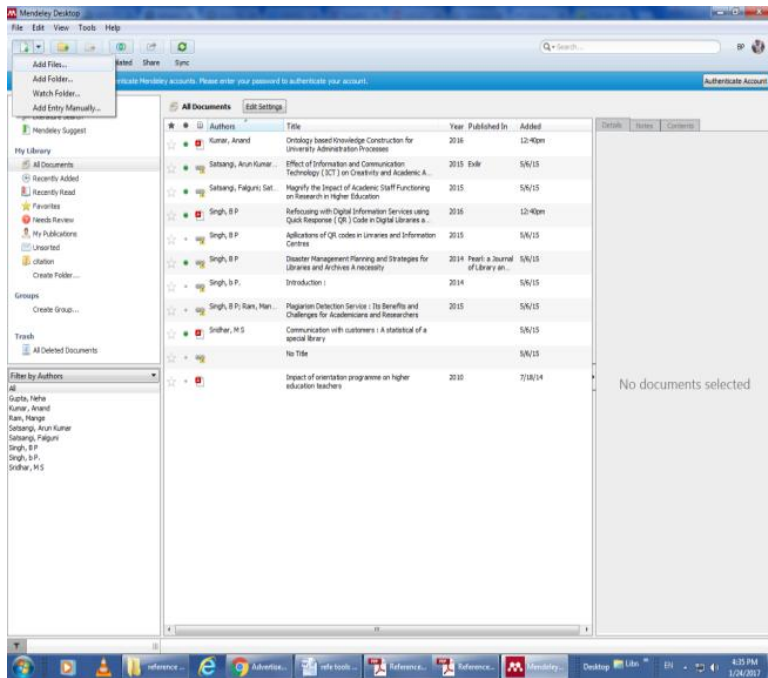


Figure 5: Mendeley @ desktop

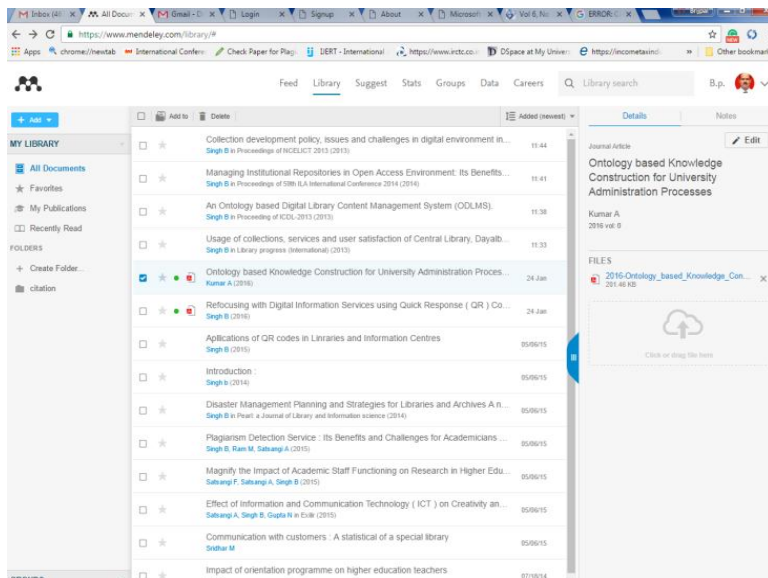


Figure 6: Mendeley @ web

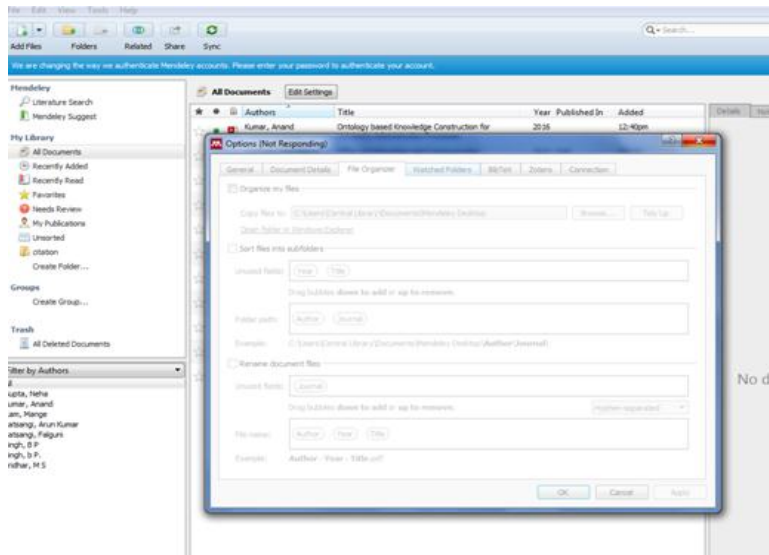


Figure 7: paper uploaded @Mendeley

FEATURES OF REFERENCE MANAGEMENT SOFTWARE'S (RMS):

Today, reference management software's are working as academic social network for academicians and researchers. These are very easy to use and managing the research works (books, reports, papers etc) mainly in PDF files. The following features are support to changing the scholarly communication landscape in digital environment.

- ✓ Free account creation with 2GB storage space for web application and 15 GB storage space as commercial user.
- ✓ Easy to use without any technical expertises.
- ✓ User friendly to manage the citation entries (books, magazines, journals etc).
- ✓ Store 5000 references at single account.
- ✓ Adding your documents using drag & drop PDF file into library.
- ✓ Alert of newly added documents in your account.
- ✓ Collaborating network with researchers and academicians.
- ✓ Simple and fast channel to share research works with other researchers.
- ✓ Free searching & discovering library of papers and citations.
- ✓ Global information infrastructure, **Francese,(2013)**
- ✓ Works on any OS (Windows, Mac & Linux) with Word 2003 – 2010, Mac Word 2008 – 2011, LibreOffice and BibTex.
- ✓ Real time online user helps to manage their research.

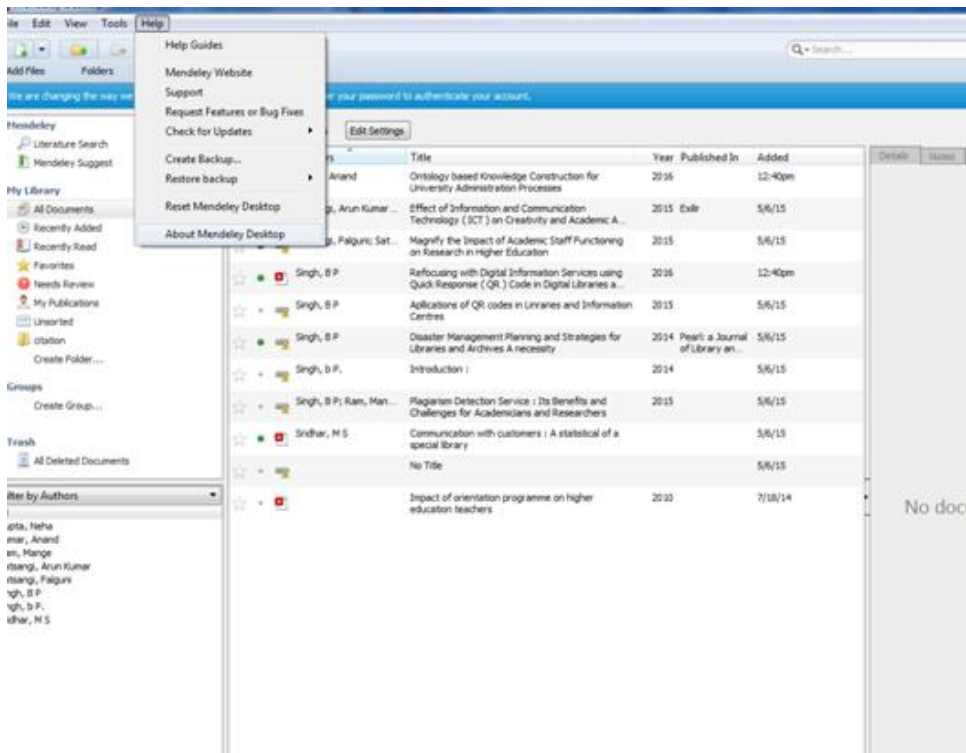


Figure 8: Mendeley online help menu

CONCLUSION:

Currently, referencing management software **evolved** to add newer functions to support exporting, importing, capturing references, file upload, database search, and creating reference output complying with popular referencing styles (APA Style, MLA, Chicago Manual, IEEE and CSE etc). Based on my personal experimental approaches with above described reference management software's, it has been concluded that the Mendeley reference management software looks as a very useful tool for reference management and scholarly communication for researchers. It is clear that Mendeley is a boon for researchers to managing the research works and citations in digital environment. It is very helpful to organizing PDF documents, to save time of researchers and followed the citation style as per standardized format. Today, reference management software is play a key role to enhance the quality of research work and sharing of research documents (Theses, Dissertations, Project reports, books and research papers) in networking environment. **Fourie, (2011)** recommended to researchers and academicians, considering RMS as a specific type of personal research work

manager, with the ability to citations management. A RMS helps researchers keep track of papers, books, theses and dissertations as you find them and easily manage accurate citations and bibliographies in word processor (MS Word and Open Office). Also, I observed that some academic libraries are offering the training program to users to efficiently use of online reference management software to citations management in their research papers and scholarly communication over the networking. Lastly, I highly recommended **widely** use of online RMS to enhance the quality of research work and acknowledge to authors for his published literature by proper citing references in scholarly output.

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