Reference Management Software: A Comparative Analysis of JabRef and RefWorks

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Abstract—This paper presents a comparative analysis between the reference management software JabRef (fields imported from Springer Link) and RefWorks (fields imported from Google Scholar). The results of the study reports that the comparison in terms of importing fields from two databases using two different software (JabReb was used only to Springer Link and RefWorks was used only to Google Scholar) have some similarities with regard to import fields such as Author, Title, Journal, Year, Volume, Number, Pages, and Publisher. On the other hand they also have some dissimilarities namely DOI, URL, ISSN, Keywords, and Language. This findings could help to know researchers to use the reference management software and also to know the similarities and dissimilarities.

Keywords—Comparison, JabRef, RefWorks, Software.

I. INTRODUCTION

REFERENCE management software is a tool for researchers which can be used by researchers to maintain their records and their bibliographic citation. [1] Indicated that reference management software also known as bibliographic software, citation management software, and the personal bibliographic file managers. According to [2], the reference management software (EndNote, RefWorks, BibTeX, and Zotero) is very popular among researchers and students as a time saving tools for writing their academic papers. According to [3], the main purpose the reference management software is to store, organize, and format the reference within the manuscript and this software widely used and is exited since 1980. According to [4], more than 25 reference management software exist in the market but some of them are free and some have got high registration fees. Furthermore, some are also difficult to download and install. According to [5], reference management software is very helpful for research since it can easily format their citation styles of the many biomedical journals.

II. PROBLEM STATEMENT

Accuracy references are very important for researchers when a computer search is needed since any incorrect information can not retrieve computer or it can not also recognize any inaccuracy [6]. [7] Found after examining five

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leading medical journals and concluded that the error rate range from 4.1% to 40.3%. According to [8], in the Journal of Nepal Paediatric Society the errors rates are 33.3%, Nepal Journal of Obstetrics and Gynaecology is 43.3%, and in the Nepalese Journal of Ophthalmology is 50% respectively. Study conducted by [9] and found that in the English language biomedical journals, the major error rate was 2.3% and the overall citation errors in terms of major error and the minor error was 11.1%. [9] Also found that the quotation error was 7.8%, and finally the 80% was considered the major error. According to [10], in medical journals 36% of a median prevalence of citation errors and the 20% of median prevalence of quotation errors. [11] Concluded after examining five experimental psychology journals that the errors rate respectively in the title (15%), authors (12%), page numbers (6%), volume numbers (3%), and the journal title (2%).

III. AIM AND OBJECTIVE

The aim of this paper is to compare the similarities dissimilarities between two reference management software JabRef and RefWorks and to see what are the fields are similar and dissimilar with regard to import fields from two different databases using two different software.

IV. LITERATURE REVIEW

The aim of this section is to present the existing literature for the systematic review by researchers using the reference management software through the electronic database searching, duplicate records, the identification, and the elimination, etc. A study was conducted by [12] and found that reference management software can help researchers to store and organize their research results and finally it also helps to the appraise and code the search results to explicit to track their decisions for the systematic review. Studies conducted by [13] and [14], 78 respondents participated in their studies and they found that they have used for the systematic review the reference management software. However, they also indicated that 4.8% have used in their published studies the reference management software. Another study by [13] and [3] found that researchers can easily organize and capture their studies which identified through electronic database search, eliminate the duplicate record from multiple database searchers by the reference management software. According to [25], [15-16], [17], and [18], the reference management tool is very helpful for the researchers to manage their references.

A. JabRef (Product Information)

According to [19], the JabRef reference management software is an open source and was developed by JabRef developers. [20] Indicate that the JabRef reference management software is an open-source application and it is mainly as the BibTeX front end and it provides the graphical interface to manage the BibTeX formatted reference. However, [21] stated that the JabRef does not independent its own style but it is generated from the BibTeX file by the LaTeX.

B. RefWorks (Product Information)

According to [22], the RefWorks reference management software is the web-based and compatible with the entire platform. However, [22] also indicated that user easily can adopt interface to export the references into RefWorks. Furthermore, [22] stated that RefWorks reference management software can attach feature, researchers can upload up to 100 MB of different types of files, and administrator can increase limit up to 5GB. According to [23], the RefWorks reference management software is very helpful for the researchers since it is easy to use for the data import, collaboration, and formatting. RefWorks (www.refworks.com) developed in 2001 by the business unit of ProQuest and it is a web-based reference manager which requires a fee-based license. Individuals can easily purchase a subscription, but institutional accounts provide the more options and features [24].

V. METHODOLOGY

A specific article was used to import the reference from Springer Link search option and from Google Scholar search option using the particular keywords: *Academic staff workload*. The article name is: "*The impacts of different types of workload allocation models on academic satisfaction and working life*". The article was available on page three in the Google Scholar option and in the Springer Link search option, it (article) was on the page one. Each page was having 20 articles. Both the reference management software, namely, JabRef, RefWorks were used to import references from the Springer Link and from the Google Scholar respectively. Both the software were downloaded and installed on the desktop PC from the Internet without customizing or changing any application or selecting any option of the software.

VI. RESULTS

Table 1 shows the JabRef (was only used to import fields from Springer Link) and RefWorks (was only used to import field from Google Scholar) are similar in terms of importing few fields from the Springer Link and from the Google Scholar. On the other hand, few fields are dissimilar. This is shown in the table I below:

TABLE I
IMPORTED AND NON-IMPORTED FIELDS FROM THE SPRINGER LINK AND GOOGLE SCHOLAR

Fields	JabRef (Springer Link)	RefWorks (Google Scholar)
Author	1	1
Ttile	1	1
Jouranl	1	1
Year	1	1
Volume	1	1
Number	1	1
Pages	1	1
DOI	1	0
URL	1	0
ISSN	1	0
Keywords	1	0
Language	1	0
Publisher	1	1

1   represents **Fields** imported
0   represents **Fields did not** import

Table I shows that some of the fields imported by both software, namely, *Author, Title, Journal, Year, Volume, Number, Pages,* and *Publisher.* On the other hand, some of the fields namely, *DOI, URL, ISSN, Keywords,* and *Language* did not import by the RefWorks reference management software. This is shown in a graphical presentation.
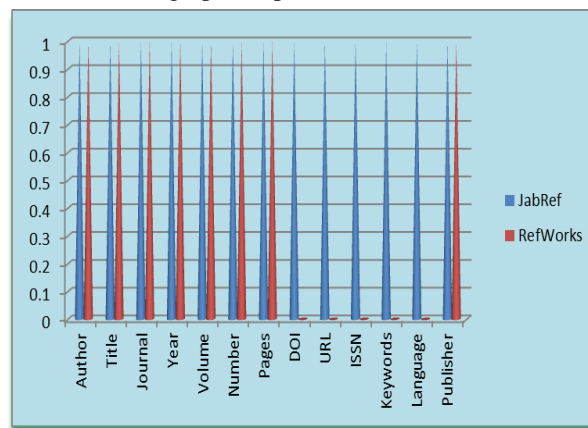

Fig. 1 Comparison of both reference management software (JabRef and RefWorks) in terms of importing fields
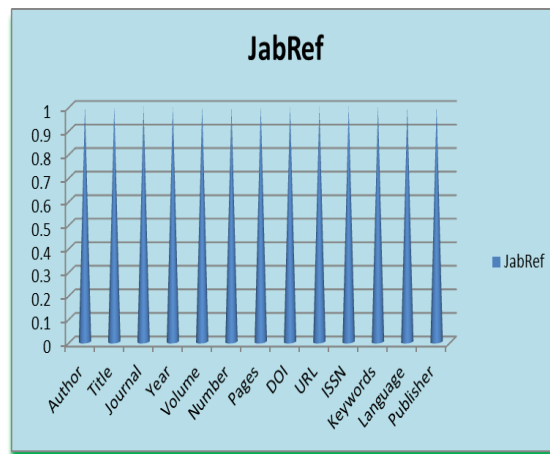

Fig. 2 Fields imported using JabRef reference management software

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The fig. 2 shows that the JabRef reference management software imported all the fileds from the Springer Link database, namely, *Author, Title, Journal, Year, Volume, Number, Pages, DOI, URL, ISSN, Keywords, Language,* and the *Publisher*.
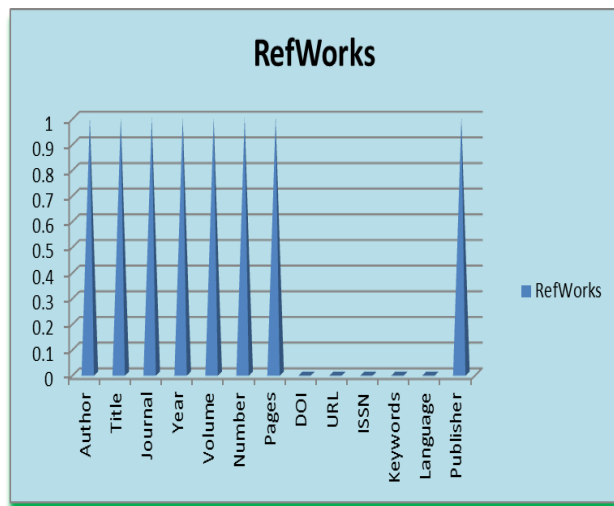

Fig. 3 Fields imported using RefWorks reference management software.

The fig. 3 shows that the RefWorks reference management software did not import the following fields, namely, *DOI, URL, ISSN, Keywords,* and the *Language*. On the other hand, the Refworks reference management software imported the following fields, namely, *Author, Title, Journal, Year, Volume, Number, Pagers,* and the *Publisher*.

VII. RECOMMENDATION AND CONCLUSION

This study however, reports that the reference management software such as JabRef and RefWorks import many similar fields more or less from the Springler Link and the Google Scholar. Although there were two databases and two software but their importing some fields are very similar namely Author, Title, Journal, Year, Volume, Number, Pages, and Publisher. On the other hand, some of the dissimilarities fields namely DOI, URL, ISSN, Keywords, and Language. However, this study reports that similarities fields are more as compare to dissimilar fields. Finally, this study also recommends that researchers should use the reference management software for their references and citations to eliminate the errors in the citation and in the reference in the reference section.

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