RESEARCHING AND ACADEMIC WRITING USING CITATION MANAGEMENT TOOL (CMT)

*Laili Ashikeen Awang Puteh, Saiful Farik Mat Yatin,
Farleen Azrina Zamberi and Farhana Bahari
Faculty of Information Management,
Universiti Teknologi MARA,
UiTM Selangor, Malaysia
*Members of Advanced Analytics Engineering Center (AAEC), UiTM

ABSTRACT

The focus of this paper is on the appropriate criteria in evaluating and choosing the right citation management tools (CMT). As the number of citation management tools increased in recent years, users have problems in choosing the best and right citation management tools that would suit their needs. There are approximately thirty citation management tools worldwide, and users need to take into consideration several aspects which will eventually help them in deciding the citation management tool that suitable to their unique requirement and situation. There are also some users who are not familiar with the choices of the tools and having problems in using them. This kind of users tends to shift to the less complicated way which is manually creating the citation. This paper discussed further on the issues in using the citation management tools and also outlined seven important criteria to be considered in deciding the right citation management tools.

Keywords: Citation management tools, Information management, References, Bibligraphic citation, Academic writing

INTRODUCTION

Usage of ideas or thought of other people is one of the most important elements in doing research or writing papers. This is important to show the

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level of understanding of the materials that have studied and the ideas or findings found in your way. This is called references and referencing is a standardized method of acknowledging all the sources of information, data, and ideas one uses in writing an article, book, thesis, etc. (Madhusudhan, 2016).

One of the features of academic work is granting other people ideas or opinions. The acknowledgement is variously known as referencing, documentation or reference citations. These referencing methods are used in different fields and for specific purposes. The example of formats and styles that usually use are American Psychological Association (APA), Council of Science Editors (CSE), Harvard, Modern Language Association (MLA), American Sociological Association (ASA), Vancouver and Turabian which often referred to like Chicago. There are two types of Turabian which are Chicago/Turabian Notes and Chicago/Turabian Author-Date (Lamptey and Atta-Obeng, 2012).

It is a common issue in writing proper references according to the citation mentioned above styles such as to correct spelling of the references, formatting in-text citations according to citation styles guidelines, formatting the reference list to each type of publication and ordering the references alphabetically by the authors' surnames.

Other than to demonstrate understanding on the subject matter, references or citations also resulted from the interesting facts or ideas discussed in an article and being quoted in a different article to reiterate the information by the original author. It is an exchange of different ideas or perceptions on topics discussed in articles.

Citation is not only to assess the impact of publications but allow users to promote new research discoveries. This is also the way citation analysis becomes directly useful and able to derive values form the research and learning activities.

The daunting conventional process of manually managing citation data can be tedious and require meticulous work on the details. The CMT was introduced to ease the citation activity. The CMT history started with personal systems developed by researchers to keep track of their citation information. CMT has been a useful tool for researchers since the 1980s. According to Bertrand and Bader (1980), the researchers used an impromptu tool and mostly developed the dBase II/III database management system

The introduction of CMT in the 1980s has contributed to the changes in the way research was conducted (Gilmour and Cobus-Kuo, 2011). Even

though the traditional CMT were desktop tools that required floppy-disk drives, they had the same major features that we currently expect of CMT. The features are storing references, organizing references, and creating bibliographies in a variety of styles with word processing integration (Warling, 1992).

The needs and requirements of researchers to systematically organize their scientific literature in both group and personal contexts have led to the creations of commercial CMT. The commercial CMT is intended to incorporate mechanisms into scientific invention environments to assist and accelerate the process of writing and publishing research results.

The several transformations had been evolving throughout the years until the first web-based tool was introduced. The CMT further evolved into simple software and easy to be used by users with non-technical skills and considered as less complicated compared to the earlier version. The latter version is also the first open source and free tool which has led to the development of many more open source tools.

The innovations in information and communication technologies (ICT) have led to massive changes in the citation and bibliographic referencing practice. It made the citation process much easier and user-friendly. Besides, the spreading of research findings, as well as the referencing formats; methods and methodologies, have led to a vast transformation.

The progression of information and communication technology, the negative impact of plagiarism, the copyright issues and the scientific research values has resulted with awareness from authors and publishers for a proper citation of the material in the academic writing (McCullen, 2003; Howard and Davies, 2009).

Several software tools had been developed to manage bibliographic content and creation efficiently. There are two types of software developed which are from the free editable software and propriety software. This kind of software enabled a collection of references to be organized systematically and shared across the community with the same subject interest with minimal referencing errors.

The findings from research activities which to be shared to the public via the published academic writings often linked to difficulty in meeting the general requirements. The research process flow involved efficient management of citation and considered as an important element in planning for sharing of research findings. To keep the true spirit of research etiquette complete, one needs to give great attention to all the different resources one

has referred to in the course of the research (Shri Ram and Anbu, 2014).

Authors, students, researchers and scholars are the users for CMT. The used CMT to facilitate the consolidation of scholarly articles, as a depository and organizer for the articles of their interest, referencing and managing bibliographies. CMT is a software or a tool that always being used in the information literacy program and bibliographies management. According to Childress (2011), CMT is also known as bibliographic, reference manager or CMT are programs that allow researchers to store, organize, output and share their bibliographic citations.

As highlighted by Maryam and Afsaneh (2014) in their study, there are some of the elements or features that are expected from CMT packages which include:

Information resources distribution among team members assign the keywords to each citation by using the tag feature like this will enhance the discoverability of the information the capability to save articles in electronic format for example PDF format information discovery in various databases; direct data transfer from databases, e.g. Google Scholar and other databases to these CMT packages; the option to include remarks or feedbacks concerning the citations; pull out metadata from PDF files; consolidating bibliographies in CMT databases; establishing different formats of citation information based on the different citation styles; and system compatibility with an external program such as word processors which to be used to insert bibliographic data in given piece of text.

The CMT sometimes used to assist the author in doing systematic reviews. It helps the precise reporting of the studies reviewed for inclusion and exclusion in a systematic review. How the CMT work to make the author to do systematic reviews? Well, it works by facilitating the capture and organization of studies known through computer database looking, the identification and elimination of duplicate records from multiple information searches, the transfer of references to systematic reviews package, and also the correct citing of references among manuscripts.

The usage of CMT will impact the number of distinctive studies known and according in an exceedingly systematic review. A failure to spot duplicate records captured in information searches could lead to associate degree over-reporting of tangential studies. Likewise, many important research findings may have been unnoticed due to a heavily dependent on CMT to identify and remove duplicate records from a reference database. This is one of the great impacts that CMT may have on the quality of a

concluded review.

There are four categories of citation tools which are citation management education, citation guides, citation managers and citation generators.

Nowadays, instead of generating a citation, users can get a citation from the citation data provider. The examples of the sources of citation data are CiteSeer, Scopus, Google Scholar, SciFinder Scholar, Faculty of 1,000, scholarly databases such as Cambridge Scientific, EBSCO and other publishers. These are the example of data sources for citation information which provide competition tools available (Herther, 2008).

DISCUSSIONS

The importance of properly citing sources is being highlighted these days thanks to the rising awareness of copyright, plagiarism, scientific integrity, and honesty within the educational community. A voluminous quantity of knowledge is well transmitted electronically today, that then permits users to simply produce their works by repetition and manipulating the present data.

Based on ODLIS (Online Dictionary for Library and Information Science), plagiarism is adapted from the Latin "plagiarius", defined as "kidnapper", replicating or closely copying without permission the work of another author, researcher, etc. and plan to distribute the work as his or her original work.

In the publication, copyright law makes literary stealing a criminal offense. Plagiarism had become a serious issue among students, researchers, and academicians and it needs to be solved. The growth in plagiarism over the year is often attributed to the digital age of copy and paste. The plagiarism can lead to the ruin reputations and academic careers of the students.

To avoid the plagiarism occur it is advisable to quote the original idea from the authors. This matter is to show appreciation and to give positive credits to the authors. Also, the citations are also important as they give extra information about other author or sources that have a similar title in their article or research.

It does take everyone effort and responsibility to combat plagiarism among students, researchers, and academicians. Librarians should also play an essential role to prevent plagiarism at all levels to reflect what is being

practiced in the field.

Based on the research conducted by Gibson, and Chester-Fangman (2011), the online survey showed that the librarians, especially in the academic institution, need to actively involved in plagiarism campaign to prevent it from occurring. Meanwhile, the authors note that most librarians are engaged in instructional activities related to plagiarism and citation and they point out that only some of the librarians are collaborating with faculty to address these issues.

To help the users to produce reliable and systematic citations, they need to use citation tools that are available in the market today. The awareness of using the citation tools among users is still low and based on users' feedback, and they claimed that they had not received any formal training for creating online citations and some of them do not know what citations are and do not understand on how to use citation tools.

There are various CMT which are available in both commercials and open source mode for the effective management of references. These citation tools may be used as desktop installations for offline usage also as for storing bibliographies on-line so it may be retrieved anyplace and anytime. Nowadays the CMT can be incorporated with word processing software, for instance, Microsoft Office (MS) Word to create an appropriate reference list automatically.

Salem and Fehrmann (2013) had conducted a study to understand how undergraduates managed citations. It is found that few participants were intimate the CMT and a few of them appeared reluctant to use citation managers, preferring to trace references manually. They also provided feedback for a simple CMT to suit varied students' needs.

Besides, research conducted by Lamptey and Atta-Obeng, (2012) resulted that some postgraduate students were lack of confidence in distinctive the names of the citation style used in the department and they even get confused concerning that citation style to adopt. This issue becomes more difficult, and the absence of the appropriate recommendation on the standardized style and format by the faculty has worsened the situation. There is no proper training on citing references executed for the postgraduate students, and this has resulted with the adoption of any citation style that they are referred to by colleagues, librarians and lecturers.

There are four types of CMT which are desktop-based, web-based, browser-based, or hybrid (Marino, 2012). Desktop-based CMT operates similar to the traditional model of computing, with the choices of

trademarked and free options. The desktop-based is acquired and installed in a computer and ready to be used immediately. This same version CMT will remain unchanged in the user's computer for a long time unless it is updated or deleted from the computer. This desktop-based version does not require an internet connection and under full control of its users. The online articles are stored locally and open to potential risks such as accidental deletion, misplaced USB drives, or hardware problems.

The web-based tools operate by connecting to the internet. They are accessible from any devices provided that there is an active internet connection. The online articles are stored in cloud storage and are safe from any potential risks of data loss, etc. However, the dependency on the internet brings the possibility of an unavailable of service due, and the examples are during the network disruptions.

The browser-based CMT tool not only can work on online mode but able to work on offline mode. This CMT is an integration of a citation tool and a browser. It provides an opportunity for system enhancement to enrich the features offered. Browser-based CMT also can interact with several mobile applications. This browser-based however has some setbacks such as associated with a particular browser only and difficult to separate and ensure confidentiality of data due to the same browser being accessed by many.

Next is that the hybrid CMT tool. Hybrid CMT is the combination of the moderate characteristics of the net or browser-based tools with their desktop-based counterparts. These tools encompass a desktop client that may interface with a web-based element which permits each on-line and offline access to figure, with information existing domestically and within the cloud. Typically, the mobile devices area unit usually supported.

Finally, the addition of citation generators which embedded to the online database aggregators provides the opportunity for users to perform cut and paste of a bibliography which structured in their preferred citation style.

Over the years, the choices available for the CMT have evolved tremendously. This has resulted in a dilemma among the users to keep updated with the latest software available and to determine which the best to suit their current requirements and needs are. For users to decide which tool is best for their needs, it is important to know each tool's strengths and weaknesses (Zhang, 2012).

Another major problem on CMT is to generate a citation for the various format of publications, e.g. journal article, conference proceedings, dissertations and theses, patents, legal documents and unpublished

manuscripts. These varieties of formats often lead to an inaccurate or incomplete citation. Due to this, users are having difficulty in generating a correct and complete version of citation (Lanning, 2016).

Table 1. Available CMT in the market

No	Citation Tools
1	Aigaion
2	Bebop
3	BibBase
4	BibDesk
5	Biblioscape
6	BibSonomy
7	Bibus
8	Bookends
9	Citavi
10	CiteULike
11	colwiz
12	EndNote
13	F1000Workspace
14	JabRef
15	KBibTeX
16	Mendeley
17	Paperpile
18	Papers
19	Pybliographer
20	Qiqqa
21	ReadCube
22	refbase
23	RefDB
24	Reference Manager
25	Reference
26	RefWorks
27	Sente
28	Wikindx

29	WizFolio
30	Zotero

The tools also cause the inaccuracy of the citation generated. There is less attention given by the developer of the tool on the complete and correct citation format. They should have consulted the citation style guides to ensure accuracy. Research and learning in the era of Industrial Revolution 4.0 (IR 4.0) have indicated a sophisticated solution for their citation management.

On another note, in step with Lonergan, (2017), people who use CMT tend to rely most on the fundamental options that are organizing references and info citations in a very specific vogue. The attention of or interest in additional advanced options (particularly the Web 2.0 social bookmarking and collaboration features) tends to be low. Besides that, college tend to decide on CMT supported the private recommendation of advisers, colleagues or due to its widespread use in their discipline and like to stay with it rather to find out a brand-new system, potential software system compatibility problems, the necessity to migrate hold on references or different issues relating to time and workflow.

One of the appropriate solutions is the introduction of CMT via mobile applications. There is one study conducted to examine the features of basic Android and iOS apps for mobile applications intended to generate bibliographic citations. The study showed that the majority of the mobile applications tested produced inaccurate citations format and had limited functionality (Ullen and Kessler, 2015).

Disruption to users' workflow is also identified as the main issue in using CMT. The examples of the disruption are the lengthy process of importing and exporting references which badly affect the users working habit and in meeting deadlines. One simple process of importing and exporting is chunked further into several sub-processes which caused grievances among users.

As for users among students' category, the librarian incompetency is said to contribute to their problem in using CMT at the universities. Students usually get their first information about citations during their orientation conducted by the reference librarian. As such, librarians may conduct periodic hands-on training or provide instructional materials about citation as to enhance students' understanding of CMT.

Hence, the librarians will develop their capability as information

professionals who can facilitate, guide and impart training on the effective use of CMT to the student. Librarians need to equip themselves with relevant knowledge and skills related to CMT. They also need to be able to answer citation related questions, suggest and determine the best citation tools to the users and able to troubleshoot basic issues of the citation tools.

Once the library subscribed a CMT, it is essential for librarians to equip themselves with the latest knowledge and response numerous enquiries that may arise in the adoption of this tool. Besides teaching or conducting the class on the specifics citation styles, it is crucial for the librarians to spend additional time to train users with more innovative information management skills, for instance, copyright and fair use. It is progressively significant in the current practice of the digital environment. Following are some of the best instructional practices that can be considered by the library in providing support for the adoption of citation management tools (Kern and Hensley, 2011):

If the library plans to provide support to numerous citation management tools, it is good for different librarian or group of librarians to manage respective CMT. This would enable the librarian to specialise and focus in a specific citation manager which indirectly improve librarian understanding of the tool.

Familiarize with other instructional guides that have been established by another library. For instance, LibGuides is one of the good examples that illustrates how the partnership and sharing of instructional materials can improve the establishment of original materials.

Link the instructional pages to CMT viable tutorials and technical support provided by CMT developer. Even though we are motivated to establish our instructional materials, it is good to consider this opportunity for the benefit of the users.

Conduct open workshops. This platform provides a marketing and promotion prospect as well as enable to assist more users at a time through hands-on experience.

Incorporate citation management into course-related training. This can be conducted in various methods, for instance, to guide users on the appropriate way to export citations while you are demonstrating databases; utilize the available platform to share further explanation on fair use and copyright. Apart from that, the librarian may also leverage the opportunities to present at any college forums.

Conduct regular internal training that enables library staff to enhance

their skills and understanding for an effective response on user enquiries.

Seek regular feedback from users either formally or informally as to improve the library service as well as librarian performance.

Allow the usage statistics to guide in the library decision-making process. For instance, the library may need to consider promoting other CMT if the statistics reported that there is a less percentage of users are utilizing the specific tool, after numerous years of promotion and conduct training for those tools.

With the huge experiences and knowledge, there is no hesitation that the librarians will be able to foster the students to utilize referencing tools effectively. CMT also can be a good point of engagement between the librarian and the faculty members or students. Besides providing bibliographical searching, the librarians might collaborate with the research teams on campus, and it would establish a special perspective on the how effective the library's information resources able to fulfil the requirements of the researchers or the impact of researchers' paper. It is another option for the library to enhance value to the institution as well as increased its visibility.

RECOMMENDATIONS

Nowadays, users are confused to choose which citation tools that fulfil their needs. Most citation tools have the same features and function, but of course, there are some exceptions. To choose the right and suitable citation tools, several factors need to be considered. Their features and capabilities are always changing, thus maintaining awareness with citation tools and their features is key to help users choose the right tool.

Seven key questions need to be considered by the users before it decides for the best citation management tool.

First, is the tool easy to use? This includes the interface and the functions of the tool. Most of the users will seek a tool that is user-friendly and easy to use. The interface may play the main role so that users will feel more attraction to use the tool. There was a survey conducted among students at the University of Illinois. The majority of the respondents responded that they would choose CMT that ease of use (Emanuel, 2013).

Rempel and Mellinger (2015) studied the utilization of CMT among faculty through several methods that include the mix of interviews,

observation and journaling. The authors recognized a group of researchers who had joined an instructional training session on citation management tool, which 14 respondents are finishing the study. It was identified that there are two key factors affected by the utilization of CMT. Ease of use was the leading essential factor for the preference use of the CMT, while the expectation of tools performance as well as effectiveness enhancements to scholarly workflow was the most major factor which directed researchers to use a particular tool heavily.

Second, the operating system that the tool compatible with. Some CMT is compatible with Linux, Windows and Mac. Due to the excessive growth of technology, some tools also can be accessed via mobile version/applications. Tools that can be accessed through mobile are more convenient as users do not need to use their laptop or desktop. Students especially love to interact and communicate via phones and tablets. There was also research conducted to measure the precision and functionality of a selection of basic Android and iOS apps for mobile devices designed to create bibliographic citations (Ullen and Kessler, 2015)

Third, are there any training courses for the beginners? Some may say that the library plays the main role in conducting the training course. McMinn (2011) studied the current level of service and support provided by Academic Research Libraries (ARL) for the bibliographic management applications, EndNote and RefWorks providing research libraries with a baseline for benchmarking their support of these tools. The majority of ARL libraries offer support either to one or both tools with the highest percentage is 42 per cent has offered support for both tools.

The US private colleges and universities mostly have licensed the CMT and provide support to the respective application. Besides, a huge percentage of libraries offer instruction on the application and tutorial materials. Generally, the research revealed that there are major levels of support for bibliographic management tools in main academic libraries which is identified by the number of libraries providing licensing, the level of instructions, tutorials session and the establishment of instructional materials.

Technological glitches at several points will lead in user interruption with the tools and weakened their possible performance experiences with identified CMT. Those users who were capable of steering and exploring the application through the learning new tools and possessed a level of effective self-learning, or trust skills to resolve issues were likely more

resilient and consistently learned about the specific bibliographic tools. It also revealed that inadequate of technology facility was another individual user limitation. (Rempel and Mellinger, 2015).

It is essential and important for the beginners to involve in the courses. Some of the tools providers include the added materials for self-training such as videos and manuals for the reference. Basic questions related to using citation managers, such as installing programs, generating bibliographies, and word processor integration can often be answered by consulting the documentation, either on library pages or the citation manager's website (Childress, 2011).

For some users, they also need additional support such as the IT hotline, forums where they can interact and communicate with other users and the expertise from the tools provided. It is important to choose a citation management tool that provides good support for its users especially in terms of training. Most of the tools provide free trial where users request the trial by contacting their customer service to request for a free training copy and fill up an online request form. One of the best ways is to attend their webinar or watch an online tutorial.

It is common nowadays to optimize online FAQs. The user also guides elaborative and indexed by subjects which facilitate the referencing and providing answers. These are the medium that complements and might replace the traditional instructional sessions. The options for different foreign languages also show support for global CMT usage. YouTube also is an attractive medium to provide visual instructional tutorials. The traditional methods of customer support such as telephone or e-mail still exist to serve a certain group of users who prefer this kind of services.

Social media also has emerged as a popular and effective form of customer support. Most tools now maintain a presence on popular social network sites such as Facebook, Twitter as well as Blogs.

In meeting between various users' feedbacks, the CMT vendor should take this opportunity to streamline the CMT features and transform their products into an easy version to use and require less training to get started.

Fourth, total costs required in using the tools. Some users may feel that it is important for the institution to own the campus license for the tools and some of them curious are there any potentially other costs after leaving the institution or if the extra storage space needed.

The usual arrangement for the common basic CMT account offered from the CMT provider is free. There will only be charges imposed should

there is an additional feature required and an increased online storage space requested. There is a common misunderstanding that free CMT is an open source tool.

The reality is most of CMT being not open-source in nature. The definition of open-source is the tools source code available for further customization based on users' needs and requirements.

There are main causes that direct to the preference in selecting open-source platforms which include cost savings, free from vendor lock-in, the ability to customize based on user requirement, the support of open standards, and efficacy of product growth. On another note, the disadvantages of open source are unrevealed costs related with implementation, problems with ensuring backward compatibility and maintenance following updates, inadequate technical support, poor usability, and saturated markets that delay the selection process.

Fifth, what features should the tools offer? Each tool offers different features for their users. Some of the features offers are: -

Catalogue and database search from within the program
Indexing and structuring of the content
Searching for the full text
PDF editing
Generating bibliographies
Managing quotes/ideas
Online access
Sharing and jointly editing references
Task planning
LaTeX support

Convenient information searching via CMT is one of the preferred features. Now authors can link their papers and store them using local or cloud storage. Users also may develop their community in the CMT. The creation of the community supports the relationship in two ways which allow groups to share resources and indirectly to connect the researchers for easy interaction within a group. For secured access, the level of accessibility is entirely at the users' decision. It can be open to public view, kept within the group, and these settings are specific to each document a researcher finds.

As for sharing or jointly editing references, users need to identify and seamlessly allows members being invited to add and categorize resources to a collection, thereby supporting researchers working on joint or allied projects. It is easy to identify potential collaborators through papers saved in CMT which also encourages users to set up profiles on the site to facilitate such networking. There is no conflict between data-sharing and getting high profile publications because the more information shared, the more people will contact author, the more ideas discussed, the larger academic network established, the more knowledge to gain and the faster author can publish high-quality science.

On task planning, the social networking feature that available in new generation CMT supports collaboration using Web 2.0 capabilities. Users can save papers for a group to consult, notice different researchers work similar issues and notice new info through the resources that those researchers have discovered and labelled.

The ability to trace what other researchers have found on an issue introduces a powerful filter to the mass of information available to scholars. Those new to a research question can quickly determine key papers through the references archived or saved by researchers further along in their work who have chosen to create their lists public through public groups offering a kind of arm's length, community mentoring which will additionally cause nearer.

As many scientific types of research become collaborative, which are no longer restricted by geographical issues, CMT has become vital to scholarly work. Therefore, it's good to include CMT as part of the module in secondary education. CMT supports the integration of searching, managing, integrating and citing information which enables users to establish effective workflows as the features are not attached together.

Sixth, is the tool's compatibility with external programs such as word processor or not? Users need to identify which tools compatible with the programs they usually work with, e.g. Words Processing such as Microsoft Office (MS) Word. There is a survey conducted which showed that ease of use and integration with word processing software were the two factors most important to researchers in choosing the right citation tools (Emanuel, 2013). CMT is not standardized and has different characteristics.

Now users have more options since word processing applications, and online databases aggregator start to offer citation features. Thus, it is commanding to survey the requirements before committing to any citation

management tool. The citation generator in a plug-in format has been part of the online database aggregators and provides users with the opportunity to generate a citation in their preferred citation style. Examples are the citation generator available in EBSCO, Gale, ProQuest, and others. They also offer more specific citation offerings such as AMA, Harvard, and Vancouver.

Suitable system requirements also need to be considered. Even the best software will be useless if it does not run properly on a user's computer. Users should be aware of minimum system requirements that can support the operation of the CMT. The availability of CMT which linked to browser nowadays has resulted in less issue on the operating system support compared to the past years' experiences. It is best if the CMT support all major systems able to run in all of the most popular browsers.

Seventh, the CMT is capable for multipurpose use. Multipurpose use means CMT users can submit information and receive a full citation, and also the CMT act as the depository to store online articles, especially for users' long-term projects. The CMT can link large teams through cloud servers, providing full access to trusted resources and articles.

It also can integrate with online file room and sharing or document design tools, or with part of internet navigation.

Users will be able to save online articles immediately while browsing and this will facilitate the process of retrieving the saved online articles in the future. Other features that usually associated with this multipurpose usage CMT are advanced searching, reference libraries, and version history.

Another element from multipurpose use is the knowledge organization features which are one of the important criteria especially from the researchers' point of view. It is considered as the task management platform which supports their research process management.

The processes are locating information sources, online referencing and content management. The tasks delegation in a team also can be done online via the CMT platform and eventually assist the researchers in developing a works-cited page. The researchers also will be able to choose multiple media to create references. There are options for manual or automatic referencing as well as using a bar code scanner or PDF referencing.

Researchers also enable to perform thought structuring efficiently. The keywords option and a hierarchical category system enable to facilitate the arrangement of thoughts on the CMT platform.

The final factor to be considered is where do the users usually work? The users must know if they always use the same computer for work or do

they switch the computer sometimes. They also need to know whether they have permission to install the software on their computer due to internal policy and procedures. We need to be aware that some tools are web-based or allow syncing of citation so users can work from multiple locations. Others are better suited for group projects or shared bibliographies.

At some academic institutions, classes and learning activities are no longer contained to the physical constraints of campus. There are many online learning modes introduced and used especially for those who are working and studying at the same time. This new learning approach requires an appropriate or in other words a flexible CMT platform. The CMT elements that suit this kind of requirements are independent software which is not tied to the physical environment, as well as capable of serving the complex and steep learning requirements.

CONCLUSIONS

The most comprehensive comparison to date is supplied by Wikipedia, where thirty options are considered in detail as of December 2011 (Wikipedia, 2018). It is common for many of us to deal with time constraint; hence it is advisable for us to focus on one or two CMT. By focusing on more than one citation management tool, you will be able to compare their strengths and weaknesses. This paper has discussed several criteria for a recommended citation tool. Seven key questions are raised that can assist users in the evaluation process. Additional information on the strength and weaknesses that may support with evaluation efforts are highlighted, where applicable. Next, the main action to be taken by the user in their evaluation for the right citation tool is to examine the category and level of their research, writing and learning activities. The CMT need to be used to their full potential to obtain the value that comes with it. The value of the tools is not merely on expensive, many features, robustness or cost saving but it's how users interact with tools and optimize them in achieving their objectives. As stated by (Gilmour and Cobus-Kuo, 2011), selecting the simplest reference manager are addicted to the requirements and workflow of the individual user. Every tool has their strengths and weaknesses that will offer better or less significance to diverse groups of users. Individual's choice will inevitably be affected by the computing environment as the CMT continues to revolve so that any decisions may be temporary. The products

could evaporate, or newer ones with better features could appear. The best choice of CMT not only be determined by factors of the functionality of the applications themselves. However, these factors include cost; support provided by institutions, research needs, familiarity with a product from previous experience, and accessibility for the research team members. For example, if users are working on a systematic review with authors at several institutions, they will need to choose a tool that is accessible to everyone on the team. According to Ivey and Crum (2018), information professional needs to take the liberty to familiarize themselves with all the CMT available in the market and not to focus on the CMT subscribe by their institutions to guide their users effectively. It is important to take note that CMT tool can be categorized in terms of purpose as a simple bibliography generator, a social bookmarking site, a traditional tool sporting robust features but limited social networking capabilities, or a tool sporting robust features and social networking capabilities. Knowing the purpose of each tool and properly matching it with user needs can be a vital part of making a proper choice.

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