Original Research Article

Scholars’ perceptions at Egyptian Libraries and Information Science departments towards the usage of Reference Management Software

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ABSTRACT

Reference Management Software (RMS) has played an increasingly effective role in enhancing the movement of publishing and scientific research by helping researchers to manage the resources on which they rely. From this context, this research paper is based on reviewing the awareness and usage of RMS by the faculty members at Egyptian Libraries and Information Science departments, as well as, on evaluating the usability and on trying to recognize their influence on academic researchers. The value and originality of this study lie in the fact that it is one of the first to investigate the issue of RMS faculty preferences at LIS departments in Egyptian universities. To fulfill the objectives, the preferable method is the descriptive survey enhanced by a qualitative approach. The findings indicate that the scholars’ attitudes towards the ease of use and usefulness of RMS range from “neutral” to “agree”, and this suggests that participants believe in its “usefulness” as a crucial factor in motivating them to use RMS systems.

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Introduction

RMS began to appear in the 1980s. In those early years, tools were made ad-hoc, and some were based on the dBase II/III database management system (Tramullas, Sanchez-Casabon, & Garrido-Picazo, 2015). And quickly attracted scholars’ attention and became widely used over time, constantly evolving and improving to meet the ongoing demands posed by reference citations and bibliographic research.

In the previous decade, many RMSs have emerged and developed whether in open source as well as commercial licenses. Their main aims are to enable researchers to deal with references in an efficient way and facilitate citation and referencing issues (Gilmour & Cobus-Kuo, 2011).

The fundamental motivations for researchers while investing in their time are to learn and use citation management tools; such tools are helpful in saving a lot of researchers’ time spent collecting, organizing, and entering bibliographic references into research papers and articles. The majority of RMSs are compatible with publisher’s databases such as Web of Science, Science direct, ProQuest, Ebsco etc., and that will help users profit from these famous databases, and eventually allow them to select the proper referencing style for publication (Butros & Taylor, 2010).
On the other hand, it has been highlighted that if scholars recognized the significance of citing references accurately by using RMS. According to Project Information Literacy report, (41%) of undergraduates surveyed expressed difficulty in learning how to cite resources, and in another survey, (13%) of students indicated that citations were one of the most challenging aspects of research, all these percentages due to study of (Homol, 2014).

Several presumed developments that made RMS extremely suitable for the researcher such as retrieval of reference information from online bibliographic databases, DOIs and other persistent identifiers for bibliographic information, open access to simplify offering full-text content, Web-based reference management for easier collaboration, and the use across multiple devices (Fenner, Scheliga, & Bartling, 2014).

Most of the RMSs provide the option to store the bibliographic information in remote locations for easy access from anywhere that the researcher desires and support all the major bibliographic formats and styles (Ram & Paul Anbu K., 2014).

Following the same context, RMS allows scholars to collaborate, disseminate, insert comments and share their bibliographic references and academic papers with colleagues. These tools enable users to tag citations by assigning to them
some keywords that will improve their retrieval, saving and managing the PDF files, extracting metadata from PDF documents, creating a personal collection of relevant scholarly publications, and using this collection to write their own scientific works, extending their publication outputs, and finally, establishing links with scholars in their field. Reference managers help researchers by performing three basic functions: searching databases to find relevant literature, store search results for later retrieval, and insert references when writing manuscripts. RMSs have also three helpful functions for authors: they ensure the accuracy of citation information; they allow authors to save time when conforming to the demanded referencing style of target journals; and they help authors manage a huge amount of bibliographical information (Pooladian & Borrego, 2017) (Fenner, 2010).

The current study focuses on measuring the attitude and perceptions of the faculty members at Libraries and Information Science departments in Egyptian universities towards utilizing the reference management software.

**Problem statement**

Researchers in the Arab academic environment are facing problems and insufficiency in managing references through manual methods in doing their scientific papers.
The exploratory study emphasized the problems of awareness and usability related to RMS that are facing academic researchers at LIS in Egyptian universities. In addition to this, the absence of knowing the roles of RMS in promoting the movement of scientific publishing and supporting faculty in planning their studies.

**Importance of study**

RMS is considered as one of the most recent trends imposed by ICT revolution in the Arab academic environment.

The significance of this study, besides its effectiveness on the future directions of the Arab academic communities, lies in the rarity of similar studies in the Arab world. Furthermore, the particular concern of this study is the measurement of perception and behavior of scholars at LIS in Egyptian universities towards RMS through perceiving ease of use, usefulness and attitudes.

Hence, the study expects to be an adequate initiative that may lead to further empirical studies and, consequently fill the gap in this research area in Arab universities.

**Goals and Objectives**

This paper is an attempt to focus on measuring scholars’ perceptions and behavior at LIS departments regarding RMS. Therefore, it aims to:

- Analyze the measurements about the awareness and usage of RMS among the researchers of LIS departments.
Evaluate the usability and the required skills for RMS.
Provide evidence-based information on the effect of RMS on scientific publishing at LIS departments.
Understand the impact of training, and support for promoting and orienting to employ RMS.

The main reason behind concentrating on these objectives is to recognize the influence of RMS on academic researchers at LIS departments. This study could contribute to spotting the weaknesses in RMS as well as any other convergences or core deficiencies in these systems.

Research questions

The study explores the role and usage of RMS at Egyptian LIS departments. The following research questions will be investigated to meet the objectives of the study:

- RQ1. What level of awareness about RMS exists among scholars of LIS departments?
- RQ2. How likely are LIS scholars to use RMSs?
- RQ3. What are the factors stimulating in the case of use and non-use?
- RQ4. Did the participant researchers in the workshops and gain technical support while using RMSs?
- RQ5. Does the ease of use and usefulness of RMSs increase researchers’ scientific productivity at LIS departments?
Previous works

The examination of published literature review reveals that several studies have emerged on the RMS. Most researches concentrate on comparisons and evaluations of these software’s, and moreover, survey the levels of its usage and awareness. We also observed resources around technical specifications of RMS through analyzing the features and characteristics offered by the applications.

There have been studies focusing on the RMS roles for promoting academic libraries services; among them is the work of (Lonergan, 2017) which explored the researchers’ attitudes at Dickinson College, Carlisle, Pennsylvania, USA regarding RMS to improve the library’s support and training programs. The findings show that multiple RMSs were in use; while the faculty members preferred Zotero, the library supported RefWorks. However, more than (40%) of study specimen did not use any RMS. The study emphasized that the main research limitations were the relatively short length of the survey. Consequently, as supplemental detailed investigation of faculty attitudes was precluded. The response rate reached (20%), although similar surveys may over-represent those faculties who have strong attitudes toward RMS. The findings also promote the value of doing more research to establish the parameters of the RMS.
environment between scholars with implications for support, instruction and outreach at the institutional level.

Among the studies are those which describe the approach for using RMS to manage references and reporting of systematic reviews. For example, (Peters, 2017) examines the use of EndNote to administer code references as well as to report systematic and scoping reviews. This procedure allows reviewers to easily use EndNote to conduct and report systematic reviews in line with the internationally recognized PRISMA reporting guidelines, and also to simplify the comprehensive task of systematic or scoping review from the initial search through structuring the results, discussion, and conclusions in a rigorous, reproducible, and user-friendly manner.

Reference Management Software (RMS) is being widely used by scholars, researchers, scientists, professors, and by many professionals for inserting references in their research papers/articles. (Chawla & Gupta, 2017) emulated the features, options and characteristics of four prominent RMS: EndNote, Mendeley, RefWorks and Zotero, in parallel with the various features provided by them, storage capacity and many others. Users have many options in RMS to choose from according to their necessity and based on the features being served by these applications. Further, this research is describing diverse versions
of RMS like EndNote web, EndNote Online, EndNote Basic and the mobile version of Mendeley.

(Roux & Breshears, 2016) highlighted the favorable attitude among lecturing staff and postgraduate students towards free reference management software such as Zotero and suggested practical pathways for the introduction of a similar software at South African university campuses. Guided by the Technology Acceptance Model, the study assessed the effectiveness of a workshop as an intervention to introduce Zotero (a novel FOSS in this particular community) to staff members and students at a rural university campus in South Africa. Moreover, the application of TAM has demonstrated that the model could successfully predict user behavior. This suggests that future studies on adoption of novel technology in South Africa’s tertiary institutes may be able to use TAM as a useful analysis and predictive tool. The study suggests that brief training workshops could significantly improve the usage of novel open-source software, even with a lack of prior exposure to similar technologies.

In a related context (Melles & Unsworth, 2015) aimed to seek the reference management practices of postgraduate students and academics in the Faculty of Arts at Monash University. Analysis shows that the reference management practices are personal and do not always involve the use of RMS.
The reasons behind adopting these practices are informed by a wide range of institutional and personal factors. The results disclose the shifting and effective ways in which references are managed and the various reasons that underlie researchers’ adoption of individual approaches. The complexity and diversity of practice is at disagreement with the underlying assumption in most libraries and information science literature about reference management instruction, which is reasonably a simple problem that could be solved by using RMS.

Following the same orientation, (Conrad, Leonard, & Somerville, 2015) in their exploratory study, claim that the Ph.D. and master’s students use research tools in their scholarly information experiences with such research tools as EndNote, Mendeley, and Zotero. There is a plethora of web-based and localized software solutions that can offer necessary efficiencies. However, the experience that graduate students have with these tools varies widely and is often based on what they hope to gain by using these tools, as well as how the tool integrates with other systems and workflows. For organizations supporting the processes of academic discovery, scholarly creation, and dissemination, the complexities of the scholarly ecosystem are hopefully facilitated by software solutions and research tools such as Zotero and EndNote.
The purpose of (Sarrafzadeh & Hazeri, 2014) is to investigate the familiarity and use of reference management software (RMS) by library and information science (LIS) faculties in Iran. It aims to identify the possible factors that lead to the application and choice of this software. The data collected by a Web-based questionnaire include both open-ended and multiple-choice questions. The questionnaires were distributed among LIS discussion groups and were e-mailed to LIS faculties. Results revealed that over half of the respondents had a good familiarity with the various citation software packages and knew how to use them; (35%) of respondents have learned how to use these packages through formal education. “EndNote” is the most popular software among respondents. Participants confirmed the need to offer some educational programs on how to use these software packages to bachelor students and nominated the “Academic Writing” course as the proper way for teaching this topic. According to the findings of this research project, it seems that a considerable portion of LIS faculties do not use RMS. Only (30%) of respondents had received formal training on how to use RMS.

The precedent studies concentrate on the RMS roles in promoting academic libraries services such as training programs. They also discuss the approach for using RMS to manage references and reporting of systematic reviews. Moreover, they
articulate how RMSs are being widely used by scholars, researchers, scientists and professors for inserting references in their research papers. Other researches investigate the familiarity of the usage of RMS by library and information science faculties.

While there are studies that have not sufficiently discussed the perceptions of academics towards RMS specially in Arab universities, this study focuses on the Scholars’ perceptions at Egyptian Libraries and Information Science departments towards the usage of scientific reference management software.

**Research Methodology:**

The data for this study (below) is based on scholars’ experiences at LIS departments in Egyptian governmental universities with utilizing RMS. To fulfil the objectives, the preferable method is the descriptive survey enhanced by a qualitative approach.

Data were collected through an online questionnaire that covered five sections: the first was “basic information” about participants, which was designed to have nine questions; the second component was “awareness and knowledge” consisting of seven questions; the third is linked to the “motivations of usage” which has three questions; the fourth is “training and support” which include four questions, and finally the “skills and productivity” of scholars with six statements.
The questionnaire was therefore addressed to professors, post-doctoral researchers, students of masters and PhD degrees from Egyptian LIS departments. The purpose was to measure and evaluate the faculty usage and preferences for RMS.

An invitation includes a link to the survey along with a description of the purpose. Three subsequent reminders were emailed to about (412) faculty members. The questionnaire was sent to scholars in all departments, therefore getting the chance to examine the use of RMS.

The variables of the study are established on Technology Acceptance Model (TAM), for measuring RMS in terms of awareness, ease of use, usefulness, and attitudes, which were adapted from Davis (1989).

It should be noted that a small sample of respondents didn't answer all questions, so the following analyses donot always add up to the total number of respondents.

**Discussion and Results**

The survey of this study focuses on all governmental Libraries and Information Science departments in Egypt: Table (1) shows a list of the (18) Egyptian LIS departments which responded to the survey. According to the survey the overall number of faculty members was approximately (412) members, (156) of which completed the survey with a (41.20%) response rate.
The highest response rate comes from the Library and Information science department at Assiut university with (72.7%). In the second position comes Fayoum university with a response rate of (70%), then New valley and Damietta universities with (66.6%) for each of them. Thereafter Alexandria university response rate is (64.2%), followed by Mansoura university with response rate (60%), then Sohag university (54.5%), followed by Tanta university (53.3%). Regarding Ein Shams and Kafr El Sheikh universities, the response rate is (50%) for each one. The response rate of Menia university is (45.1%), Benha (40%), Helwan (33.3%), Menofia (30.2%), Beni Suef (23.9%), Cairo (21%), and finally the lowest response rate is for Al-Azhar (10.3%) and Suez Canal with (0%).

The low rate of responses can probably be attributed to a lack of awareness or interest in the questionnaire topic.

Furthermore, table (1) presents the number of participants from each department. As shown, Alexandria university comes in the first place, followed by Assiut then Menia, Kafr El Sheikh, Damietta, Al-Azhar and New valley universities came at the bottom of the participants’ list.
<table>
<thead>
<tr>
<th>S</th>
<th>University</th>
<th>No. of Staff members</th>
<th>No. of Participants</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cairo</td>
<td>73</td>
<td>15</td>
<td>21%</td>
</tr>
<tr>
<td>2</td>
<td>Assiut</td>
<td>22</td>
<td>16</td>
<td>72.70%</td>
</tr>
<tr>
<td>3</td>
<td>Alexandria</td>
<td>28</td>
<td>18</td>
<td>64.20%</td>
</tr>
<tr>
<td>4</td>
<td>Ein Shams</td>
<td>20</td>
<td>10</td>
<td>50%</td>
</tr>
<tr>
<td>5</td>
<td>Helwan</td>
<td>27</td>
<td>9</td>
<td>33.30%</td>
</tr>
<tr>
<td>6</td>
<td>Menofia</td>
<td>43</td>
<td>13</td>
<td>30.20%</td>
</tr>
<tr>
<td>7</td>
<td>Tanta</td>
<td>15</td>
<td>8</td>
<td>53.30%</td>
</tr>
<tr>
<td>8</td>
<td>Sohag</td>
<td>11</td>
<td>6</td>
<td>54.50%</td>
</tr>
<tr>
<td>9</td>
<td>Menia</td>
<td>31</td>
<td>14</td>
<td>45.10%</td>
</tr>
<tr>
<td>10</td>
<td>BeniSuef</td>
<td>46</td>
<td>11</td>
<td>23.90%</td>
</tr>
<tr>
<td>11</td>
<td>Newvalley</td>
<td>3</td>
<td>2</td>
<td>66.60%</td>
</tr>
<tr>
<td>12</td>
<td>Mansoura</td>
<td>15</td>
<td>9</td>
<td>60%</td>
</tr>
<tr>
<td>13</td>
<td>Fayoum</td>
<td>10</td>
<td>7</td>
<td>70%</td>
</tr>
<tr>
<td>14</td>
<td>Suez Canal</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>Benha</td>
<td>25</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>16</td>
<td>Kafr El Sheikh</td>
<td>6</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>17</td>
<td>Damietta</td>
<td>3</td>
<td>2</td>
<td>66.60%</td>
</tr>
<tr>
<td>18</td>
<td>Al-Azhar</td>
<td>29</td>
<td>3</td>
<td>10.34%</td>
</tr>
</tbody>
</table>

Table (1) list of LIS participants
Of the (156) scholars who completed the survey, figure (1) shows the Academic position for participants; 11 (7%) were Professors, 21 (13%) were Associate Prof, 28 (18%) were Lecturers, 45 (29%) were Ph.D. researchers and 51 (33%) were master’s researchers.

Figure (1) participants’ academic positions

As indicated in Figure (2), the overall sample was distributed by gender: 107 (69%) were female and 49 (31%) were male.

Figure (2) gender of participants
Figure (3) displays the demographic information of participants: (59%) of respondents are aged from 20 to 30 years old, nearly (56%) are in the age range from 31 to 40 years old, (32%) in the age group from 41 to 50 years old, and (9%) in the age group over 50 years old.

![Figure (3) participants ages]

**Awareness and knowledge**

Figure (4) indicates that (25%) of respondents have never heard about any RMS tool and (75%) have already been acquainted with RMS. So, the survey shows that most respondents are familiar with RMS.
According to figure (5), the survey enabled respondents to select one or more options. The findings show that (81) of respondents assure they are well aware of Endnote, (39) of Mendeley, (33) Reference Manger, (29) are familiar with EndnoteWeb, (25) with Zotero, (15) with Refworks, (15) with BibTex, (14) with CiteULike, and finally, (4) with Procite.
Figure (6) demonstrates the usage of RMS by scholars. The analysis displays that 67 (43%) of participants have no previous use experience, while 89 (57%) of respondents have already experienced utilizing RMS.

![Figure (6) experience in usage RMS](image)

Figure (7) investigates the most used type of RMS by respondents. According to the findings, Endnote is the most salable RMS, attracting nearly 63 (40%) of respondents. In second place, 29 (19%) of respondents assert they didn't use any RMS; Endnote Web is in the next position with 19 respondents’ (12%) usage rate. Other softwares appeared to be rarely used; 11 (7%) of respondents hire Reference Manager, 10 (6%) for Mendeley, 9 (6%) for Zotero, 6 (4%) for Refworks, 4 (3%) for CiteULike, 2 (2%) for Procite, and finally, 2 (1%) for BibTex.
Figure (7) RMS usage

Figure (8) illustrates the way in which respondents have become familiar with RMS. Approximately 69 (44%) of respondents knew about RMS through internetservices, while 46 (29%) informed about it through Colleagues, 19 (12%) through Workshops, 15 (10%) via Librarians and information specialists and the remaining 7 (5%) through other ways.

Figure (8) How did participants hear about RMS?
Figure (9) concentrates on the time period in which RMS was used by participants; 68 (44%) of respondents never used the software, while 29 (19%) used the applications for a time period less than one year, 24 (15%) used the software from one to two years, 22 (14%) used it from two to five years, and finally 13 (8%) used the software for a time period exceeding five years.

![Figure (9) Time period for using RMS](image)

Figure (10) presents the frequency of usage. The data shows that 68 (43%) of respondents never used any RMS, whereas 23 (15%) of respondents used the application once per year. For 19 (12%) the usage was once per nine months, for 15 (10%) the usage was once per three months, for 13 (8%) the usage was once per six months, for 13 (8%) the usage was once per month, and for the remaining 6 (4%) the usage was once per week.
Motivations of usage

Figure (11) analyzes the motivations for adopting a specific RMS. The findings prove that 54 (34%) of respondents affirm there are no specific reasons behind their choice of the RMS, whereas 31 (20%) consider their RMS as the best tools to perform their references management needs. 26 (17%) select the application by means of reading about it; 23 (15%) choose it because the software is open source and free, 14 (9%) use the program on colleagues’ suggestion, and the remaining 8 (5%) choose the program because it is provided by the university to its researchers.
Figure (11) Raisons of selecting a specific RMS

Figure (12) focuses on RMS features. Respondents were asked to identify the most substantial features that they use. As expected, the “core features” of any RMS were “Insert” reference citations into search (71 (20%)). Moreover, respondents mostly referred to “Create” bibliographic list, “organize” references to facilitate retrieval, and “save” reference citations with rate 56 (16%) for each one of them. 40 (11%) of respondents “edit” reference citations according to the requirements of the citation method; 31 (9%) for “discover” new references; 21 (6%) “organize” the full texts of journal articles, 12 (3%) “share” references with others; and finally, 11 (3%) “reach” out to people across the World Wide Web with whom they are sharing a research area.
Training and support

Figure (13) aims to measure the rate of participation in training programs or workshops sessions related to RMS. The respondents affirm that 85 (55%) have never participated in any workshop, while 69 (45%) already have a positive attitude towards attending training programs.
Figure (14) displays the level of support and help offered by the library to RMS users. It shows that 117 (75%) of respondents didn't receive any assistance when they needed it, whereas 39 (25%) affirm they got help from the library.

Figure (14) support and help from the library

Figure (15) reflects whether the respondents have suggested using RMS to other colleagues. The result showed that 71 (52%) passed on a positive attitude to their colleagues and 65 (48%) didn't recommend the RMS to any of their colleagues.

Figure (15) recommendation to colleagues
Figure (16) shows whether the respondents have recommended RMS to their students. The data shows that 102 (65%) already asked their students to explore the applications, while 54 (35%) didn’t recommend the RMS to any of their students.

**Ease of use and Usefulness**

Descriptive statistics was applied with a view to inquire into scholars’ perspectives about each variable of the study. The percentage and the mean for each survey item question were reported using 5-point ‘Likert’ scale to measure how strongly participants agreed or disagreed with surveyed items. The researcher classified the ‘Likert’ scale responses as follows: strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1.
As shown in table (2), the mean of the agreement with the first statement “I think it's easy to use RMS” ranges from agreement to strong agreement and represents the highest score with (4.07), whereas the second statement, “RMS needs great efforts to acquire skills to use”, scores the lowest with (3.26). The statement “RMSs are not flexible” has an agreement score of (2.64), while the statement, “the use of RMS increases the scientific productivity of researchers”, has mean agreement of (3.84). The attitude represented in the statements “the use of RMS helps to accomplish scientific research more quickly than usual” found to be the greatest factors according the mean scores which reached (4.35). The last statement “Dealing with RMS increases interaction among researchers” has mean agreement of (3.98).

Calculating the mean of all statements generates the general mean of the variable “Perceptions toward ease of use and usefulness of RMS”. This process indicates that scholars’ perception of RMS regarding ease of use scores (3.69), range from neutral to agree. This result shows that participants believe ‘usefulness’ is a crucial factor in motivating them to use RMS systems.
Table 2: Perceptions toward ease of use and usefulness of RMS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think it's easy to use RMS</td>
<td>29%</td>
<td>50%</td>
<td>21%</td>
<td>0%</td>
<td>0%</td>
<td>4.07</td>
</tr>
<tr>
<td>RMS needs great efforts to acquire skills to use</td>
<td>10%</td>
<td>35%</td>
<td>29%</td>
<td>23%</td>
<td>3%</td>
<td>3.26</td>
</tr>
<tr>
<td>RMS are not flexible</td>
<td>1%</td>
<td>11%</td>
<td>47%</td>
<td>33%</td>
<td>8%</td>
<td>2.64</td>
</tr>
<tr>
<td>The use of RMS increases the scientific productivity of researchers</td>
<td>25%</td>
<td>44%</td>
<td>23%</td>
<td>6%</td>
<td>2%</td>
<td>3.84</td>
</tr>
<tr>
<td>The use of RMS helps to accomplish scientific research more quickly than usual</td>
<td>25%</td>
<td>57%</td>
<td>15%</td>
<td>2%</td>
<td>1%</td>
<td>4.35</td>
</tr>
<tr>
<td>Dealing with RMS increases interaction among researchers</td>
<td>18%</td>
<td>43%</td>
<td>33%</td>
<td>6%</td>
<td>0%</td>
<td>3.98</td>
</tr>
<tr>
<td>General mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.69</td>
</tr>
</tbody>
</table>
The limitations of the survey include the short length hindered acquiring additional data that might have been useful, and the response rate of approximately (41.20%). Therewith in comparison with several previous surveys of RMS faculty preferences mentioned in the literature had a lower response rate, so these results seemed appropriate for the topic and the method chosen. (Francese, 2013); (Sarrafzadeh & Hazeri, 2014).

**Conclusion and recommendations**

The survey sample reached out to (18)LIS academic departments from all Egyptian universities. All departments had a participation rate except for LIS department at Suez Canal University. That was probably due to the lack of sufficient number of faculty members and refusal to participate.

The LIS department at Alexandria university had the highest response average, while Damietta and New Valley universities got the lowest reacting. The study found that a considerable proportion of more than (75%) of participants are familiar with RMS, and greater than (43%) have experience using these programs.

According to the findings, Endnote is the most common RMS among respondents, attracting about (40%) of them. The high usage of Endnote might be attributed to its prolonged history, as well as the availability of an offline and a Web-based version of the software.
Data analysis demonstrates that approximately (44%) of respondents know RMS through Internet services such as portals, blogs and academic social networks, while (29%) of respondents know about it by means of Colleagues.

The research discloses that the substantial motivation for scholars to select a specific RMS is that it is the best tool to perform their needs related to editing citations with 31 (20%) of respondents. There is a significant proportion of (34%) respondents who confirm there is no specific reason for their preference in choosing a RMS.

The results indicate that (47%) of respondents use less than 50 references in the RMS library, and (31%) of them use from 51 to 200 references.

The most utilized features were, as expected, to insert reference citations into search with a percentage rate of (20%).

In connection with participation in workshops and training sessions for RMS, the respondents claim that (55%) of them did not participate in any training events.

The scholars in the study had framed comprehension and perception of RMSs; they recognize their simplicity and usefulness. Hence, they had a positive attitude towards implementing it in publishing of scientific research.
As in any other study, the current study has a few limitations despite its strengths. Among the limitations appears the difficulty to contact with all faculty members in LIS at Egyptian universities, and the low number of participants. The reason is that the RMS has been implemented for a short span of time.

Based on the findings, the following recommendations are presented for enhancing RMS at LIS in Egyptian universities:

1. There is a necessity to expand the use of RMS among the Scholars of academic departments in Egyptian universities.
2. Adopting more training for scholars to enhance the skills of using RMS is necessary. The workshops will facilitate the increase of the level of awareness in using RMS features.
3. RMS should be implemented in the educational curriculum in an enhanced way in order to support the scientific publishing and increase the researcher’s productivity.
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