

The Impact of Turkey in the Library and Information Science Literature

¹Umut Al, ¹İrem Soydal, ²Umut Sezen, & ¹Orçun Madran

¹{umutal, soydal, omadran}@hacettepe.edu.tr

Hacettepe University, Department of Information Management, 06800 Beytepe, Ankara, Turkey

²u.sezen@ee.hacettepe.edu.tr

Hacettepe University, Department of Electrical and Electronics Engineering, 06800 Beytepe, Ankara, Turkey

Abstract

This paper investigates the contribution of Turkey to the world library and information science literature. In this study we investigate the bibliometric characteristics of 219 library and information science journal articles written by authors affiliated with Turkish institutions and indexed in the *Social Sciences Citation Index (SSCI)* between the years 1974-2013. The most preferred library and information science journals to publish articles for Turkey addressed authors are Information Processing & Management and Scientometrics. 159 of 219 articles of Turkey addressed library and information science articles were cited at least once by the publications in citation indexes. Total number of citations of Turkey addressed 159 articles was 1304. All of the contributions were written in English and one-third of them had single authorship. Turkey addressed library and information science articles have been cited by 69 different countries and in particular mostly by the United States of America, China and England. On the other hand the country self-citation was 27%.

Introduction

The importance of publishing articles in journals within the scope of citation indexes has been increasing gradually. Researchers wish to publish their articles in the journals that are indexed in citation indexes to be able to spread their studies to wide audiences. At the same time, it is a known fact that publishing articles within the scope of citation indexes usually counted as an indicator of reputation. On the other hand, it is also a motivating effect for academicians in terms of tenure and promotion. Regardless of the reason, it is a fact that, both the number of researchers, who want to publish their works in the journals that are indexed in the citation indexes, and articles published in these indexed journals increased in the recent years. The same situation is also observed in the library and information science (LIS) literature in particular.

Turkish interest in library science, (especially in terms of LIS education) can be traced back to the invitation of John Dewey who accepted to carry out a survey on Turkish education system and make recommendations. His 1924 dated report included a suggestion for some Turkish experts to be sent to the United States for librarianship training. Some courses on library practice were offered in İstanbul and Ankara until 1953 (Whitten & Minder, 1974, pp. 223-224). In 1954 Ankara University Institute of Librarianship was established as the first LIS Bachelor's program in Turkey followed by İstanbul University and Hacettepe University (Kum & Erdoğan, 1980). Today, six information management departments actively educate the future LIS professionals. Moreover, these departments also contribute the academic literature of LIS both in Turkey and in the world. With this study, we tried to identify the contribution of Turkey to the world LIS literature.

Literature Review

It is seen in the literature that researchers examine not only the bibliometric characteristics of a particular LIS journal (Bonnieve, 2003; Furner, 2009; Ginn, 2003; Mukherjee, 2009; Ramesh & Nagaraju, 2000; Schubert, 2002; Tsay & Shu, 2011), but also some of them compare more than one journal in terms of their bibliometric features (Harter, Nisonger & Weng, 1993; He & Spink, 2002; Kajberg, 1996; Kim, 1991). It would be better to note that some of the aforementioned studies especially focused only on the citation analysis.

In one of the studies, the co-citation rate of *Journal of Information Science* was investigated (Bonnieve, 2003). The similarity measures based on co-citation analysis showed that the *Journal of Information Science* and *JASIS* were the closest ones in terms of their position in the LIS network (Bonnieve, 2003, p. 20). In another study (Schubert, 2002), a statistical overview of the first 50 volumes of the journal *Scientometrics* in its first 24 years was given. The study revealed the references that were highly cited by the articles published in *Scientometrics*, as well as the most citing references of *Scientometrics* that were cited by the articles published in the other journals. According to this, the most cited publication in *Scientometrics* articles was De Solla Price's *Little Science Big Science* (Schubert, 2002, p. 14).

Studies related to LIS journals covered both long and short term periods for the analysis. For instance, Ginn (2003) analysed relatively a small number of citation data that belongs to a short term period. The study revealed that the most cited journal was *JASIS*. One of the hypotheses of the study, which was defined as "the use of Web sites as reference sources would increase in number from the first year to the next", was not supported by the findings (Ginn, 2003, p. 108). Another study, (Harter, Nisonger & Weng, 1993) related to librarianship journals, examined the articles in three different journals (*College and Research Libraries*, *JASIS*, *Library Journal*) and investigated the semantic relationship between citing and cited documents in these journals to reveal the differences between them. For example, a clear difference was observed among the three journals regarding the type of the references they cite. A chi-square test showed that *JASIS* cites far more proceedings than expected. By contrast, *College and Research Libraries* and *Library Journal* cite books more than *JASIS* (Harter, Nisonger & Weng, 1993, pp. 545-546).

Another published study (Kajberg, 1996) reported the geographic distribution of cited documents in Danish that were published in joint Nordic LIS journals. The findings showed that about two thirds of cited documents were published in Denmark (Kajberg, 1996, p. 77). Similar findings were revealed by other researchers as well. In one of these studies, the journal named *Indian Journal of Information, Library and Society* was examined and it was observed that 60% of cited journals were from India (Ramesh & Nagaraju, 2000, p. 177). These studies point out the high usage rates of domestic publications in the LIS literature.

There are some studies in the literature (Herrero-Solana & Ríos-Gómez, 2006; Schloegl & Stock, 2004) that are similar to our study in which LIS journals that are included in the *Journal Citation Reports (JCR)* classification were investigated. One of these studies (Herrero-Solana & Ríos-Gómez, 2006) examined the contribution of Latin America between the years 1966 and 2003 by using the information science journals in the *JCR*. The study revealed that Brazil was the most productive country since it produced half of the total number of publications. Another study (Schloegl & Stock, 2004) investigated nearly 90.000 citations in 50 journals included in the *JCR*. The study compared the data obtained from citations and reader survey analysis. The relationships between different variables, such as reading frequency and impact factor; reading frequency and half-life and reading frequency and the number of references per article were tested. It was found out that the reading behavior was not affected by the impact factor (Schloegl & Stock, 2004, p. 1166).

Another bibliometric study on information science journals (Uzun, 2002) examined the articles in 21 journals (which were defined as core information science journals by the author) without a classification based on *JCR*. The impact of the publications of East European and developing countries on information science were discussed in the study according to a bibliometric approach. The study revealed that the above mentioned countries had limited publications on information science between the years 1980 and 1999 and only 8% of all articles were written by the authors from these countries (Uzun, 2002, p. 21).

In Turkey, bibliometric studies on LIS journals were based on a journal, titled the *Turkish Librarianship*, which has almost a 60-year history. In one of the earliest studies on bibliometrics in Turkey (Çakın, 1980), content analysis was done for the *Bulletin of the Turkish Librarians' Association* (the old title of the *Turkish Librarianship*). The first citation analysis study was conducted in 1996 and investigated the citations of articles of the *Turkish Librarianship* journal published during 1981-1995. The study has examined only the journal citations and found out that the most cited journal was the *Turkish Librarianship* (Kurbanoglu, 1996a, p. 109). In another study, the accuracy of the citations appeared in the articles of the *Turkish Librarianship* during 1991-1995 was analysed (Kurbanoglu, 1996b).

Another study aimed to determine the number of citations of refereed and non-refereed articles and the number of articles that were written in Turkish and in other languages, published in the *Turkish Librarianship* journal between the years 1992-2001 (Gürdal, 2002). The most comprehensive study on the *Turkish Librarianship* journal covers the years 1987-2001 (Tonta, 2002). The study revealed the results of extensive citation analysis of the articles published in the *Turkish Librarianship* journal and introduced some bibliometric information about articles that were published in the journal.

Different from the above mentioned ones, another study evaluated the citations of articles that were published in LIS journals by the researchers of Library and Information Science Departments of three different universities. The results of this study showed that these researchers tended to cite the articles of their fellow academicians who work in the same department (Yılmaz, 2000).

Methodology and Research Questions

Our study covers the years 1974 (which is the publication year of first Turkey addressed information science article in *SSCI*) and 2013 and it is intended to answer the following research questions:

- In which journals do Turkish LIS scholars publish more often?
- How many articles, which are indexed in the citation indexes, are produced by the scholars of LIS discipline?
- What percentage of articles authored by Turkish LIS scholars receive citations?
- What are the country origins of the authors who cited the Turkey addressed information science articles?

Data of this study come from Thomson Reuters' *Web of Science* online database. We searched *SSCI* on February 20, 2014 to identify the Turkey addressed articles published in LIS journals. To obtain the data, journal names were entered in "publication name" field and Turkey was entered in the "address" field. Journal names were obtained from Information Science & Library Science subcategory within the *JCR 2012*. *JCR 2012* contains 85 journals in the related field (Thomson Reuters, 2013). The former *JCRs* were also examined because of the possible existence of some other journals related to this field in the previous years.

It was seen that a few of the journals have changed their names over time. To be able to make accurate evaluations, changes in the names of journals were determined and all the data belong to the ones that changed their names were classified under their new names.

For better interpretation of our study, there are three points which should not be overlooked. Firstly, in our study instead of considering if the authors' nationality was Turkish or not, it was examined whether the authors produced Turkey addressed articles. The second important point is that our research was based on the classification of Thomson Reuters. Although there are many journal titles in the Thomson Reuters' classification, it should be taken into account that some journals within this classification are directly related to the information science where the others have indirect associations with the field. Thirdly, it should be kept in mind that researchers from information science discipline in Turkey have also some publications in

the journals that are not counted as information science journals. Naturally, these articles were not addressed within the scope of this research.

Findings and Discussion

The Turkey addressed information science articles indexed within the scope of *SSCI* between the years 1974-2013 are 219. In the same time period the number of information science articles from all over the world is 89,407. Hence, it is observed that the contribution of Turkey to the world information science literature is 0.24%.

Figure 1 shows the contribution of Turkey to the information science literature in five years periods. These periods display the proportion of the number of Turkey addressed articles to the number of whole articles in information science literature published within the scope of *SSCI*. In the first four periods (1974-1978; 1979-1983; 1984-1988 and 1989-1993) the contribution of Turkey to the world's information science literature was ten in the ten-thousand. The ratio accelerated in the following years and a dramatic increase was observed in the 2004-2008 period, which was fifty-seven in the ten-thousand (0.57%). The increase in the number of Turkey addressed information science articles seems to be higher than that of the other time periods. If this increase continues, it is estimated that Turkey addressed information science articles will take place in the world information science literature with more than one percent.

The deceleration which appears to be in the 2009-2013 period (see Figure 1) is related to the indexing process of citation indexes. As of February 2014, all articles that were belong to the year 2013 have not been indexed yet.

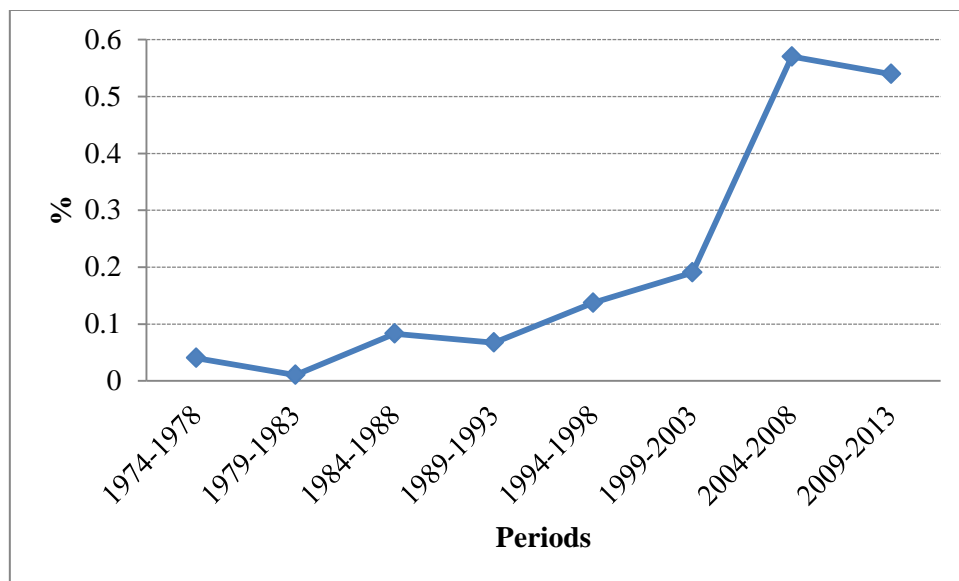


Figure 1. The percentage of Turkey addressed information science articles in the *SSCI*

In this research, nearly 100 information science journals were analyzed in order to investigate whether they have Turkey addressed articles or not. It was found out that Turkey addressed articles were published in 49 different information science journals. In Table 1, the names of the information science journals in which Turkey addressed articles took place were presented. Accordingly, more Turkey addressed articles were published in *Information Processing & Management* and *Scientometrics*, followed by *Journal of the American Society for Information Science & Technology*, *Libri* and *Journal of Academic Librarianship*. Forty-

one percent of the total number of Turkey addressed articles in the information science literature came from these five journals

Table 1. Journals publishing eight or more contributions by Turkish institutions

<i>Journal</i>	<i>N</i>
Information Processing & Management	25
Scientometrics	25
Journal of the American Society for Information Science & Technology	18
Libri	13
Journal of Academic Librarianship	10
Government Information Quarterly	9
Journal of Information Science	9
International Information & Library Review	8
Telecommunications Policy	8
Other journals	94
Total	219

Until the date we conducted the search for this study, 219 Turkey addressed articles that were published in the information science journals received 1304 citations in total and 60 of them did not receive citations. However, 20 of these 60 articles published in 2013, therefore some more time is needed in order for them to get citations. The oldest article that did not receive citations was published in 1978. Six articles that were published in the years 1990-1998 and 33 articles that were published in the years 2002-2012 received no citations at all. The most frequently cited publication was cited 77 times. The average number of citations received by Turkey addressed articles was six.

The total number of different authors contributing to 219 articles was 341. Eighty percent (273 authors) of all authors contributed to the literature with only a single publication. There were nine authors publishing seven or more contributions in LIS journals.

It is also investigated that how many of the articles were produced by the authors who were working in information science discipline. 64 out of 219 articles (29%) were produced by the aforementioned scholars or graduates of information science discipline. In other words, it is seen that researchers out of information science discipline are more productive in the field. The most productive two researchers Seda Özmütlu and Hüseyin Cenk Özmütlu (13 and 12 articles, respectively) were industrial engineers. One of the scholars from Statistics department, Ali Uzun, is also one of the most productive authors in the information science discipline (9 articles). The most productive researcher from information science discipline is Yaşar Tonta (with 13 articles), who still is a faculty member in the Department of Information Management of Hacettepe University.

Publications with multiple authors constituted two-third of all articles. 33% of articles has two authors, 19% of articles has three authors, and 14% of articles has four or more authors.

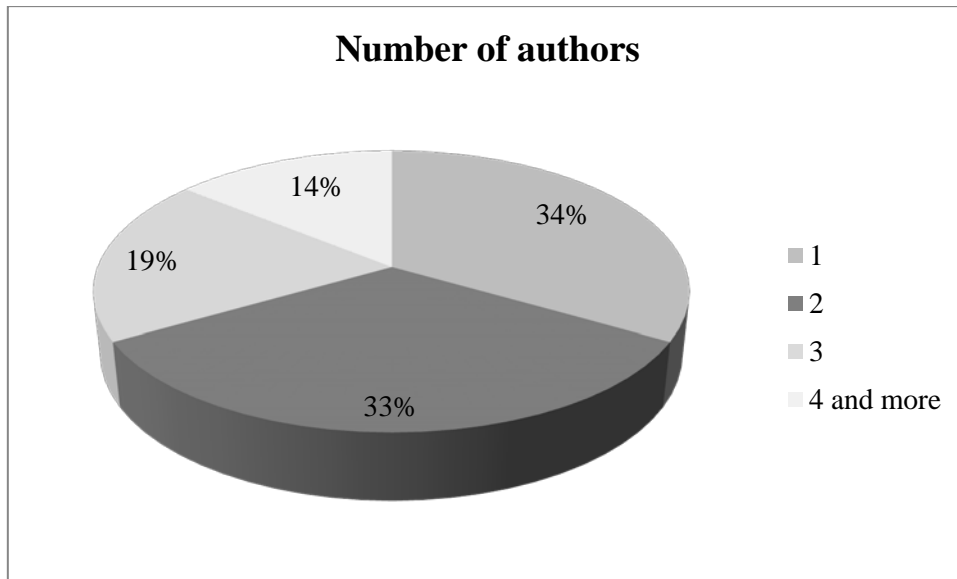


Figure 2. Number of authors

The average number of authors per article was two. Nevertheless, we observed a tendency towards multiple authorship (Figure 3).

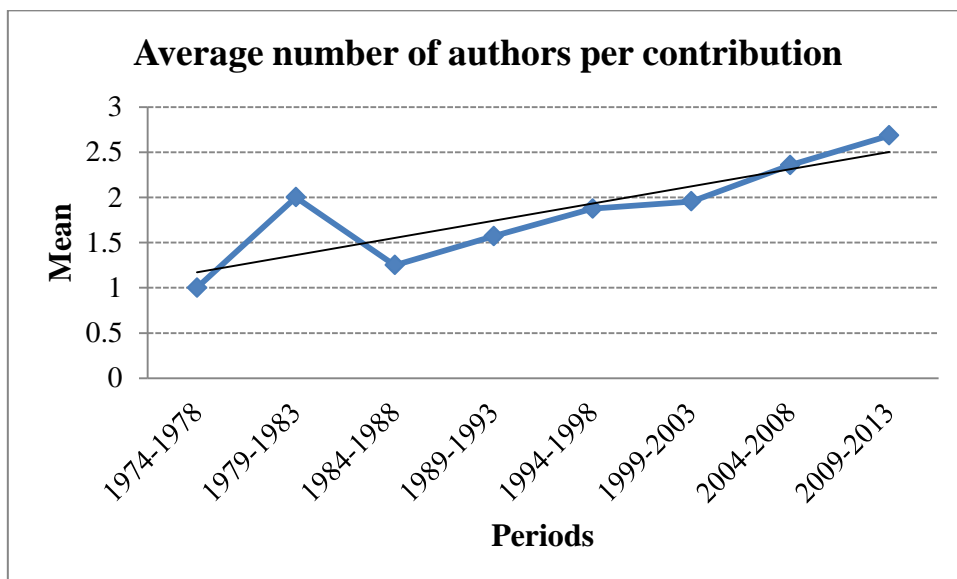


Figure 3. Average number of authors per contribution

Turkey addressed information science articles has received citations from 548 different publications, in which proceedings books were also included. More than one third of these citations come from 18 different journals. These journals and the number of citations that were received by Turkey addressed articles were shown in Table 2. Turkey addressed articles had mostly received citations from the articles that were published in *Journal of the American Society for Information Science & Technology*, *Scientometrics* and *Information Processing & Management*. These three journals, which were also addressed in Table 1, were information science journals where Turkey addressed articles published the most. In addition to these findings, the rank order correlation between the lists of publishing journals and cited journals was statistically significant (Spearman's $\rho = .621, p < .01$).

Table 2. The most heavily citing journals for Turkey addressed information science articles

<i>Journal</i>	<i>N</i>
Journal of the American Society for Information Science & Technology	91
Scientometrics	84
Information Processing & Management	58
Online Information Review	32
Experts Systems with Applications	31
Journal of Academic Librarianship	20
Journal of Documentation	19
Journal of Information Science	19
Telecommunications Policy	19
Information Research	17
Government Information Quarterly	15
Library & Information Science Research	15
Libri	13
Electronic Library	12
Information & Management	12
Aslib Proceedings	11
International Information & Library Review	10
Program	10
Total	488

Turkey addressed information science articles had also received citations from the journals (such as, *Expert Systems with Applications*, *Simulation Modelling Practice & Theory*), which are classified under the disciplines that are not related to information science field (such as, education, mathematics) in terms of *JCR* classification. This shows, in a sense, the interest of different disciplines on information science field and reinforces the interdisciplinary nature of the field.

Table 3. The most citing countries for Turkey addressed information science articles

<i>Country</i>	<i>N</i>
Turkey	354
USA	241
China	108
England	95
Spain	72
Taiwan	64
Australia	53
Canada	48
India	37
South Korea	29
Netherlands	25
Malaysia	24
France	23
Germany	23
Iran	22

In this study, the countries that cited Turkey addressed information science articles were also investigated and findings showed that these articles had received citations again from the Turkey addressed scholars. 354 out of 1304 citations (27%) were country self-citations, followed by United States of America, China and England. The countries which cited Turkey addressed articles were presented in Table 3 and in Figure 4 show the density of consideration of the countries worldwide.

Figure 4 shows that, although they are small in number, Turkey addressed information science articles were visible for and cited by several different countries. Argentina, Bangladesh, Botswana, Bulgaria, Costa Rica, Iceland, Kuwait, Lebanon, Lithuania, Mozambique, Peru, Philippines, Qatar, Romania and Tanzania are some of the countries which cited Turkey addressed information science articles. There are a small number of countries which have never been cited these articles and this reveals that some of these articles visible for a wide geographical area.

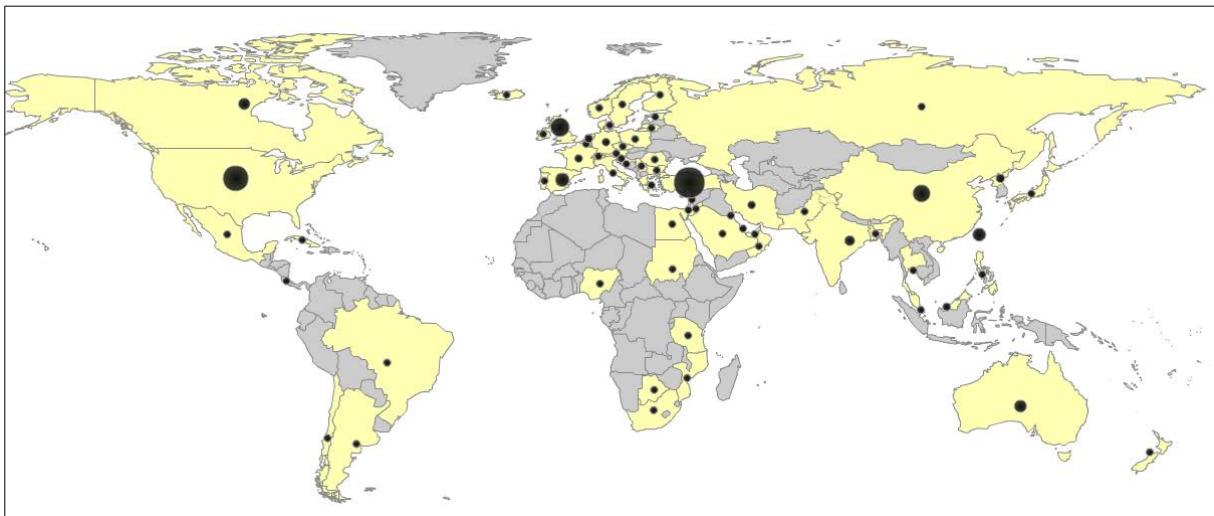


Figure 4. Citation map of Turkey addressed information science articles

Conclusion

Most of the information science articles in the citation indexes are west-originated, in particular United States of America and England. Scholars in Turkey also work for finding themselves a place in the world's information science zone. It can be said that the contribution of Turkey, in terms of publication, to information science field has increased over time. Different types of encouragements in Turkey's academic environment also had an impact on the motivation of scholars to produce articles which will be indexed in the citation indexes. The conclusions that have arisen from this study, which we tried to reveal the contribution of Turkey to information science literature of the world, were listed below:

- When the total number of journals in the *JCR* is taken into account, it is seen that Turkey did not contribute to most of these journals, conversely a few journals were focused on to publish articles. This situation can negatively affect the visibility of the Turkey addressed articles.
- It is observed that people who have not been working in the information science field show quite a serious attention to information science journals. The interdisciplinary nature of the field, as well as the academic promotion criteria in Turkey causes this. It is thought that as the number of information science departments in Turkish universities increase, the number of Turkey addressed articles will increase as well.

- One fourth of Turkey addressed information science articles has never been received citations. The most important reason for this is not enough time has passed for these articles in order for them to receive citations. Although it does not show a normal distribution, it is found out that Turkey addressed information science articles have been cited an average of six. This is important, because the increase in Turkey's contribution to information science field is also observed in the increase of the citations to these publications.
- Turkey addressed information science articles used by the researchers from 69 different countries. Density of citations showed that the countries produce more articles (USA, England and China) cited more Turkey originated articles. Moreover, the spread of Turkey addressed articles to different countries in the world reveals that the limited contribution of this country, at least, had an effect on a wide geographical area.

In this study the Turkey's contribution to international information science literature, in terms of articles, were examined from various aspects. Looking from the international perspective, it is a known fact that not only having publications indexed in the citation indexes but also to have the journals covered by those indexes is important. Although Turkey has some essential journals on information science, they have not been indexed by the citation indexes yet. To make the articles published in the journals in Turkey more widely accessible, and to increase the visibility of these publications within the international information science literature, some attempts must be done towards making these journals covered by the citation indexes.

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