

Original Research

A Bibliometric Study for Articles of the Jordanian Journal of Libraries and Information (1965-2017)

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Abstract

The study aimed to provide a bibliographical analysis of the articles produced by various authors from the year 1965 to 2017. The study undertook a bibliometric approach to analyze data provided through standard statistical calculations. Only articles, books, and topics published from 1965 to 2017 in the Jordanian Journal of Library and Information were included in this study. The data was collected by preparing an index through web data collection. The research tool included the web database, where collected data were combined in a single cumulative index. Findings indicated that the highest research rate was produced during the 1980s, with an average publication of 28.6 articles each year. The findings further indicated that the ratio of the male population was high in producing articles, where most of them were based on single authorship. The analysis of the trend in terms of article type indicated researchers' high-level interest in producing biographies during the 90s, which shifted to producing articles related to library management after 2000. Following the findings of this study, it is suggested to encourage researchers to explore diverse topics that lack the interest of different authors. This study concludes that the researchers are encouraged to produce more articles frequently by converting the libraries into electronic mediums and channels.

Keywords: Jordanian, Bibliometric, Libraries and Information, Intellectual, Articles, Publications.

Introduction

The current era is the “age of education and knowledge” since the advancement of knowledge resulted in technological, industrial, and economic development. Education produces ideas and serves as the main source in competing nations by generating national income and developing different economic resources (Resnik, 2008). Information-producing nations and societies are focused on generating useful information and strive to identify the gaps in knowledge while filling them through continuous research and development. Information-centered countries have also been directing their societies, centers of research and academic beacons to research and produce information according to their needs, to solve problems, and increase productivity based on the updated information that has become one of the most important inputs for production (Suleiman, Abu Sarhan, Al Tawalbeh & Hamdi Ahmed, 2016).

Journals and periodicals play a critical role in this regard and serve as an important source of knowledge for researchers as they are distinguished by the modernity of their information, particularly in any field of study (Anwar, 2019). This emphasizes the value of bibliometric studies that have a significant role in libraries and information and are associated with counting publications, citations, analysis of co-citations, and patents citation (Thanuskodi, 2010). The quality of a journal is a multilayered concept. Journals can be assessed for different objectives; therefore, the outcomes of such assessment exercises can be quite different, relying on the parameters used. The impact factor is likely the most utilized factor when evaluating the visibility of a journal on the research front. Generalized impact factors are better parameters for the lasting journal value than the conventional two years. When undertaking journal impact factors as a quality indicator with all evaluation studies, care must be exercised.

Contributions of the Jordanian Journal of Libraries and Information are important, as they began to issue different papers from 1965 until now, making Jordan the first country to have a library of science since the 1960s (Ur Rehman & Chaudhry, 2005). However, to analyze its literary contributions, an accumulative cumulative analytic index was prepared to assess its overall publications from the journal's beginning until 2012. An index was also prepared for all issues of the Jordanian journal for Libraries and Information from 2013 to 2017, exhibiting important details, which include the title of the research, author names, and keywords serve as the descriptors for researchers and scholars to obtain the required researches in the science of libraries and information. Since periodicals, references, and book lists enrich the libraries (Sulieman, 2016), indexing them is one of the most important library services the Jordanian Library and Information Association provides. Following the significance of the articles published in the Jordanian Journal of Library and Information Sciences, based on the bibliometric methodology of analyzing intellectual production, the study aims to analyze the production in the Jordanian Journal of Library and Information Sciences during the period between 1967 and 2017. Studies that have been published in the last five decades were included due to the researchers' need to identify the gaps found in the objective knowledge that should be focused on to encourage the publishing of various researches in the necessary thematic and applied knowledge. Some administrators have focused exclusively on SSCI impact scores and h-index scores undertaking today's predominant journal evaluation approaches. Initially, impact scores descriptively presented for the information provided were

widely assessed. Secondly, a score is. Thirdly, there is independent information. On the contrary, the implementation of impact scores can be quite misleading as the primary indicator of a family member's contribution to the PFPC field.

The importance of this study stems from the fact that it is based on the analysis of the Jordanian Journal of Libraries and Information, a specialized journal issued by the Jordanian Library and Information Association. Contributions of this study are significant as it serves as an important source of information for researchers in the field of library and information science. Due to the scarcity of bibliometric studies, this study serves as the first study conducted in Jordan. The information provided in this study will guide the researcher in identifying strengths and weaknesses present in the existing research work produced. It would further serve as a source of guide and direction for future publications. The present study intends to answer the following questions:

- 1) How much research has been published in the Jordanian journal of libraries and information sciences from 1965 to 2017?
- 2) What is the ratio of male and female authors in contributing articles in Jordanian Journals of libraries and Information sciences?
- 3) How many researches were published with individual authorship?
- 4) How many researches were published with co-authorship?
- 5) Which type of articles has been explored from 1965 to 2017?

Literature Review

Several bibliometric studies have been conducted to analyze the trends of publications in different journals. Naheem (2016) conducted a study and outlined the bibliographical characteristics of the Journal, Library Progress (International) of India. The study was specifically centered on the research articles published from 2010 to 2015. Findings of the study highlighted that 53.4% of articles consisted of two authors only, whereas single authors produced 41% of the remaining. The average rate of productivity of each authority was identified up to 0.54. The maximum productivity of research articles was held through Indian scholars during the given time duration. Another study conducted by Sahu & Parabhoi (2020) on Library and information science education (LIS) has been spreading all over India. Its popularity can be seen in how every state university or institute offers LIS. Their study observed the recent trends of LIS publications in India from 2014 to 2018. A total of 1357 articles were reviewed from 2014-2018 taken from the Scopus database. The findings indicate that 342 (25.2%) articles were published in 2018. Their favorite source for the publications was the DESIDOC journal of LIS. In addition, the study found that the frequently used keywords were bibliometrics, scientometrics, and India and authorship patterns.

On the other hand, Bakri and Willett (2017) focused on the Malaysian Journal of Library and Information Sciences (MJLIS) and conducted a bibliographical study from 2001 to 2006. The present study's findings were compared with those provided in Tiew, Abdullah & Kaur (2001), who particularly focused on 1996-2000. The comparative analysis of the studies indicated that the number of publications in the given journal has significantly increased from 75 articles mentioned in the study of Tiew et al. (2001) 15 to 85 articles presented in the study of Bakri and Willett (2017). In addition, statistically significant changes were recorded in terms of article type, the number of references, and the length of articles. The results concluded that 87 citations attracted about 161 articles, out of which 52 were self-cited,

whereas 14% of articles were at least once cited from MJLIS.

Sulieman (2016) studied the numerical and the tropical trends for producing deposited Jordanian books. His study aimed to identify the number of Jordanian books submitted in the National Library of Jordan from 2002 to 2011 and the quality of production. However, the overall analysis revealed no significant correlation between the quantity and size of production and chronology. Besides, the annual production rate of Jordan books was 1106.2 books, where the dominating language among those books was Arabic, with the highest numbers of 10563 (95.49%) books published. The study further recommended publishing books on topics not previously studied.

Gore, Nordberg, Palmer and Piorun (2009), who analyzed the trends in research activity in the Journal of Health Sciences Librarianship, conducted a similar study. Bulletin of the Medical Library Association and Journal of the Medical Library Association was used as a source to identify the published articles between 1991 to 2007. A comparative analysis was conducted between the given study and a previous study, which covered the period of 1966 to 1990. The bibliometric and content analysis studies were undertaken to identify the subject, analytical techniques used, number of citations, number of authors, first author affiliations, etc. Findings indicated that significant progress had been made in the past few years in the health sciences librarianship research. Finally, a gap in improved research methodologies and applied vs. theoretical studies were identified.

Huang and Chang (2011) conducted another bibliometric study to analyze the interdisciplinary approach from studies published between 1978 and 2007. Three bibliometric analysis methods were used: co-authorship, direct citation, and bibliographic coupling. Findings of the study identified Library and Information Sciences (LIS) as the most preferable cited source in the studies of information sciences research. The above review of the studies indicates the existing gap in studies since none of the researchers has focused on conducting a bibliographical study on the Jordanian Journal of Libraries and Information.

Materials and Methods

Study Design

This study identifies and regulates the research published in the Jordanian Journal of Libraries and Information through bibliometric study analysis. Only articles, books, and topics published from 1965 to 2017 in the Jordanian journal of library and information were included in this study.

Study Sample

All the articles published in the Jordanian Journal of Libraries and Information were selected as the study sample. The selection was based on statistical data, according to the time factor, which was represented in the number of researches published concerning year, gender, type of authorship, and the type of articles published during the following periods: 1965-1969, 1970-1979, 1980-1989, 1990-1999, 2000-2009 and 2010-2017.

Research Instrument

The data was collected by preparing an index through web data collection, which helped the researchers to reach the desired result conveniently. The research tool included the web database, where collected data were combined in a single cumulative index. Keywords such

as Jordanian, library, information, bibliometric study, bibliographical study, Jordan were searched on google and google scholar to retrieve data related to the articles published in the Jordanian journal. The time limit was also set from 1965 to 2017, and only articles that lay in this timeframe were included. The bibliometric study was divided according to the criteria that include: Analysis of authors including their names, affiliations, and gender, forms of information resources such as books, periodicals research, websites, etc., and concept of studies which include the topics and thematic areas to analyze the articles published in Jordanian journals.

Inclusion and Exclusion Criteria

The conference journals and journals index were excluded from the subjects of this research study. The articles published in Jordanian Journals of Libraries and Information were only included in this research, whereas articles published in any other journal were excluded. Articles published from 1965 to 2017 only in the Jordanian Journal of Libraries and Information were included.

Results

The answer to research question 1 is depicted in Table 1 of this study, which shows the findings related to the number of studies published in each period between 1965 to 2017.

Table 1

Number of research papers published for each year from 1965 to 2017

Years of 60s	No. of articles	Years of 70s	No. of articles	Years of 80s	No. of articles	Years of 90s	No. of articles	Years of 2000s	No. of articles	Years of 2010-2017	No. of articles
-	-	1970	30	1980	34	1990	26	2000	25	2010	21
-	-	1971	32	1981	26	1991	33	2001	14	2011	22
-	-	1972	32	1982	31	1992	32	2002	17	2012	19
-	-	1973	32	1983	27	1993	24	2003	17	2013	22
-	-	1974	31	1984	34	1994	24	2004	19	2014	21
1965	10	1975	32	1985	46	1995	28	2005	21	2015	19
1966	34	1976	21	1986	21	1996	29	2006	14	2016	19
1967	35	1977	30	1987	29	1997	22	2007	23	2017	16
1968	19	1978	16	1988	25	1998	18	2008	7	-	-
1969	39	1979	17	1989	13	1999	23	2009	11	-	-
Total	137		273		286		259		168		159
average	27.4		27.3		28.6		25.9		16.8		19.875

Table 2 illustrates the gender-wise ratio of authorship findings, with and without organization, answering the study's second research question.

Table 2

Male and female authorship ratio, with and without organizational Authorship

Types	Periods					
	1965-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
	%	%	%	%	%	%
Male	66.7	63.6	56.4	38.0	47.8	58.4
Female	24.4	10.2	22.6	22.3	29.2	41.6
With Organization (author)	2.2	2.3	0.8	3.8	1.8	0
Without Author	6.7	18.2	10.5	18.5	6.6	0

According to table 3, individual authorship is the most common, as the percentage of research with individual authorship in these periods is greater with the accumulation of (100%) from 1965 to 1969. On the other hand, co-authorship was identified as least common compared to individual authorship, as the highest rate was only 28.9% in the years between 2010 and 2017. The results in this table answer research questions 3 and 4, respectively.

Table 3

Publications concerning Authorship

Authorship style	Periods					
	1965-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
Co-authorship	0%	5.7%	9.8%	17.4%	11.7%	28.9%
Individual Author	100%	94.3%	90.2%	82.6%	88.3%	71.1%

The answer to research question 5 can be seen in Table 4, which shows that the types of research published from 1965 to 2017 were identified separately from the highest published article type to the lowest publications. In the period of 1965-1969, subjects that have more frequency in publications were: Biographies (n=14), cataloging (n=10), bibliographies (n=9), public libraries (n=8), books reviews (n=8) and classification (n=8).

In the second period i.e., 1970-1979, subjects that have shown more publications on topics were Biographies (n=24), Book Reviews (n=20), Bibliographies (n=17), library associations (n=14), and public libraries (n=12) etc. A similar trend of topics has been observed during the third period of the classification, i.e., between 1980-1989, where major published work was in the form of book reviews (n=21), followed by library automation (n=17) and book reviews (n=15).

In the fourth period of publication, i.e., 1990-1999, subjects that were published with high frequency include library associations (n=17), information systems (n=16), cataloging (n=11), and children's literature (n=10). However, the lowest published subjects in the 90s were Indexing, Archiving, career ethics, Globalization, Archiving Knowledge Book fairs, and a few more (n=1). In the fifth period of publication, i.e., 2000-2009, subjects that were frequently published were Internet (n=12), Book Review (n=10), and Archiving (n=8), whereas the lowest published subjects included Knowledge, Electronic archiving, Abstracting, electronic government, virtual library, knowledge management, Publishing and few more with numbers of (n=1) publications.

In the final period of the study, i.e., 2010-2017, topics that were frequently published

included library management (n=17), school library (n=12), university library (n=12), Archiving and knowledge management (n=11), information management, and information society (n=9). Whereas, the lowest subject published in the following years includes scientific research, electronic learning, Individual libraries, Specialized libraries, Periodicals, library associations, hospital libraries, etc., with the frequency of (n=1) publications.

Table 4
Topic Areas and Number of Research Published

Area of Study	Periods					
	1965-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
	N	N	N	N	N	N
Abstracting	1	-	1	1	1	-
Acquisition	-	2	2	-	-	1
Archiving	-	-	-	2	8	11
Biographies	14	24	1	6	-	2
Bibliographies	9	17	7	1	-	-
Bibliographic centers	-	-	1	-	-	-
Books reviews	8	20	21	9	10	-
Book maintenance	-	4	1	-	-	-
Book fairs	-	4	-	1	-	-
Cataloging	10	12	7	11	2	1
Classification	8	6	1	4	2	Catalogs
Catalogues	2	-	3	-	-	1
Career ethics	-	-	-	1	2	2
Children literature	4	5	9	10	2	-
Children library	2	-	5	6	1	3
Circulation	1	1	3	-	-	-
Culture	1	-	1	1	6	2
Databases	-	-	3	8	2	2
Deposit Law	-	3	2	-	-	-
Documentation	2	1	3	2	1	-
Digital Library	-	-	-	-	2	7
Electronic publishing/Management	-	-	2	-	4	6
Encyclopedia	2	4	-	-	-	-
Globalization	-	-	-	1	1	1
Hospital library	-	-	-	1	-	1
Indexing	-	-	-	1	-	-
Intellectual property right	-	-	6	3	1	-
Information centers	-	-	-	2	1	-
Information management/Information	-	-	2	-	2	9
Information economy	-	-	-	-	3	-
Information technology	-	-	4	3	5	7
Information resources	-	-	1	1	1	7
Information Security	-	-	-	-	-	5
Information services	-	-	-	-	4	5

Area of Study	Periods					
	1965-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
Information Society	-	-	-	-	-	9
Information systems	-	1	2	16	3	3
Information Storage and Retrieval	1	-	1	2	-	-
Intellectual production	-	-	4	2	2	-
Internet	-	-	-	6	12	8
ISBN	-	1	1	1	-	-
Knowledge	-	-	-	1	1	2
Knowledge Management	-	-	-	-	-	11
Knowledge Society	-	-	-	-	-	4
Libraries	6	5	6	2	3	-
Librarians	1	-	6	-	1	1
Library automation	2	4	17	6	6	2
Library legislations	-	2	-	1	2	-
Library services	2	2	9	1	-	-
Library associations	5	14	15	17	4	1
Library cooperation	2	5	5	10	2	-
Library terminology	-	1	-	1	1	-
Library management		2	3	7	5	17
Periodicals	2	3	7	4	-	1
Printing	-	1	-	1	-	-
Public libraries	8	12	6	6	4	2
School libraries	1	7	8	7	7	12
Scientific communication	-	-	2	4	1	-
Scientific research	-	-	3	2	2	1
Selective dissemination of information	-	1	-	-	-	-
Specialized libraries	6	12	7	3	-	1
Standards	-	-	1	-	-	-
Maps	-	-	1	-	-	-
Manuscripts	-	4	4	3	2	1
Media	1	-	-	-	-	-
Mobile libraries	1	-	1	3	2	-
National libraries	5	-	1	3	2	-
Networks	-	-	1	1	-	-
Quality Management	-	-	-	-	2	-
Audio-visual resources	1	2	8	1	-	-
University library	3	7	4	4	5	12
Publishing	1	2	9	-	1	-
Teaching library science	-	1	12	9	7	6
Thesaurus	-	-	2	2	2	-
Training (librarians)	1	10	9	2	2	2
Training (users)	-		5	1	-	-
Reading	1	9	2	3	-	-
References	3	7	3	1	-	-

Area of Study	Periods					
	1965-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017
Reference citations	-	-	-	2	-	-
Women librarians	-	1	-	1	-	-

Discussion

The study aimed to analyze the Jordanian Journal of Library and Information Sciences production between 1967 and 2017, based on the bibliometric methodology of analyzing intellectual production. The study formulated five research questions. Considering the first research question, *“How much research has been published in Jordanian journal of libraries and information sciences in years from 1965 to 2017?”* The study found that the highest and the lowest number of studies were published during the 1960s, with an overall publications of n=39 and n=10, respectively. Following this, i.e., during the 1970s, a fluctuation in the number of articles has been observed. In the 1980s, remarkable growth in the number of articles submitted to the journal was observed. The 1990s then faced a considerable reduction of articles compared to the previous years. The years 2000-2017 faced a serious flux. As for the average number of researches, the largest average was 1980-1989 with an accumulated average, and the lowest average was in the 2000 decade. Finally, for all the other decades, the overall average of the published articles was close to the average of the decade 2000. The second research question was *“What is the ratio of male and female authors in contributing articles in Jordanian Journals of libraries and Information sciences?”* The findings showed that among all the periods, the percentage of male authorship was the highest from the year 1965 to 1969, the lowest male authorship was observed between 1990 to 1999 than that of females with the highest authorship in years from 2010 to 2017, and lowest authorship was in years from 1970 to 1979. In addition, the ratio of publications with the organization authorship was highest in the year from 1970 to 1979, and the lowest was in the years from 1980 to 1989, whereas no publications occurred in the year from 2010 to 2017. The rate of authorship with organization and without authorship publications ratio was in years from 2010 to 2017 there were no publications whereas, in years from 1970 to 1979 was the highest without author publications. In general, quality journals comprise cohesive sets of articles both in professional standards and content. This cohesiveness is rooted in the evidence that most journals are specialized in comparatively narrow sub-disciplines and their caretakers such as referees and editors. This is the main cause why journals can play an essential role in assessment studies (Van den Berghe et al., 1998; de Bruin et al., 1993).

Answering the third and fourth research questions, *“How many researches were published with individual authorship?”* and *“How many researches were published with co-authorship?”* The study's findings indicated that the individual authors submit most of the researchers, as a gradual development is observed in individual authorship. On the other hand, co-authorship was identified as least common compared to individual authorship. Finally, answering the last research question of the study, *“Which type of articles have been explored in the timeframe of 1965 to 2017?”* The study finding shows that the types of research published from 1965 to 2017 were identified separately from highest published article type to lowest publications. In 1965-1969, subjects that had more frequency in publications were Biographies, cataloging bibliographies, public libraries books reviews, and classification. This indicates that some topics were highly focused by the authors and were written throughout the

given periods, i.e., 1965 to 2017. Area of studies such as; Biographies, cataloging, bibliographies, public libraries, books reviews, Libraries, and library associations were the most common. However, some attempts have been carried out to explore new topics, including databases, information systems, Internet, Archiving, library automation, knowledge management, information management, information society, and digital library. The analysis further outlined those certain types of papers such as; acquisition, virtual libraries, MARC composition, thesaurus, etc. failed to attract widespread attention of the researchers.

When evaluating the effect of research groups, previous studies have notified that those comparisons are made with their peers. The ratio of the average of the group's citations with the average of the journals in which they have published, and the ratio of the average of the group's citations with the average of the field in which they are active (Egghe & Rousseau, 1996; de Bruin et al., 1993).

Findings further indicated that the topics written more intensively than others in the 1960s and 1970s were Biographies. In the 1980s focus was majorly on book reviews. However, in the 1990s library associations were the most common, while in the 2000s, the focus shifted from the Internet to library management. This study showed that the Jordanian Journal of Libraries and Information is published on all topics and is not specialized in any particular area within the libraries. Finally, the bibliometric assessment of the study revealed that Jordanian Journals of Libraries and Information deals with a variety of study types, where male authors, along with those consisting of the single authorship, published the majority of the studies. Also, compared to other Journals, the Jordanian Journal of Libraries and Information is not specialized in any particular type of publication and thus welcomes diverse knowledge and information. The findings of this study bridge the gap that exist due to the scarcity of bibliometric studies conducted in Jordan. Moreover, these findings help identify the strengths and weaknesses of the current research work. It might help provide directions for future publications.

Study Limitations

The spatial limit in this study was that the research published in the Jordanian Journal of Libraries and Information published by the Jordanian Library and Information Association was considered in the present study. According to the subject limit, only the bibliometric study approach was used. Another limitation includes the time limit, where studies published only from 1965 to 2017 were included.

Conclusion

This study concludes that the researchers are encouraged to produce more articles frequently by converting the libraries into electronic mediums and channels. Besides, conducting bibliographical studies on the online database of the researches such as those published in the Jordanian Journal of Libraries and Information effectively provides a useful estimation of the existing developments taking place in education and research. Such studies are further needed to provide insights regarding the topics that require attention for more in-depth research. Based on the results, it is recommended to issue licenses for publishing and printing the articles in various journals to encourage authors to produce more productive information, which may serve as an economic gain from a wider perspective. Finally, the provision of free access to most of the libraries in Jordan is suggested to increase the

audience's interest and that of authors towards studying the topics that attract high readership.

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