

Jordanian Intellectual Production From 2002 – 2011: A Bibliometric Analysis

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Abstract

This study aims to trace the numerical and topical trends of the production of Jordanian books that are deposited in the Jordanian National Library during a ten-year span starting 2002 until 2011; in order to pinpoint the strengths and weaknesses and provide guidance for future productions and publishing; the study uses bibliometric studies as a methodology by data analysis and bibliographical information that were published in the National Jordanian Bibliographies editions during the years between 2002-2011 in which it was the main tool for data collection. The most important findings of the study is that there is no correlation between the size or quantity of production and the chronology of years in general, and that the annual production rate in Jordan of books is (1106.2) books; where Arabic Language books dominates the larger percentage, with the total of Arabic books produced is 10563 calculated as 95.49%. Also, the general trend of publishing in Jordan focuses on topics related to humanities and social sciences at the expense of other sciences; and there is a lack in the printing and publishing movement in the governorates and cities as it is concentrated in the capital, Amman. The study has concluded many important recommendations: Supporting the publishing movement in Jordan, providing licenses for publishing and printing services as well as intellectual property rights in other governorates outside the capital Amman, and encouraging authors and writers to publish in the subjects that did not get enough interest before.

Conducting bibliometric cumulative studies similar to this study and more detailed in terms of throughout analysis and the publishing prioritization in accord with an objective coverage by the National Library Department to these studies of such importance in determining national priorities in copyright.

To provide and make sources of information in libraries, information centers and academic libraries available for free to all citizens in universities to encourage the intellectual and publishing movement.

Keywords: Bibliographical studies, Bibliometric studies, the Jordanian National Bibliography, intellectual production and the Jordanian Publishing Trends.

Introduction

Information producing societies and countries have been aiming to extrapolate their production's orientation of information to identify any knowledge gaps and work to fill them, information producing 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 information that has become one of the most important inputs for production.

Informatics wealth peaks when the information is being marketed, managed and transformed into a commodity at the end; thus the possibility of maximizing the production of sound through the management and guidance in dealing with information and knowledge.

It has become urgent necessity for countries and societies to identify the reality of production, its importance and tracks, and the most prominent institutions involved in the national inventory of intellectual production of information, to organize, analyze and provide full statistical studies by national information centers and libraries.

Most information organizations base their analysis and examination of intellectual production on bibliometric methodologies, based on surveys which mean describing the sources of information in quantity and quality through bibliographic data analysis and then counting it; this process is called Bibliometrics, which was first used in 1969 in Pritchard study (PRITCHARD A 0.1969).

Lancaster have defined Bibliometric Studies as the application of various statistical forms of analysis for the purpose of study and analysis of copyright areas and the methods used for published literature. (Elshami. sited, March 2015) also defined (White, 1989) as the kind of studies that examine the quantum of literary published.

These studies rely on Bibliometric Laws, such as:

- Bradford Law: this law describes the quantitative correlation between the scientific journals and published articles. (Farraj, 1992)
- Lotka's Law: this law was created by Alfred J. Lotka where Lotka proposed that in any given subject area and within a specified time period there are authors that have the abundance in writing and producing a large number of publications or pamphlets in a particular subject area, but their number be a little contrast with other authors producing one or two work in the same subject, which means that the relationship between the number of documents and number of authors who produced these documents is an inverse relationship.
- Zipf Law: a very well-known bibliometric law for measuring the repetition of words in texts. This law can be a

clarified if we counted the number of repeated words in a text, and then arranged them by having the most repeated words listed in the order first.

(AlZuhimi, 2006) has classified bibliometric studies into four types, which are:

- Direct Count of Citations: it includes (measuring the impact factor, the immediate Searchlight, self-citation, measure the middle age of citation, the rapid decline of the citation of (the statute of limitations - downtime), and the immediate effect).
- Bibliographic Accompanying and Pairing: a situation in which citing two documents or more. It is said that the two documents are accompanied or paired if both were cited in the same or printed publications
- Bibliometric Law: it includes (Bradford's law for dispersion, Lotka's Law for authors' productivity authors, and Zipf).
- Web-metrics: is concerned with the scientific study and evaluation of activities available on the sites (web) Online (Chloe, 2006)

But this study is based on numerical and chronological analysis for measuring the size of production, according to subjects classification based on the first gist of Dewey's decimal classification.

In Jordan, the National Library plays an important role in providing studies on national intellectual production, via its contribution to protect national intellectual production through the implementation of Copyright Law No. 22 of 1992 and the legal Deposit System and the deposit of works No. 4 for the year 1994, in order to encourage authors' intellectual creativity. (Jordan National library, 2006. p12)

Hence, this study will be based on analyzing the Jordanian national intellectual production based on a bibliometric methodology to analyze the national intellectual production during the period between 2002 and 2011, approximately a decade, which is the first decade in the second millennium, this stems from the researchers feeling for the need to identify cognitive substantive gaps that must be focused on to encourage the creativity and publication in needed objective and cognitive fields, such as research centers, scientific research support funds and the Ministry of Culture.

The Importance of the Study:

During the first decade of this century, no national intellectual production trends were cumulatively analyzed, and there is a need to identify cognitive and objective paths in the national intellectual production. As well as providing guidance for drawing paths of research and intellectual production, according to the needs and requirements of Jordan, to complete the social and cultural development, as information, publication and circulation are essential for the advancement of the country by building a wholesome knowledge-based society. Moreover, not many previous studies have tackled this topic. Finally this study will be an important reference for those in charge of authoring and publishing identify their thematic priorities in publishing.

Questions of the Study

The reality of the Jordanian intellectual production is produced to identify features of quantity and quality through the Jordanian National bibliographies which are produced annually, however, there is a need to know the reality of the cumulative Jordanian intellectual production and to compare the size and type of production throughout the years to shape the national intellectual production in the future. Thus, this study aims to figure out the reality of the Jordanian intellectual production of books during the ten years from 2002 to 2011 and the general characteristics of the Jordanian national intellectual products by answering the following questions:

- What is the quantitative and quantitative distribution reality of books?
- Is there an increase in the annual production rate as the years proceed?
- What is the chronological distribution of the books?
- What are the thematic features of the books?
- What is the spatial distribution (place of publication) for books?

Objectives of the Study

The study aims to find out the reality of the Jordanian intellectual production of books during the ten years from 2002 to 2011 through the study of the numerical, thematic and quality trends of this intellectual production; in order to uncover the strengths and weaknesses in this intellectual rationalization of production and future production and publishing.

The Limits of the Study: the study adheres to the following limits:

Quality limitation: the study is limited exclusively to one form of sources of information which is books in Arabic and foreign languages.

Chronological limitation: the study is limited to a ten year span from 2002 to 2011.

Spatial limitation: the study is limited exclusively to the Jordanian intellectual production deposited in the Jordanian National Library.

Methodology and Data Collection Tools

The study adopts bibliometric studies through bibliographical data and information that was contained in editions of the Jordanian national bibliographies between 2002 and 2011, where in terms of analysis that was the main tool of data collection.

Literature Review

A study by (Shami, 2010), this study counts and registers the books published in the field of tourism and hospitality in the Arab Republic of Egypt, as well as the study of numerical and qualitative trends for this intellectual production; in order to uncover the strengths and weaknesses in that intellectual production. The study covered the following types of sources books, theses (MA - PhD) leaving out journal articles and the most important findings of the study were:

- The number of vessels in the field of Touristic Studies reached 629 sources, as for Hotel Studies and the Department of Touristic Guidance 331, while the Tourism and Hospitality Department the sources reached 1104.
- Arabic language represents the most common language in the field of Egyptian intellectual production and the proportion of authorship in Arabic tops rate at 98.89% and books represent the majority of the sources' numbers. Also, the most productive authors were of Hotel Studies Department by 6.74%, then the Department of Touristic Studies at 6.36% where they tend for individual authorship and also prefer to write books on other sources.

A study by (Hamoud, 2010), deals with the Kuwaiti intellectual production in the field of Library and Information during the ten years from 2000 to 2009, where the objective of the study is to identify the characteristics and themes which characterize the intellectual production by Kuwaiti and non-Kuwaiti authors who wrote on the theme and information libraries in Kuwait, and knowing the size of development and growth and points of weakness and shortcoming, and to review trends in publishing and writing in terms of language, and most productive authors in Kuwait, whether they were Kuwaiti or non-Kuwaiti authors, and the most important Arab and foreign scientific journals they were published in, as it has also tracks research and studies published electronically through databases or search engines. And its most important results were:

The total intellectual production in the field of library sciences was 118 works and the portion of intellectual production in the field of studies and researches the highest, resulting in 70% of the total. Thematically, the concentration of topics was mostly in the field of information services and internet, while there is a weakness in publishing on the topics of e-government, information technology and virtual libraries. Publishing houses for periodicals and journals ranked first, where 79 articles were published forming 66%. The study also pointed out the insufficient intellectual production in the field of library and information due to the lack of specialized journals in library sciences, the lack of funds allocated in universities and governmental bodies for these kinds of topics and the lack of encouragement by institutions and governmental bodies for authoring and publishing.

As for Jordanian studies, study by (Al-Samarrai, 2008) aimed to study the reality of intellectual production for periodicals issued by (7) private universities since their issuance and until the end of 2006. Its most important findings were that the total published articles were (789) by (934) authors, the number of male authors outnumbers female authors massively where the number of male authors was 886 forming 94.9%, females were 48 making 5.1% of the total. Most of the authors have written their articles individually by a total of 82% which were (644) essays, while co-authoring with one author came in the second rank by a total of (124) authors which formed (15.6%), authoring with more than one author ranked thirdly and finally by a total of (14) authors making up (1.6%). The number of articles composed in Arabic, is much more than the ones written in English by (600) articles at (76%) compared to (189) articles at (3%) in English. The study divided the time periods for issuance of periodicals into three phases each time period is divided into a five-year term; the study reported that 398 articles were published during the first phase of the first five years of the issuance of the periodical, formed the highest percentage (50.4%), while the second phase included 318 at (40, 3%) and the third phase there was 73 articles at (9.3%). The study also indicated that the most productive authors are ones who authored seven articles in three editions forming (0.78%). As for the English language, the most productive authors were the ones who have written six articles in one edition at (0.70%). The main topics that have been addressed in Arabic language were (60) forming (11.8%), English subjects were 30 at (7.81%).

The study recommends to encourage the interest in authorship in English by authors and the reduction of authorship in recurring topics, as well as to support any efforts to prepare and support discoveries and have them published by the journals themselves.

A study by (Khalayleh, 2008), aimed to prepare the cumulative analytical detection for articles published in the Journal of (Risalat Al Maktabah) between 1965 and 2005. The study was divided into five stages depending on the dates of issuance of the magazine which are: the stage of the sixties, the stage of the seventies, the stage of the eighties, the stage nineties, and the stage of the twenty-first century (2000-2005). The most important results of the study that the number of editions of the magazine was 40 issues including 925 articles, most articles published were in 1985 by 45 article, and the least were in 1965 by 7 articles, the highest percentage was of male

authors at 70.9% and the lowest percentage of their participation was in the nineties by 44.5%, the highest number of contributions per author was 54 articles belonging to the pioneer leading the movement Mahmoud al-Akhras, followed by the late Mahmoud Atem by 29 article, topics were respectively, in the first place (Libraries-Conferences and Seminars) by (73) recurrence; followed by (Books- View and Critique) by (49), (36) bibliographies recurrence, the computerization of libraries were (35) recurrence, Jordanian Library and Information Association (31) recurrence, indexing and catalogs (29) recurrence, classification (23) recurrence, Libraries - Jordan (21), library and information science - rehabilitation and training (20) and Projectors were (20).

Along with (Alian, 1986) analyzing published articles in the Journal (Risalat Al Maktabah) between (1965 - 1985) and the study analyzes the articles chronologically through dividing them into three stages: the stage of the sixties, seventies, and eighties and the most important findings of the study were that the number of authors was (134) mostly of males, where out of (462) articles (442) were in Arabic and (20) articles were in English; and the highest participation rate belongs to the pioneer of the movement in Jordan, the late Mahmoud al-Akhras.

However, (Al Zuhaimi 0.2006) reviewed the Omani medical intellectual production properties between 1996-2006, through designing an automatic system to analyze studies using a bibliometric methodology, through the analysis of 457 articles in the field of medical science in the Sultanate of Oman through analyzing citations quoted in these 6260 articles, Lotka's Law was applied in this study to determine the productivity of the authors and their scientific contributions in their respective fields of medical science, and Bradford's Law of dispersion was applied to measure the quantitative correlation between medical journals in Oman and published articles, specifically in the Oman Medical Journal and the Journal of Sultan Qaboos Medical University. The most important results of the study were that, the number of articles rate is (8) articles per issue and that there is a proportional correlation between the life of the journal and productivity; the number of included topics was (37) subjects and periods where the number of articles published increased was in the period between (1996-2000) and a period of decline was in (1994) or after approximately (13) years from the date of the last citation of the year (2005). the percentage of citations was less than half of the citations during this period, reaching (41.3%), and attributed referential citations during the first five years in both journals were very low, as well as the proportion of joint authorship was (71.7%) in both journals. The number of authors who participated in authorship was (888) an average of (0.05%) for each article, and most productive authors contributed by (12) articles and foreign authoring was more dominating than the Omani one where Omani authors formed (18.2%), the study indicates that there is a proportional correlation between the number of citation from journals and their availability in the medical library; to explain more, the more available the periodical is in the medical library, the number of times cited increased. the use of articles in the library was higher at 87.4% than books; and the average age in the field medical sciences is 14.2%, the study also signals that there is a proportional relationship between the contribution of Omani authors in medical journals and the citation of their work, the higher productivity of the authors Omani is, the higher the probability of citing their work is.

Going back to previous studies -compared to this study-, it shows that most previous studies focused on journal articles such as Al Zuhaimi's study, Alian's, Khalayleh's and Samurai's or multiple information sources that combine books and dissertations such as Al Shami's study, while this study focuses only on books; previous studies also were specific in reviewed intellectual production topics as is the case in Al Zuhaimi's study and Al Shami's too. While this study was comprehensive, as well as focused on bibliographical analysis of national bibliographies issued by national libraries that have not been addressed by previous studies; this study does not degrade the importance of previous studies but it is going to be a complementary part for them.

Analysis and Discussion:

Table (1) The qualitative, quantitative and thematic analysis of the Jordanian intellectual production's reality

arithmeti c mean	Total		2011		2010		2009		2008		2007		2006		2005		2004		2003		2002		Y sub
	En	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	E n	Ar	
38.6	22	364	1	53	4	44	2	50	-	26	-	28	-	24	1	21	1	43	10	36	3	39	000*
39.3	3	390	1	74	1	62	1	64	-	31	-	40	-	22	-	20	-	28	-	22	-	27	100*
139.2	25	1367	5	206	3	169	-	153	1	10	7	13	3	12	3	12	2	13	-	12	1	104	200*
287.7	18	2697	26	509	51	413	26	380	1	24	5	15	9	20	18	19	13	18	9	18	22	223	300*
48.1	46	435	7	102	3	79	5	53	3	27	3	30	4	26	7	20	1	20	8	23	5	55	400*
31.5	32	283	6	49	4	33	5	34	2	30	1	19	2	10	4	21	3	26	4	28	1	33	500*
123.4	11	1124	15	197	17	159	15	161	23	90	9	61	6	59	8	49	9	13	6	92	2	119	600*
27.3	21	252	4	63	4	37	3	22	2	30	2	12	-	12	2	16	1	18	2	19	1	23	700*
259.9	36	2563	10	389	3	272	5	255	2	18	5	28	2	27	1	19	4	19	1	20	3	303	800*
110.8	24	1084	4	179	2	173	6	127	2	10	2	82	-	69	2	55	3	85	1	85	2	127	900*
1106.2	49	1056	79	182	92	144	68	129	36	87	34	85	26	81	46	71	37	87	41	81	40	105	TOTAL
		11062		1900		1533		1367		906		887		845		765		909		857		1093	

*000-General works & Computer Science *100-Philosophy *200-Religion *300-Social Science *400-language *500- Science *600- Applied Science *700- Arts *800- literature *900 - History and Geography

Table (1) shows the reality of the Jordanian intellectual production quantitatively and thematically as shown by the table. The sum of intellectual production through (10) years is (11,062) books and the annual production rate calculated by the arithmetic mean is (1106.2). The table also indicates that year (2006) was the least productive by (765) books, and that year (2011) was the most productive by (1900) books; the production

rate for the years (2010, 2009 and 2002) was the closest to the highest production rate respectively meaning that there is no correlation between the amount of production and the chronology of years and agree in which this result goes along with (Al Zuhaimi, 2006) study.

It is noted in table (1), that the intellectual production in the last three years has doubled in most of the topics, but not all of them. The total of what has been produced in (7) years between (2002-2008) is (6262) books, representing (56.6%), while what has been produced during the last three years between (2009-2011) is (4800) books at (43.4%), despite that, as shown in the diagram: the actual rise in the quantity of productions was in the last three years, starting from 2009 to 20011, it can be argued that there is a correlation between the quantity of production and the chronology of years, i.e. the more the years advance, the rate of production increases and this calls for action to further studies in the coming years to prove this hypothesis.

The quantity as the table shows between the quantity of production in the Arabic language had the largest share, with the total produced in Arabic (10563) representing (95.49%), while the proportion of production in the pleural (4.51%), and this naturally the result as the national intellectual production always going to be in National, but if the subject matter specialist languages This result is consistent with Bunting (Shami, 2010) and study (al-Samarrai, 2008) and (Olayan).

Table (1) indicates that when it goes down to the terms of the substantive features of the books and the size of its production to the total for each subject and sets of books published in Arabic, as if the largest part goes in favor of the social sciences, where the total of productions was (2877) at an annual rate of (287.7) during the ten years representing (24.38%) of the total, followed by literature, religions, applied sciences, history, geography, languages, philosophy, general epistemology and scientific theory, where Fine Arts came in the last place where the topics the least productive of (273) books during the last ten years by an average annual production (27.3) books and by calculating the arithmetic average it show the huge gap clearly among the topics in terms of percentages. These findings are consistent with the study conducted by (Hamoud, 2010).

Table (1) indicates that in terms of the thematic features of the books published in foreign languages and the size of its production, the largest part was in favor of social sciences, where the total of produced books reached (180) books at an annual production rate of 18 books, followed by Applied Sciences, languages, literature, science theory, religions, history and geography, knowledge of general, Arts. Philosophy ranked last where it was one of the least productive topics (3) written during the last ten years at an annual production arithmetic average rate of (0.03), it was also noted that the production rate of some of the topics according to the annual production was zero, like the case of general epistemology between (2006 -2008) as well as philosophy between (2002-2008) and religions for the year (2003 - 2009) and arts for the year (2006), history, geography in (2006).

As for the intellectual production by the place of publication, Table (2) indicates that publishing is focused in Amman meaning that most publishing houses and printing presses are located in Amman, followed by Irbid city and the table clearly indicates that there is no printing and publishing in other cities. This result is due to a combination of factors, including: population density concentrated in Amman, it is natural that most authors residents in Amman, followed by Irbid, as well as there may be a number of authors from outside Amman and Irbid, such as the city of Zarqa, which in spite of the density of the population in this city, but there is weakness in the presence of publishing houses or printing presses, in addition to the fact that the purpose of publishing requires the author and publisher to have a permission for printing and publishing of the Press and Publications Department and the rights of intellectual property from the National Library and it seems that these service are provided by going to Amman due to the lack of delegates of these institutions in other governorates and cities.

Table (2) show books distribution by place of publication

Total	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	Y pub-place
total	total	total	total	total	total	total	total	total	total	total	
10353	1679	1423	1308	888	843	783	728	857	803	1041	Amman
506	198	92	48	17	19	37	19	18	35	23	Irbid
13	4	1	1	-	-	2	-	3	-	2	As Salt and Rusaifeh
21	-	2	-	2	1	3	3	5	3	2	Al Karak
36	2	6	1	-	1	3	7	2	7	7	Al Zarqa
11	-	-	-	-	1	1	-	3	1	5	Al Mafrag
14	-	2	-	1	3	-	-	4	1	3	Ma'an, Petra and Aqaba
2	-	-	-	-	1	-	-	-	-	1	Ar Ramtha
4	-	-	-	-	-	1	1	1	-	1	Jerash
8	-	1	-	-	1	2	-	1	2	1	Ajloun
1	-	-	-	-	-	-	1	-	-	-	Madabba
96	17	6	9	1	18	12	6	15	5	7	Outside of Jordan
11062	1900	1533	1367	906	887	845	765	909	857	1093	Total

Results

Through the reality of the Jordanian intellectual production analysis study it found a numerous results which are:

- There is no relationship between the size and quantity of production and the chronological order in general, but that this could be noted that in the last three years 2009 to 2011.
- The annual production rate in Jordan of books (1106.2). This is a modest amount compared to the number of

educational institutions in Jordan from universities and institutes, plus that Jordan is known for the amount of educated and cultured population.

- the size of production in the Arabic language had the largest share, with a total of 10563 accounted for 95.49%, while the proportion of production in other languages is 4.51%, and this percentage is very low.
- That the general trend in authoring in Jordan is focused on topics of humanities and social sciences at the expense of other sciences, especially the theoretical and applied ones.
- The weakness of the printing and publishing industry in the governorates and cities and being concentrated in the capital Amman, due to the existence of related government departments to grant vacations for publishing, printing and granting intellectual property rights in Amman and there have delegates or bodies in charge acting on behalf of these departments, such as the National Library and the Department of Press and Publications

Recommendations

- Supporting the publishing industry in Jordan and encouraging authors and book publishing, especially in the subjects that were not receive enough interest.
- conducting bibliometric cumulative studies similar to this one and more detailed in terms of deepening the analysis and prioritizing in accord with the topics covered by the National Library Department to these studies of importance in determining national priorities in copyright.
- The need to support printing and publishing movement outside Amman Governorate and provide publishing and printing, intellectual property rights licensing services through agents in cultural centers working in the governorates or the appointment of delegates to carry out the functions of the National Library and the Press and Publications Department.
- Providing and making sources of information available in libraries and information centers free to all citizens, not only in public libraries and the National Library, but also in universities' academic libraries and the scientific ones especially, such as databases, academic theses and dissertations to encourage publishing movement.

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