

A CO-WORD ANALYSIS OF SELECTED LIBRARY AND INFORMATION SCIENCE ARABIC LITERATURE: IDENTIFYING RESEARCH TRENDS OF INFORMATION TECHNOLOGY.

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Abstract:

Keywords placed at the forefront of research and studies play a significant role in revealing the content of those works. This study aims to monitor and analyze keywords related to various branches of information technology, as found in a sample of studies published in peer-reviewed Arab journals in the field of library and information science, available in the "Mandumah" database during the period from 2023 to 2025, to identify the current state of these keywords. The study adopts a descriptive analytical approach and employs the content analysis method. It is based on the direct examination of keywords in the selected research and studies, and their analysis using a checklist. The study reached a set of results, most notably that the study sample provided 242 keywords, and that about 22.19% of those studies had no keywords, and the general average number of keywords for the study was five keywords, and the number of components for keywords ranged between one word to eight keywords, and it was the highest percentage of the two words, and it was found that the journals did not care to include in the publishing rules some instructions for keywords. The distribution of the keywords according to subject revealed that the concepts got 92% of them, 78.54% in the field of libraries and information, while the entities (names of institutions, places, people, etc.) got 8%. There is a need to present the keywords in an acceptable manner based on the guidelines provided by the journals, as well as the importance of having a list of reliable keywords has been shown.

Introduction:

Keywords are the mirror of research and scientific studies published in peer-reviewed journals, as they accurately reflect their content and draw the attention of the reader, editor, and indexer alike. The reader finds in them what they need to identify the objective aspects of the research or study that interest them. The editor relies on them when considering assigning a reviewer with expertise related to the subject of the study, while the indexer uses them when selecting appropriate descriptors for content analysis.

For this reason, keywords have gained great importance nowadays, and no scientific study is without them. They appear at the forefront of a study's basic information, starting from the title, author, abstract, and then the keywords. Moreover, they have become a subject of many diverse studies, including those concerned with identifying research trends and developments based on browsing and classifying keywords.

The term "keywords" can be conventionally defined as individual words or phrases (composed of two or more words) prepared by the author to indicate the content of a study or research published in a scientific journal. Their primary function is to identify or describe documents to improve the retrievability of the described materials. They are also used in text summarization, ontology construction, text analysis, and browsing. (Lardera, Maeco, Hjørland, Birger, 2021)

Dar Almandumah was established in 2004. It is a Saudi company specialized in the development and construction of databases focused on research and academic fields. It comprises six databases: the Educational Information Database, the Economics and Management Information Database, the Language and Literature Information Database, the Islamic and Legal Sciences Information Database, the Humanities Information Database, and the Theses and Dissertations Information Database. The field of Library and Information Science falls under the Humanities Information Database. Coverage includes articles from specialized journals and conference proceedings in the field.

(<https://www.mandumah.com/about/>)

Study Methodology

The study adopts a survey method (descriptive-analytical approach) and employs content analysis. The keywords in the selected sample of studies were directly examined and analyzed through the development of a checklist that included the elements of the analytical study.

Research Questions

The study seeks to answer the following questions:

- What is the volume of keywords provided in the sample studies?
- Which studies included keywords?
- What terminology was used to refer to the keywords?
- What are the components of the keywords (single word or multi-word)?
- What are the subject areas of the keywords in the study sample?

Scope of the Study:

1. Subject Scope:

The study concentrates on keywords related to the transformation in the culture of publishing within scientific research sources in the fields of information technology. This is explored through their application in specific publishing channels.

2. Geographical Scope:

The study is concerned with scientific journals published in several countries such as Saudi Arabia, Jordan, Egypt, Syria, and Qatar which can be traced in the classified database of peer-reviewed journals in the fields of Library and information technology, within the Arab Knowledge Index "Mandumah".

3. Temporal Scope:

The study covers journals issued in the years 2023 to 2025. It is noted that some journals started issues were not fully available at the time of conducting this study, which presents a limitation.

4. Qualitative Scope:

The study excluded the following categories of materials:

- Academic theses and dissertations
- News articles

Study Sample:

The journal database in **Dar Almandumah** includes **55 journals**, some of which have ceased publication, while others are still actively publishing.

A total of **7 journals** (representing **12.72%**) were selected based on the following criteria:

- The journal is still actively publishing.
- The full issues containing research papers and studies are available.
- The journal is issued by Arab countries with notable activity in this field.
- The journal is available in print or accessible in a reliable and user-friendly electronic format.
- The journal is peer-reviewed and enjoys a high scientific ranking and classification.

The selected journals include:

- Journal of Information Studies
- King Fahd National Library Journal
- The Arab Centre Journal for Research and Studies in Library and Information
- Jordanian Journal of Library and Information Science
- Journal of Research in Library and Information Science
- Arab International Journal of Information and Data Technology
- Journal of Information and Technology Studies

Literature review:

[Al-Hakim, A. S., & Idris, A. \(2023\).](#) This literature review would provide an in-depth analysis of emerging IT trends within Arabic LIS literature through co-word analysis. The review should highlight key technological advancements such as AI, cloud computing, data analytics, and digital archives that have shaped LIS research in Arabic-speaking regions. It could also discuss the challenges faced by Arabic LIS scholars in adapting to new IT trends.

[Othman, H. M., & Zayed, F. \(2022\).](#) This literature review would examine how IT has evolved within the context of LIS in Arabic literature, using co-word analysis as a tool to map the development of key research topics over time. The review should track how different IT concepts have gained prominence in LIS research, from early technological adoptions to current innovations such as the Internet of Things (IoT) and machine learning in libraries.

[Panahi, S., & Fathian, M.\(2022\).](#) This literature review would focus on how the application of co-word analysis has been used to identify emerging research trends in the intersection of Information Technology (IT) and Library and Information Science (LIS) within Arabic-language literature. You can examine how co-word analysis has been applied to identify key research themes, such as digital libraries, information retrieval, and cloud computing. The review should highlight the significance of IT in shaping the future of LIS research in the Arab world.

[Hadi, Z., & Khaleel, N. \(2022\).](#) This literature review would provide an overview of innovative trends in IT within Arabic LIS research using co-word analysis. Focus would be on understanding how innovations like artificial intelligence, machine learning, data analytics, and digital libraries have become central to LIS research in the Arab world.

[Omar, R. & Sharaf, H.\(2021\) .](#) This review would map out the landscape of IT research in Arabic LIS literature by employing co-word analysis to identify clusters of research topics and track their development over time. The aim would be to examine how key topics have evolved and provide insights into which IT areas are most likely to shape the future of LIS research in the region.

[Siddique, M., & Hassan, M. \(2021\).](#) This review would focus specifically on LIS research in the Arab world, using co-word analysis to map the relationship between key terms and research themes in LIS, particularly those related to IT. The review would examine how research on information technology has developed over time in Arabic LIS literature and how key concepts like digital libraries, AI, and big data are represented.

[El-Baz, A., & Ali, M. \(2021\) .](#) This literature review would provide a comprehensive overview of how IT has influenced research within Arabic LIS literature. The review should cover both traditional and emerging areas of IT in LIS, highlighting major shifts in research focus. It should also provide insights into how co-word analysis has helped identify key areas such as digital preservation, big data, and information security.

[Al-Rashid, S., & Maqbool, A \(2020\).](#) This review would focus specifically on using co-word analysis to uncover specific research trends related to IT in Arabic LIS literature. The aim would be to provide a clearer understanding of the topics, such as electronic resource management, web development, and digital archives, that have gained attention in recent years. This review could help highlight the emerging research interests in Arabic LIS research through the lens of IT.

The review of previous studies reveals a limitation in Arabic studies compared to foreign ones, highlighting the significance of the current study. This study will benefit from foreign research in terms of comparing keywords with descriptors and preparing subject-specific lists of keywords as sources for selecting indexing terms. It will also address the thematic research trends in the field of library and information science in the Arab region.

Results and Discussion

Table (1): Journals Included in the Study

No	Journal title	ISSN	Publisher	Country
1	Journal of Information Studies	1658 8665	- Saudi Library and Information Association	Saudia Arabia
2	King Fahd National Library Journal	1319 4380	- King Fahd National Library	Saudia Arabia
3	The Arab Centre Journal for Research and Studies in Library and Information	2410 8324	- The Arab Centre for Research and Studies in Library and Information Sciences	Syria
4	Jordanian Journal of Library and Information Science	2308 0981	- Jordanian Library and Information Association	Jordan
5	Journal of Research in Library and Information Science	2090 0988	- Centre for Information Services and Systems Research	Egypt
6	Arab International Journal of Information and Data Technology	2812 5010	- Arab Organization for Knowledge Management	Egypt
7	Journal of Information and Technology Studies	2616 4930	- Hamad Bin Khalifa University Press	Qatar

The journals covered in the study comprise seven journals distributed across five Arab countries: Saudi Arabia (2), Egypt (2), Syria (1), Qatar (1), and Jordan (1).

Table (2): Number of Articles and Keywords in the Journals Included in the Study

No	Journal title	Issues	Articles	Keywords	%
1	Journal of Information Studies	26 (2023), 27,28 (2024)	10	14	%5.78
2	King Fahd National Library Journal	029 (2024) ,027, 028 (2023)	10	13	%5.37
3	The Arab Centre Journal for Research and Studies in Library and Information	V.11 (2024) , V,10 (2023)	10	5	%2.06
4	Jordanian Journal of Library and Information Science	V.58 (2023) , V,59 (2024) , V.60 (2025)	19	32	%13.22
5	Journal of Research in Library and Information Science	30 , 31 (2023) , 32,33 (2024) , 34 (2024)	24	44	%18.18
6	Arab International Journal of Information and Data Technology	V.3(2023) , V4 (2024) , V5 (2025)	42	95	%39.25
7	Journal of Information and Technology Studies	V.6 (2023), V.7(2024) , V.8 (2025)	24	39	%16.14
Total			139	242	%100

The data in the table shows that the number of articles published in the selected journals during the period from 2023 to 2025 amounted to 139 articles. Arab International Journal of Information and Data Technology was the most productive, accounting for 30.21% of the total, while the Arab

Centre Journal for Research and Studies in Library and Information had the lowest share at 7.19%. All articles collectively included 242 keywords distributed across the seven journals.

Table (3): Keyword types in the Journals Included in the Study

No	Journal title	Keyword types			
		single word	two-word	three-word	longer phrases
1	Journal of Information Studies	1	11	2	-
2	King Fahd National Library Journal	1	12	-	-
3	The Arab Centre Journal for Research and Studies in Library and Information	-	5	-	-
4	Jordanian Journal of Library and Information Science	3	21	7	1
5	Journal of Research in Library and Information Science	1	27	14	2
6	Arab International Journal of Information and Data Technology	1	75	19	-
7	Journal of Information and Technology Studies	3	26	10	-
Total		242			

The data in the table (3) shows that the number of keywords published in the selected journals during the period from 2023 to 2025 amounted to 242 keywords. Two words keyword was the most popular for (73.14%) , Three word (4.13%) , finally longer phrases(1.23%) .

Table (4): Using keywords in study articles.

No	Journal title	keywords	Without keywords	Total
1	Journal of Information Studies	9	1	10
2	King Fahd National Library Journal	8	2	10
3	The Arab Centre Journal for Research and Studies in Library and Information	3	7	10
4	Jordanian Journal of Library and Information Science	19	-	19
5	Journal of Research in Library and Information Science	43	1	44
6	Arab International Journal of Information and Data Technology	40	2	42
7	Journal of Information and Technology Studies	18	6	24
Total		120	19	139

From the table (4) , we find that the percentage of articles that include keywords in the study amounted to 86.33%, while the studies lacking keywords represented 13.67%. The Jordanian Journal of Library and Information Science was the most attentive to keywords, with no articles lacking keywords, whereas the Arab Centre Journal for Research and Studies in Library and Information had the highest percentage of articles without keywords, at 36.84%.

Table (5): The average number of words per study.

No	Journal title	Articles	keywords	%
1	Journal of Information Studies	10	14	% 1.4

2	King Fahd National Library Journal	10	13	%1.3
3	The Arab Centre Journal for Research and Studies in Library and Information	10	5	%0.5
4	Jordanian Journal of Library and Information Science	19	32	%1.86
5	Journal of Research in Library and Information Science	24	44	%1.83
6	Arab International Journal of Information and Data Technology	42	95	%2.26
7	Journal of Information and Technology Studies	24	39	%1.62
Total		139	242	

The data in the previous table shows that the highest average number of keywords in the 242 articles analyzed was found in the Arab International Journal of Information and Data Technology, with a rate of 2.26%, followed by Jordanian Journal of Library and Information Science with 1.86%. The lowest rate was recorded in the Arab Centre Journal for Research and Studies in Library and Information, at 0.5%.

Table (6): The Temporal Development of Keywords in the Study Journals

No	Journal title	2023	2024	2025	Total
1	Journal of Information Studies	4	5	5	14
2	King Fahd National Library Journal	4	4	5	13
3	The Arab Centre Journal for Research and Studies in Library and Information	1	2	2	5
4	Jordanian Journal of Library and Information Science	10	11	11	32
5	Journal of Research in Library and Information Science	14	18	12	44
6	Arab International Journal of Information and Data Technology	31	42	22	95
7	Journal of Information and Technology Studies	10	16	13	39
Total		74	98	70	242

The temporal measurement of productivity is one of the key indicators of growth and development. The data presented in Table (6) illustrates the temporal progression of keyword productivity in the study journals during the period from 2023 to 2025. The year 2024 recorded the highest share at 40.49%, followed by 2025 with 28.92%. It should be noted that the study only covered the issues of the journals published in 2025 up to the month of August.

The topics around which the keywords in the study journals revolved varied across nine main thematic areas, as shown in Table (7) and Figure (1). The keywords related to Artificial Intelligence and Digital Transformation had the highest share at 31.40%, followed by Data and Information Management at 21.07%, while the theme of Digital Economy and Content Delivery ranked last with 2.07%.

Table (7): The Main Thematic Trends of the Keywords in study articles.

No	Main concepts	Keywords	%
1	Artificial Intelligence and Digital Transformation	76	%31.40

2	Data and Information Management	51	%21.07
3	Cybersecurity and Privacy	45	%18.60
4	Educational Technologies and Learning Environments	22	%9.09
5	Digital Libraries, Archives, and Knowledge Management	14	%5.79
6	Cloud Computing, Security, and Smart Technologies	12	%4.96
7	Social Networks and Digital Citizenship	9	%3.72
8	Digital Transformation and Digital Services	8	%3.31
9	Digital Economy and Content Delivery	5	%2.07
Total		242	%100

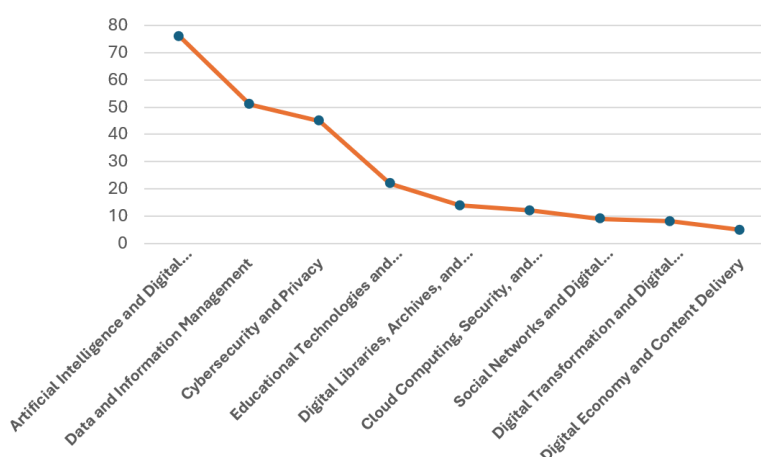


Fig (1): Main keywords in study articles.

The treatment of the nine thematic areas for the distribution of keywords differed among the study journals (Table 8). Arab International Journal of Information and Data Technology showed the greatest interest in topics related to Artificial Intelligence and Digital Transformation, accounting for 43.42%, as well as Data and Information Management at 39.21%, while other themes were addressed to varying degrees. On the other hand, The Arab Centre Journal for Research and Studies in Library and Information focused solely on four thematic areas, excluding the rest of the keyword thematic distributions.

Table (8): The Main Thematic Trends of the Keywords in study articles.

Journal title/Topics	Artificial Intelligence and Digital Transformation	Data and Information Management	Cybersecurity and Privacy	Educational Technologies and Learning Environments	Digital Libraries, Archives, and Knowledge Management	Cloud Computing, Security, and Smart Technologies	Social Networks and Digital Citizenship	Digital Transformation and Digital Services	Digital Economy and Content Delivery	Total
Journal of Information Studies	5	3	2	2	-	1	-	1	-	14
King Fahd National	5	2	1	1	2	-	1	-	1	13

Library Journal											
The Arab Centre Journal for Research and Studies in Library and Information	2	1	1	-	1	-	-	-	-	5	
Jordanian Journal of Library and Information Science	12	6	3	4	2	3	-	1	1	32	
Journal of Research in Library and Information Science	13	10	7	5	3	2	2	1	1	44	
Arab International Journal of Information and Data Technology	33	20	16	9	5	5	3	2	2	95	
Journal of Information and Technology Studies	6	9	15	1	1	1	3	3	-	39	
Total	76	51	45	22	14	12	9	8	5	242	

Conclusion:

This study aimed to identify and analyze the keywords used in research and studies published in Arabic journals in the field of Library and Information Science, as available through the Dar Almandumah database, to understand their current state and key characteristics.

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