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The Structural Similarity of Information Science Subjects at Shahid Chamran University of Ahvaz With Iran and The World

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Abstract

Purpose: This study investigates the structural similarity of research topics in information science at Shahid Chamran University of Ahvaz with those in Iran and the global scientific community. By comparing subject structures, the study seeks to reveal the degree of alignment between domestic research and international trends.

Methodology: The research adopts an applied scientometric approach. The statistical population comprises research outputs in the fields of information science and epistemology published in the Web of Science database, including contributions from scholars at Shahid Chamran University of Ahvaz, researchers across Iran, and the global research community. Co-occurrence mapping and structural similarity analyses were employed to identify patterns of thematic convergence.

Findings: The analysis first mapped the thematic structures of information science research globally, nationally, and within Shahid Chamran University of Ahvaz. Results show that between 2006 and 2010, Shahid Chamran's research demonstrated the highest structural similarity with Iran, reaching 6.599%. From 2016 onward, the university's research became more aligned with global trends, with a similarity rate of 5.375%. At the same time, Iran's overall research exhibited the strongest alignment with global information science research since 2016, with a structural similarity of 11.92%.

Conclusion: Benchmarking domestic research topics against global trends provides a clear understanding of strengths and weaknesses in national research approaches and policies. Such comparisons ensure that domestic systems remain aligned with international advancements, while also offering policymakers the evidence needed to improve weaker areas, strengthen existing capabilities, and enhance the overall quality and impact of scientific research**.**

Value: Analyzing the evolution of research topics in a discipline provides insight into dominant themes, innovations, and emerging directions. In the case of information science, identifying these trends not only informs scholars and decision-makers but also highlights opportunities for collaboration and alignment with global advancements. Such studies are essential for advancing knowledge, optimizing resource allocation, encouraging cooperation, and improving the overall quality and international visibility of research within the field.

Key Words: ***Structural Similarity, Information Science, Scientometrics, Clustering, Shahid Chamran University of Ahvaz***.

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نشریه مطالعات دانش پژوهی

Extended Abstract

Introduction: The structural similarity of research subjects in information science at institutional, national, and international levels has become increasingly important in evaluating the progress and orientation of this field. Understanding thematic similarities and differences provides insights into the direction of research, the extent of alignment with global advancements, and areas requiring policy intervention. The present study seeks to determine thematic trends in information science and knowledge studies through scientometric and thematic analyses. In doing so, it identifies emerging areas of inquiry and proposes a framework to guide future research trajectories in the discipline.

Purpose: The study investigates the structural similarity of information science subjects at Shahid Chamran University of Ahvaz in comparison with national research in Iran and global research outputs. The findings provide a basis for identifying strengths and weaknesses in the thematic orientations of Shahid Chamran University, offering practical insights and recommendations for enhancing its research performance and aligning more closely with international developments in the field.

Methodology: This research is applied in nature and employs scientometric techniques. The statistical population comprises all studies in the fields of information science and knowledge indexed in the Web of Science. The dataset includes research published by Shahid Chamran University of Ahvaz scholars (up to 2022), Iranian researchers (up to 2022), and international researchers (from the last 10 years). Keywords from retrieved records were standardized and unified through manual refinement after being exported to the PreMap program. The datasets for the three groups—world, Iran, and Shahid Chamran University—were prepared and subsequently analyzed using VOSviewer for clustering and co-occurrence mapping. To ensure comparability across periods, documents were organized systematically in Excel and examined in different time frames.

Findings: The dataset covered research outputs from 1994 to 2022. Initial retrieval yielded 768,040 articles worldwide, 3,337 from Iran, and 75 from Shahid Chamran University of Ahvaz. The analysis revealed trends in publication patterns, authorship, journals, and international collaborations. The publication trend of Shahid Chamran University in information science, as shown in Figure 1, indicates gradual growth but limited visibility compared to national and international levels. Prior to structural similarity analysis, co-occurrence maps of research topics in all three datasets were examined to identify thematic orientations. Results show that the highest structural similarity between Shahid Chamran University and Iran occurred between 2006 and 2010 (6.599%). However, in the period from 2016 onwards, Shahid Chamran demonstrated stronger thematic alignment with global research, with a similarity of 5.375%. At the national level, Iran's research alignment with global research reached its peak from 2016 onwards, with a similarity value of 11.92%, considerably higher than the university's alignment. Table 1 presents the percentage of structural similarity

across different ranges, highlighting that both Iran–World and Chamran–World similarities were highest in the post-2016 period, but Iran consistently demonstrated stronger alignment with global trends.

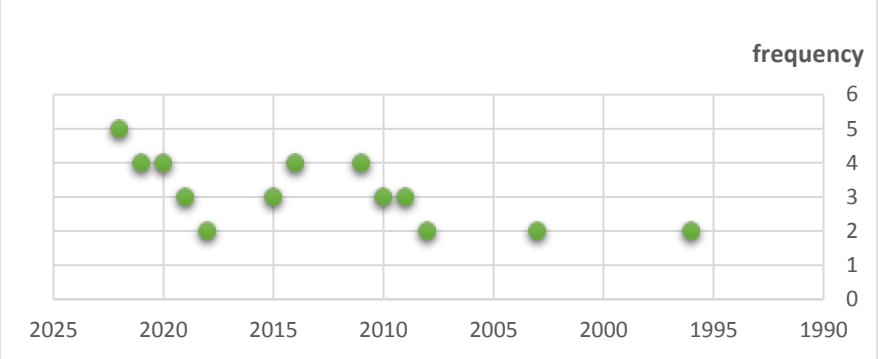

Figure 1. The publication trend of Information Science research of Shahid Chamran University of Ahvaz in the Web of Science database

Table 1. The degree of structural similarity in different ranges

Similarity (percentage of structural similarity)	Period	Range name
0 %	Before 2005	Iran - Chamran
6.59 %	2006-2010	Iran - Chamran
2.69 %	2011-2015	Iran - Chamran
3.33 %	2016 and beyond	Iran - Chamran
0 %	2011-2015	World - Chamran
5.37 %	2016 and beyond	World - Chamran
7.72 %	2011-2015	World - Iran
11.92 %	2016 and beyond	World - Iran

Conclusion: The findings indicate that Iran's thematic structure in information science is more closely aligned with global research trends than that of Shahid Chamran University of Ahvaz. The relatively lower similarity at the university level may stem from the interdisciplinary nature of information science, the dispersion of research across related domains, and insufficient communication mechanisms between domestic research groups. These gaps reduce the potential for alignment and collaborative innovation. The study offers several implications:

For researchers in Iran: It emphasizes the importance of aligning research topics with international trends, while also identifying opportunities to explore emerging areas.

For Shahid Chamran University: The findings underscore the need for institutional strategies to strengthen its research visibility and international integration.

For policymakers: The results provide evidence to support the design of policies and strategies that enhance research alignment with global advancements, thereby improving both national and institutional competitiveness.

In addition, fostering brainstorming sessions, interdisciplinary collaboration, and networking platforms among information science scholars can create opportunities for knowledge exchange, cooperation, and the identification of innovative directions. Comparing domestic and global research trends ultimately enables policymakers and scholars to pinpoint weaknesses, reinforce strengths, and guide research systems toward enhanced quality and international impact.

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Value: Analyzing research topic trends in information science holds significant scholarly and practical value. It allows for the identification of dominant and emerging areas, supports decision-making for research planning, and uncovers opportunities for collaboration at national and international levels. By situating domestic research within the broader global landscape, such studies advance the discipline through optimized resource allocation, enhanced collaboration, and improved research quality. Ultimately, they contribute to the progress, visibility, and innovation of information science as a dynamic and evolving field.

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