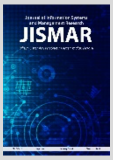

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An Investigation of International Field Indexes in the Discipline of Management Information Systems: A Bibliometric Analysis

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ABSTRACT

Management Information Systems (MIS) has emerged as a rapidly developing field in recent years, attracting increasing interest from researchers due to its integration of digital innovations and the diversity of interdisciplinary research areas. This study aims to contribute both to the literature and the MIS discipline by conducting a comprehensive examination of international subject indexes. The study focuses on international indexes designated by the Interuniversity Board (ÜAK), which play a significant role in academic promotion and incentive criteria, particularly ESCI and Scopus. The suitability of these indexes for the MIS field has been evaluated, and the identification of similar alternative indexes has been pursued. To analyze similarities between indexes, expert opinions and bibliometric analysis methods were employed. The relevance of categories within Scopus and ESCI to the MIS field was assessed based on expert evaluations, and the indexes covering journals within these categories were identified. As a result, a total of 73 indexes were identified. Relationships among these indexes were analyzed using the visual mapping technique in VosViewer software. Findings obtained from scenarios with different resolution values indicate that ESCI and Scopus exhibit strong connections with other international indexes, such as the Engineering Index and Inspec. Based on the results, the study emphasizes the necessity of expanding existing indexes and proposes alternative indexes for MIS researchers. It is anticipated that this expansion will enhance academic productivity and contribute to the further development of the MIS discipline.
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Yönetim Bilişim Sistemleri Disiplini Uluslararası Alan İndekslerinin İncelenmesi: Bibliyometrik Bir Analiz

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ÖZET

Yönetim Bilişim Sistemleri (YBS), dijitalleşmenin getirdiği yenilikleri bünyesinde barındırması ve disiplinler arası çalışma alanlarının çeşitliliği nedeniyle son yıllarda daha fazla araştırmacının ilgisini çeken, gelişmekte olan bir alandır. Bu çalışma hem literatüre hem de YBS disiplinine katkı sağlamak amacıyla uluslararası alan indeksleri üzerine kapsamlı bir inceleme gerçekleştirmektir. Çalışmada, ÜAK tarafından belirlenen ve doçentlik ile akademik teşvik kriterlerinde önemli bir yer tutan uluslararası alan indeksleri kapsamında *ESCI* ve *Scopus* ele alınmıştır. Bu indekslerin YBS alanındaki uygunluğu değerlendirilmiş ve benzer nitelikteki alternatif indekslerin belirlenmesi hedeflenmiştir. Bu doğrultuda, indeksler arasındaki benzerlikleri analiz etmek için uzman görüşleri ve bibliyometrik analiz yöntemleri kullanılmıştır. *Scopus* ve *ESCI* indekslerinde yer alan kategorilerin YBS ile uyumluluğu uzman görüşleri doğrultusunda değerlendirilmiş, ardından tespit edilen kategorilerde yer alan dergilerin tarandığı diğer indeksler belirlenmiştir. Çalışma kapsamında toplamda 73 indeks tespit edilmiştir. İndeksler arasındaki ilişkiler, *VosViewer* yazılımı kullanılarak görsel haritalama tekniği ile analiz edilmiştir. Farklı çözünürlük değerleriyle oluşturulan senaryolardan elde edilen bulgular, *ESCI* ve *Scopus* indekslerinin *Engineering Index* ve *Inspec* gibi diğer uluslararası indekslerle güçlü bir ilişki içinde olduğunu ortaya koymuştur. Elde edilen sonuçlar doğrultusunda, mevcut indekslerin genişletilmesi gerektiği vurgulanmış ve YBS alanında çalışan akademisyenler için alternatif indeks önerileri sunulmuştur. Bu durumun, akademik üretkenliği artırarak YBS disiplininin gelişimine katkı sağlayacağı öngörülmektedir.
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1. INTRODUCTION *(GİRİŞ)*

Data is recognized as the fundamental raw material of the information age, and its significance continues to grow daily. The processes of data collection, analysis, and interpretation play a crucial role in various fields, ranging from scientific research to business, from social sciences to natural sciences. Data is transformed into information for numerous purposes, including explaining phenomena, testing hypotheses, predicting future trends, developing new theories, understanding customer behavior, formulating marketing strategies, and enhancing operational efficiency. Although obtaining data is not particularly difficult, processing large volumes of raw data and converting them into meaningful information presents a significant challenge. This process becomes even more critical when the information derived from data is intended to support decision-making. In addition to transforming data into information, ensuring that this transformation occurs both accurately and efficiently is equally important. Properly processed and timely data can provide organizations with a competitive advantage, whereas decisions based on inaccurate or incomplete data may lead to significant losses. Therefore, it is essential that data processing procedures are both rapid and precise. To ensure the effectiveness of these processes, a systematic approach is required. Management Information Systems (MIS) are decision-support systems designed to assist decision-makers in efficiently planning, controlling, and monitoring the processes for which they are responsible. These systems facilitate data-driven decision-making, enabling organizations to optimize their strategic and operational processes effectively.

The concept of Management Information Systems (MIS) emerged in the 1950s and refers to the integrated systems that collect, store, and utilize information in organizations to support decision-making processes. MIS effectively utilizes the data it gathers to assist decision-makers when necessary. Rather than merely being a system that supports strategic decision-making, MIS can be defined as a discipline that integrates technology and the human factor into organizational processes. Given its interdisciplinary nature, various definitions of MIS exist in the literature. Schoderbeck et al. (1975) defined MIS as a human-machine system that supports decision-making processes in businesses and provides decision-makers with various types of information [1]. Stoner (1982) described it as a system that manages the processes of collecting and storing the accurate data necessary for organizational management and providing this data to decision-makers at the right time to support their actions [2]. Additionally, MIS facilitates more effective and efficient decision-making by supplying data to various organizational functions, including planning, control, auditing, and execution. Culnan (1987) defined MIS as a discipline that interacts with different fields and provides data to facilitate decision-making at various managerial levels [3]. Long (1989) described it as a system that delivers the necessary information at the required time to enhance organizational efficiency and effectiveness [4]. Adeoti Adekeye (1997) defined MIS as a system that provides essential information for different processes such as decision-making and planning within organizations [5]. Lee (2001) described MIS as a system that enables the optimization of organizational processes by supplying the necessary data for more efficient operations [6]. Baskerville and Myers (2002) defined it as the development and effective use of information systems within organizations [7]. Bensghir (2002) characterized MIS as a dynamic and continuously evolving field that emerges from the convergence of multiple disciplines, including management science, computer science, information systems, and organizational behavior [8].
Laudon and Laudon (2004) defined MIS as a system that assists business decision-making processes through information technology systems [9]. Becta (2005) described it as a system that provides data to all necessary units within an organization while ensuring communication between these units [10]. O'Brien and George (2007) defined MIS as systems that support decision-makers through reports, graphics, and other documents during the decision-making process [11].
Gökcen (2011) described MIS as a system that enables organizations to use data and information more efficiently and effectively [12]. Pratap (2018) defined MIS as a multi-disciplinary system that integrates various fields and considers hardware, software, data, processes, and the human factor as a unified whole. Each of these components is critical for the functionality of MIS and constantly interacts with one another [13]. Overall, MIS requires the integration of information technology, management, business, and human factors within a holistic framework to optimize organizational decision-making and operational processes.

When examining the historical development of Management Information Systems (MIS), it is evident that, despite emphasizing different aspects over time, the primary focus has always been on enhancing the efficiency and effectiveness of organizational business processes. The multidisciplinary nature of MIS has also shaped its evolution throughout history. Table 1 presents the historical development and transformations that MIS has undergone over time. The evolution of MIS has closely followed advancements in computer technology, demonstrating a parallel progression.

Table 1. The roles of management information systems in the historical process
(Yönetim bilişim sistemlerin tarihsel süreçte rolleri)

Year	Start	Area of Use
1950	Data Processing Systems	It was used to store large amounts of data and perform basic calculations.
1960	Support for Decision Making	Data was analyzed to provide meaningful information for managers to use in decision-making processes.
1970	Database Management Systems	Data began to be used centrally in a shared repository.
1980	The proliferation of personal computers	With the widespread use of personal computers, employees became able to access the information they needed instantly and make faster decisions..
1990	Global Connections Through the Internet	With the influence of the internet, the use of enterprise information systems has facilitated information sharing by consolidating all company data into a single platform.
2000 and After	The Age of Cloud Computing and Mobile Applications	With the development of mobile applications, Management Information Systems (MIS) have become accessible through smartphones and tablets as well.
Nowadays	The Impact of Artificial Intelligence and Big Data	With the integration of artificial intelligence and machine learning technologies, previously unseen relationships have been discovered, and more accurate predictions have been made.

As can be seen from Table 1, the concept of Management Information Systems (MIS) has evolved alongside the advancements in computer technology, artificial intelligence, big data, and other technologies, shaping it into its current form. Being a discipline influenced by technological developments, it is expected to continue its development in future processes.

The primary objective of this study is to evaluate whether the international subject indices defined in the field of Management Information Systems (MIS) can be expanded. There is insufficient clarity regarding the criteria used by the Council of Higher Education (ÜAK) in determining the international subject indices and the selection process. In this study, analyses will be conducted based on the ESCI and Scopus indices, as determined by ÜAK. Initially, the suitability of these indices for the MIS field will be assessed through expert opinions. Based on expert evaluations, other international indices similar to these, found to be compatible with the MIS field, will be identified. The identified indices will be examined using various analytical methods, and the possibility of establishing new international subject indices will be investigated. In this regard, the relationship between only the ESCI and Scopus indices and the MIS field will not be evaluated, but the goal will also be to introduce new international indices to the field by expanding the scope of these existing indices.

2. LITERATURE REVIEW *(LİTERATÜR TARAMASI)*

MIS (Management Information Systems) is a complex structure that arises from the integration of various disciplines within the rapidly changing dynamics of technology and the business world. Consequently, it is difficult to find a comprehensive definition of MIS. Efforts to define MIS in the literature often emphasize different aspects of the system. This is because MIS is a system formed by the combination of fundamental components such as hardware, software, databases, networks, and human resources. The integration of these components enables MIS to meet the information needs of businesses, support decision-making processes, and enhance their competitive strength. Due to these characteristics, the concept of MIS is a discipline that has been extensively studied in the literature.

Although the origins of Management Information Systems (MIS) date back to the 1950s, the development process in Turkey occurred later than the global average. The first academic studies and educational programs in this field were initiated in the 1990s. Most of the pioneering studies in MIS in Turkey have been carried out at Marmara University. The development of MIS education in Turkey began in 1991 with the establishment of the MIS department at Marmara University. While this field started relatively late in Turkey, it has developed rapidly. The process, which began with the first department opened at Marmara University, has led to the establishment of MIS programs at many universities today, providing opportunities to train qualified human resources in the field. Since the establishment of the first MIS departments in 1991, the number of departments offering MIS education in Turkey has steadily increased. Today, there are a total of 86 universities offering MIS programs, including 41 state universities and 45 private universities. This number continues to grow each year. While this has significantly contributed to the increase in the number of researchers and the diversification of studies in MIS, the field is still not at a sufficient level of development.

The fact that researchers in the MIS field come from various scientific disciplines further accentuates its interdisciplinary nature. Researchers from fields such as computer science, business, mathematics, statistics, and even sociology are conducting studies in MIS. On the one hand, this brings a wide range of research topics to the field, while on the other hand, it complicates the formation of a unified structure for the field. The relatively new status of MIS in Turkey also contributes to the interdisciplinary makeup of its researchers. This leads researchers to transfer their knowledge and skills from their original disciplines to the MIS field, which facilitates the integration of different disciplinary approaches and the development of new methods, but also contributes to the absence of a well-established methodology in the field. Numerous national and international studies have been conducted to identify the contributions of MIS to science and society and to explore its general structure as an emerging academic discipline.

Barki et al. (1988) examined 792 articles published in the field of MIS between 1968 and 1988 to identify various metrics related to the field. As a result of the study, they identified key topics within the MIS discipline [14]. Seo and Han (1997) used subject analysis, citation analysis, and co-author analysis methods to uncover the general structure of the MIS field. They identified prominent journals and influential authors in the field [15]. Bensghir (2002), through content analysis, assessed the state of academic studies in MIS in Turkey, comparing them with global developments. The study found that academic research in Turkey was in line with global trends in the MIS field [8]. Cocosila et al. (2011) performed a bibliometric analysis of 452 papers presented at three MIS conferences between 1974 and 2008. The study revealed various metrics such as the most influential authors, frequently discussed topics, and the number of presentations over the years [16]. Mohanty (2014) conducted a bibliometric analysis of 596 articles published in the *MIS Quarterly* journal from 1995 to 2009, uncovering various metrics such as the most effective countries, authors, and article topics [17]. Yarlıtaş (2015) analyzed completed graduate theses in the MIS field using content analysis, identifying related disciplines, research methods, and topics of focus. The study showed that, as expected, the field has strong relationships with disciplines such as management, information technology, and computer science, confirming the interdisciplinary nature of MIS. The study also found that both qualitative and quantitative research methods were used in the theses [18]. Lin et al. (2016) conducted a bibliometric analysis of 853 articles published between 1991 and 2014, identifying influential authors, topics, and the connections between publications [19]. Özköse (2017) analyzed articles from Scopus and WOS databases published in the MIS field between 1980 and 2015 using bibliometric methods. The study identified influential authors, institutions, countries, the number of articles by year, the most cited publications, and journals [20]. Özköse and Gencer (2017) conducted a bibliometric analysis of 24 journals indexed in SCI-E and SSCI within the WOS database, revealing information about influential institutions, authors, and countries in the MIS field [21]. Beydoun et al. (2019) performed a bibliometric analysis of 855 articles published in *Information Systems Frontiers* between 1999 and 2018, identifying subject distributions in the journal's articles [22]. Çoşkun et al. (2019) used data and text mining methods to uncover the topics in MIS articles published in the WOS database from 2008 to 2019. The study revealed changing subject trends over the years [23]. Aytaç (2020) conducted a content analysis of graduate theses published between 2015 and 2020, identifying frequently discussed topics in the theses [24]. Jeyaraj and Zadeh (2020) used topic modeling to analyze 2962 articles published between 2003 and 2017 in five significant journals related to the MIS discipline, identifying 50 different subject headings [25]. Damar and Aydın (2021) analyzed 104 journals at the SCImago Q1 level from 2010 to 2021 using bibliometric methods. The study revealed various metrics, including frequently used topics and keywords, the most influential authors, and the field of study for Turkish researchers [26]. Cebeci (2021) analyzed 963 articles published between 2000 and 2020 in 107 journals in the Scopus database using multi-criteria decision-making methods. The study applied bibliometric analysis, trend analysis, text mining, and clustering methods, revealing that customer-focused topics and data mining were the most studied subjects related to MCDM methods [27]. Damar and Özdağoğlu (2022) conducted a bibliometric analysis of 1550 publications published in *MIS Quarterly* between 1980 and 2020. The study identified the disciplines and countries related to MIS and examined their productivity [28]. Özköse et al. (2023) conducted a bibliometric analysis of 25,304 articles published in the Scopus database between 2016 and 2021, identifying the most influential authors, institutions, countries, and journals in the field [29].

Table 2. Review of the MIS Literature

(YBS Literatürünün incelenmesi)

	Year	Author/Authors	Method Used
National	2002	Bensghir[8]	Content Analysis
	2015	Yarlıtaş[18]	Content Analysis
	2017	Özköse[20]	Bibliometric Analysis
	2017	Özköse and Gencer[21]	Bibliometric Analysis
	2019	Coşkun[23]	Data and Text Mining
	2019	Ergüner Özkoç[40]	Bibliometric Analysis
	2020	Aytaç[24]	Content Analysis
	2021	Damar and Aydın[26]	Bibliometric Analysis
	2021	Cebeci	Bibliometric Analysis, Trend Analysis, Text Mining, Clustering
	2022	Damar and Özdağoğlu[27]	Bibliometric Analysis
	2023	Özköse et al.[29]	Bibliometric Analysis
	2023	Sertçelik and Önder[39]	Apriori Algorithm
	2024	Güler and Zeren[43]	Bibliometric Analysis

	2024	Kırmızıkaya and Öztürk[44]	Bibliometric Analysis
	2024	Ünal Kestana[45]	Bibliometric Analysis
	2025	Akgün et al.	Bibliometric Analysis
International	1988	Barki et al. [14]	Data and Text Mining
	1997	Seo and Han[15]	Subject Analysis, Citation Analysis, Author Co-Citation Analysis
	2011	Cocosila et al.[16]	Bibliometric Analysis
	2014	Mohanty[17]	Bibliometric Analysis
	2015	Shiau[41]	Citation Analysis Method
	2016	Lin et al.[19]	Bibliometric Analysis
	2019	Beydoun et al.[22]	Bibliometric Analysis
	2020	Abedin et al.[42]	Bibliometric Analysis
	2020	Jeyaraj and Zadeh[25]	Topic Modeling Method
	2024	Aryawati[47]	Bibliometric Analysis
	2024	Modina et al. [48)	Bibliometric Analysis
	2025	Hidayat et al. [46]	Bibliometric Analysis

In the literature of Management Information Systems (MIS), it is evident that this field is frequently studied and efforts are being made to establish a framework for it. However, due to both technological advancements and the interdisciplinary nature of MIS, its boundaries cannot be clearly defined. The topics studied and the methods used vary depending on the year and the expertise of the researchers. Research in MIS is carried out at both national and international levels, with a focus primarily on quantitative methods such as data and text mining. Data mining techniques help to uncover hidden information and relationships within large datasets, while text mining methods identify key terms and concepts in scientific publications, reports, and other documents, enabling the tracking of the field's development. Due to their nature, data and text mining methods facilitate the discovery of hidden information within patterns. These methods are often used to salvage a congested literature, providing a clearer image and an overall picture of the field. Therefore, these techniques are frequently employed to determine the boundaries of a field. When the literature on the subject is reviewed, it becomes clear that databases, journals, theses, articles, conferences, and papers related to MIS have been extensively studied. Various data and text mining methods such as content analysis, topic modeling, bibliometric analysis, citation analysis, clustering, classification, and apriori algorithms have been used in these studies.

As a result of the literature review, no studies specifically focusing on international indexing in the field of Management Information Systems (MIS) were found. One of the key challenges for academicians working in MIS is the uncertainty regarding which indexes the journals in this field are included in and whether these indexes are considered international. Although the Interuniversity Board (ÜAK) has made some regulations on this matter, existing studies do not provide sufficient clarity, leading to the limitation of the field to certain indexes. International indexes are typically defined as those outside the SSCI, SCI, SCI-E, and AHCI categories. However, this definition is not sufficiently clear. The interpretation of this definition varies across different universities according to their academic promotion and incentive criteria, leading to inconsistencies in practice. Even though efforts were made to clarify certain indexes through regulations issued on June 15, 2023, uncertainty still remains regarding the criteria used to determine international indexes and how they differentiate from existing ones.

The main aim of this study is to evaluate the suitability of indexes outside the international area indexes determined by the Interuniversity Board (ÜAK) for the Management Information Systems (MIS) field, to determine whether these indexes can be considered international area indexes, and to analyze the relationship between the existing indexes and the MIS field. The study will seek answers to the following questions:

1. What are the categories within the field of Management Information Systems?
2. What are the other indexes that the journals in the Management Information Systems field are scanned in?

3. MATERIALS AND METHODS *(MATERYAL VE YÖNTEM)*

Science is a cumulative structure that progresses incrementally and continually develops. Each completed study forms the foundation for future research. Every new piece of knowledge can be tested and further developed by subsequent studies. Every academic work contributes to deepening and advancing knowledge. The benefit gained is not limited to academic growth alone but also facilitates the development and advancement of societies and improves their quality of life. Academic research, due to its collaborative nature with various scientific disciplines, fosters interdisciplinary approaches that accelerate scientific progress and provide solutions to more complex problems. This is because research is not confined to specific disciplines but progresses through interactions with different fields. As a result, science advances and offers new perspectives. Academic studies are communicated to the scientific community and society through scientific papers, conferences, and symposiums in various ways.

The progress, development, and dissemination of science are integral parts of scientific journals. Journals are included in various indexes when they meet specific criteria. Indexes are important tools that facilitate access to scientific works and categorize them in different ways. They provide researchers with the opportunity to access the information they need more easily. Given the variability in the quality and scope of different indexes, it is quite challenging to group them under one umbrella. The varying quality of journals and the diversity of the content they publish necessitate the classification of these indexes into specific categories. The classification of an index depends on various factors, which can change based on specific criteria. Therefore, researchers should be careful when choosing indexes and should determine which ones are most suitable for their field of study. For a scientific journal, being indexed in a reputable database increases its visibility, benefiting both the journal and the published works. Indexed journals reach a wider audience, resulting in more frequent citations. The increase in citations enhances the journal's prestige and makes it a more reliable source in the eyes of other researchers. There are many classifications for journal indexes, among which international area indexes will be discussed in this study. These indexes play a significant role in academic promotions, title changes, and academic incentives. Before June 15, 2023, there was ambiguity surrounding the concept of international area indexes, but after this date, the definition has been clarified for certain fields. Although ÜAK (Higher Education Council) previously published a list of 209 indexes, universities were making their own decisions and defining which indexes they would accept, leading to inconsistencies in practice. In the context of this study, the concept of international area indexes has been narrowed down to Scopus and ESCI. However, the distinctions and importance of these indexes have not been explained. This study aims to explore the differences between the selected indexes and determine if there are other indexes similar to these, based on the analysis conducted.

In summary, the aim of this study is to uncover certain dynamics of the field of Management Information Systems (MIS), which has gained significant popularity in recent years, particularly due to the innovations brought about by digitalization. The increasing diversity within the field and its wide appeal to numerous researchers have contributed to its growing prominence. However, due to the relatively new nature of the discipline, clear boundaries have not yet been established, and academic work is only just beginning to accelerate. This study will conduct an extensive review of the accepted indexes within the Management Information Systems field, aiming to expand the current list of indexes. By using bibliometric methods, the current status of these indexes will be mapped, and indexes with similar characteristics will be identified.

3.1. Index Selection *(İndeks Seçimi)*

In the study, the indexes to be addressed have been selected based on the international domain indexes recognized by the Yükseköğretim Kurulu (ÜAK) for academic promotion and appointment criteria. These indexes are Scopus and ESCI, as outlined by ÜAK.

Scopus, launched by Elsevier in 2004, is an index that provides content across various disciplines such as natural sciences, social sciences, medicine, and arts. Widely used in research and literature review, the Scopus database includes journals, conference papers, books, and patents. It offers comprehensive content, citation tracking, currency, filtering options, research performance measurement, and various integrated tools, making it a frequently used database by researchers. Scopus contains high-quality academic sources, which is one of the primary reasons for researchers' preference for the database. Currently, more than 25,000 journals are indexed in Scopus.

The Web of Science (WOS) is a database developed in 2015 that covers a wide range of disciplines, including natural sciences, social sciences, arts, and humanities. ESCI (Emerging Sources Citation Index) is a subset of the WOS database, designed to increase the visibility of journals that may not yet meet the criteria for WOS inclusion but still meet many standards. ESCI indexes journals that are close to meeting the required standards for inclusion in WOS but have not yet made the cut. Over time, as these journals meet the necessary standards, they can transition to the SCI, SSCI, or AHCI indexes. To be included in ESCI, a journal must meet specific criteria. Many academic journals in Turkey are indexed in ESCI.

3.2. Bibliometric Analysis *(Bibliyometrik Analiz)*

With the rapid advancement of digitalization, the importance of data and information has significantly increased. As societies transition into the information age, massive data accumulations have emerged, introducing the concept of big data into our lives. The exponential growth in data volume has made extracting meaningful insights from these vast datasets increasingly challenging. Data mining serves as a powerful analytical tool for uncovering hidden and meaningful patterns within large and complex datasets. One of the widely used data mining methods, bibliometric analysis, was first introduced by Pritchard in 1969. Bibliometric analysis employs statistical and mathematical techniques to examine scientific publications. Beyond merely providing publication-related metrics, bibliometric analysis offers insights into a given field, making scientific processes more comprehensible. This method allows for the assessment of scientific impact, the identification of research trends, and the examination of collaboration patterns. By analyzing bibliometric data, researchers can gain deeper insights into the dynamics of a discipline and uncover underlying patterns. Additionally, bibliometric analysis helps outline the broader framework of a research field while identifying existing gaps, guiding future studies. Due to these attributes, bibliometric analysis plays a crucial role in advancing scientific research. Various methods are employed to derive relevant metrics in bibliometric analyses, ensuring a comprehensive understanding of the field.

Bibliometric Analysis Methods;

1. Citation Analysis: Examines how frequently a published work is cited by other studies, providing insights into its impact and influence.
2. Co-Citation Analysis: Investigates how often two or more studies are cited together, helping to identify relationships between research topics.
3. Co-Authorship Analysis: Analyzes collaborations between researchers, mapping networks and identifying patterns of academic cooperation.
4. Keyword Analysis: Evaluates the keywords used in publications to provide metrics related to research topics and emerging trends.
5. Scientific Mapping: Visually represents scientific fields and examines relationships between different disciplines.
6. H-Index: Measures the impact of researchers based on the number of their publications and citation frequency.

Each of these techniques provides a unique perspective on research outputs and academic interactions, playing a crucial role in evaluating scientific knowledge. Additionally, bibliometric methods are inherently objective as they rely on quantitative data and offer extensive coverage due to their ability to process large datasets. In this study, scientific mapping and clustering methods will be employed to analyze the relationships between academic works and identify key research trends.

3.3. Problem Identification *(Problemin Belirlenmesi)*

In academic literature, an important consideration is the index of the journal in which an article will be published. The quality of the target journal is crucial for authors, especially when the publication will be used for academic promotion and tenure evaluations. To meet these criteria, both the journal itself and the indexes in which it is listed hold significant importance for researchers. The starting point of this research is the international field indexes in the field of Management Information Systems (MIS). The Turkish Council of Higher Education (ÜAK) has designated two indexes for this field: Scopus and ESCI. The core research problem stems from the question: What criteria were used to select these indexes, and are there other indexes that meet these criteria? This question will guide the structure and direction of the study.

3.4. Determination of Research Constraints *(Araştırma Kısıtlarının Belirlenmesi)*

Within the scope of this study, certain limitations have been established to define the research framework and influence its direction. These limitations are as follows:

1. In certain sections of the study, expert evaluations will be sought. To ensure that experts can contribute effectively to the field of Management Information Systems (MIS), specific criteria have been established. The required qualifications for experts include: holding a Ph.D. in the field of MIS and having conducted research in this area; having supervised students in a thesis/non-thesis master's or doctoral program in MIS and having engaged in research within the field; and having taught courses in MIS for at least two years while also conducting research in this domain.
2. The selection of indices and journals to be evaluated in this study has been determined with consideration of the research domain. Although the indices recognized by the Interuniversity Board (ÜAK) were initially reviewed, the extensive number of indices and the presence of those unrelated to the field necessitated a more focused approach. Consequently, the study is based on the core indices acknowledged in academic appointment and promotion criteria. Furthermore, only journals within these indices that specifically publish in the field of Management Information Systems (MIS) have been included in the analysis.

3.5. Determination of Research Population *(Araştırma Evreninin Belirlenmesi)*

The research will focus on the internationally recognized indices for the MIS discipline, namely Scopus and ESCI. The categories and journals within these indices will be identified. By determining the categories on Scopus (334) and ESCI (542), a total of 876 categories have been obtained. Upon reviewing the journals within these categories, a total of 33,825 journals have been identified, with (25,837) from Scopus and (7,988) from ESCI.

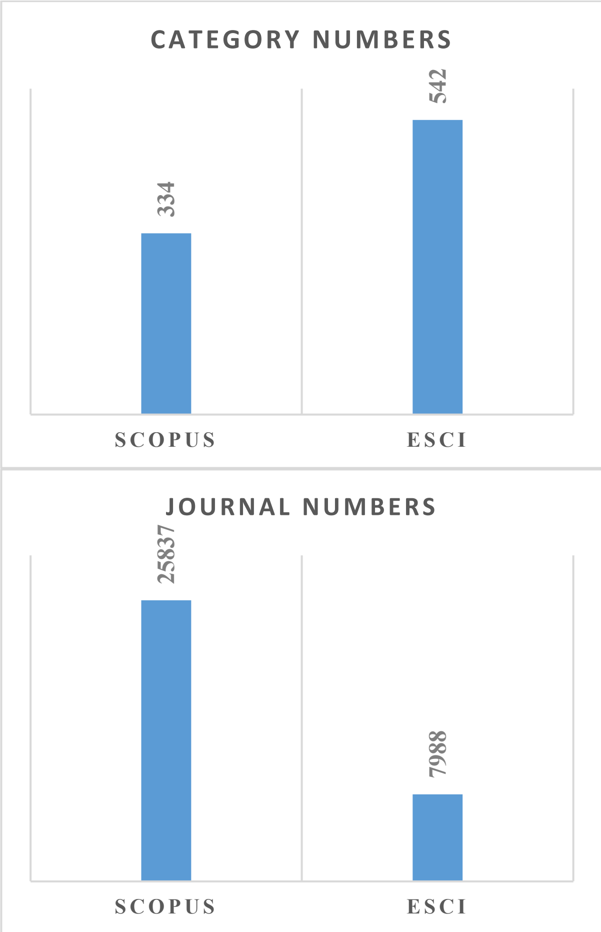

Figure 1. ESCI and Scopus Category and Journal numbers
(ESCI ve Scopus kategori ve dergi sayıları)

Expert opinions will be used to include only the categories relevant to the Management Information Systems (MIS) discipline in the study, while other categories will be excluded. The Scopus and ESCI categories have been prepared using Microsoft Excel to facilitate the experts' evaluations. During the evaluation, the experts were asked to rate the suitability of the identified categories for the MIS discipline on a scale from 1 to 5. The data provided by the experts were then compiled using Microsoft Excel, and the geometric mean of the ratings was calculated. In the average, three equal value ranges were defined: 5, 5-4.5, and 4.5-4. The categories to be included in the research based on these threshold values are presented in Table 3 and Table 4.

Table 3. ESCI category and journal issues
(ESCI kategori ve dergi sayıları)

Code	Category	Point	Journal Numbers
S 1	Computer Science, Information Systems	5	60
S2	Computer Science, Interdisciplinary Applications | Computer Science, Artificial Intelligence | Computer Science, Cybernetics | Computer Science, Information Systems	4,92	1
S2	Computer Science, Artificial Intelligence | Computer Science, Information Systems	4,83	2
S2	Computer Science, Theory & Methods | Computer Science, Artificial Intelligence | Computer Science, Information Systems	4,69	2
S2	Computer Science, Interdisciplinary Applications | Computer Science, Artificial Intelligence | Computer Science, Information Systems	4,69	1
S2	Computer Science, Artificial Intelligence	4,67	28
S2	Computer Science, Theory & Methods | Computer Science, Artificial Intelligence	4,67	1
S2	Computer Science, Artificial Intelligence | Computer Science, Cybernetics | Computer Science, Information Systems	4,54	1
S3	Computer Science, Theory & Methods | Multidisciplinary Sciences	4,46	1
S3	Multidisciplinary Sciences | Computer Science, Information Systems	4,456	1
S3	Computer Science, Interdisciplinary Applications | Computer Science, Theory & Methods | Engineering, Electrical & Electronic | Computer Science, Hardware & Architecture | Computer Science, Information Systems	4,42	1
S3	Computer Science, Interdisciplinary Applications | Multidisciplinary Sciences | Computer Science, Information Systems	4,32	1
S3	Computer Science, Interdisciplinary Applications	4,18	32
S3	Computer Science, Interdisciplinary Applications | Computer Science, Software Engineering | Computer Science, Information Systems	4,17	2
S3	Business	4,06	131
S3	Computer Science, Interdisciplinary Applications | Engineering, Multidisciplinary | Materials Science, Multidisciplinary	4,04	1

S3	Computer Science, Interdisciplinary Applications | Computer Science, Theory & Methods | Computer Science, Hardware & Architecture | Computer Science, Information Systems	4,04	1
		Total	**267**

Table 4. Scopus category and journal issues
(Scopus kategori ve dergi sayıları)

Code	Category	Point	Journal Numbers
1404	Management Information Systems	5	141
1709	Human-Computer Interaction	5	153
1710	Information Systems	5	413
1802	Information Systems and Management	5	152
1405	Management of Technology and Innovation	4,68	380
1702	Artificial Intelligence	4,58	298
2214	Media Technology	4,49	140
1705	Computer Networks and Communications	4,34	425
1704	Computer Graphics and Computer-Aided Design	4,27	112
2614	Theoretical Computer Science	4,25	139
1700	Computer Science Applications	4,17	324
1706	General Computer Science	4,05	875
		Total	**3552**

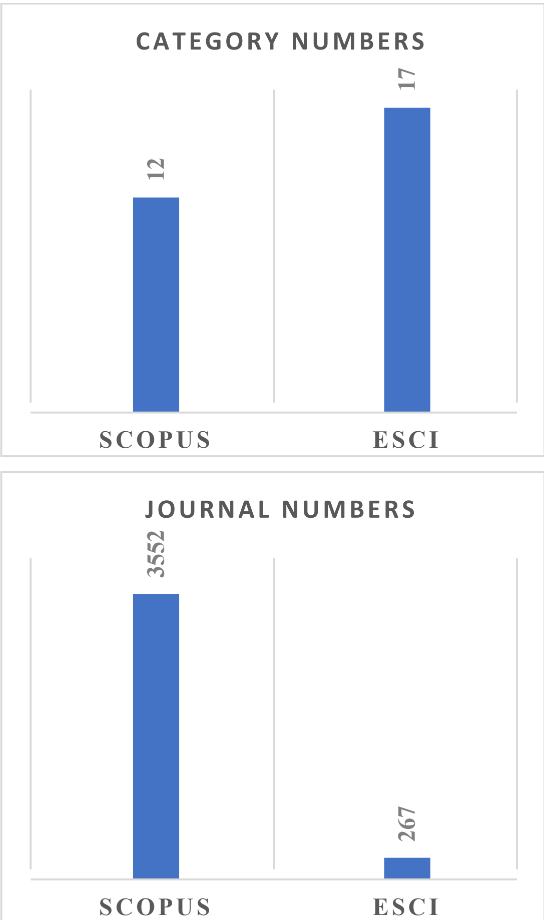

Figure 2. Number of categories and journals included in the study
(Çalışmaya dahil edilen kategori ve dergi sayıları)

Based on expert opinions, 12 categories from the 334 Scopus categories and 17 categories from the 542 ESCI categories were included in the study, while the remaining categories were excluded. As a result of the expert evaluations, 3,552 journals from the 25,837 Scopus journals and 267 journals from the 7,998 ESCI journals were included in the research.

3.6. Research Methodology *(Araştırma Metodolojisi)*

In this study, expert opinions and bibliometric analysis methods will be utilized. Expert opinion involves a person with in-depth knowledge and experience on a particular subject analyzing and evaluating a specific issue or topic, and offering a suggestion or solution based on this evaluation. This opinion is generally based on expertise acquired through education, experience, and research. In short, expert opinion is a helpful method for gaining knowledge or making decisions about a topic. Bibliometric methods can be defined as mathematical techniques applied to derive statistical metrics of publications such as books, journals, and articles (Pritchard, 1969) [30]. Through bibliometric methods, the current structure and trends in the field will be identified. The research will proceed according to the following workflow diagram.

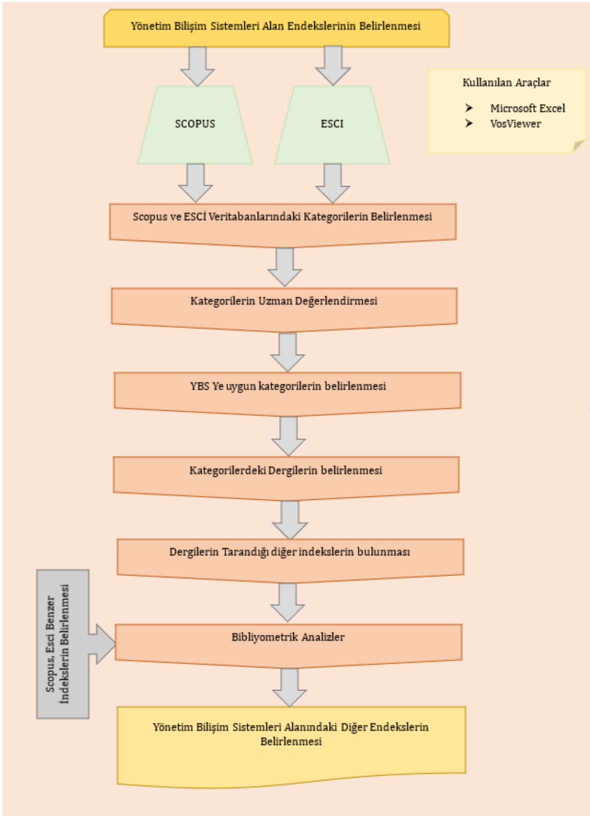

Figure 3. Research flow chart
(Araştırma akış şeması)

3.7. Data Collection and Pre-processing *(Veri Toplama ve Ön İşleme)*

In this section of the study, certain processes will be applied to the data to enhance the quality of the analyses and increase the likelihood of obtaining meaningful results from the analyses [37]. After defining the research population, the next step is data collection. At this stage, raw data is processed to prepare it for analysis [38]. The operations performed on the data prior to analysis are presented in Figure 4 below.

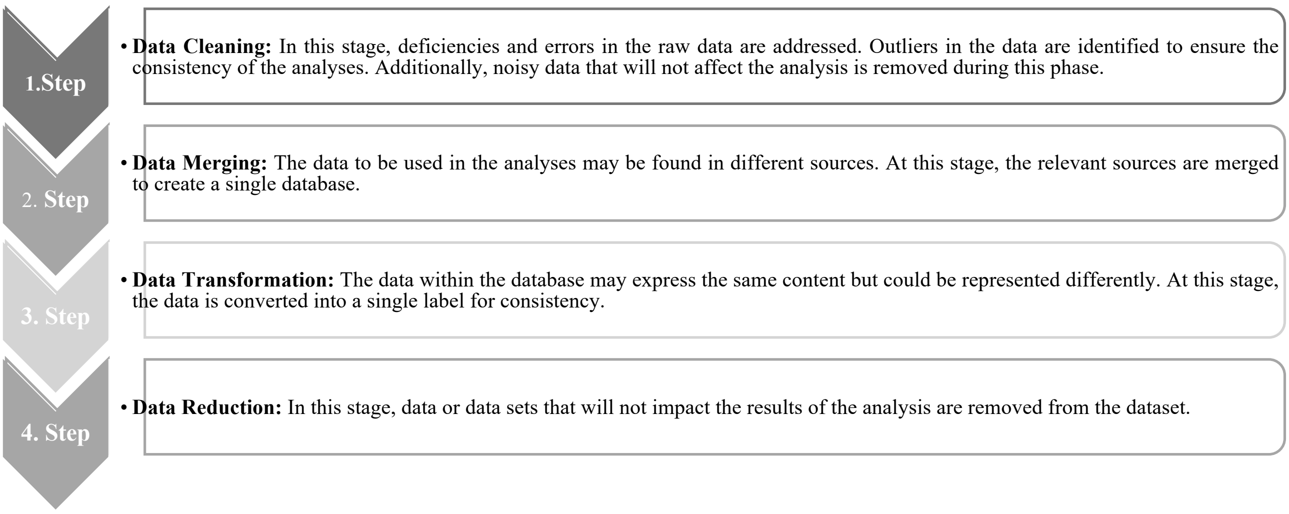

Figure 4. Data pre-cleaning stages
(Veri ön temizleme aşamaları)

In the study, the 3,819 identified journals were consolidated using Microsoft Excel, and duplicate journals were detected. Each index was considered a separate database, and upon merging the two index datasets, it was found that many journals appeared in both indexes. The duplicate journals were removed from the data file, leaving 1,471 unique journals. The index information for the identified journals was then scanned. From the scanned indexes, only those that were accepted as international field indexes were compiled using Microsoft Excel, resulting in a total of 73 international field indexes.

3.8. Importance of the Study and Contribution to the Field *(Çalışmanın Önemi ve Alana Katkısı)*

In this study, important indexes in the field of Management Information Systems (MIS) will be identified and the scope of the field will be expanded. A review of the literature reveals no existing studies on this topic, which highlights the significance of this research. It is not clearly known which criteria the indexes determined by YÖK (Higher Education Council) meet or how they are selected. Based on this, the presence of different indexes that meet similar criteria and characteristics as the selected ones will be investigated. As a result of the research, the identified indexes will be proposed, with the aim of expanding the scope of international indexes for MIS. This is expected to increase academic productivity and sustainability, as the limited number of indexes and the small number of journals in those indexes lead to long waiting times for researchers. This situation reduces academic productivity. If the number of indexes is increased, this will also lead to a rise in the number of journals, bringing diversity and more alternatives with it.

4. FINDINGS *(BULGULAR)*

In this study, scientific mapping was conducted using VosViewer. Through the scientific mapping method, the interactions and connections between the indexes will be examined. Different scenarios have been created to analyze and interpret the results more clearly. The number of occurrences used in creating these scenarios has been set as the threshold value. Table 5 presents the scenarios and relevant information related to those scenarios. For each scenario, an examination was carried out with three resolution values.

Table 5. Scenarios applied in the study
(Çalışmada uygulanan senaryolar)

	Threshold Value	Number of Indexes	Resolution	Number of Clusters
S1	23	73	1	3
			1.15	5
			1.30	3
S2	53	51	1	2
			1.15	4
			1.30	5
S3	70	45	1	2
			1.15	3
			1.30	3
S4	100	36	1	2
			1.15	3
			1.30	4
S5	151	26	1	2
			1.15	2
			1.30	2

Different scenarios were created to investigate how changes in the number of clusters and the associations between terms varied. Within the scenarios, clustering differences were examined using three different resolution values: 1, 1.15, and 1.30. The numbers in the scenarios were determined through trial and error to achieve the best possible results.

4.1. Scenario 1 *(Senaryo 1)*

In this stage, the threshold value was set to 23 in order to display all index values in the dataset. All 73 indices in the dataset were included in the analysis. When the resolution value for the 73 indices was set to 1, the data was divided into 3 different clusters; when the resolution value was set to 1.15, the data was divided into 5 different clusters; and when the resolution value was set to 1.30, the data was divided into 5 different clusters. The cluster divisions are shown in Table 6.

Table 6. Clusters according to Scenario 1
(Senaryo 1'e göre kümeler)

Resolution =1		**Resolution =1.15**		**Resolution =1.30**	
Clusters	***Number of Elements***	***Clusters***	***Number of Elements***	***Clusters***	***Number of Elements***
Red	27	Red	22	Red	21
Green	25	Green	19	Green	20
Blue	21	Blue	14	Blue	12
		Yellow	11	Yellow	11
		Purple	7	Purple	9

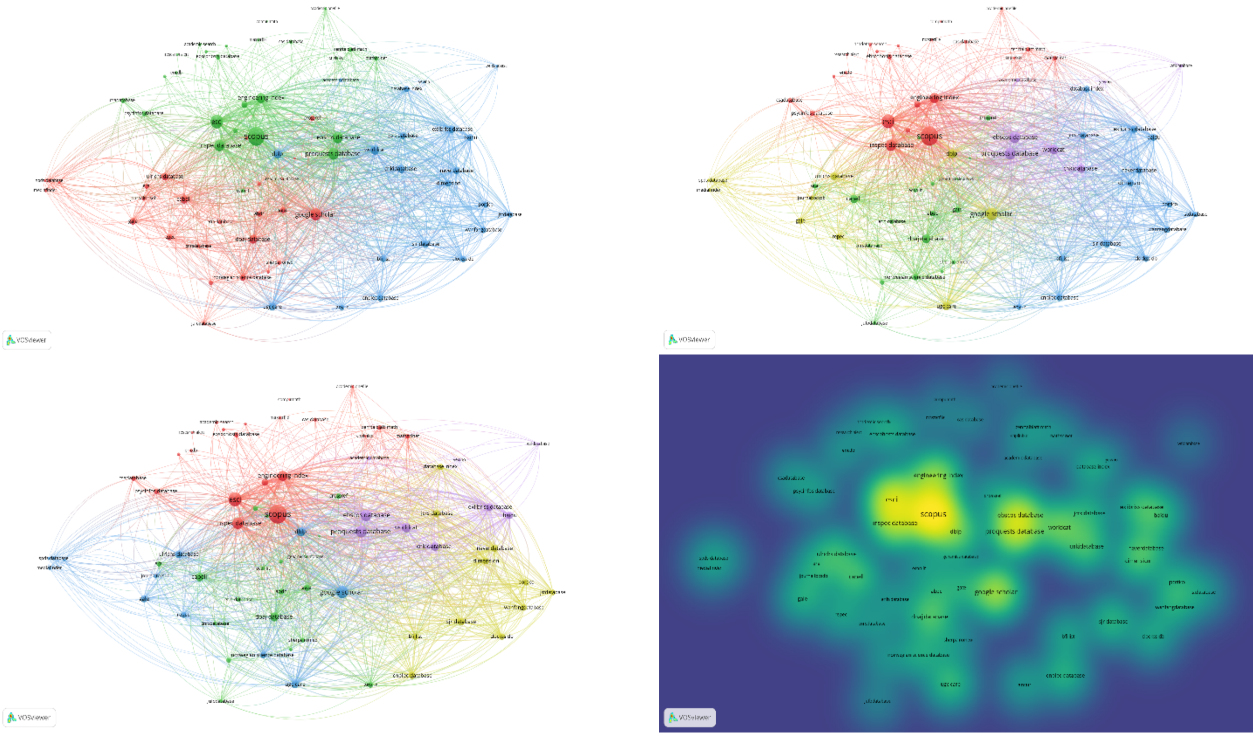

Figure 4. Index Clustering, Association and Density Analysis (N.T=23)
(İndeks Kümeleme, Birliktelik ve Yoğunluk Analizi(T.S=23))

When Figure 4 is examined, an increase in the number of clusters is observed with the change in resolution values. The resolution value facilitates the convergence of clusters towards each other. As the resolution increases, the elements within the cluster become closer to one another. As the values within the cluster converge, values that are distant create another cluster, which leads to an increase in the number of clusters. When the results of the VosViewer analysis with a threshold value of 23 are examined;

When the resolution is set to 1, Scopus and ESCI are in the same cluster with 23 indexes. Upon examining their relationships, it is observed that they have strong associations with ProQuest, EBSCO, INSPEC, and Engineering Index. Although they share the same cluster with indexes like Abinform, PsycINFO, ACM Guide, EBSCOhost, CSA, Zentralblatt Math, MathSciNet, EconLit, CAS, Academic Search, ERIC, IBZ, Emerald, MasterFile, Premier, Academic OneFile, Research Alert, CNPLinker, and CompuMath, the relationships with these indexes are weaker. When the resolution is set to 1.15, Scopus and ESCI share the same cluster with 20 indexes. A strong relationship is observed with INSPEC and Engineering Index. Similar to the previous scenario, they are also in the same cluster with Abinform, PsycINFO, ACM Guide, EBSCOhost, CSA, Zentralblatt Math, MathSciNet, CAS, Academic Search, ERIC, IBZ, Emerald, MasterFile, Premier, Academic OneFile, Research Alert, CNPLinker, and CompuMath, but the relationships with these indexes are weaker.

When the resolution is set to 1.30, Scopus and ESCI are in the same cluster with 19 indexes. As in the previous cases, there are strong relationships with INSPEC and Engineering Index. While they still share the same cluster with Abinform, PsycINFO, EBSCOhost, CSA, Zentralblatt Math, MathSciNet, CAS, Academic Search, ERIC, IBZ, Emerald, MasterFile, Premier, Academic OneFile, Research Alert, CNPLinker, and CompuMath, the relationships with these indexes remain weaker.

4.2. Scenario 2 *(Senaryo 2)*

At this stage, the threshold value in the dataset is set to 53. A total of 51 indexes are included in the analysis. When the resolution value is set to 1, the data is divided into 2 different clusters. When the resolution value is set to 1.15, the data is divided into 4 different clusters. When the resolution value is set to 1.30, the data is divided into 5 different clusters. The cluster divisions are shown in Table 7.

Table 7. Clusters according to Scenario 2
(Senaryo 2'ye göre kümeler)

Resolution =1		**Resolution =1.15**		**Resolution =1.30**	
Clusters	***Number of Elements***	***Clusters***	***Clusters***	***Number of Elements***	***Eleman Sayısı***
Red	*29*	*Red*	*18*	*Red*	*17*
Green	*22*	*Green*	*17*	*Green*	*15*
		Blue	*9*	*Blue*	*9*
		Yellow	*7*	*Yellow*	*5*
				Purple	*5*

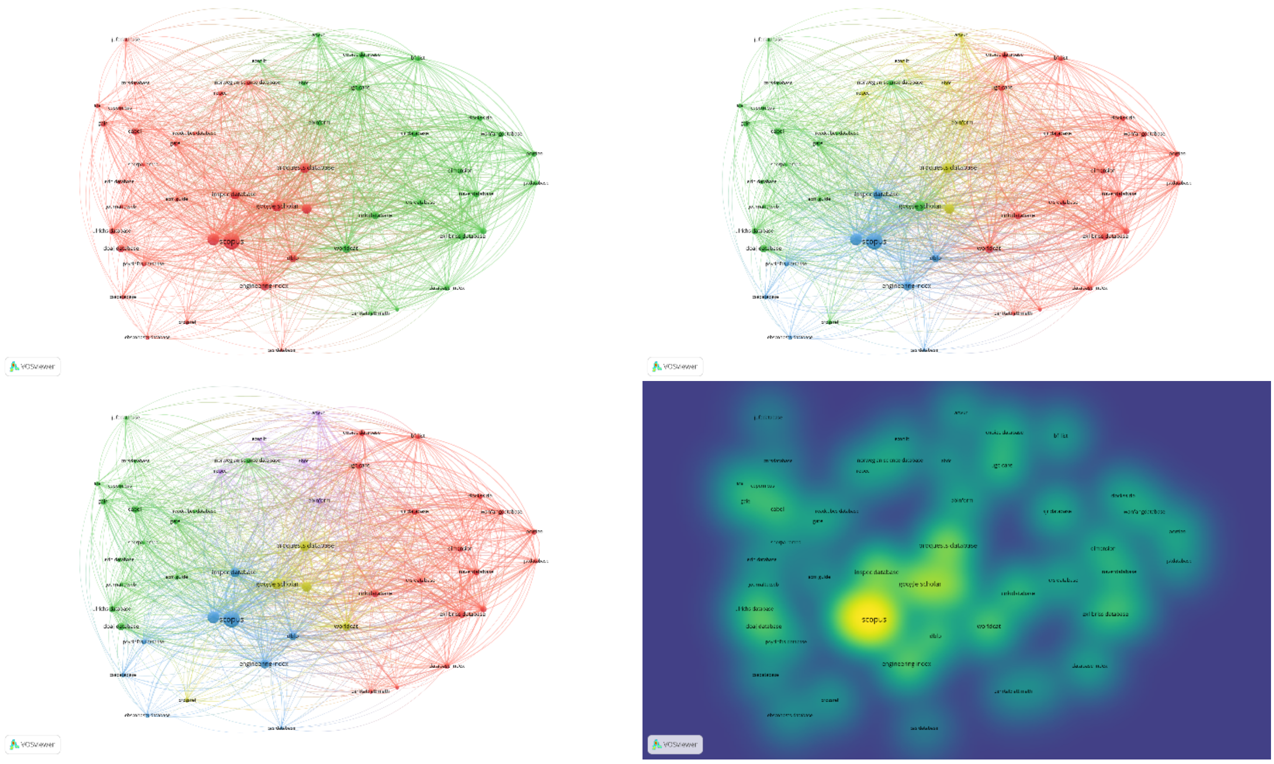

Figure 5. Index Clustering, Association and Density Analysis (N.T=53)
(İndeks Kümeleme, Birliktelik ve Yoğunluk Analizi(T.S=53))

When the results of the VosViewer analysis with a threshold value of 53 are examined:
With a resolution value of 1, Scopus and ESCI are in the same cluster as 27 other indexes. When the relationship between them is analyzed, strong relationships are found with Google Scholar, ProQuest, EBSCO, INSPEC, Engineering Index, DBLP, and DOAJ. Although they share a cluster with Cabell, Ulrich, Gale, Norwegian Science, Gate, RePEc, CrossRef, PsycINFO, ACM Guide, ERA, EBSCOhost, CSA, Copernicus, ERIH, JournalTOC, SHERPA Romeo, CAS, JUFO, ReadCube, and CNRS indexes, the relationships are weaker. With a resolution value of 1.15, Scopus and ESCI are in the same cluster as 7 other indexes. When the relationship between them is examined, strong connections are found with INSPEC, Engineering Index, and DBLP. While they share a cluster with PsycINFO, EBSCOhost, CSA, and CAS indexes, the relationships are weaker. With a resolution value of 1.30, Scopus and ESCI are in the same cluster as 7 other indexes. The relationships between them and INSPEC, Engineering Index, and DBLP are still strong. However, the relationships with PsycINFO, EBSCOhost, CSA, and CAS indexes are weaker.

4.3. Scenario 3 *(Senaryo 3)*

At this stage, the threshold value in the dataset has been set to 70. A total of 45 indexes are included in the analysis. When the resolution value is set to 1, the data is divided into 2 different clusters. When the resolution value is set to 1.15, the data is divided into 3 different clusters. When the resolution value is set to 1.30, the data is divided into 3 different clusters. The cluster divisions are shown in Table 8.

Tablo 8. Clusters according to Scenario 3
(Senaryo 3'e göre kümeler)

Resolution =1		**Resolution =1.15**		**Resolution =1.30**	
Clusters	***Number of Elements***	***Clusters***	***Number of Elements***	***Clusters***	***Number of Elements***
Red	*23*	*Red*	*21*	*Red*	*21*
Green	*22*	*Green*	*17*	*Green*	*15*
		Blue	*7*	*Blue*	*9*

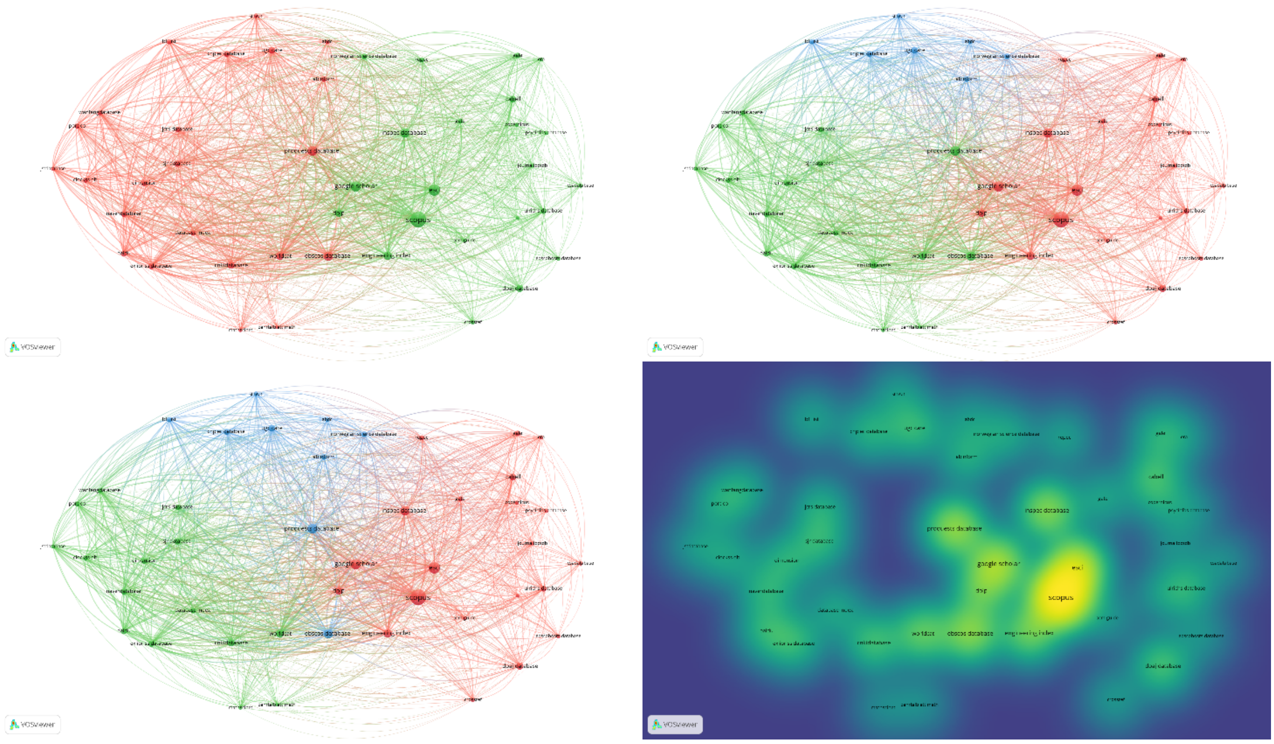

Figure 6. (Index Clustering, Association and Density Analysis (N.T=70)
(İndeks Kümeleme, Birliktelik ve Yoğunluk Analizi(T.S=70))

When analyzing the results based on the threshold value of 70 in VosViewer:
With a resolution value of 1, Scopus and ESCI are placed in the same cluster with 20 indexes. Strong relationships are found with Google Scholar, Inspec, Engineering Index, DBLP, and DOAJ. Although Cabell, Ulrich, Gale, Norwegian Science, Gate, RePEc, Crossref, PsycInfo, ACM Guide, ERA, EBSCOhost, CSA, Copernicus, ERIH, and JournalTOC indexes are in the same cluster, the relationships between them are weaker. With a resolution value of 1.15, Scopus and ESCI are placed in the same cluster with 19 indexes. Strong relationships are found with Google Scholar, Inspec, Engineering Index, DBLP, and DOAJ. However, the relationships with Cabell, Ulrich, Gale, Gate, RePEc, Crossref, PsycInfo, ACM Guide, ERA, EBSCOhost, CSA, Copernicus, ERIH, and JournalTOC indexes are weaker. With a resolution value of 1.30, Scopus and ESCI are placed in the same cluster with 19 indexes. Strong relationships are again observed with Google Scholar, Inspec, Engineering Index, DBLP, and DOAJ. While Cabell, Ulrich, Gale, Gate, RePEc, Crossref, PsycInfo, ACM Guide, ERA, EBSCOhost, CSA, Copernicus, ERIH, and JournalTOC indexes are in the same cluster, their relationships remain weaker.

4.4. Scenario 4 *(Senaryo 4)*

At this stage, the threshold value has been set to 100 in the dataset. There are 36 indexes in the analysis. When the resolution value is set to 1, the data is divided into 2 different clusters. With a resolution value of 1.15, the data is divided into 3 different clusters, and with a resolution value of 1.30, the data is divided into 4 different clusters. The cluster divisions are shown in Table 9.

Table 9. Clusters according to Scenario 4
(Senaryo 4'e göre kümeler)

Resolution =1		Resolution =1.15		Resolution =1.30	
Clusters	***Number of Elements***	***Clusters***	***Number of Elements***	***Clusters***	***Number of Elements***
Red	*19*	*Red*	*15*	*Red*	*15*
Green	*17*	*Green*	*13*	*Green*	*8*
		Blue	*8*	*Blue*	*7*
				Yellow	*6*

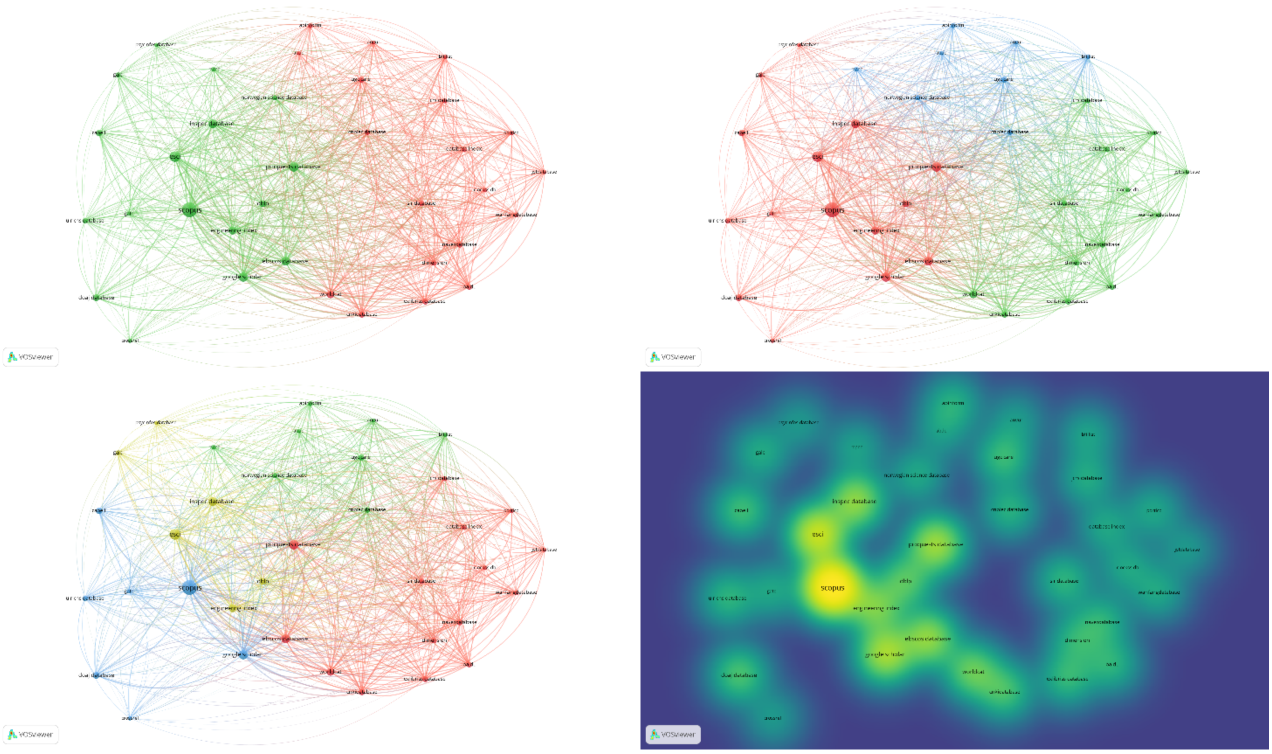

Figure 7. Index Clustering, Association and Density Analysis (N.T=100)
(İndeks Kümeleme, Birliktelik ve Yoğunluk Analizi(T.S=100))

When the analysis results with a threshold value of 100 in VosViewer are examined:
With a resolution of 1, Scopus and ESCI are in the same cluster with 15 indexes. A strong relationship exists between Scopus and Google Scholar, ProQuest, EBSCO, Inspec, Engineering Index, DBLP, and DOAJ. While they are in the same cluster with Cabell, Ulrich, Gale, Norwegian Science, Gate, RePEc, Crossref, and PsycINFO indexes, the relationship between them is weaker. With a resolution of 1.15, Scopus and ESCI are in the same cluster with 13 indexes. A strong relationship exists between Scopus and Google Scholar, ProQuest, EBSCO, Inspec, Engineering Index, DBLP, and DOAJ. Although they are in the same cluster with Cabell, Ulrich, Gale, Gate, Crossref, and PsycINFO indexes, the relationship between them is weaker. With a resolution of 1.30, Scopus and ESCI are in different clusters. Scopus is strongly related to Google Scholar and DOAJ. While it is in the same cluster with Cabell, Ulrich, Gate, and Crossref, the relationship is weaker. ESCI is strongly related to Inspec, Engineering Index, and DBLP. It shares the same cluster with Gale and PsycINFO indexes, although the relationship is weaker.

4.5. Scenario 5 *(Senaryo 5)*

At this stage, the threshold value in the dataset has been set to 151. The dataset includes 26 indexes for analysis. When the resolution is set to 1, the data is divided into 2 different clusters. When the resolution is set to 1.15, the data is divided into 2 different clusters. When the resolution is set to 1.30, the data is divided into 2 different clusters. The cluster splits are shown in Table 10.

Table 10. Clusters according to Scenario 5

(Senaryo 5'e göre kümeler)

Resolution =1		**Resolution =1.15**		**Resolution =1.30**	
Clusters	***Number of Elements***	***Clusters***	***Number of Elements***	***Clusters***	***Number of Elements***
Red	*14*	*Red*	*13*	*Red*	*13*
Green	*12*	*Green*	*13*	*Green*	*13*

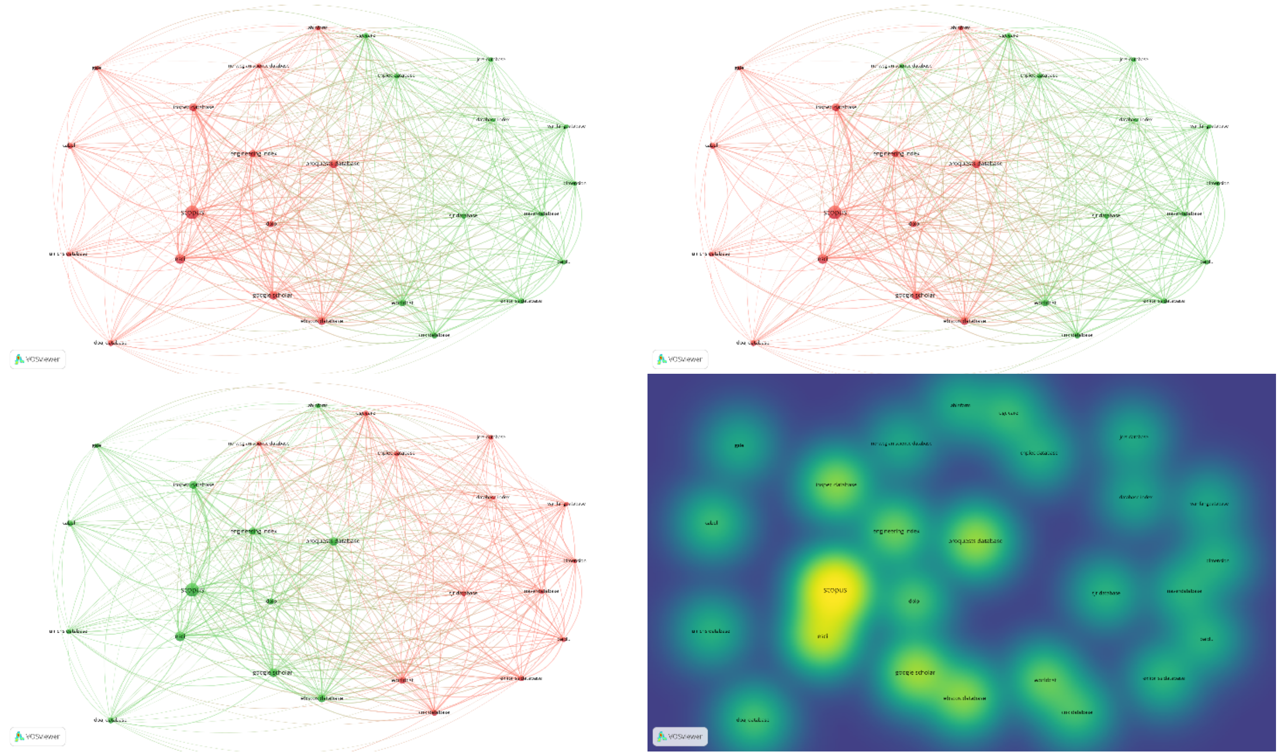

Figure 8. Index Clustering, Association and Density Analysis (N.T=151)

(İndeks Kümeleme, Birliktelik ve Yoğunluk Analizi(T.S=151))

The results of the VosViewer analysis with a threshold value of 151 are as follows:

When the resolution is set to 1, Scopus and ESCI are placed in the same cluster with 12 indexes. Upon examining their relationships, strong connections are observed with Google Scholar, Proquest, EBSCO, Inspec, Engineering Index, DBLP, and DOAJ. Although they share a cluster with Cabell, Ulrichs, Abinform, Gale, and Norwegian Science indexes, the relationship with these indexes is weaker. When the resolution is set to 1.15, Scopus and ESCI are placed in the same cluster with 11 indexes. A strong relationship is again observed with Google Scholar, Proquest, EBSCO, Inspec, Engineering Index, DBLP, and DOAJ, while a weaker relationship exists with Cabell, Ulrichs, Abinform, and Gale indexes. When the resolution is set to 1.30, Scopus and ESCI are still placed in the same cluster with 11 indexes. Strong relationships are found with Google Scholar, Proquest, EBSCO, Inspec, Engineering Index, DBLP, and DOAJ, whereas weaker relationships are observed with Cabell, Ulrichs, Abinform, and Gale indexes.

Table 11. Cluster and association analysis results
(Kümeleme ve birliktelik analiz sonuçları)

No	Terim	T.S	**O=23-S=73**			**O=53-S=51**			**O=70-S=45**			**O=100-S=36**			**O=151-S=26**		
			R=1	***R=1.15***	***R=1.30***	***R=1***	***R=1.15***	***R=1.30***	***R=1***	***R=1.15***	***R=1.30***	***R=1***	***R=1.15***	***R=1.30***	***R=1***	***R=1.15***	***R=1.30***
4	*academic onefile*	*35*	*Green*	*Red*	*Red*												
5	*academic search*	*50*	*Green*	*Red*	*Red*												
13	*cas database*	*57*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*									
17	*cnplinker*	*28*	*Green*	*Red*	*Red*												
19	*compumath*	*22*	*Green*	*Red*	*Red*												
22	*csadatabase*	*90*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*						
27	*ebscohosts database*	*94*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*						
30	*emerald*	*42*	*Green*	*Red*	*Red*												
31	*engineering index*	*378*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*	*Green*	*Red*	*Yellow*	*Red*	*Red*	*Green*
33	*ericdb*	*45*	*Green*	*Red*	*Red*												
35	*ESCI*	*681*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*	*Green*	*Red*	*Yellow*	*Red*	*Red*	*Green*
42	*ibzdatabase*	*43*	*Green*	*Red*	*Red*												
44	*inspec database*	*464*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*	*Green*	*Red*	*Yellow*	*Red*	*Red*	*Green*
49	*masterfile*	*39*	*Green*	*Red*	*Red*												
55	*premier database*	*38*	*Green*	*Red*	*Red*												
57	*psycinfos database*	*105*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*	*Green*	*Red*	*Yellow*			
60	*research alert*	*29*	*Green*	*Red*	*Red*												
62	*Scopus*	*1284*	*Green*	*Red*	*Red*	*Red*	*Blue*	*Blue*	*Green*	*Red*	*Red*	*Green*	*Red*	*Blue*	*Red*	*Red*	*Green*

4.6. Interpretation of the Findings *(Bulguların Yorumlanması)*

According to Scenario 1, the threshold value was set to 23, and three different resolution settings were examined: 1, 1.15, and 1.30. When the resolution was set to 1, 3 different clusters were identified. When the resolution was set to 1.15, 5 different clusters were identified. When the resolution was set to 1.30, 5 different clusters were identified. For both resolution settings of 1.15 and 1.30, no significant differences were observed in the relationships between the Scopus and ESCI indexes and other indexes. The relationships remained consistent across these two resolutions.

According to Scenario 2, the threshold value was set to 53, and three different resolution settings were examined: 1, 1.15, and 1.30. When the resolution was set to 1, 2 different clusters were identified. When the resolution was set to 1.15, 4 different clusters were identified. When the resolution was set to 1.30, 5 different clusters were identified. For both resolution settings of 1.15 and 1.30, no significant differences were observed in either the clustering of Scopus and ESCI indexes or in the relationships between these indexes and the other indexes. The relationships remained consistent across these two resolutions.

According to Scenario 3, the threshold value was set to 70, and three different resolution settings were examined: 1, 1.15, and 1.30. When the resolution was set to 1, 2 different clusters were identified. When the resolution was set to 1.15, 3 different clusters were identified. When the resolution was set to 1.30, 3 different clusters were identified. Although changing the resolution caused slight variations in the number of elements within the clusters, there was no significant difference in the relationships between the indexes. The relationships between the indexes remained consistent regardless of the resolution setting.

According to Scenario 4, the threshold value was set to 100, and three different resolution settings were examined: 1, 1.15, and 1.30. When the resolution was set to 1, 2 different clusters were identified. When the resolution was set to 1.15, 3 different clusters were identified. When the resolution was set to 1.30, 4 different clusters were identified. No changes occurred when the resolution was set to 1 and 1.15. However, when the resolution was set to 1.30, the ESCI and Scopus indexes were separated and placed in different clusters, indicating a significant shift in their relationship compared to the lower resolution settings.

According to Scenario 5, the threshold value was set to 151, and three different resolution settings were examined: 1, 1.15, and 1.30. When the resolution was set to 1, 2 different clusters were identified. When the resolution was set to 1.15, 2 different clusters were identified. When the resolution was set to 1.30, 2 different clusters were identified. In Scenario 5, changing the resolution value did not affect the number of clusters. Additionally, there was no difference in the clusters or the relationships between the indexes when the resolution was set to 1.15 and 1.30. The analysis results remained consistent across these resolution settings.

Due to the proximity of elements within the clusters and their distance from elements in other clusters, changes in the resolution value do not result in changes in the number of clusters. The similarities observed across different scenarios are due to the closeness of the cluster elements. The divergence observed in Scenario 4 is due to the increased distance between Scopus and ESCI at a resolution of 1.30, causing them to remain closer to other indices.

When evaluating the overall situation, as shown in Table 11, the indices related to ESCI and Scopus in the five different scenarios were the Engineering Index and IETinspec. The primary reasons for the similarity between these indices are as follows;

Table 12. Scopus Categories
(Scopus Kategorileri)

1	Management Information Systems
2	Human-Computer Interaction
3	Information Systems; Information Systems and Management
4	Management of Technology and Innovation
5	Artificial Intelligence; Artificial Intelligence
6	Media Technology; Computer Networks and Communications
7	Computer Graphics and Computer-Aided Design
8	Theoretical Computer Science; Computer Science Applications
9	General Computer Science)ve ESCI(Computer Science
10	Information Systems
11	Computer Science, Interdisciplinary Applications | Computer Science, Artificial Intelligence | Computer Science, Cybernetics | Computer Science, Information Systems
12	Computer Science, Artificial Intelligence | Computer Science, Information Systems; Computer Science, Theory & Methods | Computer Science, Artificial Intelligence | Computer Science, Information Systems
13	Computer Science, Interdisciplinary Applications | Computer Science, Artificial Intelligence | Computer Science, Information Systems
14	Computer Science, Artificial Intelligence; Computer Science, Theory & Methods | Computer Science, Artificial Intelligence
15	Computer Science, Artificial Intelligence | Computer Science, Cybernetics | Computer Science, Information Systems; Computer Science, Theory & Methods | Multidisciplinary Sciences

1	Multidisciplinary Sciences | Computer Scienc Information Systems
1	Computer Science, Interdisciplinaı Applications | Computer Science, Theory Methods | Engineering, Electrical & Electroni Computer Science, Hardware & Architecture Computer Science, Information Systems
1	Computer Science, Interdisciplinaı Applications | Multidisciplinary Sciences Computer Science, Information Systems
1	Computer Science, Interdisciplinaı Applications; Computer Scienc Interdisciplinary Applications | Comput Science, Software Engineering | Comput Science, Information Systems; Business
2	Computer Science, Interdisciplinaı Applications | Engineering, Multidisciplinary Materials Science, Multidisciplinary
2	Computer Science, Interdisciplinaı Applications | Computer Science, Theory Methods | Computer Science, Hardware Architecture | Computer Science, Informatic Systems

As a result of expert opinions, the similarity between these two indices was due to the fact that the categories obtained within Scopus, as shown in Table 12, are primarily related to engineering and technology fields.

When examining the scope of the IETinspec index, it covers topics in engineering and technology fields such as physics, electrical and electronic engineering, computer and information technology, mechanical and manufacturing engineering, robotics and automation, telecommunications and communication systems, energy and environmental technologies, nanotechnology, and interdisciplinary studies. Looking at the scope of the Engineering index, it includes research in the fields of engineering, technology, and applied sciences, covering topics such as mechanical engineering, civil and structural engineering, electrical and electronic engineering, computer and software engineering, materials engineering, chemical and process engineering, environmental engineering, industrial engineering, biomedical engineering, and energy and power systems. In addition, the Engineering index emphasizes interdisciplinary studies alongside traditional engineering topics.

The strong relationship between the Scopus and ESCI indices and the IETinspec and Engineering Index databases stems from the fact that the scope of these two indices is related to the fields of engineering and technology, which are aligned with the information systems (YBS) domain. Specifically, the strong relationship between Scopus and ESCI and the Engineering Index is due to the fact that the Engineering Index places importance on interdisciplinary studies, which further strengthens the connection.

5. CONCLUSION AND RECOMMENDATIONS

(SONUÇ VE ÖNERİLER)

The importance of the Information and Business Systems (YBS) discipline, which has significantly increased with digitalization, is particularly notable. As YBS is closely related to many fields and includes technology, a key requirement of the modern age, its significance has grown in recent years. Especially with the COVID-19 pandemic, the importance of YBS in remote work processes has been emphasized once again. Recently, YBS has become a frequently studied field by researchers, primarily due to its multidisciplinary nature.

In this study, the current status of international field indexes in the area of Information and Business Systems (YBS) was analyzed, and the potential for expanding these indexes was evaluated. First, the existing international indexes used in the YBS field were identified, and the categories listed in these indexes were determined. The identified categories were scored on a scale of 1-5 based on expert opinions, and geometric averages were calculated. Based on the results obtained, categories with a geometric average above 4 were included in the study. In the next phase of the study, journals within the identified categories and the indexes that indexed these journals were analyzed. A total of 3,819 journals were identified. After cleaning the repeated data, a total of 1,473 journals were reached, and the indexes that scanned these journals were identified. As a result of the examination, a total of 73 different indexes were found. Bibliometric analysis methods were used to understand the relationships between these indexes and to group them. In the analyses performed with the help of the VosViewer software, different scenarios were applied to examine the clustering and connections between the indexes.

The analysis results revealed that, in addition to Scopus and ESCI indexes, especially the Engineering Index and Inspec indexes were grouped together and showed a strong relationship in the 15 different analysis results within the 5 different scenarios. It was determined that the scope information of these two indexes showed similarities with Scopus and ESCI, and it was also observed that the journal acceptance and publication criteria largely overlapped. Based on the findings, it was concluded that, in addition to ESCI and Scopus, which are considered international field indexes for the YBS discipline, the inclusion of the Engineering Index and Inspec indexes would be appropriate. It is anticipated that this expansion would contribute to the development of the discipline by increasing the international visibility of academic publications in the YBS field.

International field indexes are a challenging subject for researchers to understand and make decisions about, yet they hold significant importance in the academic publishing process. In addition to the difficulties in preparing a publication, selecting the journal and the index where the work will be published is also an important decision-making process. This decision becomes even more critical, especially for research that will be evaluated under academic appointment and promotion criteria.

The starting point of this study is the examination of international field indexes defined by the Higher Education Council (YÖK). Before 2024, there was no clear distinction between these indexes, but in the post-2024 period, it became apparent that the ESCI and Scopus indexes were separated from other indexes. The study investigated the aspects in which these indexes differ and whether there are alternative indexes with similar characteristics. As a result of the analysis, it was revealed that there are other international indexes with similar qualities to ESCI and Scopus. When reviewing the criteria published by YÖK, it was found that similar international index regulations also exist in fundamental fields such as education sciences, natural sciences and mathematics, philology, fine arts, law, theology, architecture, planning and design, engineering, health sciences, agriculture, forestry and aquatic products, and sports sciences. In this context, the study has revealed the existence of new international indexes that can be considered in addition to ESCI and Scopus for the field of social and human sciences.

Based on the findings, it is anticipated that this study conducted in the field of social and human sciences could be applied to other fundamental fields in the future, thereby expanding the scope of international indexes. This would allow researchers to not only rely on ESCI and Scopus but also consider alternative indexes, enabling them to manage their publication processes more efficiently. Increasing the number of indexes would not only promote academic productivity but also contribute to the acceleration of the publication process.

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