İnsan ve Toplum Bilimleri Araştırmaları Dergisi
Journal of the Human and Social Science Researches
[2147-1185]
14 th Years

2025, 14 (4), 1-19 | Research Article

An In-Depth Study on the Reflections of Artificial Intelligence on Management with Bibliometric Analysis

Enes Kaya [1]

Abstract

In the 21st century, which we're in, technological applications show themselves in many areas. Artificial intelligence, one of these applications, supports employees and managers by increasing operational efficiency with strategic decision-making processes. Today, information about studies examining articles published in refereed journals on artificial intelligence in the field of management in terms of various criteria will provide important information to researchers. For this purpose, the method used in this study is bibliometric network analysis. The reason for choosing this method is to clearly summarize the relationship between management and artificial intelligence in order to determine the reflections of artificial intelligence on management. In order to answer the research questions in the study, a search was conducted in the Scopus database between 12.09.2024-13.09.2024 with the keywords "artificial intelligence" and "management". As a result of the scan, bibliographic data obtained from the relevant database that met the inclusion criteria were analyzed using the VOSviewer; the relevant publications were examined in terms of the years in which the most publications were made, countries, keyword analysis, etc. Accordingly, it was determined that the number of studies on the subject of artificial intelligence and management has increased considerably in recent years (especially after 2017), and that the most articles on the subject were published in 2024 in the distribution of the number of articles by years. The first three authors with the most articles on the subject're Wang, Y., Zhang, Y., Li, J., respectively. In addition, the first three countries with the most citations on the subject of artificial intelligence and management're the United States, China, the United Kingdom, respectively. As a result, this research has revealed the current status of articles on artificial intelligence in management. Thus, it'll shed light on the knowledge gap in the literature on the subject and guide future studies.

Keywords: Management, Artificial Intelligence, Bibliometric Analysis, Article, Science Mapping, Vosviwer, Scopus

Kaya, E. (2025). An In-Depth Study on the Reflections of Artificial Intelligence on Management with Bibliometric Analysis. Journal of the Human and Social Science Researches, 14(4), 1-19. https://doi.org/10.15869/itobiad.1670487

Date of Submission	05.04.2025
Date of Acceptance	24.07.2025
Date of Publication	30.10.2025
*This is an open access article under the **CC BY-NC** license.	

[1] Asst. Prof. Dr., Kafkas University, Kagizman School Of Applied Sciences Health Management, Kars, Turkey, enes.kaya@kafkas.edu.tr, ORCID: 0000-0001-7844-6799

İnsan ve Toplum Bilimleri Araştırmaları Dergisi
Journal of the Human and Social Science Researches
[2147-1185]
14 th Years

2025, 14 (4), 1-19 | Araştırma Makalesi

Yapay Zekanın Yönetim Üzerindeki Yansımaları Üzerine Bibliyometrik Analizle Derinlemesine Bir İnceleme

Enes Kaya [1]

Öz

İçerisinde yer aldığımız 21. yüzyılda teknolojik uygulamalar birçok alanda kendisini göstermektedir. Bu uygulamalardan biri olan yapay zekâ, stratejik karar alma süreçleri ile operasyonel verimliliği artırarak çalışanları ve yöneticileri destekleyen bir uygulamadır. Günümüzde yönetim alanında yapay zekâ konusunda hakemli dergilerde yayımlanan makaleleri çeşitli ölçütler açısından inceleyen çalışmalarla ilgili bilgiler, araştırmacılara önemli bilgiler sağlamaktadır. Bu amaçla, bu çalışmada kullanılan yöntem, bibliyometrik ağ analizidir. Bu yöntemin seçilmesinin nedeni, yapay zekanın yönetim üzerindeki yansımalarını tespit etmek için yönetim ve yapay zekâ arasındaki ilişkiyi net bir biçimde özetlemektir. Çalışmada, araştırma sorularına cevap verebilmek için 12.09.2024-13.09.2024 tarihlerinde Scopus veri tabanında "artificial intelligence" ve "management" anahtar kelimeleri ile tarama gerçekleştirilmiştir. Tarama sonucu ilgili veri tabanından elde edilen dahil etme kriterlerine uygun olan bibliyografik veriler (1035 çalışma: bunların 969'u makale) Visualization of Similarities Viewer -VOSviewer- programı kullanılarak analiz edilmiş, ilgili yayınlar en fazla yayının yapıldığı yıllar, ülkeler, anahtar kelime analizi ve benzeri bağlamında incelenmiştir. Buna göre, yapay zekâ ve yönetim konusuna ilişkin çalışmaların miktarının son yıllarda (özellikle 2017 yılı sonrasında) oldukça artış gösterdiği makale sayılarının yıllar itibariyle dağılımında konuya ilişkin makalelerin en fazla 2024 yılında (254) yapıldığı belirlenmiştir. Konuya ilişkin en fazla dokümanı (makale) olan ilk üç yazar sırasıyla şunlardır: Wang, Y., Zhang, Y. ve Li, J. Ayrıca, yapay zekâ ve yönetim konusuna ilişkin en fazla atıfın yapıldığı ilk üç ülke sırasıyla Amerika Birleşik Devletleri, Çin ve Birleşik Krallık'tır. Sonuç olarak bu araştırmayla, yönetimde yapay zekâya ilişkin makalelerin mevcut durumu ortaya konmuştur. Araştırılan konuya ilişkin literatürde yer alan bilgi boşluğuna ışık tutulacak ve böylelikle gelecekte yapılacak çalışmalara yön gösterilecektir.

Anahtar Kelimeler: Yönetim, Yapay Zekâ, Bibliyometrik Analiz, Makale, Bilim Haritalaması, VOSviwer, Scopus

Kaya, E. (2025). Yapay Zekanın Yönetim Üzerindeki Yansımaları Üzerine Bibliyometrik Analizle Derinlemesine Bir İnceleme. İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 14(4), 1-19. https://doi.org/10.15869/itobiad.1670487

Geliş Tarihi	05.04.2025
Kabul Tarihi	24.07.2025
Yayın Tarihi	30.10.2025
*Bu **CC BY-NC** lisansı altında açık erişimli bir makaledir.	

[1] Dr.Öğr. Üyesi, Kafkas Universitesi Kağızman Uygulamalı Bilimler Yüksekokulu Sağlık Yönetimi, Kars, Türkiye, enes.kaya@kafkas.edu.tr, ORCID: 0000-0001-7844-6799

Introduction

Artificial intelligence is a system designed to solve complex operations on a computer in a way similar to the human brain structure, which is achieved by adapting the human thinking and consciousness structure to the machine (Akalin & Veranyurt, 2020, p. 134). According to another definition, artificial intelligence is a computer's ability to demonstrate human-like behaviors such as reasoning, problem solving, inference and generalization, that is, to use high-level cognitive skills. This concept was first mentioned by John McCarthy at the Dortmund conference in 1956, and today it has become known as the "driving force of technology" (Arslan, 2017, p. 76).

In recent years, artificial intelligence (AI) has rapidly evolved to become an integral part of both daily life and the business world. From healthcare to finance, and from manufacturing to education, AI-based systems are being developed and increasingly utilized by individuals and organizations (Tiftik, 2021, p. 376). There has been increasing academic interest in the possibility that artificial intelligence and machine learning could eventually replace certain human roles in the workplace, take over specific tasks, and reshape existing organizational processes (Haefner et al., 2021, p. 1). AI presents a wide range of opportunities to improve different aspects of daily life, including domestic routines, healthcare, education, employment, entertainment, security, and transportation. In the business world, it opens the door to designing smart products, developing innovative services, and building new business models and organizational structures (Berente et al., 2021, p.1433). Beyond its technical capabilities, AI has gained growing importance within the field of management sciences. Organizations aim to provide strategic benefits to the organization by using AI not only in decision-making processes, but also in areas such as customer relations, operational efficiency, risk management and innovation. Innovation capabilities in AI adoption encompass knowledge and organizational routines and processes related to the collection, aggregation, analytics and application of data aimed at automating business processes, gaining insights and collaborating with internal and external organization members (Gama & Magistretti, 2025, pp. 76-77). For example, when it comes to data analysis and modeling, AI is capable of processing large volumes of information to evaluate how a company has performed in the past and apply machine learning techniques to predict what might happen in the future. These capabilities assist managers in shaping strategies, estimating demand, and making more precise decisions about how to allocate resources (Berberoglugil, 2023, pp. 92-93).

AI-driven management is typically found in agile, learning-focused organizations, where intelligent systems support knowledge-based planning. In these environments, AI acts as a tool for gaining a competitive edge by increasing market entry barriers and transforming the dynamics of competition (Schrettenbrunnner, 2020, pp. 17-18). As AI is integrated with big data and machine learning, it has begun to significantly alter managerial practices. It supports performance evaluation, helps uncover valuable insights, and aids organizations in navigating the increasingly complex business landscape. With the help of AI and data analytics, managers gain deeper understanding of their customers, which in turn allows firms to optimize operations, increase revenue, and boost profitability. A well-known example is Amazon, which reportedly predicts customer purchases in advance, using this data to better manage its inventory and improve forecasting (Haenlein et al., 2019, p. 341).

There is a growing perception that artificial intelligence may surpass human managers in certain managerial skills. However, due to the absence of emotional intelligence and a lack of team spirit, it is believed that AI systems will fall short when it comes to making organizational members feel like part of a cohesive group. In this respect, while AI may outperform managers in terms of technical or hard skills, it is still insufficient in areas requiring soft skills with the current level of technological development. Based on this, although AI is expected to provide authority in some decision-making processes, it still lacks capabilities such as communication, empathy, tolerance, collaboration, shared leadership, and cultural formation (Cetin & Aktas, 2021, p. 4239). In the context of rapid societal transformation involving artificial intelligence, the role of managers remains critically important. It is the managers who make all major decisions related to the development and use of AI systems. They supervise the implementation of these systems, integrate them into decision-making processes, utilize them in customer-focused strategies, and monitor AI-generated decisions, processes, and routines to make necessary adjustments. In addition, managers allocate resources, manage projects, and guide organizations that shape the future (Berente et al., 2021, p.1434). There is a growing consensus that, in the near future, AI applications will take over routine tasks such as planning, scheduling, and optimization (Unal & Kilinc, 2020). Therefore, it is clear that managers who are open to change, communication and technological innovations, who can use artificial intelligence and integrate artificial intelligence into their management work and are sensitive to it, will be a few steps ahead of others. Pereira et al. (2023) emphasizes that at this point, the organization's human resources management (HRM) department has an important role in integrating artificial intelligence into the workplace. This is thought to be useful in ensuring better learning and employee participation at work, improving management decisions, and providing more effective employment (Pereira et al., 2023). It is thought that artificial intelligence, which will take its place among the competitive tools of critical importance in businesses in the future, will cause significant changes in the structure of the organization, the culture of the organization and the management style, and will also contribute to time management by increasing efficiency by reducing workloads in many areas such as security, health and transportation (Tastan and Tastan, 2021).

This study was conducted using the bibliometric analysis method to examine the reflections of artificial intelligence in the field of management. AI has the potential to transform decision-making mechanisms, organizational processes, and management strategies in businesses. However, the existing literature tends to focus on specific subfields such as human resource management, strategic planning, and operational efficiency. For this reason, a systematic review of the academic literature on AI and management, along with the identification of general trends in the field, will help address an important gap.

In this context, the study aims to provide a general perspective on the topic by conducting a bibliometric analysis of academic publications related to artificial intelligence and management available in the Scopus database. The research focuses on identifying the current state of the field by examining publication trends, keyword patterns, the most frequently cited authors, collaboration networks, and the countries and institutions with the highest number of publications on the topic. It is expected that these findings will offer potential research opportunities for future scholars and help guide upcoming studies in the field. Within the scope of this research, the following questions are

addressed using the keywords defined in the methodology section and applied to the Scopus database:

- How are academic publications on artificial intelligence and management distributed over the years?
- What is the distribution of these publications by type?
- What do the co-authorship networks reveal about collaboration among authors in this field?
- Who are the most cited authors in publications on AI and management, and what are the citation links between them?
- Which countries receive the highest number of citations, and how are the citation networks structured among countries?
- Which institutions are most frequently cited, and what do the institutional citation links look like?
- What are the most commonly used keywords in publications on artificial intelligence and management?
- What does the bibliographic coupling analysis reveal in this literature?
- What are the bibliographic coupling relationships among the authors?
- What does the co-citation analysis of authors in this field reveal?

This bibliometric analysis, structured around these research questions, aims to reveal the development trends of academic studies on artificial intelligence and management, and to provide a guiding framework for future research in the field.

In line with the information given above, in this study, firstly information on artificial intelligence in management will be given, then the method section, findings and conclusion sections will be given respectively.

2. **Theoretical Framework**

2.1. The Impact of Artificial Intelligence on Business Management

The survival of an organization in the environment in which it operates depends on renewal opportunities where it is necessary to adapt to appropriate capabilities; restructuring the organizational management system is the most important part of making competitive progress. In this sense, the technification of management processes emerges as a result of the need to streamline administrative and functional activities. The continuous evolution of computer capabilities has led to a significant growth in artificial intelligence (AI) technologies, the solutions they offer have created interest and therefore importance in people's daily lives, and emphasized that AI is present everywhere today (Popa et al., 2025, pp.47-48-49). AI has entered our personal and business lives today and has become the defining technology of our age (Golgeli, 2025, p. 322). At this point, the impact of artificial intelligence on business management is increasing day by day. Many management functions, from decision-making processes to customer relations, from human resources to financial planning, are being reshaped by artificial intelligence-supported systems. This allows businesses to make faster, data-oriented and strategic

decisions; is becoming a decisive factor in gaining competitive advantage. Below is information on the integration and impact of artificial intelligence in various management areas today:

The integration of artificial intelligence (AI) in human resources management (HRM) is increasingly seen as necessary to increase efficiency, improve decision-making processes and strengthen employee loyalty (Mabrouk, 2025, p.3). In the context of human resources management, many routine activities can indeed be standardized and automated. These activities can be performed by AI much faster and in higher volumes than by humans. For example, with the advent of e-HRM, recruiters are receiving an increasing number of applications for each position and cannot decide on the speed and volume needed in the evaluation process of these applications. Therefore, CVs related to artificial intelligence programs such as Chat Gpt can be saved in a database and help in performing certain routine activities (Korzynski et al., 2023, p.8).

The integration of artificial intelligence (AI) into strategic management has emerged as a transformative force that has fundamentally changed the way AI approaches decision-making processes. As we navigate the complex business environment of the 21st century, characterized by unprecedented data volume and market volatility, integrating AI into strategic management practices has become not only an advantage but also a necessity for the sustainability of competitive advantage (Asiabar et al., 2024, p.2). The integration of artificial intelligence (AI) into marketing, which is one of the functions of the business, and customer relationship management in the business is one of the areas where artificial intelligence is used to a significant extent. Customer Relationship Management (CRM) is a system that involves establishing long-term healthy relationships with customers and increasing customer value. Stăncioiu et al. (2023, p. 252) state that the application of information technology in businesses improves customer relationship management, which has the role of increasing customer satisfaction. By sharing certain information, it is possible to maintain effective relationships with customers and maximize profits at the same time. In parallel with the application of information technology, the use of social media platforms strengthens customer trust through the comments of the end consumer (Stăncioiu et al., 2023, p. 252). In addition, digital marketing and interactive messaging services supported by artificial intelligence in the marketing field (thanks to chatbots) are also being carried out and have gained momentum today (Desaulniers, 2016; Cited by: Cheng & Jiang, 2022, p.252). In addition, using artificial intelligence, "advertisement" can also be done within the promotion, which is one of the elements of the marketing mix and one of the strategic weapons used by the business to continue its activities (Golgeli, 2025, p. 320).

In addition to the information given above, management culture is changing with digitalization and the use of artificial intelligence, and it is becoming increasingly difficult to manage people only with traditional methods (Akay, 2021). In terms of management, artificial intelligence also has effects on Leadership and Decision Making. Kollmann et al. (2023, p. 81) stated that artificial intelligence challenges traditional leadership theories and requires leaders to be not only technically talented today, but also to have the ability to manage human and non-biological followers (Kollmann et al.,2023, p.81). The benefit of artificial intelligence in Leadership Development, that is, its role, is to increase personalization, efficiency and growth (Bravo, 2024). Decision making takes its place among the functions of management, and artificial intelligence provides benefits to

managers and/or leaders by providing quantitative and qualitative data while performing a critically important situation such as decision making. As it is known, the decision-making process is very important for managers who have to choose among alternatives in every issue that arises. İnce, İmamoglu, and İmamoglu (2021, p. 50) emphasized that artificial intelligence accelerates the decision-making process. Catal (2025, p. 311) stated that the ability of artificial intelligence to make comparative evaluations contributes positively to decision-making processes (Catal, 2025, p. 311). With the effect of all these reasons, artificial intelligence methods have recently begun to be widely used in organizations and scientific research in order to minimize errors related to the decision-making mechanism and to eliminate errors (Howard, 2019, p. 921).

3.Materials and Method

This study aims to examine the reflections of artificial intelligence on management in depth through the bibliometric analysis method. Within this framework, the literature related to artificial intelligence and management is first reviewed, followed by sections on methodology, findings, and conclusion. To analyze the impact of AI on management, the study is structured in three stages: planning, implementation, and result analysis (Park & McKilligan, 2018; as cited in Yilmaz, 2024).

The methodology of this study is based on bibliometric analysis. According to Donthu (2021), bibliometric analysis is a widely used and reliable method for exploring and analyzing large volumes of scientific data (Donthu et al., 2021). The purpose of bibliometric analysis is to examine, evaluate, and interpret unstructured and large-scale data that include all publications related to a specific topic, research question, or area of interest (Yılmaz, 2024). There are various tools available for bibliometric analysis, such as CiteSpace, VOSviewer, and HistCite, which provide visual interfaces, and Bibliometrix, an R package that enables complex network analyses based on coding. Among these, Visualization of Similarities Viewer (VOSviewer) has become increasingly popular in bibliometric research due to its strong visualization capabilities and ease of use. VOSviewer is a software tool designed to build and visualize bibliometric networks (as cited in Konu Kadirhanogullari & Kose, 2023). VOSviewer offers researchers the ability to explore the evolution of concepts, identify their interrelations, and discover emerging terms in the literature. It supports data visualization and mapping, and allows for multidimensional analysis. The software is especially useful for identifying high-frequency terms and examining the relationships between them (Lis et al., 2020; Biresselioglu et al., 2022; as cited in Kara & Kara, 2024). Furthermore, researchers frequently prefer VOSviewer to analyze trends, map thematic structures, and visualize bibliometric networks (Zhao et al., 2023; Melo et al., 2021; Olivera et al., 2020; as cited in Kara & Kara, 2024).

The Scopus database was used within the scope of this research. The reason for including only academic publications indexed in Scopus was to avoid duplicate evaluations of the same studies that may also appear in other databases. In addition, Alsharif, Salleh, and Baharun (2020) state that Scopus is recognized as the largest abstract and citation database covering a wide range of disciplines. For this reason, Scopus may include more topics than the Web of Science (WOS) (Alsharif, Salleh, & Baharun, 2020). The preference for Scopus in this study is also important in terms of the reliability of the research data.

This study presents a holistic overview of the past, present, and potential future of the relevant academic literature. However, studies that were prepared on the topic but not publicly accessible represent a limitation of the research. In this context, a search was conducted in the Scopus database on September 12–13, 2024, using the keywords "artificial intelligence" and "management." The relevant documents were downloaded and recorded on September 12, 2024, and the bibliometric analysis was carried out using VOSviewer on September 13, 2024. The hierarchical representation of these search and selection steps is detailed in Figure 1, following the PRISMA protocol criteria.ext

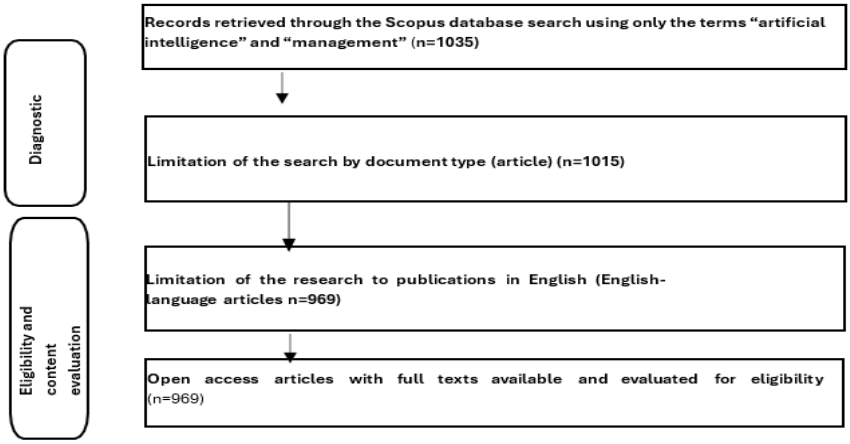

Figure 1. PRISMA Flow Diagram

A total of 1,035 results were obtained from a general search conducted in the Scopus database on the relevant date by selecting "all fields" related to the topic. When the search was limited by document type, and only research articles were included, the number of records was reduced to 1,015.

Out of these, 969 open-access articles in English that focus on the concepts of "artificial intelligence" and "management" were analyzed using the VOSviewer software. The findings obtained from this analysis are presented below. Table 1 show the distribution of the 1,035 publications by year.

Table 1. Distribution of all Publications on the Topic by Year

Year	n	(%)	Year	n	(%)
2024	254	24,5	2001	3	0,3
2023	215	20,8	2000	4	0,4
2022	215	20,8	1998	2	0,2
2021	123	11,9	1997	1	0,1
2020	56	5,4	1996	1	0,1
2019	45	4,3	1995	3	0,3
2018	21	2	1993	2	0,2
2017	15	1,4	1992	2	0,2
2016	5	0,5	1991	2	0,2
2015	4	0,4	1990	5	0,5
2014	2	0,2	1989	8	0,8
2013	3	0,3	1988	5	0,5

2012	2	0,2	1987	9	0,9
2011	3	0,3	1986	1	0,1
2010	6	0,6	1985	2	0,2
2007	1	0,1	1984	3	0,3
2006	4	0,4	1983	1	0,1
2004	2	0,2	1982	1	0,1
2003	2	0,2	1977	1	0,1
2002	1	0,1	2001	3	0,3
			Total	1035	100

In Table 1, it is seen that the highest number of publications on the concepts of "artificial intelligence" and "management" were made in 2024 (although the year 2024 is not over yet, n=254), and there has been an increase in the number of related publications in recent years.

From a chronological perspective, the earliest publication dates back to 1977 and the most recent to 2024. The records include 1,015 research articles, as well as trade journal (n=8), book series (n=6), conference paper (n=4), and book (n=2). Table 2. presents the distribution of publication types related to the topic of "artificial intelligence" and "management."

Table 2. show that 98% of the 1035 publications on the subject are articles.

Table 2. Detailed Distribution of Publications by Type

	n	**(%)**
Article	1015	98
Trade Journal	8	0,77
Book Series	6	0,58
Conference Paper	4	0,39
Book	2	0,19
Total	1035	100

4.Findings

4.1.Co-authorship Analysis

In the co-authorship analysis, an author collaboration network was created to identify the most interconnected and collaborative authors, using a minimum threshold of 1 publication and 1 citation. Based on the analysis involving 436 authors, 26 clusters, 1,621 links, and a total link strength of 1,670 were identified.

The authors with the highest number of documents (articles) are Wang, Y. (12), Zhang, Y. (10), Li, J. (9), and Li, Y. (9), respectively. However, it is also evident that the most cited authors—Krakowski, S. and Raisch, S. (615 citations each), followed by Cappelli, P., Tambe, P., and Yakubovich, V. (483 citations each)—are not necessarily the most connected within the network. The most connected authors, based on total link strength, are Wang, L. (41), Li, J. (39), and Wang, Y. (38), respectively.

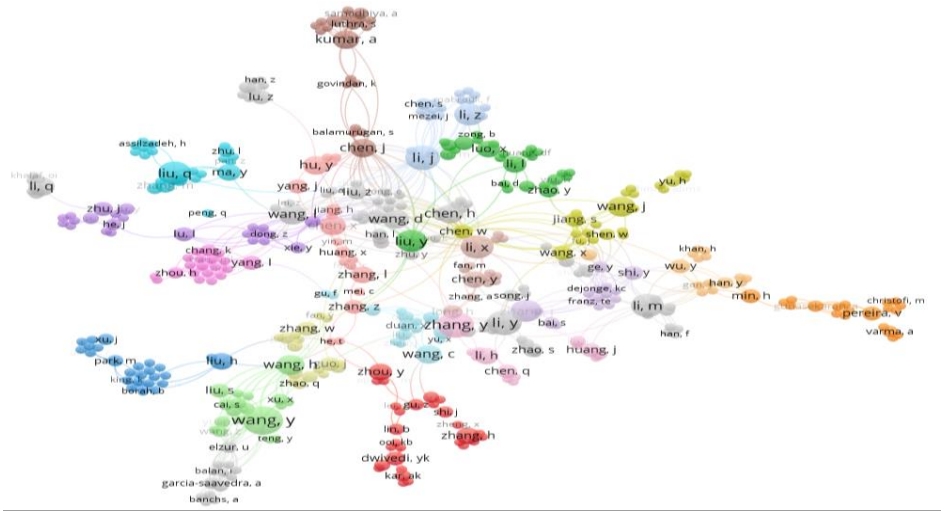

Figure 2. Co-authorship Links Showing Collaboration Among Authors

4.2.Citation of Authors

To identify citation networks, a citation analysis map was created using the criteria of at least 1 publication and at least 1 citation per author. Based on the analysis conducted with 362 connected items, a total of 21 clusters, 1,407 links, and a total link strength of 1,450 were identified. The most cited authors were Krakowski, S. and Raisch, S., each with 615 citations. Additionally, other highly cited authors include Cappelli, P., Tambe, P., and Yakubovich, V., each with 483 citations.

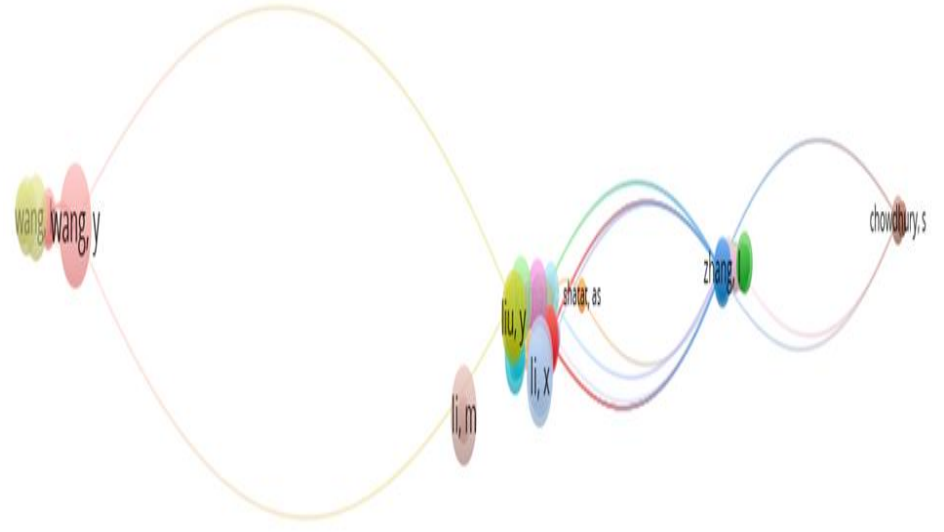

Figure 3. Citation Links Between Authors

4.3.Citation of Countries

To create a network map based on the number of citations received by countries of origin, an analysis was conducted using a minimum threshold of 1 publication and 1 citation per country. The analysis, performed on 69 interconnected units, identified 11 clusters, 341 links, and a total link strength of 597. The countries with the highest number of citations were the United States (4,185 citations), China (2,718 citations), the United Kingdom (2,331 citations), and France (1,809 citations). In terms of total link strength, the United States ranked first with 124, followed by France with 94. The United Kingdom came third with 93, and India ranked fourth with a total link strength of 81. Regarding the number of publications, China ranked first with 268 publications, followed by the United States (152), India (101), and the United Kingdom (76).

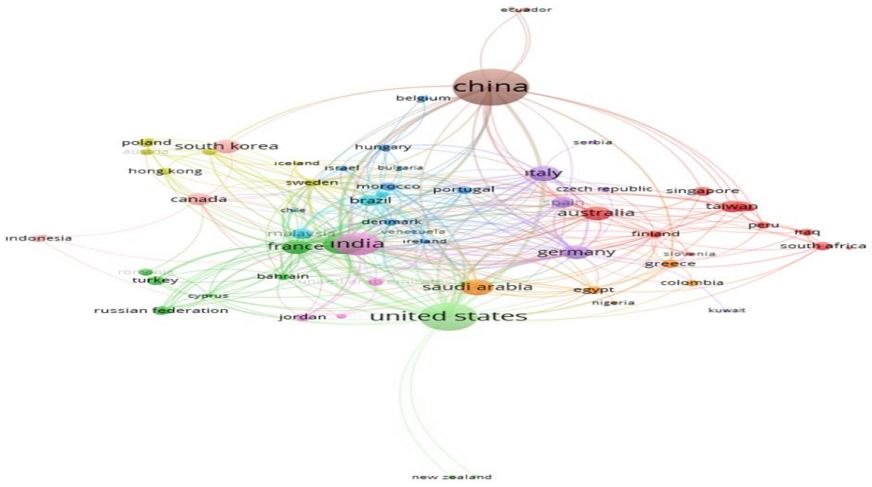

Figure 4. Citation Links Between Countries

4.4.Citation of Organizations

To construct a network map of institutional citation links, an analysis was conducted based on the criterion of at least one publication and one citation per institution. The analysis, which included 242 interconnected observation units, revealed 15 clusters and 867 links. The Department of Information Science at the University of South Africa (South Africa) was represented with four publications. Additionally, the Guidhall School of Business and Law at London Metropolitan University (UK), the Department of Computer Science at the Norwegian University of Science and Technology (Norway), and the Department of Public Health and Nursing at the same university (Norway) were each represented with three publications. The institutions associated with the most cited publications were the Geneva School of Economics and Management at the University of Geneva (Switzerland) and the House of Innovation at the Stockholm School of Economics (Sweden), each with 615 citations. Other highly cited institutions included ESSEC

Business School (France), the National Bureau of Economic Research in Cambridge, MA (USA), and the Wharton School in Philadelphia, PA (USA), each with 483 citations.

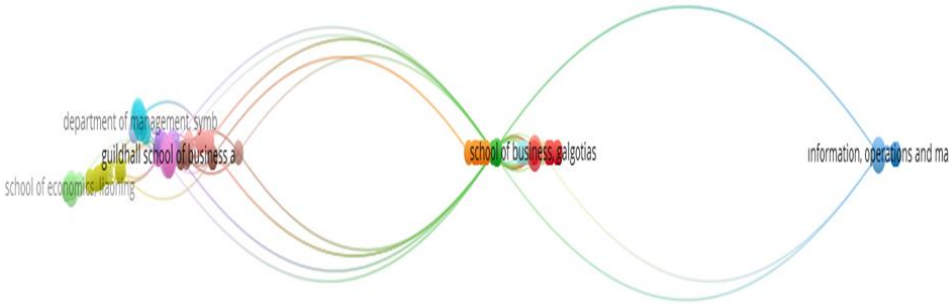

Figure 5. Citation Links Between İnstitutions

4.5.Co-occurence of All Keywords

An analysis of the most frequently used keywords in publications related to the impact of artificial intelligence on management revealed that the leading terms were artificial intelligence (462 occurrences), machine learning (122 occurrences), artificial ıntelligence (79 occurrences), deep learning (53 occurrences), and aı (30 occurrences). In terms of total link strength, the strongest terms were artificial intelligence (link strength: 631), machine learning (253), deep learning (114), and artificial ıntelligence (110). Based on the analysis of 180 interconnected items, each appearing at least three times, a total of 15 clusters, 932 links, and a total link strength of 1,596 were identified.

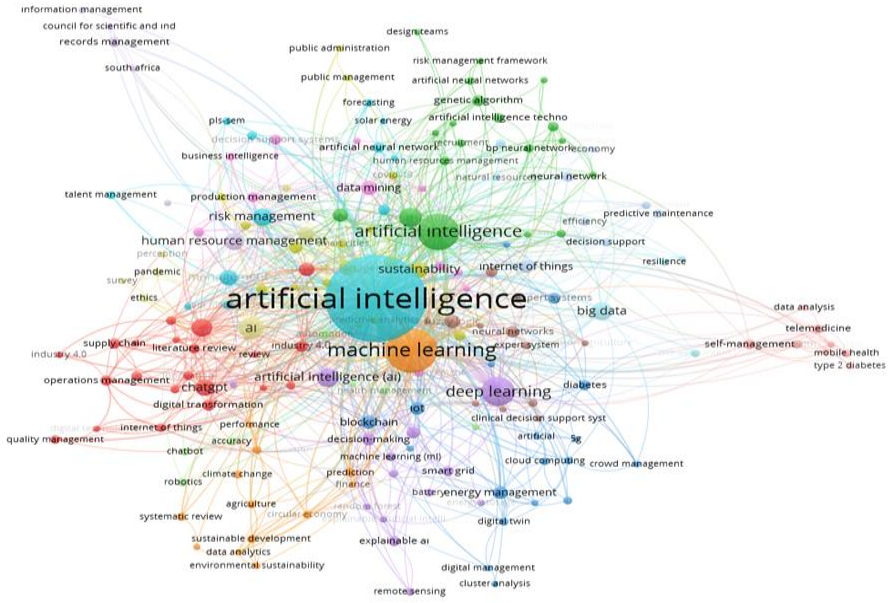

Figure 6. Links Between the Most Frequently Used Keywords

4.6. Bibliographic Coupling of Documents

A "bibliographic coupling" occurs when two independent sources cite the same publication (Ateşçi & Dirik, 2024). While conducting the Bibliographic Match Analysis of the texts, an analysis was conducted on 512 observation units that were related to each other within the scope of the criterion of receiving at least 1 citation. In this context, 29 clusters, 3700 links, and 5298 total link strengths were obtained. The publications with the highest number of bibliographic matches are Raisch (2021) with 615 citations, Tambe (2019) with 483 citations, and Vrontis (2022) with 407 citations, respectively. In addition, the works with the highest total link strength are Chowdhury (2023) (total link strength 269), Gama (2023) (total link strength 236), and Keding (2021) (total link strength 205), respectively.

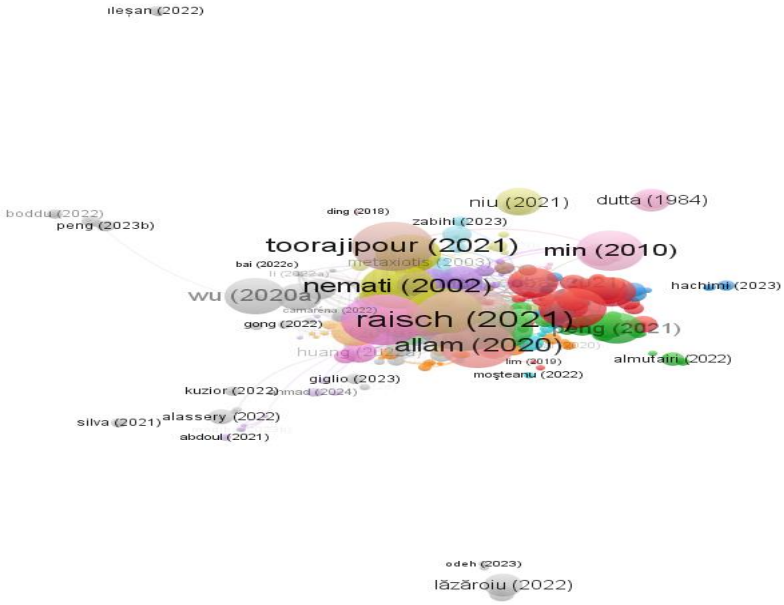

Figure 7. Bibliographic Coupling Links Among Studies

4.7.Bibliographic Coupling of Authors

Based on the criteria of having published at least one work and received at least one citation, an analysis was conducted on 1,965 interconnected items. The results revealed 70 clusters, 54,134 links, and a total link strength of 371,912. Among the authors, the one with the highest number of bibliographic couplings was Wang, Y., with 12 publications, 150 citations, and a total link strength of 928.

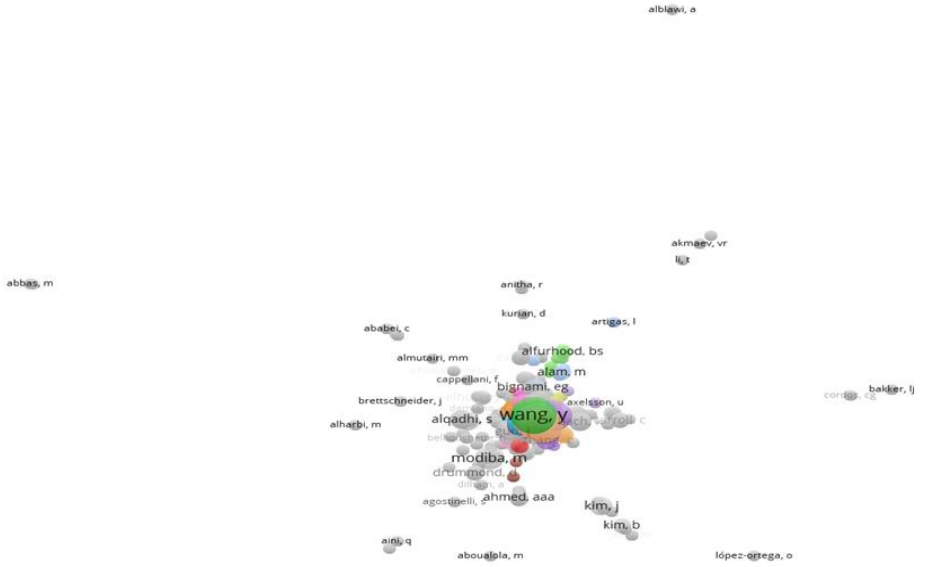

Figure 8. Bibliographic Coupling Links Between Authors

4.8.Co-citation of Co-authors

In a publication, different sources that are cited together are defined as "co-citation" (Ateşci & Dirik, 2024). Based on a minimum citation threshold of 10, an analysis was conducted on 1,038 items. The results revealed a total of 8 clusters, 199,976 links, and a total link strength of 749,525. The authors with the highest number of co-citations were Wang, Y. (231), Zhang, Y. (211), and Li, Y. (186).

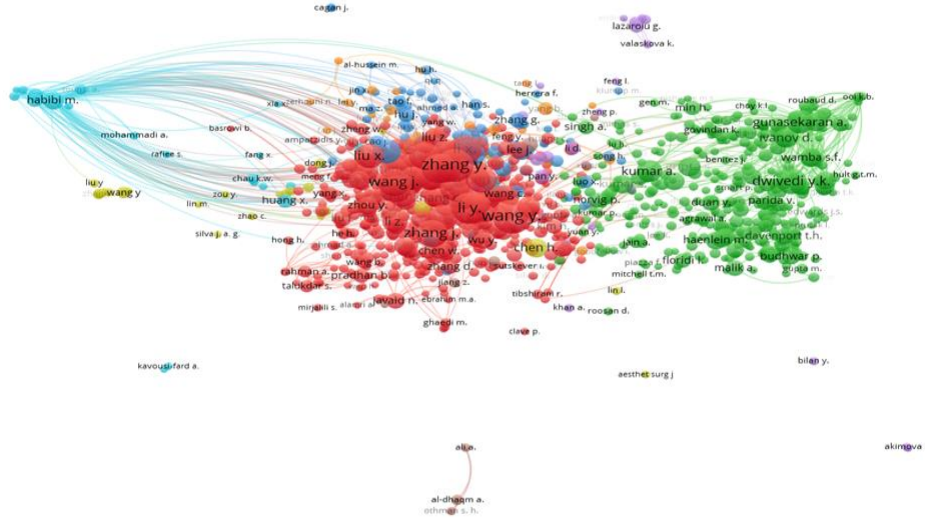

Figure 9. Co-citation Links Between Frequently Cited Authors

5.Conclusion

Today, the ability of organizations to remain resilient is closely tied to how effectively they follow technological developments and integrate these changes into their management structures. In line with this understanding, this study examined the state of technology-oriented academic production in the field of management through bibliometric analysis.

A total of 1,035 publications were identified in the Scopus database using the keywords "artificial intelligence" and "management," of which 1,015 were research articles. When the distribution by year is examined, a noticeable increase is observed especially after 2017, with the highest number of publications in 2024 (n=254). In terms of country distribution, China ranked first with 268 publications, followed by the United States with 152. However, in terms of citations, the United States ranked first with 4,185 citations, while China followed with 2,718. The most prolific authors were Wang, Y.; Zhang, Y.; Li, J.; and Li, Y., while the most cited authors were Krakowski, S. and Raisch, S. Keyword analysis showed frequent use of terms such as "artificial intelligence," "machine learning," and "deep learning," indicating that research in this field is concentrated around certain dominant themes.

This study contributes uniquely to the literature by providing a comprehensive overview of by systematically revealing the quantitative development, content density, and collaboration networks of academic publications addressing both artificial intelligence and management. The limited number of bibliometric network analyses combining these two concepts highlights the significance of this research. While most existing studies in the field of management tend to focus on specific subthemes, this study offers a more holistic view by providing a comprehensive network analysis and presenting comparative findings across countries, authors, and institutions. In addressing this gap in the literature, the analysis also identifies recent academic trends, influential contributors, and key concepts in a detailed manner. Thus, the study contributes original insights into how technological advancements are reflected in scholarly output within the management field. The findings are valuable for understanding current trends in the area and for guiding future research.

Future studies on this topic may be recommended by academics and industry representatives on a sectoral basis (e.g., the implications of artificial intelligence on management in the healthcare sector, education sector, etc.). Additionally, it may be recommended that authors in future studies on this topic thoroughly examine the content of the publications highlighted in the bibliographic match analysis. Future studies could examine the reasons for prominent publications and authors in the field. In future studies, it is recommended that the relevant scanning be carried out by taking into account the different spellings of the words included as keywords in the study. It is also recommended that future studies on the subject examine sector-specific applications, investigate how managers adapt to these technological changes, and compare results from different academic databases.

Peer-Review	Double anonymized - Two External
Ethical Statement	* This article is a partially modified and developed version of the paper titled "Reflections of Artificial Intelligence on Management: An In-Depth Study with Bibliometric Analysis", which was presented orally at the 1st International Writec Congress on Social and Health Sciences in the Age of Artificial Intelligence but whose full text was not published. It is hereby declared that scientific and ethical principles were followed during the preparation of this study and that all studies used were indicated in the bibliography.
Plagiarism Checks	Yes - Turnitin
Conflicts of Interest	The author(s) has no conflict of interest to declare.
Complaints	itobiad@itobiad.com
Grant Support	The author(s) acknowledge that they received no external funding in support of this research.
Author Contributions	Design of Study: 1. Author (%100), Data Acquisition: 1. Author (%100), Data Analysis: 1. Author (%100), Writing up: 1. Author (%100), Submission and Revision: 1. Author (%100)

Değerlendirme	İki Dış Hakem / Çift Taraflı Körleme
Etik Beyan	* Bu makale, Yapay Zekâ Çağında Sosyal ve Sağlık Bilimleri 1. Uluslararası Writec Yapay Zeka Çağında Sosyal Bilimler ve Sağlık Bilimleri Kongresi'nde sözlü olarak sunulan ancak tam metni yayımlanmayan "Yapay Zekanın Yönetim Üzerindeki Yansımaları: Bibliyometrik Analizle Derinlemesine Bir İnceleme" adlı tebliğin içeriği geliştirilerek ve kısmen değiştirilerek üretilmiş halidir. *Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.*
Benzerlik Taraması	Yapıldı -Turnitin
Etik Bildirim	itobiad@itobiad.com
Çıkar Çatışması	Çıkar çatışması beyan edilmemiştir.
Finansman	Bu araştırmayı desteklemek için dış fon kullanılmamıştır.
Yazar Katkıları	Çalışmanın Tasarlanması: 1. Yazar (%100) Veri Toplanması: 1. Yazar (%100) Veri Analizi: 1. Yazar (%100) Makale Yazımı: 1. Yazar (%100) Makale Gönderimi ve Revizyonu: 1. Yazar (%100)

References / Kaynakça

Akalın, B., & Veranyurt, U. (2020). Digitalızatıon ın health and artıfıcıal ıntellıgence. *Suleyman Demirel University Healthcare Management Journal*, 2(2), 128-137

Akay, E. (2021). Changing leadership with digitalization and artificial ıntelligence. EDT Centre. https://www.edtcenter.com/post/dijitalle%C5%9Fme-ve-yapay-zeka-ile-de%C4%9Fi%C5%9Fen-liderlik (05.05.2025).

Alsharif, A.H., Salleh, N.Z.M. & Baharun, R. (2020). Research trends of neuromarketing: a bibliometric analysis. *Journal of Theoretical and Applied Information Technology*, 98(15), 2948-2962.

Arslan, K. (2017). Artificial ıntelligence and applications in education. *Western Anatolia Journal of Educational Sciences*, 11(1), 71-88.

Asiabar, M. G., Asiabar, M. G., & Asiabar, A. G. (2024). Artificial ıntelligence in strategic management: examining novel aı applications in organizational strategic decision-making. 1-10.

Atesci, O. and Dirik, D. (2024). Bibliometric analysis of studies on the relationship between transformational leadership and ınnovative work behavior. J*ournal Of Business Research-Turk, 16* (4), 2218-2236.https://doi.org/10.20491/isarder.2024.1911

Berberoglugil, B. (2023). Artıfıcıal ıntellıgence ın management. *Scientific Journal of Innovation and Social Sciences Research*, 3(2), 81-96.

Berente, N., Gu, B., Recker, J. & Santhanam, R. (2021). Managing artificial intelligence. *MIS Quarterly*, 45(3), 1433- 1450.

Biresselioglu, M. E., Demir, M. H., Solak, B. & Turan, U. (2022). Understanding the dynamics and conceptualization of environmental citizenship and energy citizenship: Evidence from the existing literature. *Frontiers in Energy Research*, 10, 1018035. https://doi.org/10.3389/fenrg.2022.1018035

Bravo, A. (2024, October 23). AI and leadership development: Navigating benefits and challenges. Forbes. https://www.forbes.com/councils/forbescoachescouncil/2024/10/23/ai-and-leadership-development-navigating-benefits-and-challenges/

Catal, B. (2025). Use of artıfıcıal ıntellıgence ın decısıon makıng process, Selçuk Law Review, 33(1), 311-348.

Cetin, M. & Aktas, A. (2021). Artificial intelligence and future scenarios in education. *OPUS International Journal of Society Researches*, 18 (Special Issue on Educational Sciences), 4225-4268. https://doi.org/10.26466/opus.911444

Cheng, Y., & Jiang, H. (2022). Customer–brand relationship in the era of artificial intelligence: Understanding the role of chatbot marketing efforts. Journal of Product & Brand Management, 31(2), 252–264. https://doi.org/10.1108/JPBM-08-2020-3054

Desaulniers, S. (2016), Chatbots rise, and the future may be 're-written', available at: www.cnbc.com/2016/04/08/ chatbots-rise-and-thefuture-may-be-re-written.html

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N. & Lim, V. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Researches*, 133, 285-296.https://doi.org/10.1016/j.jbusres.2021.04.070

Gama, F., & Magistretti, S. (2025). Artificial intelligence in innovation management: a review of innovation capabilities and a taxonomy of aı applications. *Journal of Product Innovation Management*, 42(1), 76-111. https://doi.org/10.1111/jpim.12698

Golgeli, K. (2025). Advertising design with artificial intelligence: A study on advertisers. *Journal of Human and Social Sciences Research*, 14(1), 319–336. https://doi.org/10.15869/itobiad.1527182

Haefner, N., Wincent, J., Parida, V. & Gassmann, O. (2021). Artificial intelligence and innovation management: a review, framework, and research agenda. *Technological Forecasting and Social Change,* 162, 1- 10.https://doi.org/10.1016/j.techfore.2020.120392

Haenlein, M., Kaplan, A., Tan, C. W. & Zhang, P. (2019). Artificial intelligence (AI) and management Analytics. *Journal of Management Analytics*, 6(4), 341-343. https://doi.org/10.1080/23270012.2019.1699876

Howard, J. (2019). Artificial intelligence: Implications for the future of work. American Journal of Industrial Medicine, 62(11), 917-926.

Ince, H., Imamoglu, S.E. & Imamoglu, S.Z. 2021. The effects of artıfıcıal ıntellıgence on Decısıon makıng: a conceptual study. *International Review of Economics and Management*, 9(1), 50-63. http://dx.doi.org/10.18825/iremjournal.866432

Kara, M., & Kara, N. S. (2024). Bibliometric analysis of studies on the concept of anxiety in sport with VOSviewer. *Journal of Sports for All and Recreation*, 6(2), 180-192. https://doi.org/10.56639/jsar.1481953

Keding, C. (2021). Understanding the interplay of artificial intelligence and strategic management: four decades of research in review. *Management Review Quarterly*, 71(1), 91-134. https://doi.org/10.1007/s11301-020-00181-x

Kollmann, T., Kollmann, K., ve Kollmann, N. (2023). Artificial leadership: digital transformation as a leadership task between the chief digital officer and artificial ıntelligence. *International Journal of Business Science and Applied Management*, 18(1), 76–95.

Konu Kadirhanogullari, M. & Ozay Kose, E. (2023). Bibliometric analysis: technology studies in science education. Intern*ational Journal of Technology in Education and Science (IJTES),* 7(2), 167-191.https://doi.org/10.46328/ijtes.469

Korzynski, P., Mazurek, G., Altmann, A., Ejdys, J., Kazlauskaite, R., Paliszkiewicz, J., ... & Ziemba, E. (2023). Generative Artificial intelligence as a new context for management theories: analysis of ChatGPT. Central European Management Journal, 31(1), 3-13.

Lis, A., Sudolska, A., Pietryka, I., & Kozakiewicz, A. (2020). Cloud computing and energy efficiency: mapping the thematic structure of research. *Energies,* 13(16), 4117.https://doi.org/10.3390/en13164117

Mabrouk, A. (2025). Human resouce management in the age of artificial ıntelligence: concepts tools and steps. Solo International Collaboration and Publication of Social Sciences and Humanities, 3(1), 1-12.

Melo, L. S. A., da Silva, J. E., dos Santos, R. R., & Ramalho, Â. M. C. (2021). A tessitura analítica bibliométrica da produção ınternacional da Covid-19 no contexto das áreas de ciências sociais e naturais. *Research, Society and Development,* 10(7), e39810716822-e39810716822.https://doi.org/10.33448/rsd-v10i7.16822

Olivera, M. M., da Silva Dantas, N., & de Araújo, S. M. S. (2020). Recuperação de áreas degradadas e mineração: análise da produção científica internacional na Web of Science (WoS). *Revista Ibero-Americana de Ciências Ambientais,* 11(7), 672-689.https://doi.org/10.6008/CBPC2179-6858.2020.007.0052

Park, H., & McKilligan, S. (2018b). A systematic literature review for human-computer ınteraction and design thinking process ıntegration. In Lecture notes in computer science (pp. 725-740). https://doi.org/10.1007/978-3-319-91797-9_50

Pereira, V., Hadjielias, E., Christofi, M. & Vrontis, D. (2023). A systematic literature review on the impact of artificial intelligence on workplace outcomes: a multi-process perspective. *Human Resource Management Review*, 33(1), 1-22. https://doi.org/10.1016/j.hrmr.2021.100857

Popa, I., Ștefan, S. C., Josan, A., Mircioiu, C.-E., & Căruceru, N. (2025). Artificial Intelligence as a Catalyst for Management System Adaptability, Agility and Resilience: Mapping the Research Agenda. Systems, 13(1), 47-59.

Schrettenbrunnner, M. B. (2020). Artificial-intelligence-driven management. IEEE Engineering *Management Review,* 48(2), 15-19. https://doi.org/10.1109/EMR.2020.2990933

Stăncioiu, T. S., Spînu, A. E., Sanda, C. M., Sanda, G., & Trifan, V. A. (2023). Customer relationship management, operational digitization, production optimization and value creation through artificial intelligence in e-marketing. Proceedings of the International Conference on Business Excellence, 17(1), 1107–1118. https://doi.org/10.2478/picbe-2023-0103

Tastan, K. & Tastan, N. S. (2021). Yonetimde Yapay Zekânın Gelecegi. In 8th International Management and Social Research Conference. İstanbul. 28-33.

Tiftik, C. (2021). Artificial intelligence technologies and practices in human resources management. *IBAD Journal of Social Sciences,* (9), 374-390. https://doi.org/10.21733/ibad.833256

Unal, A. & Kilinc, I. (2020). A revıew on relatıonshıp between artıfıcıal Intellıgence and busıness management. *Yonetim Bilisim Sistemleri Dergisi,* 6 (1), 51-78.

Yilmaz, M. T. (2024). Intelligent Personal Assistants (Ipas): Bibliometric Analysis. *Manisa Celal Bayar University Journal of Social Sciences,* 22(3), 296-316.

Zhao, X., Ren, Y., & Cheah, K. S. (2023). Leading virtual reality (VR) and augmented reality (AR) in education: bibliometric and content analysis from the web of science (2018-2022). *SAGE Open,* 13(3), 21582440231190821. https://doi.org/10.1177/21582440231190821