REVISTA INVECOM
ISSN en línea: 2739-0063

Integration of artificial intelligence and data science for decision-making in companies: a bibliometric study

Integración de la inteligencia artificial y la ciencia de datos para la toma de decisiones en las empresas: un estudio bibliométrico

Received: 07/05/2025 - **Accepted:** 05/08/2025

Italo Paul Yaranga Vite
https://orcid.org/0000-0001-7380-135X
c25407@utp.edu.pe
Universidad Tecnológica del Perú. Lima, Peru

José Luis Trelles Suca
https://orcid.org/0000-0002-9209-1768
C19472@utp.edu.pe
Universidad Tecnológica del Perú. Lima, Peru

Percy Paul Pizarro Prieto
https://orcid.org/0000-0002-3758-0892
ppizarro@cientifica.edu.pe
Universidad Tecnológica del Perú. Lima, Peru

Abstract

This research aims to analyze the evolution and scientific trends surrounding the integration of Artificial Intelligence and Data Science applied to business decision-making, through a bibliometric study of academic production between 2015 and 2025. Based on a systematic review in databases such as Scopus and Google Scholar, 155 documents were selected using inclusion criteria such as language, accessibility, and type of publication. The results show sustained growth in scientific production, highlighting the United States (25.8%), the United Kingdom (16.1%), and China (12.9%) as the most productive countries. On the other hand, the field of computer science was the most relevant academic area (40%), while the most cited author was Secinaro, S. with 611 citations and the most prominent source was the IEEE Access journal with 10 publications. Through keyword co-occurrence analysis, recurring terms such as data analytics, machine learning, and artificial intelligence were identified, strongly linked to the business environment. Thematic visualizations, generated with VOSviewer, allowed for the grouping of the main research approaches and the identification of thematic gaps. The study concludes that the integration of artificial intelligence and data science represents a key strategic axis in business digital transformation, facilitating the generation of useful knowledge for decision-making. This work provides a solid empirical basis for future research aimed at developing predictive technologies and intelligent organizational support systems.

Keywords: artificial intelligence, data science, business

Resumen

La presente investigación tiene como objetivo analizar la evolución y las tendencias científicas en torno a la integración de la inteligencia artificial y la ciencia de datos aplicadas a la toma de decisiones empresariales, mediante un estudio bibliométrico de la producción académica entre 2015 y 2025. A partir de una revisión sistemática en bases de datos como Scopus y Google Scholar, se seleccionaron 155 documentos utilizando criterios de inclusión como el idioma, la accesibilidad y el tipo de publicación. Los resultados evidencian un crecimiento sostenido en la producción científica, destacándose Estados Unidos (25,8%), Reino Unido (16,1%) y China (12,9%) como los países más productivos. Por otro lado, el campo de las ciencias de la computación fue el área académica más relevante (40%), mientras que el autor más mencionado fue Secinaro, S. con 611 citas, y la fuente más destacada fue la revista IEEE Access, con 10 publicaciones. A través del análisis de coocurrencia de palabras clave, se identificaron términos recurrentes como “data analytics”, “machine learning” y “artificial intelligence”, fuertemente vinculados con el entorno empresarial. Las visualizaciones temáticas, generadas con VOSviewer, permitieron agrupar los principales enfoques investigativos y detectar vacíos temáticos. El estudio concluye que la integración entre la inteligencia artificial y la ciencia de datos representa un eje estratégico clave en la transformación digital empresarial, al facilitar la generación de conocimiento útil para la toma de decisiones.

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Este trabajo ofrece una base empírica sólida para futuras investigaciones orientadas al desarrollo de tecnologías predictivas y sistemas inteligentes de soporte organizacional.

Palabras clave: inteligencia artificial, ciencia de datos, empresas

Introduction

The convergence of artificial intelligence (AI) and data science has ushered in a paradigm shift in how companies make strategic decisions. This synergy enables the tackling of complex problems with data-driven solutions, where human judgment is complemented by computational models capable of identifying patterns, anticipating scenarios, and optimizing outcomes. Technologies such as machine learning, natural language processing (NLP), and predictive modeling have become essential tools for transforming large volumes of both structured and unstructured data into valuable information for business action (Li et al., 2025; Sutherns & Fanta, 2024). The integration of AI and data analytics in organizations significantly enhances productivity by optimizing processes, automating tasks, and strengthening data-driven decision-making (Yaranga Vite & Olórtiga Cóndor, 2024).

AI has revolutionized the business landscape by improving efficiency, fostering innovation, and enhancing responsiveness. Its applications range from automating simple tasks to supporting strategic decisions through predictive analytics. According to Shrestha et al. (2020), AI enables the automation of cognitive processes and transforms how organizations make decisions. Zhang et al. (2020) and Zhou et al. (2023) highlight its use in sectors such as healthcare and finance, where it enhances service personalization and risk detection. In marketing, machine learning algorithms personalize offers and predict consumer behavior (Alsghaier et al., 2023). This technology has established itself as a fundamental axis in modern management. Furthermore, AI has emerged not only as a driver of technological innovation but also as a crucial competitive advantage for organizations by optimizing operations, improving decision-making, and increasing adaptability in changing environments (Yaranga Vite & Olórtiga Cóndor, 2025).

Conversely, data science has become an essential strategic tool in organizations, facilitating decisions based on advanced data analysis. Through techniques such as machine learning and data mining, organizations can identify patterns, anticipate scenarios, and optimize processes. Ghasemaghaei et al. (2020) emphasize that analytical capability enhances organizational performance by transforming data into knowledge. George et al. (2021) assert that these techniques improve operational efficiency and enable more precise service personalization and risk detection. Additionally, Wamba-Taguimdje et al. (2020) indicate that companies with a data-driven culture are more innovative and adaptive. In manufacturing, data science enhances predictive maintenance and logistical efficiency. In marketing, it allows audience segmentation and campaign optimization. According to Sharma et al. (2022), its integration with digital platforms drives organizational transformation by connecting strategic and operational data.

In recent years, the integration of AI and data science has become a fundamental pillar for the adaptation and growth of companies in a digitalized market. Both disciplines contribute a predictive and analytical approach that transforms data into valuable information, generating quicker and more accurate responses to uncertainty. According to De Bruyn et al. (2020), this combination has revolutionized business marketing through automated personalization and consumer behavior prediction. In the logistics sector, authors like Ivanov and Dolgui (2020) highlight the use of AI-based models for real-time decision-making during operational disruptions.

Moreover, Davenport and Ronanki (2018) explain that many organizations already utilize AI and data science systems to manage human resources, finance, and customer service more efficiently. In the realm of business strategy, Grandhi et al. (2021) argue that the joint application of both disciplines strengthens the alignment between operational decisions and strategic objectives of companies. Findings by Iqbal et al. (2023) demonstrate that the effective integration of these technologies is linked to greater organizational innovation and a sustainable competitive advantage. Additionally, the study by Ab Hamid et al. (2021) highlights how these technologies, when strategically integrated, enable the generation of actionable insights that drive operational efficiency, innovation, and competitiveness. In particular, AI applied in decision support systems has shown benefits in sectors such as healthcare, manufacturing, and business management, enhancing analytical capacity to respond to dynamic and complex environments.

Recent research has revealed that the combination of these technologies allows for the transformation of large volumes of data into meaningful and predictive information. Chen et al. (2024) demonstrated that the implementation of AI in industrial settings drives sustainable innovation and improves environmental performance. Shkarupylo et al. (2024) explored how machine learning in smart manufacturing facilitates the detection of vulnerabilities and enhances organizational resilience. In the marketing domain, Gandomi and Haider (2021) noted

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that the combination of Big Data and AI improves segmentation and service personalization, generating a competitive advantage based on customer experience. Likewise, Ojeda et al. (2024) identified that companies integrating AI with Big Data tools optimize data analysis and make more informed decisions in real time. Tong and Tian (2023) developed an intelligent financial decision support system based on AI, which reduces human errors and improves accuracy in complex contexts. Furthermore, Kumar and Sivarajah (2021) proposed an integrated AI framework for knowledge creation and rational decision-making in B2B marketing, demonstrating improvements in business performance.

Bibliometric studies play an essential role in systematically collecting and analyzing scientific literature on specific topics, thus facilitating the identification of current trends (Tomás-Górriz & Tomás-Casterá, 2018). These studies also allow for the recognition of underdeveloped methodological approaches and unexplored areas of knowledge (García et al., 2021; Ribeiro & Aroni, 2019). Through the use of indicators and metric instruments, bibliometric analysis enables the quantification and evaluation of academic output across various disciplines (Caló, 2022). Therefore, this research aims to systematically compile previous contributions to detect lines of development and key findings that optimize the utilization of knowledge derived from data (Sanz, 2022).

Currently, data represents one of the most valuable assets for modern enterprises. The increasing digitalization experienced by organizations has led to a significant rise in the volume of information produced by their supply chains (Chen et al., 2024). Understanding how organizations interpret and apply data, as well as the technologies associated with analysis, requires identifying and classifying the most relevant trends and developments in this field (Chacón-Rivadeneira et al., 2024). In this context, the systematization of information is conducted considering variables such as publication year, country of origin, thematic focus, document type, journal or source, affiliated institution, and corresponding author. Based on these criteria, the objective of this study is to conduct a bibliometric analysis examining the joint use of artificial intelligence and data science from 2015 to 2025.

Methodology

Through a bibliometric review, academic research published between 2015 and 2025 was identified, focusing on the integration of artificial intelligence and data science in the business decision-making process. The data collected from recognized databases such as Scopus (Elsevier), Google Scholar, and other specialized sources were processed using bibliometric analysis techniques, which allowed for the generation of measurable and comparable results (Tomás-Górríz and Tomás-Castera, 2018). Boolean operators were utilized in the search for material—("Artificial Intelligence" AND "Data Science" AND "Enterprises")—applied to titles, abstracts, and keywords to extract pertinent information. Filters were also established to narrow down the sample, with inclusion criteria including the publication period (2015–2025), document type (articles), language (English, Spanish, and Portuguese), and text accessibility. As part of the process, 155 documents were selected for thorough analysis, eliminating duplicates and normalizing metadata.

Subsequently, patterns of scientific productivity were examined using indicators such as year of publication, document type, authorship, thematic areas, journal or source, country of origin, citation volume, and institutional affiliation (Salinas and García, 2022). The documents selected for this research were analyzed through a co-occurrence map of keywords, facilitating the establishment of connections between various terms used in different academic outputs (Flores-Fernández and Aguilera-Eguía, 2020). For data processing and visual representation, VOSviewer software was employed, which aided in identifying thematic clusters and constructing the corresponding relationship map. Additionally, Microsoft Excel was utilized as a supplementary tool for creating tables and graphs that describe the frequencies and proportions of the analyzed elements.

Results and discussion

A bibliometric analysis was conducted encompassing academic publications from various specialized sources, centered on the integration of artificial intelligence and data science applied to business decision-making during the period from 2015 to 2025.

Figure 1
Documents published by year

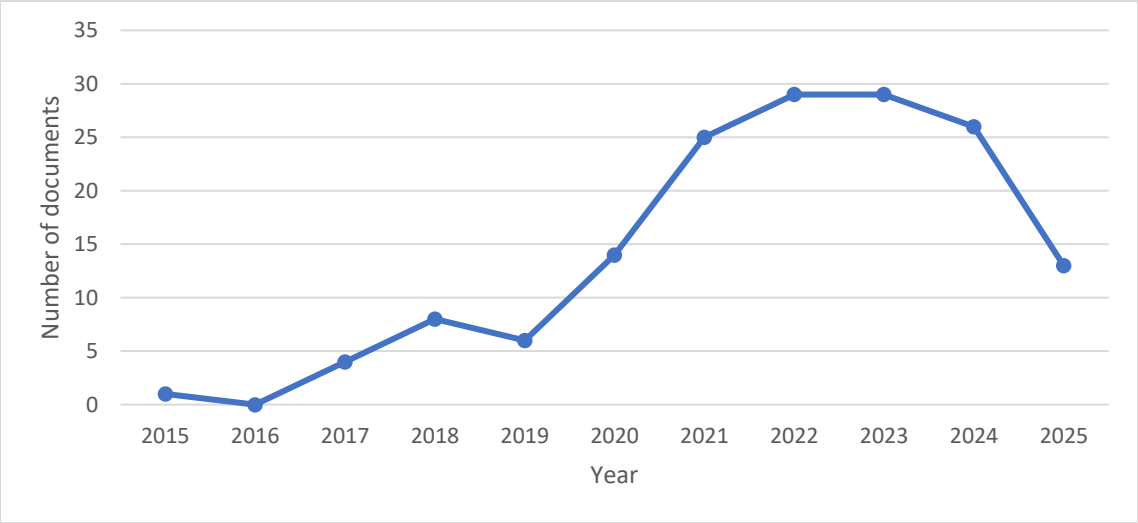


Figure 1 illustrates publications showing a sustained growth from 2015 to 2021, with a peak in productivity in 2022 and 2023 (29 documents). A slight decrease is observed starting in 2024, with a more marked decline in 2025, likely attributable to the fact that the year is not yet complete. This trend reflects a growing academic interest in the subject, particularly during the years of digital consolidation.

Figure 2
Number of publications by leading countries

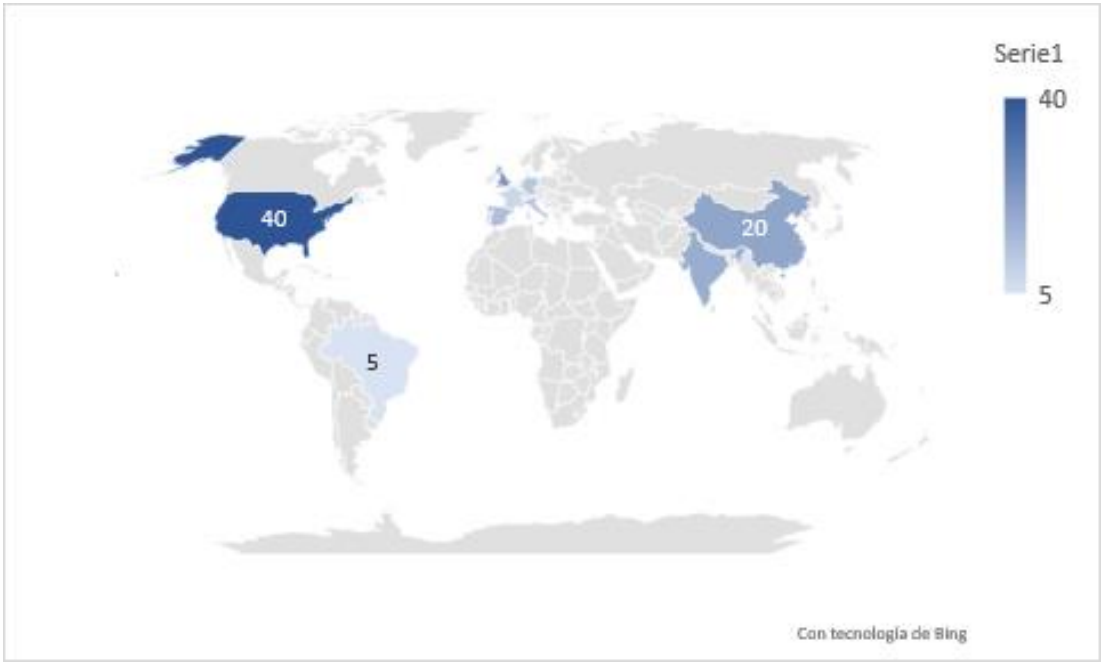


Figure 2 displays the global distribution of publications by country. The research encompassed nine countries and focused on the top three nations that have published the most academic works in this field. In terms of scientific productivity, the United States ranks first with 25.8% (n=40), followed by the United Kingdom with 16.1% (n=25), and China in third place with 12.9% (n=20).

Table 1
Geographical distribution

Country	F	%
United States	40	25.8%
United Kingdom	25	16.1%
China	20	12.9%
India	18	11.6%
Spain	14	9.0%
Italy	13	8.4%
Germany	12	7.7%
France	8	5.2%
Brazil	5	3.2%

Table 2
Document publication by source or journal

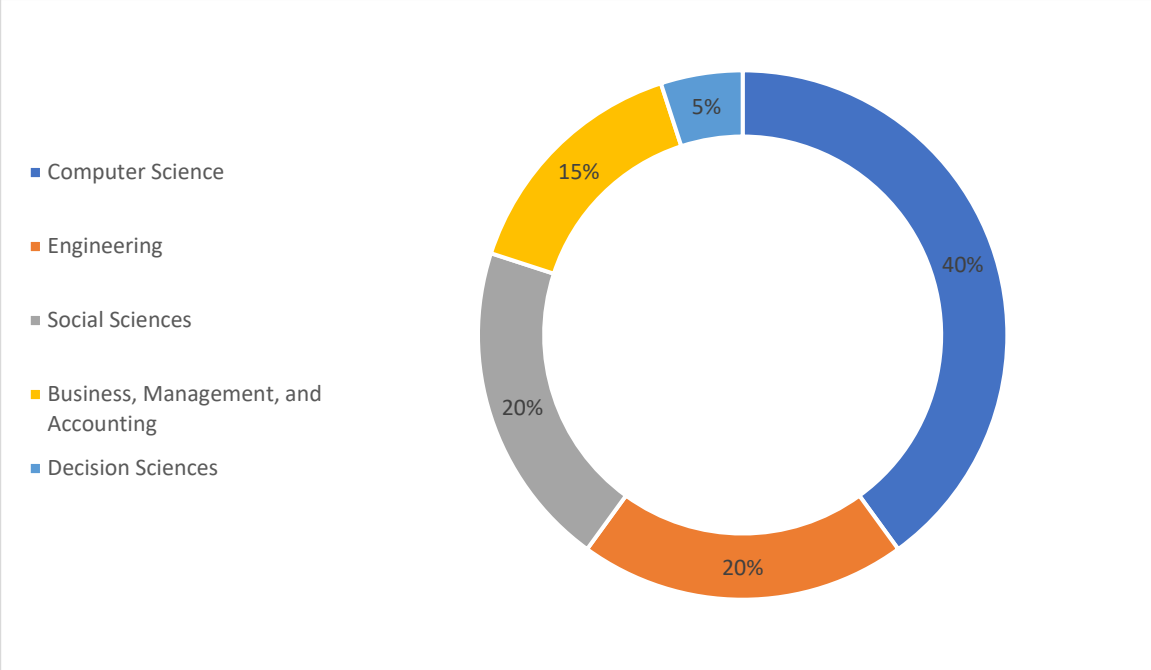
Source	No.	Source	No.
ACM Transactions on Modeling and Computer Simulation	1	International Journal of Human-Computer Interaction	1
Advances in Space Research	1	International Journal of Information Management Data Insights	2
AI and Society	2	International Journal of Information Systems and Project Management	1
Alexandria Engineering Journal	1	International Journal of Modern Education and Computer Science	1
Applied Intelligence	1	International Journal on Recent and Innovation Trends in Computing and Communication	1
Applied Mathematics and Nonlinear Sciences	1	International Transactions in Operational Research	1
Applied System Innovation	1	Iraqi Journal for Computer Science and Mathematics	1
Big Data and Cognitive Computing	2	ISPRS International Journal of Geo-Information	1
BMC Bioinformatics	1	Issues in Information Systems	1
BMC Medical Education	1	Journal of Artificial Intelligence Research	1
BMC Medical Informatics and Decision Making	1	Journal of Biomedical Informatics	2
BMJ Health and Care Informatics	1	Journal of Combinatorial Optimization	1
Brazilian Journal of Operations and Production Management	1	Journal of Competitiveness	1
Buildings	2	Journal of Computer Science	1
Business and Information Systems Engineering	2	Journal of Contingencies and Crisis Management	1
California Management Review	1	Journal of Cybersecurity and Privacy	1
Chaos Theory and Applications	1	Journal of Data and Information Science	1
Computers and Electrical Engineering	1	Journal of Digital Imaging	1
Computers and Structures	1	Journal of Electrical and Computer Engineering	1
Data and Information Management	1	Journal of Food Quality	1
Data and Knowledge Engineering	2	Journal of Industrial Textiles	1
Decision Support Systems	1	Journal of Information Systems Engineering and Management	1

Discover Artificial Intelligence	1	Journal of Information Technology Teaching Cases	1
Doxa Comunicacion	1	Journal of Open Innovation: Technology, Market, and Complexity	1
Ecological Informatics	1	Journal of Parallel and Distributed Computing	1
Ecosystem Services	1	Journal of Purchasing and Supply Management	1
Electronic Markets	2	Journal of Self-Governance and Management Economics	1
Encontros Bibli	1	Journal of the Operational Research Society	1
Energies	1	Journal of Trends in Computer Science and Smart Technology	1
Entropy	1	Journal of Web Engineering	1
Environment and Planning D: Society and Space	1	Law of Justice Journal	1
European Public and Social Innovation Review	1	Linguistic and Philosophical Investigations	2
European Research on Management and Business Economics	1	Management Review Quarterly	1
Forensic Sciences Research	1	Measurement: Sensors	2
Foundations and Trends in Technology, Information and Operations Management	1	Mobile Information Systems	3
Frontiers in Big Data	1	npj Digital Medicine	1
Frontiers in Digital Health	1	PeerJ Computer Science	2
Frontiers in Research Metrics and Analytics	1	Personnel Psychology	1
Future Generation Computer Systems	1	Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences	1
Geological Society Special Publication	1	Proceedings of the ACM on Human-Computer Interaction	1
Government Information Quarterly	1	Profesional de la Informacion	1
Health Information and Libraries Journal	1	Public Money and Management	1
Humanistic Management Journal	1	Public Policy and Administration	1
Icono14	1	Quantitative Science Studies	1
IEEE Access	10	Radiology: Artificial Intelligence	2
IEEE Transactions on Artificial Intelligence	1	Revista de Administracao Mackenzie	2
IEEE Transactions on Engineering Management	2	International Journal of Engineering Trends and Technology	1
IEEE Transactions on Network Science and Engineering	1	Revista Digital de Biblioteconomia e Ciencia da Informacao	1
Industry and Higher Education	1	Revista Direito GV	1
Infocommunications Journal	1	Risk Analysis	1
Information (Switzerland)	2	Scientific Programming	1
Information Processing in Agriculture	1	Semantic Web	1
Information Services and Use	1	SN Computer Science	1
Information Systems Frontiers	1	Statistical Journal of the IAOS	1
Intelligent Automation and Soft Computing	1	Sustainability (Switzerland)	4
Intelligent Systems with Applications	1	Technological Forecasting and Social Change	2
International Journal of Advanced Computer Science and Applications	2	Technology Architecture and Design	1
International Journal of Computational and Experimental Science and Engineering	1	Tourism and Hospitality Management	1
International Journal of Computing and Digital Systems	1	Tropical Cyclone Research and Review	1
International Journal of Emerging Technologies in Learning	1	Wireless Communications and Mobile Computing	2

	1	World Patent Information	2
		Total	**155**

The journal IEEE Access evidenced a recurring thematic line in its publications centered on artificial intelligence, big data, data analytics, and machine learning, among other related topics. Notable content includes the analysis of the impact that machine learning models have on supporting decision-making and extracting knowledge from data.

Figure 3
Document publication by thematic area



Between 2015 and 2025, academic publications on integrating artificial intelligence and data science for business decision-making yielded data from five different areas. Notably, computer science accounted for 40% of global scientific production, followed by social sciences and engineering at 20%, business, management, and accounting at 15%, and decision sciences at 5%.

Figure 4

Co-occurrence of keywords

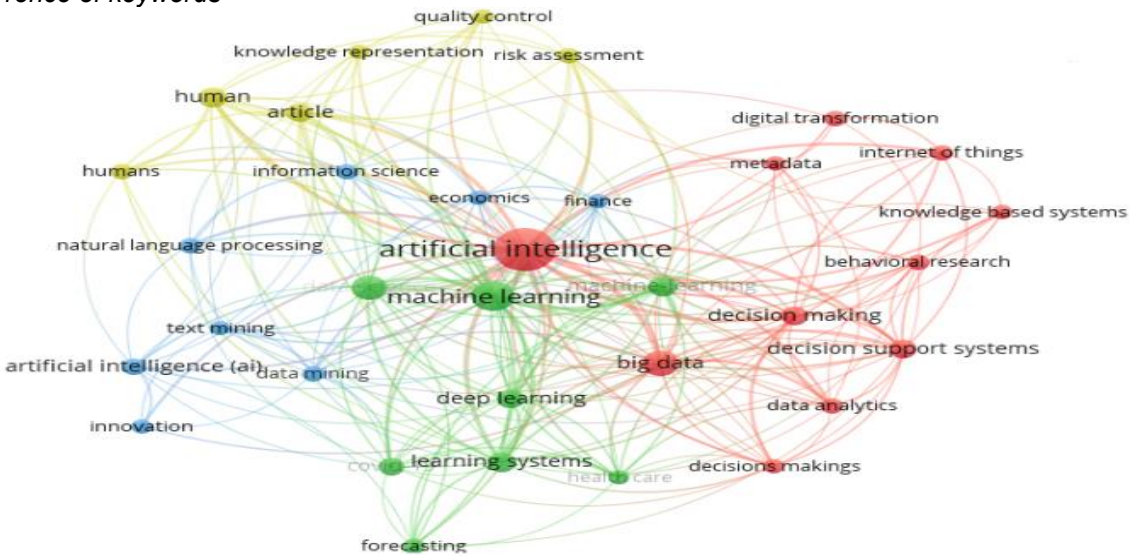


Figure 4 displays the results obtained from the keyword co-occurrence analysis, which was conducted by reviewing the titles, abstracts, and descriptors of the analyzed documents. Only those expressions that appeared more than three times were included. To visually represent the clusters of related terms, VOSviewer software was employed, which assigned distinct colors to each cluster based on the level of connectivity between the detected keywords (Van Eck & Waltman, 2010).

Red Cluster: “artificial intelligence” (n=92 occurrences) refers to a group of related words including: data analytics, big data, digital transformation, decision making, metadata.

Green Cluster: “machine learning” (n=36 occurrences) encompasses the following words: data science, data mining, deep learning, learning system, forecasting.

Blue Cluster: “data mining” (n=8 occurrences) is associated with the words: artificial intelligence (AI), data mining, economics, finance, information science, innovation, natural language processing, text mining.

Yellow Cluster: “data analytics” (n=10 occurrences) groups the following words: article, human, humans, knowledge representation, quality control, risk assessment.

The cluster analysis revealed that the most frequently occurring words are also the most representative of the study's object, particularly highlighting terms such as “data analytics,” “data science,” and “artificial intelligence.” These concepts show a strong association with the business realm, as they facilitate the processing of large volumes of information to transform data into useful knowledge, thereby generating competitive advantages. In this regard, the effectiveness of business decision-making is closely linked to leveraging knowledge derived from both artificial intelligence and data science. Thus, it ensures that all available information from various data sources is analyzed strategically to add value to organizations.

Conclusions

This bibliometric study demonstrated a sustained evolution in scientific production regarding the integration of artificial intelligence and data science in the business decision-making process during the period from 2015 to 2025. The results indicate a growing academic interest, reflected in the increase in publications, primarily in fields such as computer science, engineering, business, and social sciences. The United States leads scientific productivity in this area, followed by the United Kingdom and China, revealing a geographical concentration of knowledge. Additionally, the keyword co-occurrence analyses highlighted the relevance of terms such as “data analytics,” “machine learning,” and “artificial intelligence,” which are strongly linked to optimizing data analysis for generating competitive advantages. The most active journals and the most cited authors consolidate the visibility and impact of the topic across various disciplines.

It can be asserted that research on the integration of artificial intelligence and data science in business decision-making processes has made significant progress, both in the thematic diversity addressed and in institutional support and cooperation among authors. Furthermore, the content analysis underscores that advanced software technologies play a key role in enhancing decision-making processes within organizations. In

this context, the present bibliometric study provides a solid starting point for future research, highlighting the importance of further assessing technological development in this field.

References

Ab Hamid, M. R., Hashim, M. T., Mohd Saman, M. Y., Awang, Z., & Zainudin, N. F. S. (2021). Application of artificial intelligence and big data analytics in developing decision support systems: A systematic review. *BMC Medical Informatics and Decision Making, 21*(1), 1–13. https://doi.org/10.1186/s12911-021-01488-9

Alsghaier, H., Altameem, A., & Alshamrani, S. (2023). Data Science Applications in Business Decision Making. *Procedia Computer Science, 219*, 129-135. https://doi.org/10.1016/j.procs.2023.01.359

Caló, L. (2022). Métricas de impacto y evaluación de la ciencia. *Rev Perú Med Exp Salud Pública, 39*(2), 236-240. https://doi.org/10.17843/rpmesp.2022.392.11171

Chacón-Rivadenerira, K., Morales-Maure, L.,& García-Marimón, O. (2024). Trends in Research on Didactic Knowledge and Technology Integration in Mathematics Education: A Bibliometric Study. *Journal of Research in Mathematics Education, 13*(3), 220-244. https://doi.org/10.17583/redimat.15107

Chen, CT., Khan, A. & Chen, SC. (2024). Modelado del impacto de BDA-AI en la innovación sostenible, la ambidextría y el desempeño ambiental. *J Big Data 11*, 124. https://doi.org/10.1186/s40537-024-00995-6

Davenport, T. H., & Ronanki, R. (2018). Artificial Intelligence for the Real World. *Harvard Business Review, 96*(1), 108-116. https://www.bizjournals.com/boston/news/2018/01/09/hbr-artificial-intelligence-for-the-real-world.html

De Bruyn, A., Viswanathan, V., Beh, Y. S., Brock, J. K. U., & von Wangenheim, F. (2020). Artificial intelligence and marketing: Pitfalls and opportunities. *Journal of Interactive Marketing, 51,* 91–105. https://doi.org/10.1016/j.intmar.2020.04.007

Flores-Fernández, C., & Aguilera-Eguía, R. (2020). Indicadores bibliométricos y su importancia en la investigación clínica. ¿Por qué conocerlos? *Revista de la Sociedad Española del Dolor, 26*(5), 315-316. https://dx.doi.org/10.20986/resed.2018.3659/2018

García, L., Fernández, A., & Bécquer, A. (2021). Análisis Bibliométrico de la Producción Científica 2001-2020. *Revista Electrónica Cuba: Medio Ambiente y Desarrollo, 21*(40), 1–9. https://cmad.ama.cu/index.php/cmad/article/view/297

Gandomi, A., & Haider, M. (2021). Beyond the hype: Big data concepts, methods, and analytics. *International Journal of Information Management, 56*, 102287. https://doi.org/10.1016/j.ijinfomgt.2014.10.007

George, G., Osinga, E. C., Lavie, D., & Scott, B. A. (2021). Big data and data analytics in organizations: A review and research agenda. *Journal of Management, 47*(1), 332-360. https://doi.org/10.5465/amj.2016.4005

Ghasemaghaei, M., Ebrahimi, S., & Hassanein, K. (2020). Data analytics competency for improving firm decision making performance. *The Journal of Strategic Information Systems, 29*(1), 101-118. https://doi.org/10.1016/j.jsis.2020.101593

Grandhi, S., Patwa, N., & Saleem, M. (2021). Artificial intelligence in strategic decision-making: A systematic review. *Journal of Business Research*, *131*, 89–101. https://doi.org/10.1016/j.jbusres.2021.03.011

Iqbal, M. W., Qureshi, M. A., & Shahzad, F. (2023). Artificial intelligence capabilities and firm performance: Evidence from emerging markets. *Technological Forecasting and Social Change*, *188*, 122293. https://doi.org/10.1016/j.techfore.2022.122293

Ivanov, D., & Dolgui, A. (2020). Viability of intertwined supply networks: extending the supply chain resilience angles towards survivability. International *Journal of Production Research, 58*(10), 2904–2915. https://doi.org/10.1080/00207543.2020.1750727

Kumar, A., & Sivarajah, U. (2021). An integrated artificial intelligence framework for knowledge creation and B2B marketing decision making. *Industrial Marketing Management, 92,* 178-189. https://doi.org/10.1016/j.indmarman.2020.12.001

Li, Y., Wang, Y., & Liu, X. (2025). Artificial Intelligence and decision-making: A bibliometric analysis of scientific production from Scopus (2013–2023). *The Journal of Supercomputing*. https://doi.org/10.1007/s11227-025-07021-3

Ojeda, A. et al. (2024). AI implementation in big data: Shaping data analysis for business decisions. *Issues in Information Systems, 25*(4). https://doi.org/10.48009/4_iis_2024_113

Ribeiro, R., & Aroni, P. (2019). Standardization, ethics and biometric indicators in scientific publication: integrative Review. *Revista Brasileira de Enfermagem REBEn, 72*(6), 1723-9. https://doi.org/10.1590/0034-7167-2018-0283

Salinas, K. & García, A. (2022). Bibliometrics, a useful tool within the field of research. *Journal of Basic and Applied Psychology Research, 3*(6), 10-17. https://doi.org/10.29057/jbapr.v3i6.6829

Sanz, J. (2022). Bibliometría: origen y evolución. *Hospital a Domicilio, 6*(3), 105-107. https://doi.org/10.22585/hospdomic.v6i3.168

Sutherns, R., & Fanta, G. B. (2024). The implications of integrating artificial intelligence into data-driven decision-making. *South African Journal of Economic and Management Sciences, 27*(1). https://doi.org/10.7166/35-3-3096

Sharma, R., Mithas, S., & Kankanhalli, A. (2022). Transforming decision-making processes: A digital analytics perspective. *MIS Quarterly Executive, 21*(1), 13-27. https://aisel.aisnet.org/misqe/vol21/iss1/3

Shkarupylo, V. et al. (2024). *Exploring the potential network vulnerabilities in the smart manufacturing process of Industry 5.0 via machine learning.* IEEE Access. https://doi.org/10.1109/ACCESS.2024.3474861

Shrestha, Y. R., Ben-Menahem, S. M., & von Krogh, G. (2020). Organizational decision-making structures in the age of artificial intelligence. *California Management Review, 62*(4), 21-45. https://journals.sagepub.com/doi/10.1177/0008125620928981

Tong, D., & Tian, G. (2023). Intelligent financial decision support system based on big data. *Journal of Intelligent Systems, 32*(1), 20220320. https://doi.org/10.1515/jisys-2022-0320

Tomás-Górriz, V., & Tomás-Castera, V. (2018). La bibliometría en la evaluación de la actividad científica. *Hospital a Domicilio, 2*(4), 145-163. https://doi.org/10.22585/hospdomic.v2i4.51

Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics, 84*(2), 523-538. https://doi.org/10.1007/s11192-009-0146-3

Yaranga Vite, I. P., & Olórtiga Cóndor, L. W. (2024). Inteligencia artificial para aumentar la productividad en las empresas: un estudio bibliométrico. *Revista InveCom, 5*(4), 1–11. https://doi.org/10.5281/zenodo.14846656

Yaranga Vite, I. P., & Olórtiga Cóndor, L. W. (2025). Integración de la inteligencia artificial con big data para la toma de decisiones en las empresas: un estudio bibliométrico. *Revista InveCom, 5*(4), 1–11. https://doi.org/10.5281/zenodo.14783686

Zhang, W., Li, X., & Wang, J. (2020). Big Data and AI for market trend prediction. *Journal of Financial Analysis*, 8(4), 210-228. http://dx.doi.org/10.2139/ssrn.4980346

Zhou, M., Zhang, R., & Lin, W. (2023). Financial Risk Prediction Based on Artificial Intelligence and Machine Learning Techniques. *Journal of Intelligent & Fuzzy Systems, 44*(2), 2345-2356. https://doi.org/10.3233/JIFS-223266