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A Bibliometric Perspective on the Relationship Between Artificial Intelligence and Digital Culture

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Abstract:

This study presents a bibliometric analysis of global research at the intersection of artificial intelligence and digital culture (2015–2025). It draws on 489 Scopus-indexed studies and follows the PRISMA framework. Findings show substantial growth during (2021–2024), with the United States leading output and robust international collaboration networks. The analysis confirms the centrality of artificial intelligence and the emergence of interconnected themes, underscoring the field's interdisciplinary nature and the need for greater attention to its ethical, educational, and cultural dimensions.

Key words: Artificial Intelligence, Digital Culture, Bibliometric Analysis, Topic Modeling , scopus

JEL Classification Codes: C55; O33; M31; L86 .

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Introduction

The world today is witnessing a genuine technological revolution led by artificial intelligence applications, which are reshaping various aspects of human life and fundamentally affecting the cultural and social structures of contemporary societies. (Russell, S. J. 2020) In light of this accelerating digital transformation, an urgent need has emerged to understand the nature of the complex relationship between artificial intelligence technologies and digital culture, as they constitute fundamental elements in shaping the future of human interaction with technology. (Castells, M, 2015)

Digital culture represents the sum of values, practices, and knowledge that emerge and develop in the digital environment, while artificial intelligence constitutes the driving force of this development through its ability to simulate human cognitive processes and enhance interaction with digital content. (Creeber, 2009) With the increasing proliferation of artificial intelligence applications in various educational, cultural, and social fields (jenkins, H. 2016), it has become necessary to study this relationship from a comprehensive scientific perspective based on bibliometric analysis of global scientific production in this field. Therefore, this study was conducted to answer the following main research question:

What are the research trends and emerging topics in the field of artificial intelligence and digital culture as reflected in the scientific literature through bibliometric analysis?

This dispersion raises several fundamental questions:

- ✓ What are the trends in annual scientific production in the field of artificial intelligence and digital culture during the last decade (2015-2025)?
- ✓ What is the geographical distribution of researchers and institutions contributing to this field, and what are the patterns of international research collaboration?
- ✓ What are the most important scientific sources and specialized journals in publishing research related to artificial intelligence and digital culture?
- ✓ What are the main topics and concepts dominating the literature, and how do these concepts interrelate?
- ✓ What are the emerging, evolving, and fundamental research trends in this field?

Research Objectives

The research objectives are as follows:

To provide a comprehensive bibliometric perspective on the relationship between artificial intelligence and digital culture through analyzing global scientific production in this field

- ✓ To monitor and analyze the evolution of annual scientific production and temporal trends of research in the field
- ✓ To identify patterns of geographical distribution of researchers and international research collaboration networks
- ✓ To explore the most important scientific sources and specialized journals in the field
- ✓ To analyze the conceptual and thematic structure of the literature using topic modeling techniques
- ✓ To classify research trends according to centrality and development degrees to identify fundamental and emerging fields

Methodology

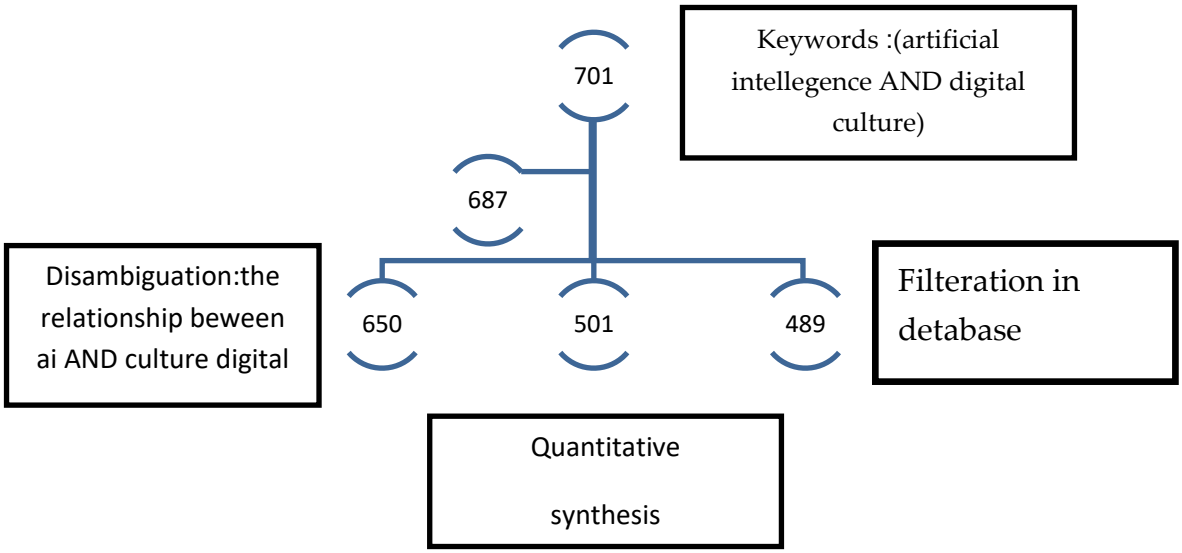
This study adopted a systematic literature review methodology using the PRISMA template to ensure comprehensiveness and accuracy in the selection and analysis of research articles (Grant, M. J. 2009) We employed the Systematic Literature Review (S.L.R.) technique as a methodology for comprehensive selection and rejection of research articles (D. Moher et al., July 2009). We restricted this study to literature related to artificial intelligence and digital culture, extracting literature from the Scopus database as one of the most important global scientific databases (Paul J. W., 2021).

As of July 2025, search results using the keywords "artificial intelligence AND digital culture" yielded 701 research articles. We selected the following fields: Social Sciences, Business, Management and Accounting, in addition to Economics, Econometrics, and Finance. We narrowed the results to 687 articles.

The selected materials included: research articles, conference papers, conference reviews, and general reviews in English. The total number of selected articles reached 501 articles, within a limited scope of publication years and citations from 2015 to 2025.

After excluding irrelevant and duplicate literature, we obtained 489 studies for review. Figure 1 illustrates the data selection process in detail. For analysis, R Studio with the biblioshiny package was used for bibliometric analysis (Aria, M., 2017), and VOSviewer software was employed for visualizing networks and conceptual relationships (Van Eck, N. J. 2010).RetryClaude can make mistakes.

Figure 1: Framework



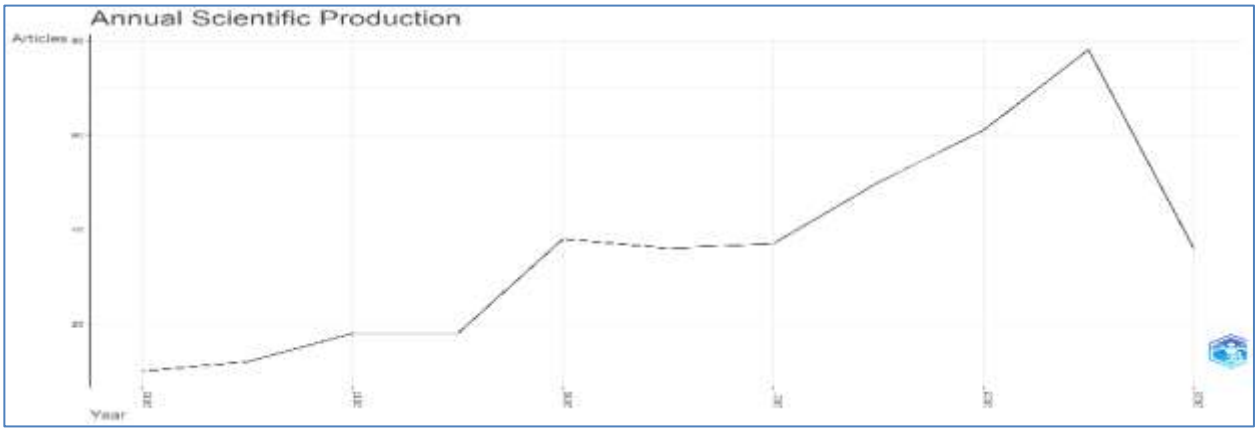
Source: Researcher's preparation based on Scopus database data and PRISMA diagram

1 .Results and Analysis

1.1. Annual Scientific Production Development

The graph shows the evolution of annual scientific production between (2015-2025) in three distinct phases: a gradual growth phase (2015-2018) where production increased from 10 to 18 articles, followed by a rapid expansion and relative stability phase (2018-2021) that witnessed a qualitative leap to 37 articles with subsequent stability, then an accelerated growth phase (2021-2024) that peaked at 77 articles before declining to 35 articles in 2025. This pattern reflects a typical life cycle of research activities, where the first leap indicates institutional capacity development or new funding acquisition, while the 2024 peak represents the maturation of long-term research projects, and the subsequent decline indicates a redirection of research efforts or transition to a new phase of strategic development.

Figure (2): Number of Publications from 2015-2025



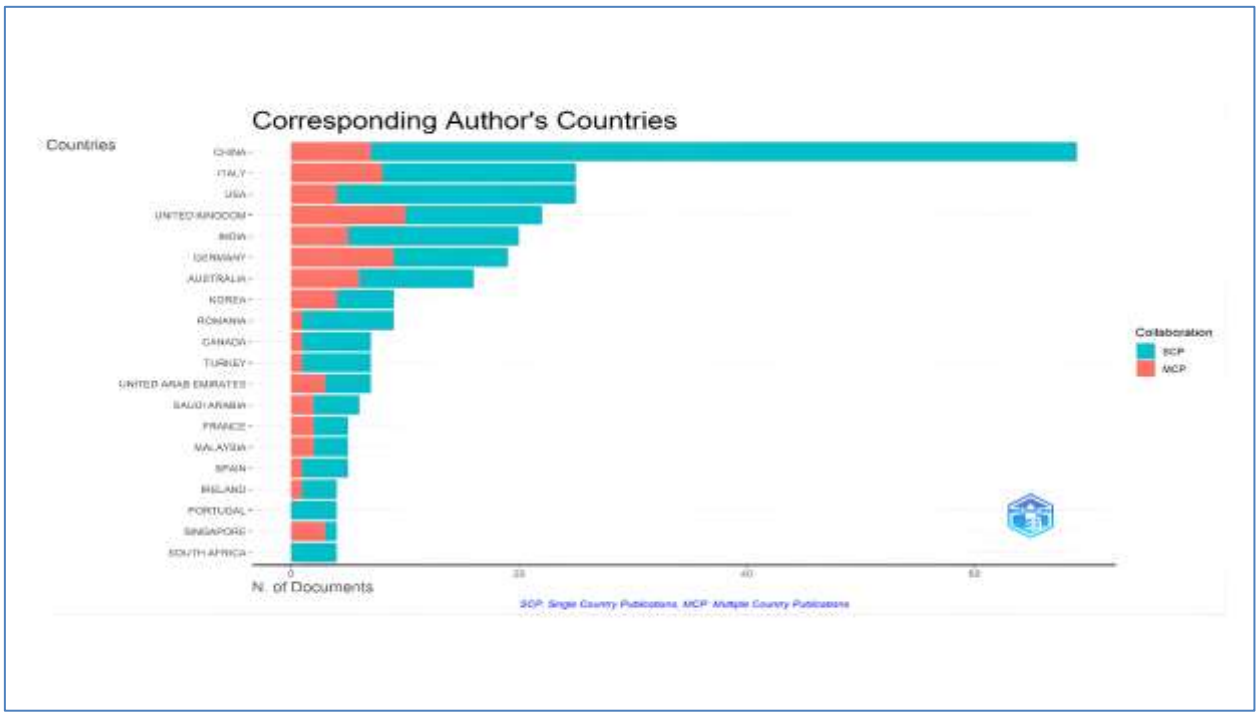
Source: R Studio outputs

1.2.Analysis of Author Distribution by Countries and Research Collaboration

The graph shows the distribution of scientific production across 20 countries, with the United States leading the list with more than 40 scientific documents, followed by Indonesia with about 32 documents, then India with approximately 25 documents. A strong concentration of Asian countries is observed in the top ranks, including China, Korea, Malaysia, and Thailand, reflecting the accelerated growth of scientific research in this region. European countries such as Italy, the United Kingdom, and Australia occupy middle positions, while other countries such as Portugal, Sweden, and Cyprus appear at the bottom of the list with a limited number of documents.

Regarding collaboration patterns, the classification between single-country publications (SCP) and multi-country publications (MCP) reveals a clear dominance of international cooperation, where cross-border collaborative research constitutes the largest part of scientific production for most countries. This pattern reflects the contemporary nature of scientific research characterized by international partnerships and knowledge exchange, with limited exceptions in some major countries such as the United States and China that show a notable proportion of domestic research, indicating the strength of their internal research infrastructure.

Figure(3): Distribution of Authors by Countries and Research Collaboration



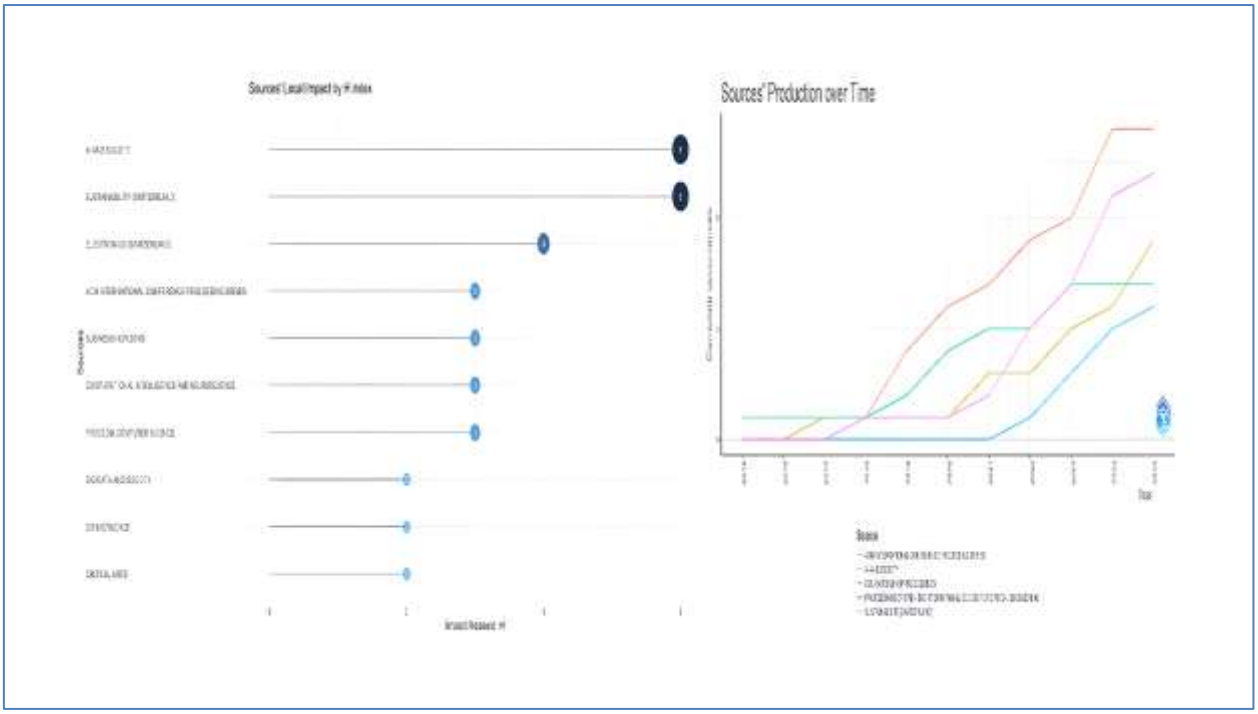
Source: R Studio outputs

1 .3. Most Productive Scientific Sources

The graph shows varied development in scientific production of the five sources over the past decade, with Springer Proceedings in Business and Economics leading the

scene with continuous and strong growth reaching 16-17 articles, reflecting increasing interest in business and economic research. Sustainability (Switzerland) comes second with remarkable growth especially after 2020, jumping from nearly zero to 13 articles, indicating growing interest in sustainability topics in recent years, which aligns with global trends toward sustainable development and climate change. ACM Conference Series achieved moderate and stable growth (8 articles), while Journal of Business Research showed slower gradual growth (6 articles). The most notable observation is the limited performance of Journal of Ecohumanism, which didn't really start until after 2022 and reached only 4 articles, which may reflect the novelty of this field or its relatively narrow specialization.

Figure (4): Best Research-Producing Journals



Source: R Studio outputs

1.4.Topic Modeling Analysis

Topic modeling technique is defined as a technique for summarizing topics where research is distributed into topics and related works are grouped and their frequencies are arranged in an organized structure to find correlations between terms and research. Since processing and analyzing current information is complex, topic modeling is considered a valuable tool for identifying, classifying, and discovering a large number of latent topics using machine learning algorithms (Moro, 2019). Topic modeling was adopted to summarize results through major terms in few topics by condensing co-occurrence and inferring the most prominent field trends and helping to reveal gaps (Mustak, 2021) in research on artificial intelligence and digital culture. Topic modeling

was performed for 489 articles from (2015-2025) using biblioshiny R and VOSviewer. This aspect can be addressed through author collaboration networks, word clouds, visualization maps, co-occurrence networks, and thematic mapping techniques.

First: Author Collaboration Network

The figure represents a network map for analyzing collaboration networks among researchers in research related to artificial intelligence and digital culture. This type of analysis aims to highlight research relationships between authors based on their joint work.

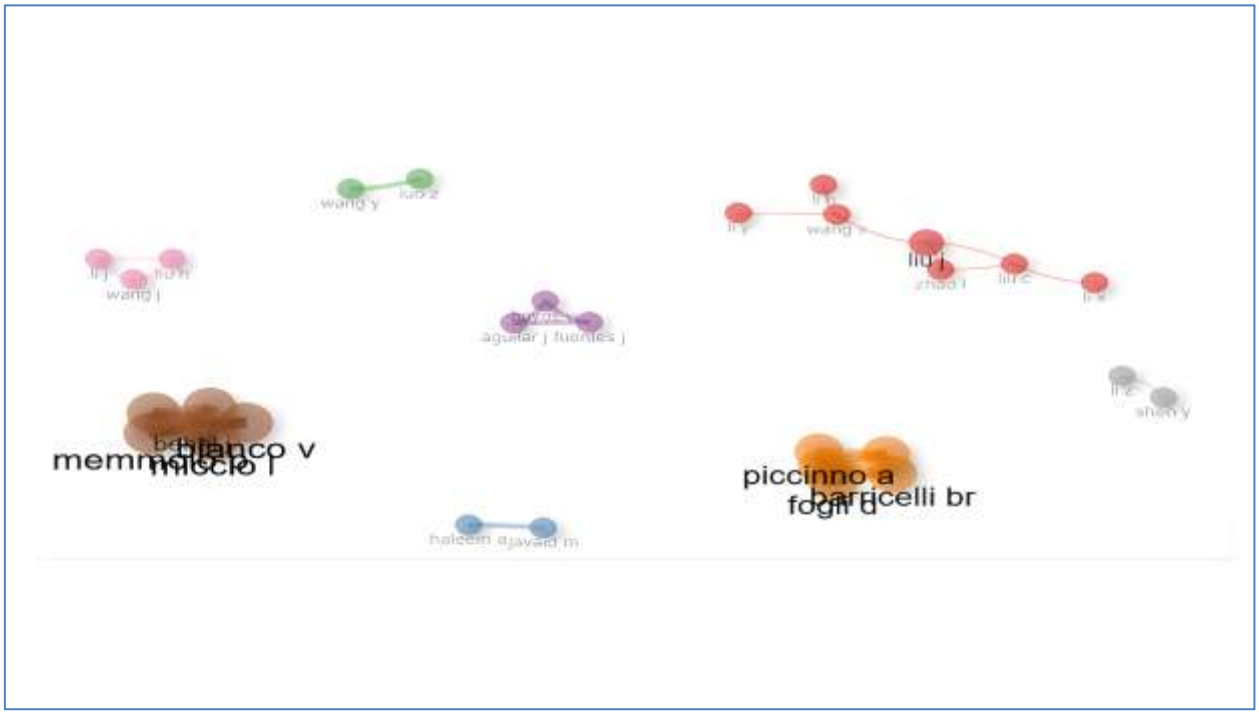
Nodes represent the researcher's name, where the node size reflects the number of research they contributed to; the larger the node, the greater their research output or number of collaborations with other researchers. Connecting lines represent collaboration between two researchers in one or more research papers. Colors indicate research communities, i.e., groups of researchers who collaborate among themselves more than they collaborate with researchers from other groups (Lutfi, 2021).

Through visual representation, several distinct research clusters can be observed, varying in size and density. The cluster of researchers memmcio l, blanco v, and bohhan b appears as an interconnected group of relatively large size, reflecting the intensity of collaboration among them, and perhaps indicating their work within a research team or single institution. This cluster is considered one of the central hubs in the network and shows a high degree of internal cohesion, which may express stability of collaboration and research effectiveness.

Researcher liu j appears within a collaboration network with clear extensions toward other researchers such as zhao l, liu c, and li x, indicating their pivotal role as a link between researchers from different groups. This structure indicates high dynamics of continuous knowledge exchange between these parties, enhancing opportunities for thematic diversity and innovation in scientific publishing.

Other more isolated groups also emerge, such as the group of haleem a and javaid m, or aguilar j and fuentes j, which represent limited bilateral collaboration, which may indicate individual research projects or precise specializations that have not yet engaged in broader collaboration networks.

Figure(5): Author Collaboration Network



Source: biblioshinyR outputs

Second: Word Cloud Technique

Word cloud technique is considered an important tool for analyzing and summarizing content in bibliometric analysis, to identify distinctive key words in the research field (Ionescu, Ș., Delcea, C., Chiriță, N., & Nica, I, 2024, p. 28). This technique relies on extracting words from texts and documents, where they are displayed in a size proportional to their frequency in the text, making it easier to distinguish the most distinctive and interesting words. A visual representation is used for different appearance and arrangement of words, to facilitate understanding of patterns and associations in published research (ATENSTAEDT, 2017), and the figure represented in the word cloud for the studied research.

From Figure (6), the clear dominance of the term "Artificial Intelligence" is observed in the center of the cloud, with a font size much larger than other terms, indicating its absolute centrality as a comprehensive knowledge field from which most other sub-topics branch out, such as "digital transformation," "deep learning," "e-learning," "Digital Innovation," which represent direct applications or functional extensions of artificial intelligence, especially in institutional and educational contexts.

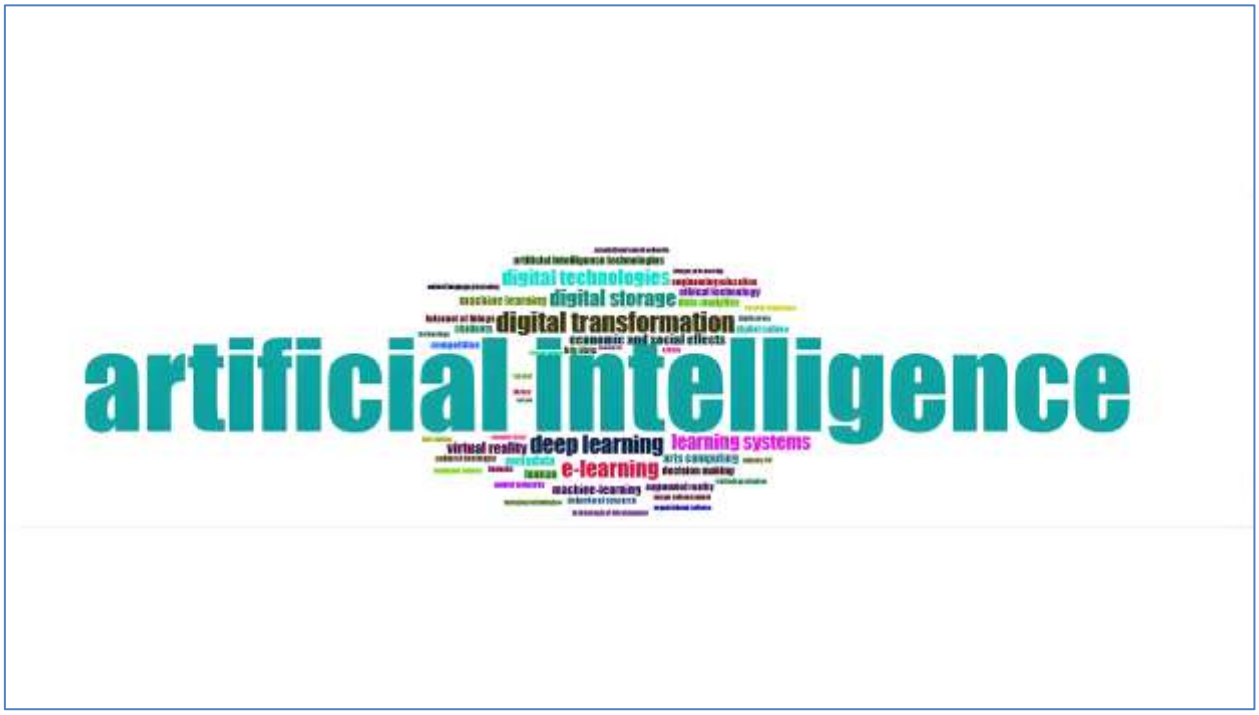
Words such as digital technologies, machine learning, learning systems, Digital Adaptability, digital storage indicate the integration of artificial intelligence within modern digital infrastructure, where it has become difficult to separate intelligent technologies from the digital systems that contain and support them. Words like Digital

Knowledge, virtual reality, and augmented reality indicate increasing interest in digital technologies, reflecting a shift toward interactive learning and experience environments supported by artificial intelligence.

Semantically, the cloud reflects the integration between artificial intelligence, machine learning, digitization, and increasing interest in educational applications (e-learning, learning systems), especially in light of accelerating digital transformation.

And the beginning of emerging new fields such as virtual reality, blockchain, decision making, which indicate the intersection of artificial intelligence with multiple knowledge fields.

Figure (6): Word Cloud



Source: biblioshiny R outputs

Third: Visualization Map

Tree map technique was used to create keyword frequency networks and density visualization as it is known for its high-quality representation (Sinkovics, 2016). Keyword frequency analysis is considered central because it shows trending research directions and research trends in the field (Xu, 2021). The tree map results showed keyword frequency generation of 51 keywords as shown in the figure, where they were divided into groups with different colors. The analysis of high-frequency keyword maps

The tree visualization map reflects the distribution and frequency of the most used keywords in studies related to artificial intelligence and digital culture. Results showed that the term "Artificial Intelligence" occupies the leading position, repeated 160 times,

representing about 20% of total repetitions, indicating its centrality as a pivotal concept in related scientific studies.

Other important terms emerged such as Digital Transformation, Deep Learning, and E-learning, indicating research focus on technical and educational aspects of artificial intelligence. Concepts related to digital infrastructure appeared such as Digital Storage and Learning Systems, alongside cultural concepts such as Digital Culture and Cultural Heritages, reflecting the intersection of artificial intelligence with multiple fields including education, culture, and data management.

The emergence of terms related to social and economic impacts such as Economic and Social Effects and Metadata indicates the expansion of scientific interest to include not only technical applications but also human and social dimensions related to adopting artificial intelligence technologies. Therefore, these results reflect a growing research trend toward using artificial intelligence as a central tool in digital transformation, employing it in developing learning systems and preserving cultural heritage, with increasing awareness of its ethical and societal impacts.

Figure (7): Tree Map of Keywords

Source: Researchers' preparation based on R Studio outputs

Fourth: Co-occurrence Network

Co-occurrence word analysis provides an opportunity to identify relationships and associations between terms in the research field, contributing to a deeper understanding of frequency and concept interconnection. This analysis can reveal main patterns and current and future research trends. (Idrissi Mokhtar.Abrou Djebli, 2024)

The node in this network represents key terms and how they are used by authors, where node size reflects the frequency of term usage. The analysis shows strong correlation in term groups that are consistently referred to in the same context, while organizing interconnected terms at specific distances, indicating the strength of association between them (ALZARD & ABDULRAHMAN, 2022) .

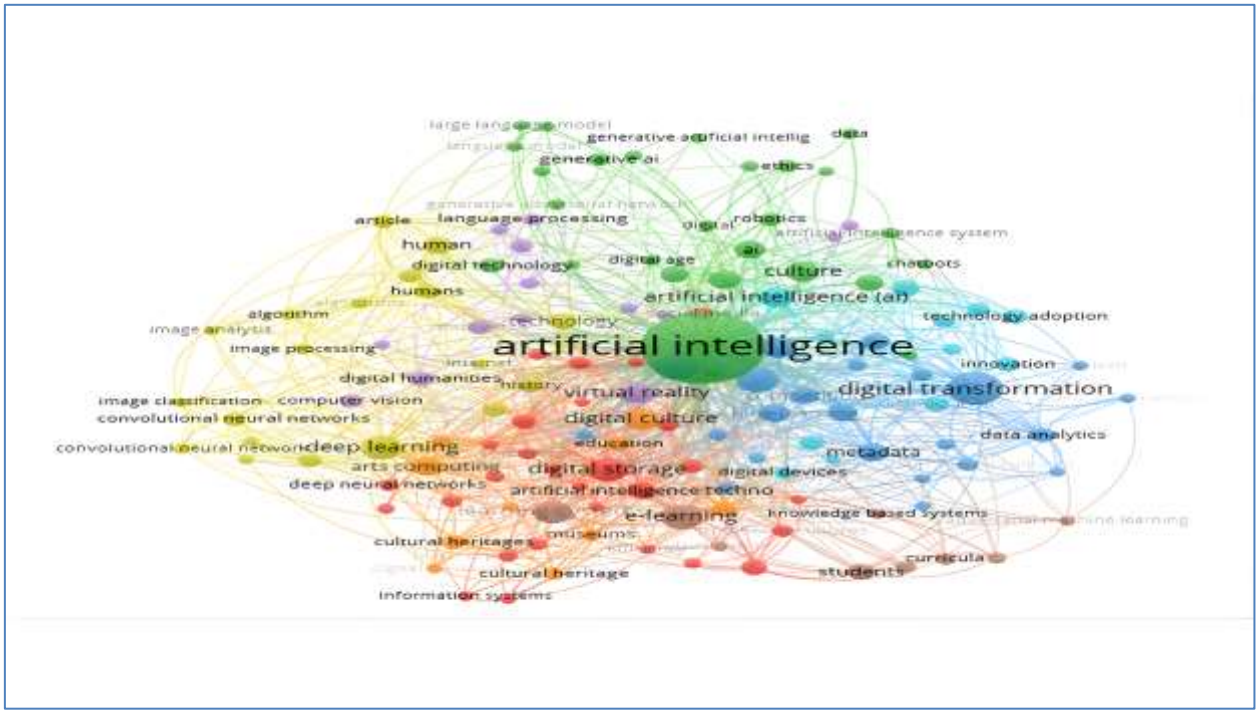
Figure (8) represents a conceptual correlation map (Co-occurrence Network) showing relationships between recurring keywords in scientific production related to artificial intelligence and digital culture, in addition to modern digital concepts such as e-learning, digital transformation, and others. This network reflects the extent of concept frequency and overlap in research contexts, showing existing correlations between the most used concepts in this field, allowing understanding of research dynamics and prevailing trends.

The term "Artificial Intelligence" is the most prominent central node, indicating its absolute centrality and close connection with a large number of concepts. "Digital Culture" appears as a central element in the lower part of the map, connected to concepts such as digital transformation, digital awareness, education, digital innovation, knowledge and heritage, indicating increasing interest in the impact of artificial intelligence on cultural contexts.

"Digital Transformation" occupies an important position on the right side of the map, showing correlation with concepts such as technology, innovation, and data analysis, reflecting its role as an enabling tool for various intelligent applications. E-learning also emerges as a prominent node connected to central educational concepts such as curricula, institutions, and students, indicating the integration of artificial intelligence within digital education systems.

Technical concepts such as "Deep Learning" and "Neural Networks" indicate the advanced applied and scientific aspect of artificial intelligence, while the growing presence of Generative AI reflects increasing research interest in new generations of artificial intelligence. The appearance of ethical concepts such as Ethics indicates increased focus on the value and regulatory dimension related to artificial intelligence development and its applications.

Figure (8): Visualization Map of Word Co-occurrence Network



Source: VOSviewer outputs

The colors used in the figure express clusters and represent research trends shown by keywords and indicate interconnected thematic classifications, as shown in Table (2):

- ✓ Red color: Focus on education, digital culture, museums, students
- ✓ Green color: Concepts related to generative artificial intelligence, ethics, culture, robots
- ✓ Blue color: Concepts related to digital transformation, digital awareness, digital innovation, data analysis, technology adoption
- ✓ Yellow color: Represents arts computing, image processing and computer vision
- ✓ Purple color: Language, articles, language models such as LLMs and ChatGPT

Table (2): Research Trends Revealed by Keywords

Source: R biblioshiny outputs

Groups	Main Common Terms
Group 1 - Red Color	Education, Digital Literacy, .Museums, Students
Group 2 - Green Color	Generative Artificial Intelligence, .Ethics, Culture, Robots
Group 3 - Blue Color	Digital Transformation, Digital Awareness, Digital Innovation, Data .Analysis, Technology Adoption
Group 4 - Yellow Color	Arts Computing, Image Processing and Computer Vision
Group 5 - Purple Color	Language, Articles, Language Models such as LLMs and ChatGPT

Fifth: Keyword Density Visualization

Figure (9) represents the frequency and thematic clustering of keywords in the research field, according to their color and spatial density. It is an important tool for understanding the extent of dominance of certain concepts and their spread in the literature. The results show the following:

The term Artificial Intelligence dominates the map as the central and most frequent word, reflecting the centrality of artificial intelligence as a main research field.

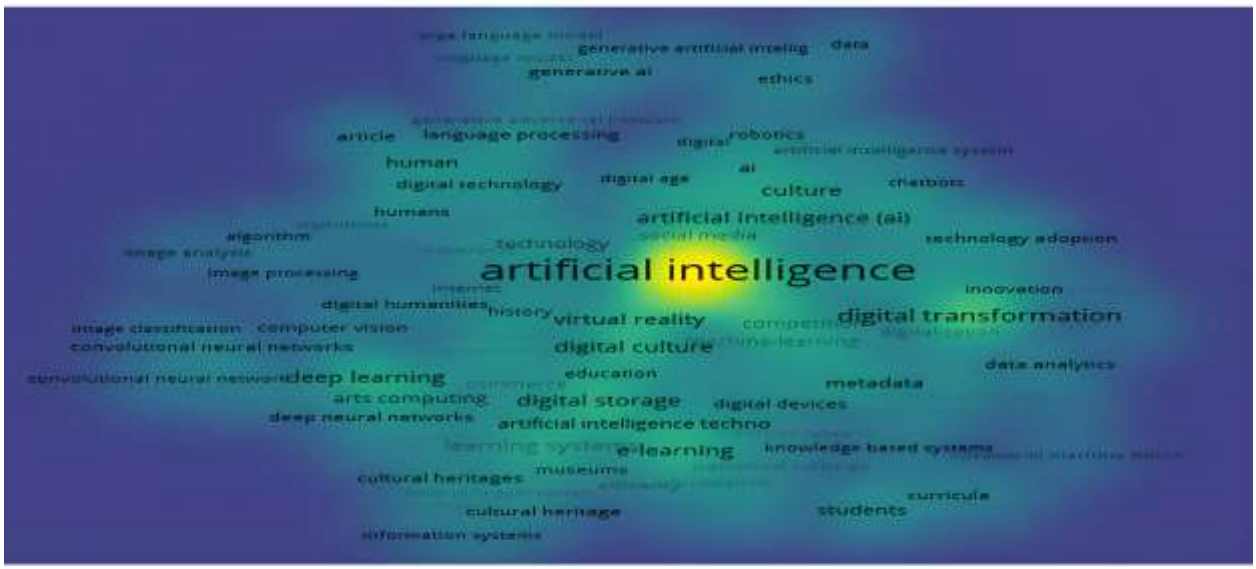
Concepts such as Digital Transformation, Machine Learning, Deep Learning appear as fields intersecting with artificial intelligence, indicating strong research focus on digital transformation and machine learning applications.

E-learning, Digital Culture, Learning Systems reflect the intersection of artificial intelligence with educational and cultural systems, indicating its use in curriculum development, virtual museums, and heritage preservation.

Generative AI, Large Language Models, ChatGPT express a new wave of interest in generative artificial intelligence and language models, highlighting the novelty and growth of this trend.

The focus on the ethical and cultural dimension Ethics, Cultural Heritage, Culture reflects increasing awareness of the need to guide artificial intelligence use within human and responsible frameworks.

Figure (9): Keyword Density Visualization



Source: VOSviewer outputs

Sixth: Thematic Mapping Technique

The thematic map shows representation of research topics according to two main dimensions: the horizontal axis (Relevance Degree / Centrality), which measures the extent of topic centrality and importance within the concept network, and the vertical axis (Development Degree / Density), which expresses the extent of topic development and richness in terms of research depth (Vanhala, 2020). The map contributes to providing a comprehensive visualization of interactions between different topics and is an effective analytical tool for understanding current research trends and anticipating their future paths (ALKHAMMASH, 2023)

The map is divided into four main quarters, each representing a specific type of scientific topics.

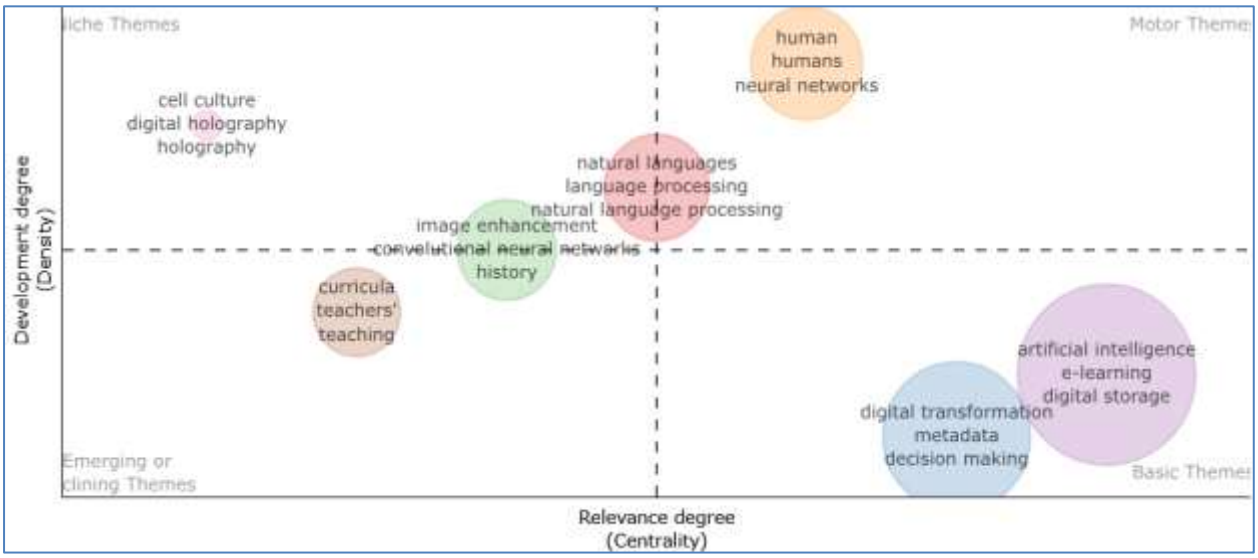
In the lower right quarter (Basic Themes), topics with high centrality and limited development emerge, making them foundations upon which future research builds. Among the most prominent of these topics is Artificial Intelligence, which is the largest node in this quarter. Also included in this quarter are topics such as E-learning, Digital Storage, Metadata, and Decision Making, all reflecting the increasing interaction between artificial intelligence and digital technologies in education, management, and data fields.

The upper right quarter (Motor Themes) includes topics that enjoy both high centrality and research development, making them main drivers of scientific progress in the field. It highlights interest in humans and human-machine interaction through concepts such as Human, Humans, and Neural Networks, which illustrate research focus on the relationship between artificial intelligence and human behavior, especially in applications based on deep learning.

The upper left quarter (Niche Themes) contains topics that are technically advanced but less central in the concept network, making them more specialized or confined to a narrow research scope. These topics include Digital Holography, Cell Culture, and holography in general, reflecting precise applied directions that may form the basis for future innovations within specific fields.

The lower left quarter (Emerging or Declining Themes) includes topics with low importance and development, indicating either emerging fields that have not yet received sufficient research attention. Among these topics, we notice Curricula, Teachers, and Teaching, which may indicate the need to enhance research in educational applications of artificial intelligence.

Figure 10: Thematic Map



Source: Program outputs

2.Discussion and Interpretation of Results

The results indicate that the field of artificial intelligence and digital culture follows Rogers' (2003) innovation diffusion model, where the literature passed through gradual stages from early adoption to widespread diffusion. The first stage (2015-2018) represents the stage of early innovators, while the second stage (2018-2021) reflects the

entry of early adopters, and the third stage (2021-2024) indicates reaching the early majority of researchers and practitioners.

- ✓ The thematic diversity in the literature reflects Klein's (2010) knowledge integration theory, where understanding the relationship between artificial intelligence and digital culture requires the convergence of knowledge from computer science, anthropology, psychology, education, and philosophy. This integration is clearly evident in the intersection of technical concepts (deep learning, neural networks) with human concepts (culture, ethics, education).
- ✓ The results reveal a shift in the global knowledge production map, where Asia emerges as a rising power in scientific research. This shift reflects:
- ✓ Intensive government investment: Asian countries are heavily investing in research and development in artificial intelligence
- ✓ Need for digital transformation: Rapid economic growth requires advanced technical solutions
- ✓ Special cultural challenges: Each region faces unique challenges in integrating technology with local culture
- ✓ The dominance of cross-border collaborative research indicates:
- ✓ Knowledge globalization: Technical and cultural challenges are not limited to one country
- ✓ Expertise integration: Need to combine Western technical expertise with Asian applications
- ✓ Cross-border knowledge networks: Formation of specialized global research communities

The accelerated growth then decline can be interpreted according to research life cycle theory:

- ✓ Emergence stage (2015-2018): Field discovery and research problem identification
- ✓ Growth stage (2018-2021): Development of theoretical frameworks and methodologies
- ✓ Maturity stage (2021-2024): Knowledge accumulation and application diversification
- ✓ Transition stage (2025): Redirection toward more specialized topics
- ✓ Based on the analysis, the following can be expected:
- ✓ Increasing specialization: Transition from general topics to specific applications
- ✓ Ethical focus: Increased attention to ethical and social dimensions
- ✓ Sectoral applications: Development of customized solutions for specific sectors (education, health, arts)

Visualization maps reveal a complex conceptual structure centered around:

Core Concepts:

- ✓ Artificial intelligence as a central concept
- ✓ Machine learning and deep learning as fundamental techniques
- ✓ Digital culture as an application context

Bridging Concepts: Digital transformation as a transitional process **,**E-learning as an application field**,**Digital innovation as a result**.**

- ✓ **Emerging Concepts:** Generative artificial intelligence، Large language models , Ethics and social responsibility
- ✓ Concept development can be traced over time:
- ✓ 2015-2018: Focus on technical fundamentals
- ✓ 2018-2021: Integration of cultural and social concepts
- ✓ 2021-2024: Emergence of ethics and sustainability issues
- ✓ 2025+: Expected focus on specialized applications

Among methodological gaps: Few long-term longitudinal studies ,Lack of field experimental research ,Over-reliance on theoretical research.

Thematic gaps:

- ✓ Limited research in specialized educational applications
- ✓ Lack of study of local cultural impacts
- ✓ Limited research in psychological and social dimensions
- ✓ Geographical gaps: Research concentration in specific countries,Poor representation from developing countries,Lack of study of diverse cultural contexts.

Conclusion

The in-depth analysis reveals a dynamic research field evolving rapidly, with complex overlap between technical, cultural, and social dimensions. The results confirm the necessity of adopting multidisciplinary research methodologies and developing new theoretical frameworks that accommodate this complexity.

The need for a delicate balance between benefiting from technology capabilities and preserving cultural and human values is evident. This requires close cooperation between researchers, practitioners, and policymakers at the global level, where the features become clear:

1. Steady growth over the last decade, with a peak in 2024, reflecting gradual maturity and increasing interest in the intersection between technology and culture.

2. The dominance of cross-border research collaboration patterns confirms the global nature of challenges and opportunities in this field, with the emergence of Asian power as a formidable force in scientific production.
3. The conceptual structure reveals complex overlap between technical and human fields, with increasing emphasis on ethical dimensions and sustainability.
4. The absolute centrality of artificial intelligence as a central concept from which all digital cultural applications and practices branch out.
5. The trend toward practical applications especially in education, culture, and business fields, reflecting the transition from theory to application.

Recommendations

1. Focus on emerging topics and invest in research opportunities in curriculum and education fields that show need for more research.
2. Benefit from the intersection between technology and humanities to produce more comprehensive knowledge. Research in ethical dimensions and develop theoretical and practical frameworks for responsible use of artificial intelligence in cultural contexts.
3. Conduct longitudinal research to understand sustainable impacts of artificial intelligence on digital culture.

Referrals and references:

- Alkhammash, r. (2023). bibliometric, network, and thematic mapping analyses of metaphor and discourse in covid-19 publications from 2020 to 2022. frontiers in psychology, 13, 1062943 concrete published between 1974 and 2021. sustainability, 14(18), 11646.
- Aria, m., & cuccurullo, c. (2017). bibliometrix: an r-tool for comprehensive science mapping analysis. journal of informetrics, 11(4), 959-975.
- Atenstaedt, r. (2017). word cloud analysis of the bjgp: 5 years on. british journal of general practice, 67(658), 231-232.
- Grant, M. J., &. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. ,. *Health Information & Libraries Journal, 26*(2), 91-108.
- Lutfi, A. M.-O. (2021). Digital financial inclusion sustainability in Jordanian context. Sustainability (Switzerland). *Sustainability (Switzerland*, 13(11):6312. doi: https://doi.org/10.3390/su13116312
- Idrissi Mokhtar.Abrou Djebli, Souar Youcef. «The importance of integrating fuzzy logic analysis and artificial intelligence in decision-making in economic organizations: ABibliometric Study.» 135 :2024 ,المجلة الدولية للاداء الاقتصادي.

- Moro, S. G. (2019). A text mining and topic modelling perspective of ethnic marketing research. *Journal of Business Research*, 275-285.
- Mustak, M. J. (2021). Artificial intelligence in marketing: Topic modeling, scientometric analysis, and research agenda. *Journal of Business Research*, 389-404.
- Vanhala, M. L. (2020). The usage of large data sets in online consumer behaviour: A bibliometric and computational text-mining–driven analysis of previous research. *journa of businnes rusearch*, 46-59.
- Xu, Y. S. (2021). An evolutionary perspective on the dynamics of service plat form ecosystems for the sharing economy. *Journal of Business Research*, 135: 127–136.
- Castells, M. (2015). *The Rise of the Network Society.*
- Ionescu, Ș., Delcea, C., Chiriță, N., & Nica, I. (2024). Exploring the Use of Artificial Intelligence in Agent-Based Modeling Applications: A Bibliometric Study. *Algorithms, 17*(1), 21.
- jenkins, H. (2016). (2016). Participatory Culture in a Networked Era: A Conversation on Youth, Learning, Commerce, and Politics. *Polity Press.*
- Russell, S. J., &. (2020). *Artificial Intelligence: A Modern Approach* (Vol. (4th ed.)). Pearson.
- Sinkovics, N. (2016). Enhancing the foundations for theorising through bibliometric mapping. *international marketing review*, 33 (3): 327–350.
- Van Eck, N. J., &. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics,, 84*(2), 523-538.