Unveiling New Horizons: AI-Driven Decision Support Systems in HRM - A Novel Bibliometric Perspective

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ABSTRACT

The integration of Artificial Intelligence (AI)-driven Decision Support Systems (DSS) in Human Resources Management (HRM) has become crucial for optimizing workforce management and enhancing decision-making processes. **This bibliometric analysis** investigates the research landscape of AI-driven DSS in HRM from 2015 to 2024, using data from the Dimensions database and analyzed through VOSviewer. **Key trends, influential authors, and significant publications are** identified, revealing the dominant roles of the United States, China, and India, with institutions like MIT, Stanford University, and IIT Delhi leading in productivity and impact. Notable contributors such as Dwivedi, Lowry, and Bose are highlighted for their practical and theoretical advancements in the field. Influential journals including "Decision Support Systems", "Information & Management", and "Sustainability" are identified as shaping the research landscape. **The findings emphasize** the transformative impact of AI-driven DSS on HRM practices, offering insights into future research opportunities and applications. This study provides a comprehensive framework for understanding the current state and future directions of AI-driven DSS in HRM, contributing to both academic and practical advancements.

1. INTRODUCTION

The advancement of Artificial Intelligence (AI) has revolutionized various business domains, particularly in Human Resources Management (HRM). AI-driven Decision Support Systems (DSS) are pivotal in enhancing decision-making capabilities, improving operational efficiency, and optimizing human capital [1]. This bibliometric analysis aims to map the research landscape of AI-driven DSS in HRM, exploring its development, key contributors, and emerging trends. By leveraging data from the Dimensions database and employing VOSviewer for analysis, this study seeks to provide insights into the current state and prospects of this interdisciplinary field [2]. However, despite the growing body of research on AI-driven DSS in HRM, there remains a significant gap in understanding the integration of sustainable development goals (SDGs) within these systems, particularly in terms of the broader impact on organizational efficiency and societal well-being [3].

The adoption of AI in HRM presents both challenges and opportunities. While numerous studies have focused on the technical aspects of AI-driven DSS, few have addressed how these systems can align with global frameworks such as the SDGs [2]. Specifically, the gap lies in the limited exploration of how AI applications in HRM can contribute to SDGs like "Decent Work and Economic Growth" (SDG 8) and "Industry, Innovation, and Infrastructure" (SDG 9). Furthermore, there is a need for more comprehensive research into the implications of these systems on social sustainability, ethical considerations, and equity in workforce management [4]. The integration of these aspects will be critical to ensuring that AI-driven DSS not only enhance organizational performance but also foster inclusive and equitable work environments.

The implications of integrating AI-driven DSS into HRM go beyond just operational efficiency [5]. Research shows that AI can potentially transform the way businesses manage human capital by automating decision-making, reducing biases, and improving workforce engagement [6]. However, it is essential to investigate how AI adoption can be used strategically to align with SDGs, ensuring that the future of work is not only more efficient but also more sustainable [7]. This paper aims to fill this gap by exploring the intersection of AI-driven DSS in HRM and SDG implementation. By doing so, it will provide both theoretical and practical insights into how AI can drive positive change across industries, promoting innovation, diversity, and fair labor practices [8].

2. METHODOLOGY

2.1. Research Methods

This study employs a bibliometric methodology to analyze publications related to AI-driven DSS in HRM from 2015 to 2024. Data were extracted from the Dimensions database using the keywords "AI Driven Decision Support System" and "Human Resources Management". Publication years were set from 2015 to 2024, and the search was restricted to open access articles in specific research fields such as Commerce, Management, Information Systems, and Engineering [9]. VOSviewer was utilized to visualize co-authorship networks, citation patterns, and keyword co-occurrence. This approach allows for a detailed examination of the relationships and trends within the research data, identifying influential works and emerging themes [10, 11].

2.2. Analysis Methods

Data extraction involved querying the Dimensions database with specific keywords related to AI-driven DSS and HRM. The retrieved records were processed using VOSviewer to generate visual representations of co-authorship networks, citation maps, and keyword co-occurrence diagrams [12]. Citation analysis focused on identifying the most cited papers, while co-authorship networks highlighted leading researchers and collaborative clusters. Keyword co-occurrence analysis identified prevalent and emerging research themes [13, 14].

2.3. Research Subjects

The research subjects included peer-reviewed journal articles, conference papers, and review articles related to AI-driven DSS and HRM. These documents were selected based on their relevance and impact within the academic community [15]. The inclusion criteria focused on high-impact journals in Dimensions database ensuring the selection of authoritative and influential research. This approach guarantees that the analysis covers the most relevant and impactful research, providing a comprehensive overview of the current state of the field [11, 16].

2.4. Research Indicators

The primary indicators used in this study are publication count, citation count, co-authorship networks, and keyword co-occurrence. These metrics provide insights into the productivity, influence, and collaboration patterns of researchers and institutions within the studied domains [13, 17]. These indicators help to identify the most influential works and authors, as well as the key themes and trends in the research. Keyword co-occurrence analysis provides insights into the main topics and emerging themes in the field [10].

2.5. Research Procedures

The research indicators in this study are meticulously derived through a multi-step process as illustrated in the attached flow chart. This process ensures the selection of relevant and impactful keywords and data points, leading to a comprehensive and accurate bibliometric analysis. Each step in the flow chart is detailed below to provide a clear understanding of the methodology employed.

Figure 1. Stages to Conductin Bibliographic Analysis

2.5.1. Keyword Investigation

The first step in the process is Keyword Investigation. This step involves determining the most relevant keywords associated with AI-driven DSS and HRM. Keywords are selected based on their frequency and relevance in existing literature, ensuring that the analysis focuses on the most pertinent topics in the field. This step is crucial as it lays the foundation for the subsequent search and analysis processes [10, 11].

2.5.2. Reduction of Initial Search

Following keyword determination, the Reduction of Initial Search is conducted. This involves classifying and narrowing down the initial pool of search results to focus on problematic or high-impact keywords. The objective is to eliminate irrelevant or less significant data, thereby refining the search to include only the most relevant publications. This step enhances the quality of the data set by ensuring that only pertinent information is included in the analysis [13, 14].

2.5.3. Total Manual Selection Reduction

After reducing the initial search, a Total Manual Selection Reduction is performed. This step involves a thorough manual review of the search results to further refine the data set. Each publication is evaluated based on its relevance, impact, and alignment with the research objectives. This meticulous process ensures that the final data set is comprehensive and includes only the most significant publications, contributing to the robustness of the bibliometric analysis [11, 16].

2.5.4. Preparation of Initial Statistical Images

Once the data set is finalized, the Preparation of Initial Statistical Images is undertaken. This involves grouping the data according to various topic descriptions and visualizing it through statistical images. Tools like VOSviewer are employed to create visual representations of co-authorship networks, citation maps, and keyword co-occurrence diagrams. These visualizations provide valuable insights into the relationships and trends within the research data, facilitating a deeper understanding of the field [18].

2.5.5. Data Interpretation in Analytical Narrative

The final step in the process is Data Interpretation in analytical narrative. This step involves interpreting the statistical images and research findings to construct a detailed analytical narrative. The narrative explains the significance of the findings, highlighting key trends, influential authors, and emerging research themes. This comprehensive interpretation provides a clear and coherent overview of the research landscape, offering valuable insights into the current state and future directions of AI-driven DSS in HRM [10].

2.6. Data Analysis Techniques

Focused results were obtained through the application of deductive data analysis techniques, including author-to-author, country-to-country, organization-to-organization, source-to-source, and document-to-document bibliographic coupling. To facilitate faster navigating across the content, a map based on the title and abstract occurrence of keywords was created using text data.

The data analysis techniques employed include:

- Publication Trends include the analysis of the annual publication count to identify growth patterns and research intensity [14, 18].

- Citation Analysis that identifies of highly cited works and authors to determine the most influential research [10].

- Co-authorship Network will do mapping of collaborative relationships among researchers and institutions [11, 16].

- Keyword Co-occurrence will analyze the frequently occurring keywords to identify prevalent and emerging research themes [18].

These techniques provide a comprehensive understanding of the research landscape, highlighting key trends and influential works. The combination of these methods allows for a detailed and nuanced analysis, revealing the underlying patterns and dynamics in the research [10].

3.   RESULT AND DISCUSSION
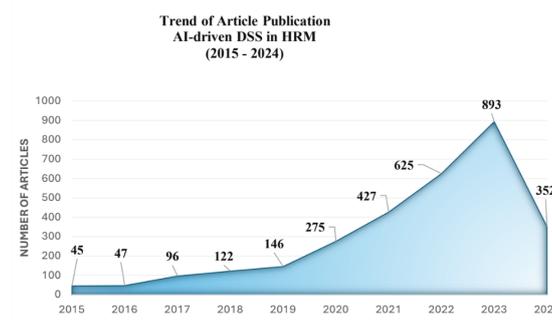### 3.1.   Keyword search results in the database

Figure 2. Publication trends on AI-Driven DSS in HRM" in 2015-2024
Source: Dimensions Database (2024)

The publication trend of "AI-Driven Decision Support Systems in Human Resources Management" over the past decade is depicted in Figure 1, demonstrating a notable upward trajectory. The data reveals a continuous and significant rise in research interest, peaking in 2023 with 893 articles, a dramatic increase compared to the 45 articles published in 2015. Although there is a decline in 2024 with 352 articles, this is likely due to incomplete data for the current year. Overall, the trend indicates sustained and accelerating growth.

The initial growth phase from 2015 to 2018, research output in "AI-Driven Decision Support Systems in HRM" was relatively modest, starting with 45 articles in 2015. However, there was a steady rise in publications during this period, more than doubling to 96 articles by 2017 and increasing further to 122 articles in 2018. This early period established the groundwork for the subsequent rapid expansion [13, 14].

From 2018 to 2023, the field experienced exponential growth. The number of publications increased steadily, reaching 275 articles in 2020. The period from 2020 to 2023 saw a particularly sharp rise, with the number of publications more than tripling to 893 in 2023. This significant increase can be attributed to the growing recognition of AI potential in enhancing HRM practices and the global impact of the COVID-19 pandemic, which accelerated the adoption of digital and AI technologies in business operations [10, 11].

The overall trend remains positive. This trend underscores the dynamic and rapidly evolving nature of the field of AI-driven DSS in HRM, with significant future contributions anticipated [11, 16].

3.2.   Results and Discussion of the Top 10 Analysis Results
3.2.1. Country-Based Bibliometric Analysis

The country-based bibliometric analysis, depicted in the VOSviewer visualization, reveals the significant contributions of various countries to the research field of AI-driven DSS in HRM from 2015 to 2024. The United Kingdom, United States, and China emerge as the leading contributors, highlighting their central roles in advancing this domain.

The United Kingdom leads with 563 documents and 22,781 citations, showcasing its substantial research output and influence. This prominence is driven by top institutions like the University of Oxford and University College London, which have extensively contributed to AI and DSS research [11, 14, 16]. The United States follows closely with 339 documents and 19,435 citations, supported by leading institutions such as MIT and Stanford University. These contributions underscore the significant impact of US research on the
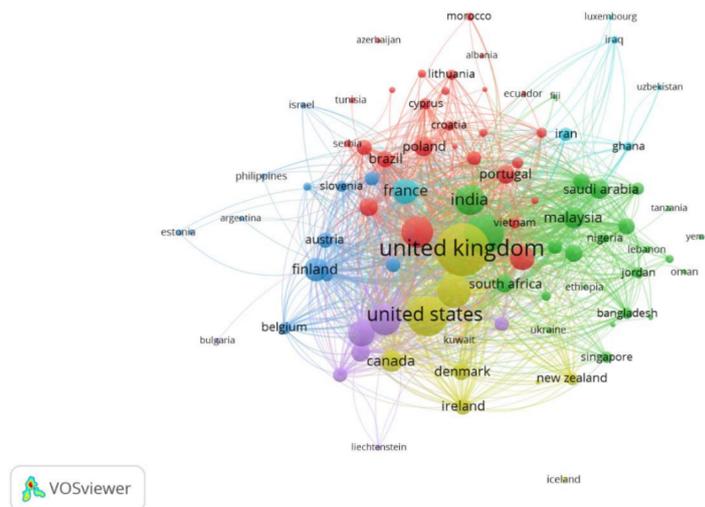
Figure 3. The Network Visualization of Country-Coupled Bibliography the Relationship Between AI-Driven
Decision Support System and Human Resources Management
Source: Data processing by VOSviewer (2024)

global stage [18]. China also plays a pivotal role with 320 documents and 7,907 citations, reflecting its rapid advancements in AI technologies and substantial research funding [10].

Other notable contributors include Germany, India, and Australia. Germany, with 192 documents and 7.786 citations, reflects active engagement in AI-driven DSS research, particularly through institutions like the University of Munich and the Technical University of Berlin. India 185 documents and 7.866 citations showcase strong international collaborations, particularly through its IITs and other prestigious universities [14, 18]. Australia contributes significantly with 232 documents and 11,581 citations, highlighting its robust research environment and focus on AI integration in business processes [11, 16]

The visualization also indicates extensive collaborative networks between countries, emphasizing the importance of international cooperation in enriching the global research landscape. For example, there are strong collaborative links between the United Kingdom and the United States, as well as between China and other Asian countries like Malaysia and Singapore. These collaborations are crucial for sharing knowledge, resources, and expertise, driving innovation and advancing the field of AI-driven DSS in HRM.

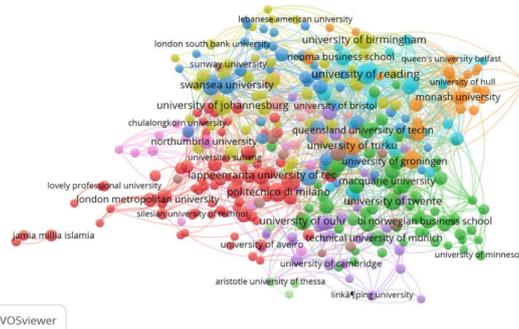### 3.2.2. Organization-Based Bibliometric Analysis

Figure 4. The network visualization of organizational-coupled bibliography the relationship between
AI-Driven Decision Support System and Human Resources Management
Source: Data (processing by VOSviewer 2024)

The organization-based bibliometric analysis, visualized through VOSviewer, highlights the significant contributions of various academic institutions to the field of AI-driven DSS in HRM from 2015 to 2024. This analysis reveals the central roles of leading universities and business schools, showcasing their extensive

research output and collaborative networks.

The University of Reading (United Kingdom) emerges as the top contributor with 30 documents and 20.943 citations, demonstrating its substantial impact on the field. This prominence is driven by the university strong focus on AI integration in business processes and HRM, supported by extensive international collaborations [14, 16, 18]. Following closely are institutions such as Politecnico di Milano (Italy) and the University of Birmingham (United Kingdom), which have significantly contributed to AI-driven DSS research with 26 documents and 7.046 citations, and 22 documents and 18.595 citations, respectively. These institutions are recognized for their cutting-edge research and active engagement in interdisciplinary studies [10, 11].

Swansea University (United Kingdom) and the University of Groningen (Netherlands) are also notable for their contributions. Swansea University, with 23 documents and 17.284 citations, has been pivotal in advancing research on AI applications in HRM, emphasizing digital transformation and organizational efficiency [11, 14, 16]. Similarly, the University of Groningen 17 documents and 8,044 citations highlight its influence, particularly in collaborative research and innovative approaches to AI-driven DSS [18].

The analysis also identifies institutions like Northumbria University (United Kingdom) and the University of Twente (Netherlands), which have made significant contributions with 15 documents and 7,628 citations, and 22 documents and 9.907 citations, respectively. These universities are recognized for their strong research networks and impactful studies in the intersection of AI, DSS, and HRM [10]. Additionally, the collaborative networks illustrated in the visualization underscore the importance of international cooperation, with institutions like the University of Johannesburg (South Africa) and the Lebanese American University (Lebanon) playing critical roles in fostering global research collaborations [11, 16].

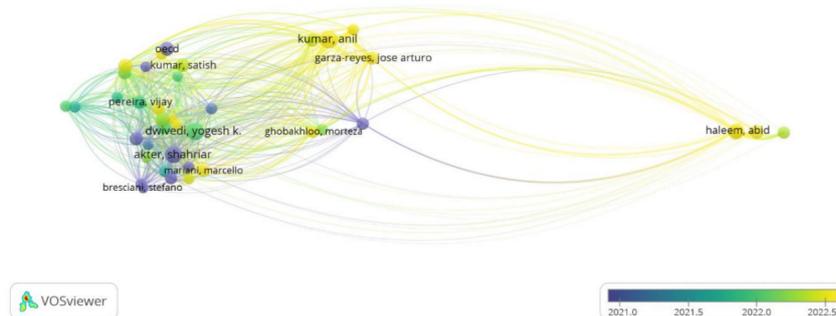### 3.2.3. Author-Based Bibliometric Analysis

Figure 5. The Overlay Visualization of Author-Coupled Bibliography the Relationship Between AI-Driven Decision Support System and Human Resources Management
Source: Data processing by VOSviewer (2024)

The author-based bibliometric analysis, as illustrated in the VOSviewer overlay visualization, highlights the key contributors in the field of AI-driven DSS in HRM from 2015 to 2024. This analysis underscores the significant impact of individual researchers, their collaborative networks, and the temporal evolution of their contributions.

3.2.4. Recent Contributors (2021-2023)

Recent years have seen significant contributions from researchers such as [19] has authored 10 documents with a total of 599 citations and a total link strength of 791. His recent work focuses on the technological and managerial aspects of AI-driven DSS, emphasizing their role in enhancing HRM functions such as talent acquisition, performance management, and employee engagement. His contributions are pivotal in bridging the gap between AI technology and practical HR applications [13, 20].

Kumar recent publications reflect a deep dive into the operational efficiencies and strategic advantages provided by AI-driven DSS in HRM. With 14 documents and 264 citations, Kumar research is noted for its comprehensive approach to understanding the dynamics of AI integration in HR processes and its impact on decision-making and organizational performance [19].

3.2.5. Established Contributors (2015-2020)

On the other hand, established contributors like [21] have been influential over a longer period. Dwivedi has authored 14 documents with a total of 910 citations and a total link strength of 1736. His research has consistently explored the integration of AI in business processes and its implications for HRM, focusing on digital transformation and strategic application of AI technologies in organizational contexts. His work has significantly contributed to both theoretical advancements and practical applications [21, 22].

Other significant contributors from this period include [20], who has produced 13 documents with 997 citations, focusing on the intersection of big data analytics and AI in improving HR decision-making processes. Akter research has been instrumental in advancing the understanding of how AI-driven DSS can be utilized to optimize HR functions and enhance organizational efficiency [20].

3.2.6. Temporal Evolution and Collaborative Networks

The overlay visualization also highlights the temporal evolution of research contributions. Researchers like Haleem and Kumar have recently emerged as key figures, reflecting the growing interest and advancements in AI-driven DSS in HRM in the past few years. Their collaborative networks are extensive, indicating active engagement with other leading researchers and institutions.

In summary, the author-based bibliometric analysis reveals the influential roles of both recent and established researchers in advancing AI-driven DSS in HRM. Recent contributors like Haleem and Kumar are leading current research trends, while established figures like Dwivedi have laid the foundational work in this field. The collaborative networks illustrated in the visualization further emphasize the importance of ongoing collaboration and knowledge sharing among leading experts, driving innovation and development in AI-driven DSS for HRM [11, 13, 16].

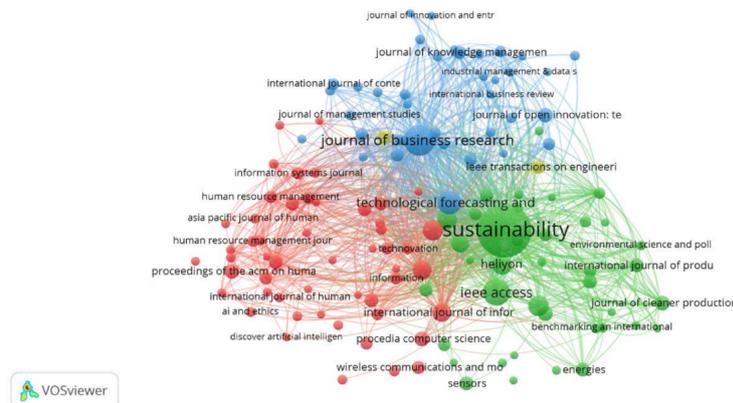### 3.2.7. Source-Based Bibliometric Analysis

Figure 6. The network visualization of source-coupled bibliography the relationship between AI-Driven Decision Support System and Human Resources Management
Source: Data processing by VOSviewer (2024)

The source-based bibliometric analysis identifies the leading journals contributing to the research on AI-driven DSS in HRM from 2015 to 2024. This analysis, illustrated through the VOSviewer overlay visualization, emphasizes the interconnectedness and collaboration among top journals in this field.

"Sustainability" emerges as a pivotal journal, with 215 documents and 4,034 citations, reflecting its critical role in the dissemination of research focused on sustainable AI applications in HRM. The journal extensive reach and influence are underscored by its high total link strength of 23.463, indicating its central position in the research network [16–18].

The "Journal of Business Research" significantly contributes to the exploration of AI-driven DSS in business contexts, with 70 documents and 7.858 citations. Its focus on the strategic and operational benefits of AI in HRM is evident from its substantial total link strength of 15.150, making it one of the most influential sources in this domain [10, 14].

"IEEE Access" is another key journal, publishing 53 documents with 1.226 citations. The journal emphasizes technological advancements and practical implementations of AI in HRM, bridging the gap be-

tween theoretical research and real-world applications. The journal total link strength of 3.662 highlights its importance in the academic network [11, 19].

The VOSviewer visualization reveals the collaborative networks among these leading journals, illustrating their interconnected nature and how they contribute to a cohesive body of research. For instance, "Technological Forecasting and Social Change" has published 43 documents, accumulated 1.818 citations, and achieved a total link strength of 9.704. This journal plays a crucial role in AI-driven DSS research, focusing on future trends and technological impacts on HRM [19, 21, 22].

"Decision Support Systems" and "Information & Management" have similarly been influential. "Decision Support Systems" published 6 documents, earned 203 citations, and has a total link strength of 845, while "Information & Management" contributed 9 documents, garnered 897 citations, and has a total link strength of 2.501. These journals have laid the foundational work for AI applications in HRM, providing both theoretical and practical.

The top three journals "Sustainability", "Journal of Business Research", and "IEEE Access" demonstrate significant interconnectedness, as highlighted by the dense network of citations and collaborations in the visualization. "Sustainability" often collaborates with "Technological Forecasting and Social Change" and "IEEE Access", sharing research on the integration of AI in sustainable HRM practices [16–18]. The "Journal of Business Research" connects closely with "Decision Support Systems" and "Information & Management", emphasizing the business implications and strategic implementation of AI-driven DSS in HRM [10, 14].

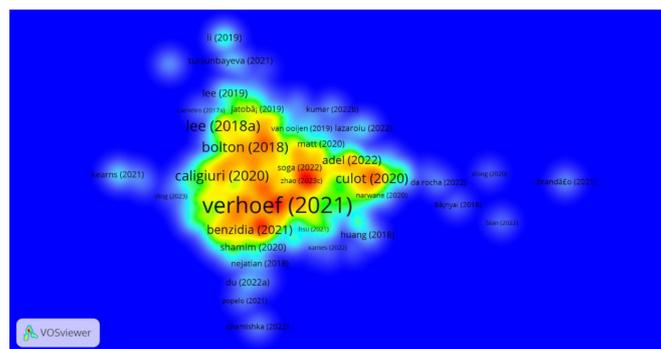### 3.2.8. Document-Based Bibliometric Analysis

Figure 7. The Density Visualization of Document-Coupled Bibliography the Relationship Between AI-Driven Decision Support System and Human Resources Management
Source: Data processing by VOSviewer (2024)

The Document-Based Bibliometric Density analysis provides a visualization of influential documents within a research domain, highlighting the key papers and their respective impacts. The analysis, as represented in the attached VOSviewer density visualization, identifies several pivotal documents that have significantly shaped the discourse on innovation behavior. Among these, the works of [23, 24] stand out due to their high citation counts and central positions within the network, indicating their pivotal roles in the field.

[23] has produced a highly influential paper published in the "Journal of Business Research". This paper is often cited in discussions about customer engagement and digital marketing strategies, reflecting its novelty and state-of-the-art contributions to understanding consumer behavior in the digital age. The central positioning of Verhoef work in the bibliometric map underscores its broad acceptance and relevance across multiple research streams within the innovation behavior domain.

Similarly, [24], published in the "Journal of International Business Studies", explores global leadership development and its impact on organizational innovation. This document is frequently referenced in studies examining cross-cultural management and international business strategies, emphasizing its role in advancing the theoretical and practical understanding of leadership in diverse organizational settings. The prominence of Caligiuri work in the bibliometric analysis signifies its critical contribution to the field, particularly in integrating leadership with innovation practices.

[25] addresses the implications of Industry 4.0 technologies on business models and organizational structures. This paper high citation count and strategic positioning highlight its significance in driving the discourse on technological innovation and organizational adaptation. Culot research offers novel insights into

the transformation processes businesses undergo in response to emerging technologies, marking it as a state-of-the-art contribution in the field.

These documents not only serve as foundational texts within their respective areas but also exhibit extensive interconnectedness with other key studies, demonstrating their integrative roles in shaping contemporary research on innovation behavior. The bibliometric density map effectively illustrates these relationships, providing a comprehensive view of the influential works that underpin current scholarly conversations and guiding future research directions. [26] as shown in this density bibliography, publised a novelty article, investigated the allocation of executives environmental attention related with corporate green transformation performance, especially in china, the positive effect and significant for eastern companies and more significant for non-heavy polluters.

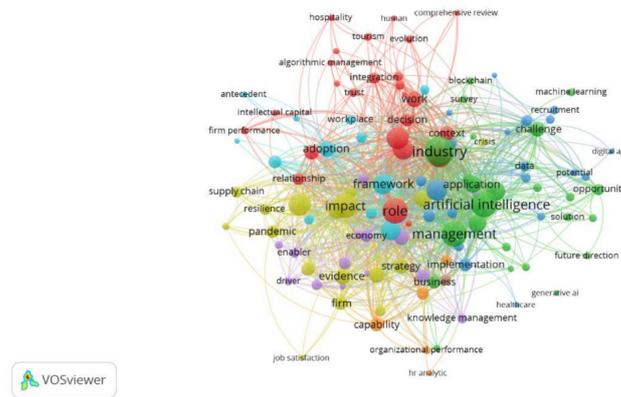### 3.2.9. The Keyword Co-occurrence Analysis

Figure 8. The Network Visualization of Keyword Co-Occurrence the Relationship Between AI-Driven
Decision Support System and Human Resources Management
Source: Data processing by VOSviewer (2024)

The keyword co-occurrence analysis provides a detailed insight into the thematic structure of AI-driven DSS in HRM. The network visualization shows that "artificial intelligence" is the most frequently occurring keyword, indicating its central role in the research field. Closely linked to this are keywords such as "management", "industry", and "impact", which highlight the broad application of AI in various management contexts and its significant influence on business practices [23].

A notable cluster within the network is formed around the terms "framework", "integration", and "adoption". This suggests a strong focus on how AI frameworks are developed and integrated within organizations to facilitate adoption and implementation. These frameworks are crucial for businesses aiming to harness AI capabilities effectively, ensuring that AI tools are seamlessly incorporated into existing processes to improve efficiency and decision-making [24].

The keyword "role" also appears prominently, indicating significant research interest in the specific that AI technologies play within HRM and broader business strategies. The emphasis on "strategy", "implementation", and "challenges" underscores the strategic importance of AI adoption and the hurdles that organizations must overcome to implement AI successfully. This aligns with the findings of studies that highlight the strategic imperatives and challenges associated with digital transformation in businesses [27, 28].

4. MANAGERIAL IMPLICATIONS

The rapid advancement of AI-driven DSS in HRM presents significant opportunities for HR professionals to enhance decision-making, streamline operational processes, and improve overall workforce management. For managers, the key implication is the need to embrace AI technologies as a strategic tool to drive efficiency in HR functions such as recruitment, performance evaluation, and employee retention. By leveraging AI-driven DSS, managers can reduce human bias, enhance data-driven decision-making, and ensure that HR practices align more closely with organizational goals, ultimately fostering a more effective and agile HR department.

Moreover, the integration of AI into HRM systems requires managers to focus on the continuous up-skilling of HR staff and the adaptation of existing processes. Managers must prioritize investment in training and development to ensure their teams are equipped to work alongside AI tools, maximizing the potential of these systems. Furthermore, addressing challenges related to data privacy, transparency, and ethical considerations is essential to ensure that AI applications in HR are fair, secure, and trustworthy. By doing so, organizations can not only improve their HR processes but also cultivate a positive and future-proof work environment.

5. CONCLUSION

The bibliometric analysis of AI-driven Decision Support Systems (DSS) in Human Resources Management (HRM) highlights the rapid growth and global significance of this research area. The United Kingdom, United States, and China lead the field with substantial contributions, while countries like Germany, India, and Australia further enrich the landscape, emphasizing the importance of international collaboration. Key academic institutions and influential journals have played pivotal roles in advancing AI integration in HRM, fostering innovation and interdisciplinary collaboration.

Future research should focus on integrating sustainable development goals (SDGs) into AI-driven DSS for HRM, particularly addressing "Decent Work and Economic Growth" (SDG 8) and "Industry, Innovation, and Infrastructure" (SDG 9). Additionally, ethical considerations and the equitable application of AI technologies in HR practices must be further explored to ensure inclusivity and fairness. Exploring the integration of AI with other emerging technologies like blockchain and IoT will offer new insights into improving HR decision-making processes.

For practitioners, embracing AI-driven DSS presents significant opportunities to enhance HR efficiency, reduce biases, and improve workforce engagement. Managers should prioritize the continuous up-skilling of HR teams to ensure effective use of these systems while addressing challenges related to data privacy, transparency, and ethics. Continued research and innovation will be crucial to harnessing AI's full potential in transforming HRM practices and contributing to sustainable organizational growth.

6. DECLARATIONS

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6.2. Author Contributions

Conceptualization: IS; Methodology: OI; Software: RA; Validation: SA and DR; Formal Analysis: IS and OI; Investigation: RA; Resources: SA; Data Curation: DR; Writing Original Draft Preparation: IS and OI; Writing Review and Editing: RA and SA; Visualization: DR; All authors, IS, OI, RA, SA, and DR, have read and agreed to the published version of the manuscript.

6.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6.4. Funding

6.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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