International journal of applied management and economics
Vol : 02 , N° 22 , October 2026
ISSN : 2509-0720

THE IMPACT OF DIGITAL TRANSFORMATION AND ARTIFICIAL INTELLIGENCE ON ORGANIZATIONAL PERFORMANCE: A SIX-YEAR SYSTEMATIC REVIEW OF HR LITERATURE.

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Conflict of interest: The author reports no conflict of interest.

To quote this article: FARAH .A & OUTAL .T (2026) « THE IMPACT OF DIGITAL TRANSFORMATION AND ARTIFICIAL INTELLIGENCE ON ORGANIZATIONAL PERFORMANCE: A SIX-YEAR SYSTEMATIC REVIEW OF HR LITERATURE», IJAME : Volume 02, N° 23 | Pp: 159 – 200.

DOI : 10.5281/zenodo.24605032
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Abstract

The growing integration of Digital Transformation (DT) and Artificial Intelligence (AI) is reshaping Human Resources (HR) practices and modern organizational structures. This study presents a systematic literature review examining the impact of DT and AI on Organizational Performance (OP) over a six-year period (2020–2025). Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, data were extracted from the Scopus database. An initial pool of 155 records was sequentially filtered by subject area, document type, and language to 70 eligible articles, and then refined through qualitative full-text screening to a final corpus of 63 peer-reviewed research articles. The corpus was analyzed using a hybrid methodology combining textometric analysis via IRAMUTEQ and bibliometric network mapping via VOSviewer.

The findings indicate that data science and AI positively influence multidimensional OP. Rather than being marginalized by automation, the HR function emerges as a socio-technical architect and strategic catalyst, aligning algorithmic capabilities with human capital. Theoretically, this review identifies persistent gaps and highlights the need to examine moderating variables such as organizational culture, resistance to change, and ethical leadership. Managerially, it suggests that sustaining competitive advantage depends on structural agility and responsible algorithmic governance. Finally, this study calls for future research to test these global theoretical models within the institutional and socioeconomic realities of emerging economies—particularly the Moroccan context—to better understand how local dynamics shape technology adoption and organizational efficiency.

Keywords: Digitalization; Digital transformation; Artificial Intelligence; Human resource management; Organizational performance; Systematic literature review.

Introduction

The rapid democratization of disruptive technologies, spearheaded by Digital Transformation (DT) and Artificial Intelligence (AI), is profoundly redefining the strategic architecture and operational agility of modern organizations. This paradigm shift goes beyond simple task automation to catalyze the emergence of the "augmented organization," a hybrid structure where human capabilities are amplified by intelligent systems (Votto et al., 2021; Budhwar et al., 2023). At the heart of this transformative dynamic, the Human Resources (HR) function positions itself as an indispensable strategic lever, acting as the vehicle capable of converting these technological innovations into sustainable Organizational Performance (OP) (Di Romualdo et al., 2022). However, despite growing enthusiasm for these tools, the empirical evidence of this overall effectiveness remains a subject of academic debate. Although AI offers unprecedented opportunities for optimizing predictive recruitment and talent management, its deployment raises substantial challenges related to structural agility, change management, and ethical governance (Verhoef et al., 2021; Tambe et al., 2024). The key challenge, therefore, lies in the ability of organizations to orchestrate a true socio-technical symbiosis between human capital and algorithms—a prerequisite for navigating and maintaining a competitive advantage in a highly disruptive environment (Appelbaum et al., 2023). Given the effervescence and dispersion of scientific output on this socio-technical interface, a critical and exhaustive synthesis is needed to identify macro-trends and structural consensus. This article therefore offers a systematic review of the literature covering the past six years (2020–2025), a pivotal period characterized by the exponential acceleration of hybrid work models and algorithmic decision-making. The main objective is to map and model the mechanisms through which digital transformation and AI, mediated by HR practices, influence the multidimensional performance of organizations. To this end, this study is structured around four key themes. The first section establishes the theoretical foundation linking DT, AI, and OP. The second section details the methodological framework employed for this systematic review. The third section is devoted to presenting and discussing the bibliometric and thematic findings. Finally, the last section will highlight the main conclusions, the inherent limitations of our approach, and promising avenues for future research. Before detailing the methodological framework of this study, it is important to ground our analysis in rigorous conceptual foundations. Thus, the following section aims to delineate the theoretical contours of digital transformation and

artificial intelligence, while examining how contemporary academic literature links these technological drivers to organizational performance through the lens of the HR function.

1. Literature Review: Conceptual Foundations and Theoretical Linkages

Recent academic literature (2020–2025) agrees that the convergence of Digital Transformation (DT) and Artificial Intelligence (AI) is not merely a technical evolution, but an organizational paradigm shift. This section examines the definitions and interconnections between these concepts and Organizational Performance (OP).

1.1. Digital Transformation and AI: Toward the Augmented Organization

"Digital Transformation (DT) is defined as a holistic process aimed at transforming organizations through combinations of information, computing, communication, and connectivity technologies" (Vial, 2019; Verhoef et al., 2021). "Artificial Intelligence (AI), for its part, acts as the cognitive engine of this transformation. In the HR sphere, it manifests itself through systems capable of learning, predicting, and supporting decision-making" (Budhwar et al., 2023). The integration of AI gives rise to the augmented organization, where human capabilities are amplified by big data processing algorithms. According to Votto et al. (2021), this synergy enables a shift from reactive to proactive and predictive management of human capital.

1.2. Reconfiguring HR Practices Through the Lens of AI

The literature identifies three main levers through which AI transforms HR practices (Tambe et al., 2024; Nankervis et al., 2021):

- Recruitment and Selection: the use of matching algorithms and sentiment analysis to reduce bias and optimize person-organization fit.
- Skills Development: Implementation of adaptive learning platforms that personalize training pathways in real time.
- Performance Management: Transition to continuous feedback systems and HR analytics that help identify risks of disengagement or burnout.

1.3. The Link to Organizational Performance (OP)

"Organizational Performance (OP) is no longer viewed solely from a financial perspective, but as a multidimensional construct encompassing operational efficiency, innovation, and agility" (Wamba-Taguimdje et al., 2020).

- Resource-Based Theory: From this perspective, AI technologies and digital HR practices are considered rare strategic resources that are difficult to imitate, creating a competitive advantage (Barney et al., 2021).
- Dynamic Capabilities: An organization's ability to integrate, build, and reconfigure its internal capabilities to respond to changing environments is facilitated by DT. Organizational agility thus becomes the key mediator between technology adoption and sustainable performance (Appelbaum et al., 2023).
- In summary, recent research highlights that the impact of AI on organizational performance depends on responsible governance. Without algorithmic ethics and increased transparency, performance gains may be offset by a loss of trust among employees (Stahl et al., 2023).

2. Methodological Approach for Analyzing the Relationship Between DT and AI on OP

This section details the methodological framework deployed to ensure the transparency, reproducibility, and scientific validity of this systematic review. In accordance with the highest academic standards, our approach is based on the PRISMA protocol guidelines (Page et al., 2021). The central objective of this investigation is to identify and decipher the mechanisms through which Digital Transformation (DT) and Artificial Intelligence (AI) drive and influence Organizational Performance (OP), placing the HR function at the heart of this dynamic.

2.1. Research Strategy and Semantic Framework

To build our corpus, we relied primarily on the Scopus database (owned by Elsevier). This choice was a natural one: recognized for its rigor and comprehensiveness, Scopus is the definitive reference for indexing peer-reviewed journals in management and social sciences. The search query was carefully structured around three interconnected semantic pillars:

- The technological lever: "Digitization," "Digital Transformation," "Artificial Intelligence."
- The strategic mediator: "Human Resources."
- The expected outcome: "Organizational Performance."

This search strategy identified an initial corpus of 70 articles. To streamline this collection, a specific search chain was configured (detailed in **Table 1**), and the selection process was modeled as a flowchart (***Fig. 1***), based on the methodological recommendations of Obregon et al. (2021).

2.2. Eligibility Criteria and Rigorous Screening

To ensure the quality and relevance of the sample, we applied a series of strict filters. Books, book chapters, and other unpeer-reviewed formats were systematically excluded in favor of research articles exclusively.

• Time period (2020–2025): This recent focus is justified by the exponential acceleration of disruptive technologies (particularly generative AI) and the rapid transformation of post-pandemic work practices (Dwivedi et al., 2023).

• Disciplinary fields: The search was restricted to relevant fields: Business, Social Sciences, and Economics.

• Language exclusivity: Only articles in English were included in order to encompass the broadest and most influential spectrum of international research (Xiao & Watson, 2019).

2.3. Analytical framework and modeling

The analysis of the corpus is based on a dual analytical approach that is both hybrid and complementary:

- Bibliometric Analysis (Quantitative): This approach maps the structure of the research field by identifying major publication trends, leading authors, and networks of keyword co-occurrences (Donthu et al., 2021).
- Thematic Synthesis (Qualitative): Based on data extraction and coding, it is structured around a triadic conceptual model of "Antecedents-Mediators-Outcomes":

- Antecedent: Analysis of DT as a technological trigger.

- Mediating Variable: The assessment of how HR practices act as a transmission belt, particularly through agility and upskilling.

- Outcome: The measurement of organizational performance in its multiple facets (Effectiveness, Innovation, Sustainability).

2.4. Reliability and Reduction of Bias

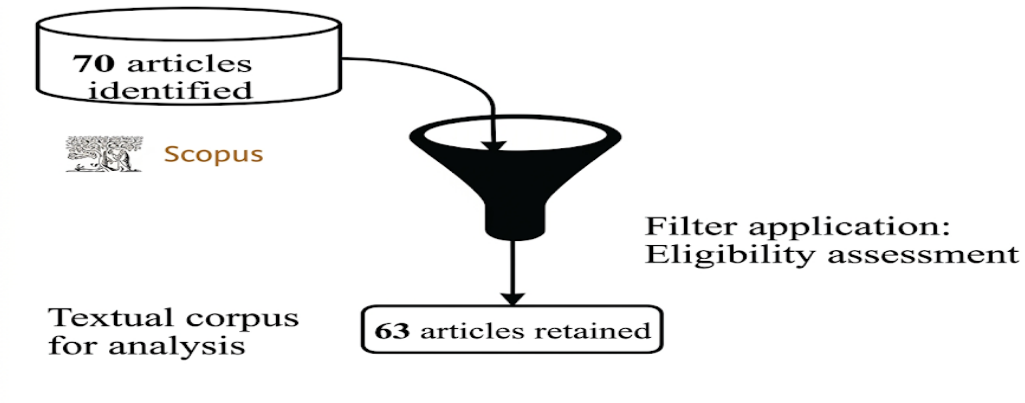
To mitigate selection bias and ensure maximum robustness, a double-blind review protocol was implemented for each document (evaluation of the title and abstract, followed by an analysis of the full text). Studies that approached AI from an exclusively technical perspective (omitting the human dimension) or did not explicitly measure the impact on organizational performance were definitively excluded from the final sample.

Table 1. Detailed search queries in the Scopus database

Search string	Number of articles	Database
TITLE-ABS-KEY ((("digitalization" OR "digital transformation" OR "artificial intelligence") AND ("human resources") AND ("organizational performance"))) AND PUBYEAR < 2026 AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "ECON")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English"))	70	Scopus

Source: The authors based their findings on research results from scientific databases (Scopus)

Fig. 1. Corpus selection process



Data extraction was conducted exclusively in the Scopus database for the 2020–2025 period using the search queries detailed in **Table 1**, yielding an initial pool of 155 records. A sequential filtering protocol was then applied to refine the sample. First, restricting the results to three target subject areas—*Business, Management and Accounting*, *Economics, Econometrics and Finance*, and *Social Sciences*—excluded 49 records, leaving 106 documents. Second, limiting the document type to research articles excluded 35 records, resulting in 71 documents. Third, applying an English-language filter excluded 1 record, retaining 70 articles for eligibility assessment. Finally, a qualitative full-text screening led to the exclusion of 7 additional studies—4 published in discontinued (de-indexed) journals and 3 deemed outside the scope of the study—yielding a final corpus of 63 articles.

3. Results of the analysis of the relationship between DT, AI, and OP

The investigation of the triangulation between DT, AI, and OP requires, prior to the textual analysis, a bibliometric contextualization of our corpus. Following the foundational recommendations of Tranfield et al. (2003) for structuring our protocol, we adopted the analytical framework of Obregon et al. (2021).

This approach allows us to objectively analyze the literature using proven indicators: Lotka's law for the analysis of lexical occurrences and Bradford's law for the assessment of scientific productivity (authors and journals).

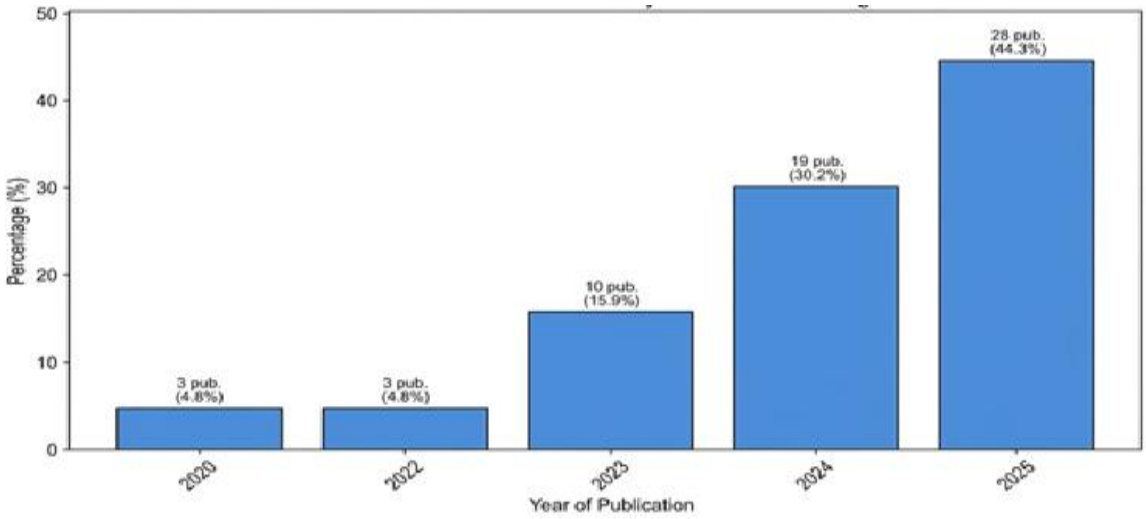
Thus, our corpus will be analyzed through four complementary lenses: the chronological evolution of publications, the distribution of articles across scientific journals, the occurrence

of dominant terms, and finally, the mapping of co-citations linking researchers in this field of study.

3.1. Year of publication of the articles

The distribution of the sample, consisting of 63 articles representing the text corpus, by year of publication, obtained from the Scopus scientific databases.

Fig. 2. Distribution of articles by publication year (number and percentage)



An analysis of the temporal distribution of publications, illustrated in (***Fig. 2***), highlights the scientific community's recent and growing interest in the intersection of digital transformation, artificial intelligence, and HR practices. Over the observation period from 2020 to 2025, the final corpus of 63 articles reveals an asymmetrical growth curve, characteristic of a rapidly and exponentially emerging research field. A detailed examination of this chronological dynamic reveals three major phases:

- An exploratory emergence phase (2020–2022): The early years of our study window are characterized by modest scholarly output, totaling 6 publications (3 in 2020 and 3 in 2022; the selection did not include any articles for 2021 based on our criteria). This period corresponds to the early stages of academic awareness, during which the literature remains largely in its infancy regarding the interconnections between AI, HR functions, and organizational performance.

- The tipping point and acceleration (2023): A clear shift in the trend is observed in 2023, with 10 articles published. This surge coincides with the sudden widespread adoption of generative AI technologies in the public and professional spheres. From then on, researchers move beyond a purely technological approach to examine more concretely the impact of these new tools on organizational agility and human performance.

Expansion and Consolidation of the Research Field (2024–2025): Most of the scientific output in the corpus is concentrated in the most recent years. A marked increase is observed, with 19 publications in 2024 followed by a peak of 28 publications in 2025. This concentration, accounting for 74.6% of the total corpus over this two-year period (47 of 63 articles), indicates growing scholarly interest in the impact of digitalization and AI on organizations and reflects a rapidly evolving research stream. In essence, this temporal distribution fully validates the relevance and timeliness of our systematic review. The literature, although very recent, has rapidly become extensive, necessitating an updated synthesis to structure this rapidly expanding field of investigation.

3.2. Distribution of Articles by Scientific Journal and Author Origin

The analysis of the distribution of articles by journal of publication was conducted using Excel spreadsheets and identified the distribution of the 63 articles in the sample along with their Scimago Journal Rank (SJR), H-index, and quartile. The SJR, the primary indicator chosen for the analysis, determines the average number of citations an article in each journal receives from other articles, with each citation weighted by the reputation of the citing journal.

Table 2. Distribution of articles by scientific journal

JOURNAL	Number of articles	H-INDEX	CiteScore 2024	Scimago Journal Rank (SJR) 2024	Quartile 2024
Administrative Sciences	1	42	5.5	0.706	Q2
Arab Gulf Journal of Scientific Research	1	16	2.6	0.343	Q2
Asia-Pacific Social Science Review	1	12	1.6	0.232	Q1
Behavioral Sciences	1	52	3.1	0.718	Q1
Beta	1	11	0,3	0,17	Q4

Cogent Business and Management	3	56	4.1	0.596	Q2
East European Journal of Psycholinguistics	1	6	1.2	0.242	Q2
ECONOMICS - Innovative and Economics Research Journal	2	14	4.1	0.438	Q2
Emerald Emerging Markets Case Studies	1	9	1.2	0.160	Q3
Employee Relations	1	73	5.4	1.007	Q1
Engineering Management in Production and Services	1	22	4.2	0.414	Q2
Environment and Social Psychology	1	7	4.9	0.254	Q3
European Sport Management Quarterly	1	57	11.2	1.407	Q1
Evidence-based HRM	1	22	4.2	0.443	Q2
Foresight	1	44	3.1	0.625	Q1
Foresight and STI Governance	1	27	4.8	0.352	Q2
Global Knowledge, Memory and Communication	1	42	3.8	0.543	Q2
Human Resource Management Review	1	132	24.3	3.934	Q1
Human Systems Management	2	34	3.6	0.391	Q3
Humanities and Social Sciences Communications	1	64	4.2	0.810	Q1
IEEE Transactions on Engineering Management	1	117	10.3	1.134	Q1
Information and Management	1	204	19.8	2.920	Q1
International Journal of Hospitality Management	1	186	18.2	2.731	Q1
International Journal of Human Capital in Urban Management	1	8	0.6	0.180	Q3
International Journal of Organizational Analysis	2	47	4.9	0.869	Q2
International Journal of Productivity and Performance Management	2	83	10.3	0.954	Q1
International Journal of System Assurance Engineering and Management	2	45	4.3	0.377	Q2
Journal of Business Research	1	292	21.4	3.499	Q1
Journal of Chinese Human Resources Management	2	18	3.2	0.417	Q3
Journal of Governance and Regulation	1	12	3.8	0.195	Q4
Journal of Innovation and Knowledge	3	70	31.2	3.341	Q1
Journal of Intellectual Capital	1	118	15.8	1.526	Q1

Journal of Manufacturing Technology Management	1	100	12,5	1.532	Q1
Journal of Work-Applied Management	1	21	3.5	0.760	Q1
Lex Localis	1	20	2.4	0.184	Q3
Malaysian Journal of Consumer and Family Economics	1	11	1.5	0.172	Q3
Management and Accounting Review	1	8	2.2	0.162	Q4
Management and Production Engineering Review	1	27	3.5	0.264	Q3
Management Science	1	303	12.5	5.720	Q1
Personnel Review	1	96	8.2	1.366	Q1
Polish Journal of Management Studies	1	36	4.1	0.310	Q3
Problems and Perspectives in Management	3	34	3.8	0.291	Q2
Revista Digital de Biblioteconomia e Ciencia da Informacao	1	5	1.5	0.166	Q3
SA Journal of Human Resource Management	1	20	2.5	0.370	Q2
Sustainability (Switzerland)	4	207	7.2	0.688	Q1
Technology Analysis and Strategic Management	1	92	11.8	0.794	Q2
TechTrends	1	63	6.5	1.091	Q1
Transformations in Business and Economics	1	30	3.5	0.262	Q2

Source: The authors, SCJR, and the journal's impact factor

An analysis of the editorial scope of our corpus highlights the diversity and academic quality of the publications focusing on the triad of DT, AI, and OP. An examination of the 63 articles in our database, cross-referenced with the scientometric metrics in **Table 2** (SJR 2024), reveals two major findings that shape this field of study. A high degree of revealing dispersion (Bradford's Law). Our corpus is distributed across 49 distinct scientific journals, attesting to the highly cross-cutting and interdisciplinary nature of the research subject. In accordance with the principles of Bradford's Law on the dispersion of scientific literature, we observe a classic structure of publications:

• A productive central core: A small group of 10 journals accounts for nearly 40% of publications (25 articles). At the top of this "core" of Bradford's law stands the journal Sustainability (Switzerland) with 4 articles, closely followed by Problems and Perspectives in

Management, Journal of Innovation and Knowledge, and Cogent Business and Management (3 articles each). Six other journals complete this core with 2 publications.

• A wide peripheral area: The vast majority of journals (39 sources, or nearly 80% of the identified journals) published only a single article from our final corpus. This dispersion illustrates that the impact of AI on HR is no longer confined solely to journals specializing in human resources, but now permeates journals on innovation, information systems, organizational psychology, and strategic management.

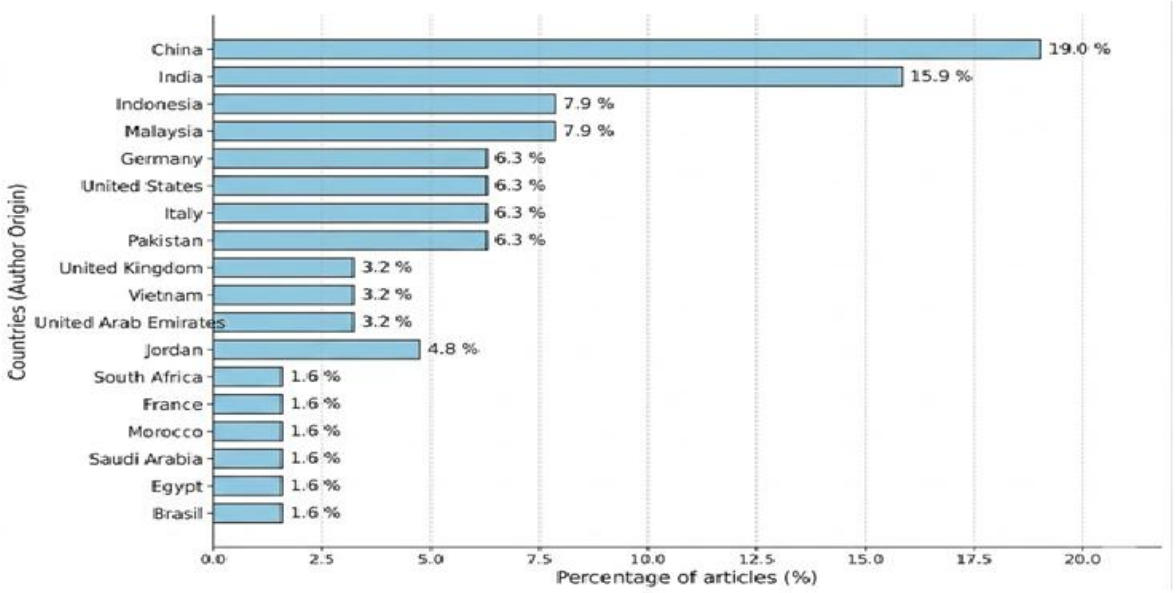
Overall, this lexical network indicates that current academic discourse centers on the joint optimization of digital capabilities and human talent, which is widely regarded as a key condition for sustainable organizational performance.

- 26 articles (representing over 41% of the corpus) are published in Q1-ranked journals, attesting to the scientific excellence and major impact of this research (such as the Journal of Innovation and Knowledge or Management Science).

- 22 articles (approximately 35% of the corpus) come from Q2-ranked journals.
- The remainder is distributed marginally among Q3 (12 articles) and Q4 (3 articles) journals.

In total, more than 76% of our articles (48 out of 63) fall within the top half of international academic output (Q1 and Q2). This high concentration of high-quality research not only ensures the empirical reliability of the selected studies but also provides a particularly solid foundation for the thematic analysis in this systematic literature review.

Fig. 3. Distribution of articles by country



The analysis of the authors' geographic origin, illustrated in ***Fig. 3***, highlights the fundamentally international nature of research on the integration of Artificial Intelligence (AI) into HR practices. An examination of institutional affiliations reveals that our corpus of 63 articles involves researchers from 40 distinct countries (due to international co-publications involving authors from multiple countries). This wide dispersion confirms that the digitization of the HR function is not a localized concern, but a global strategic challenge. However, mapping these publications highlights a very pronounced asymmetry in scholarly output, structured around three major regional dynamics:

- A marked Asian predominance: Unlike traditional Western management models, the epicenter of this literature is located in Asia. China (19.0%) and India (15.9%) dominate the field, supported by Indonesia (7.9%), Malaysia (7.9%), and Pakistan (6.3%). This overrepresentation reflects a "leapfrogging" dynamic within emerging economies, where the rapid adoption of AI aims to achieve massive productivity gains across vast labor markets.
- A more moderate contribution from the West: Western countries (the United States, Germany, and Italy at 6.3% each; the United Kingdom at 3.2%) show a slower pace of growth. This weighting can be explained by the existence of strict data regulatory frameworks (e.g., GDPR). This institutional context encourages researchers in these

regions to favor a critical approach focused on ethics, social acceptability, and compliance, contrasting with the Asian approach of process optimization.

- The emergence of the MENA region and the Global South: The literature shows growing interest in the Middle East and North Africa (Jordan at 4.8%, United Arab Emirates at 3.2%, Morocco, Saudi Arabia, Egypt) as well as in other Southern economies (Brazil, South Africa). This growing participation reflects these nations' strategic desire to leverage AI's agility to strengthen their international competitiveness.

In summary, this geographical pattern indicates that current theoretical frameworks linking AI, HRM, and performance are deeply shaped by the socio-economic contexts of emerging countries. This observation calls for a nuanced reading of the literature and underscores the value of comparing these models with other organizational realities.

Word cloud

Fig. 4. Word cloud of the text corpus



Source: IRAMUTEQ analysis

3.3. Lexicometric analysis and thematic structuring of the corpus

Processing the text corpus using the IRAMUTEQ software identified a total of 42,243 occurrences spread across 1,038 text segments. The resulting lexical analysis, visualized as a word cloud (***Fig. 4***) and corroborated by the extraction of absolute frequencies, provides a rigorous quantitative mapping of the macro-trends shaping this field of research.

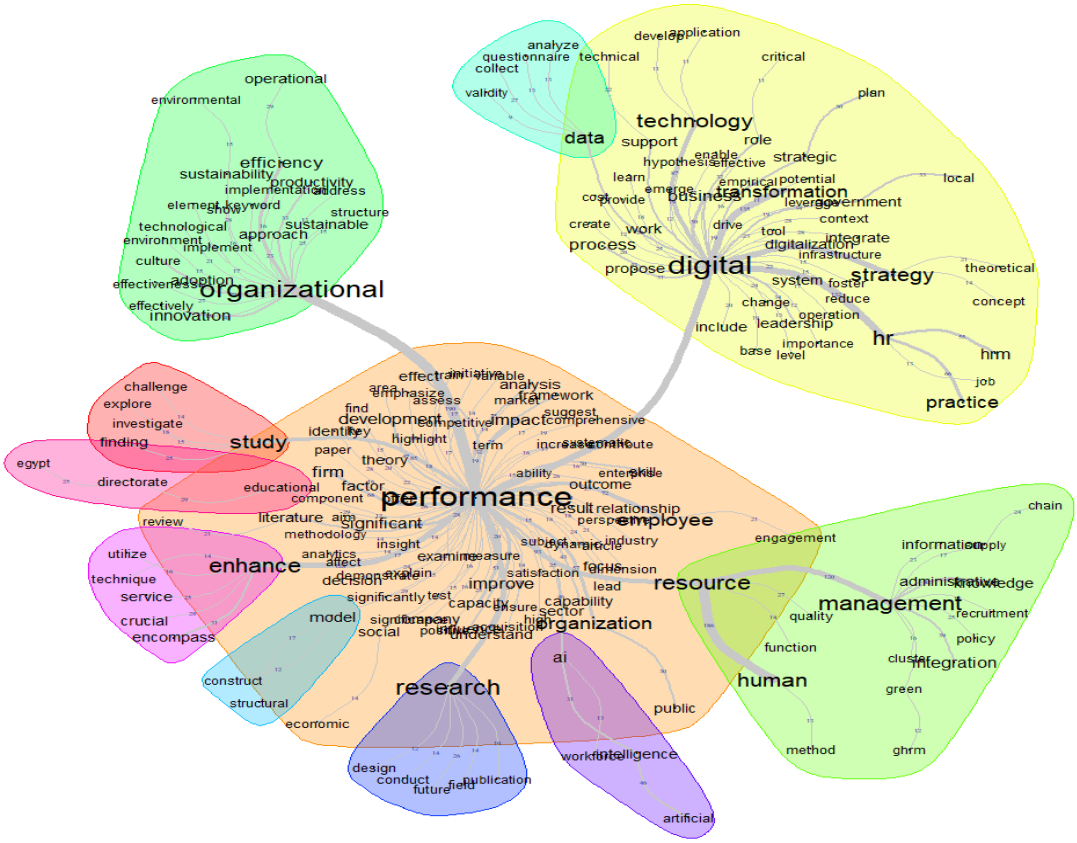
The statistical prominence of central terms such as “digital” (519 occurrences) and “performance” (504 occurrences), which are closely linked to the lexical field of human resources and organization (such as “organizational” (356 occurrences), “management” (management, 308 occurrences), “resource” (resource, 275 occurrences), and “human” (human, 271 occurrences)), empirically validates the triadic conceptual model at the heart of this systematic review. These data reveal a clear dynamic: technological transformation (as the antecedent) relies on the HR function (strategic mediating variable) to drive overall effectiveness (the outcome).

This semantic polarization supports the prevailing theoretical argument that the integration of disruptive technologies goes beyond mere automation to forge a true “augmented organization,” within which the symbiotic orchestration between intelligent systems and human capital emerges as a strategic imperative (Votto et al., 2021; Budhwar et al., 2023).

Furthermore, the significant occurrence of terms oriented toward action, optimization, and temporal projection—such as “strategy” (277 occurrences), “enhance” (264 occurrences), “technology” (230 occurrences), and “process” (150 occurrences), illustrates the urgency of a dynamic reconfiguration of HR practices. This terminology underscores that contemporary literature no longer confines performance to its strictly financial dimension. On the contrary, it views it as a multidimensional construct, fundamentally dependent on organizational agility and continuous innovation (Wamba-Taguimdje et al., 2020; Appelbaum et al., 2023). Overall, this lexical network indicates that current academic discourse centers on the joint optimization of digital capabilities and human talent, which is widely regarded as a key condition for sustainable organizational performance.

Word similarity analysis

Fig. 5. Word similarity analysis of the text corpus



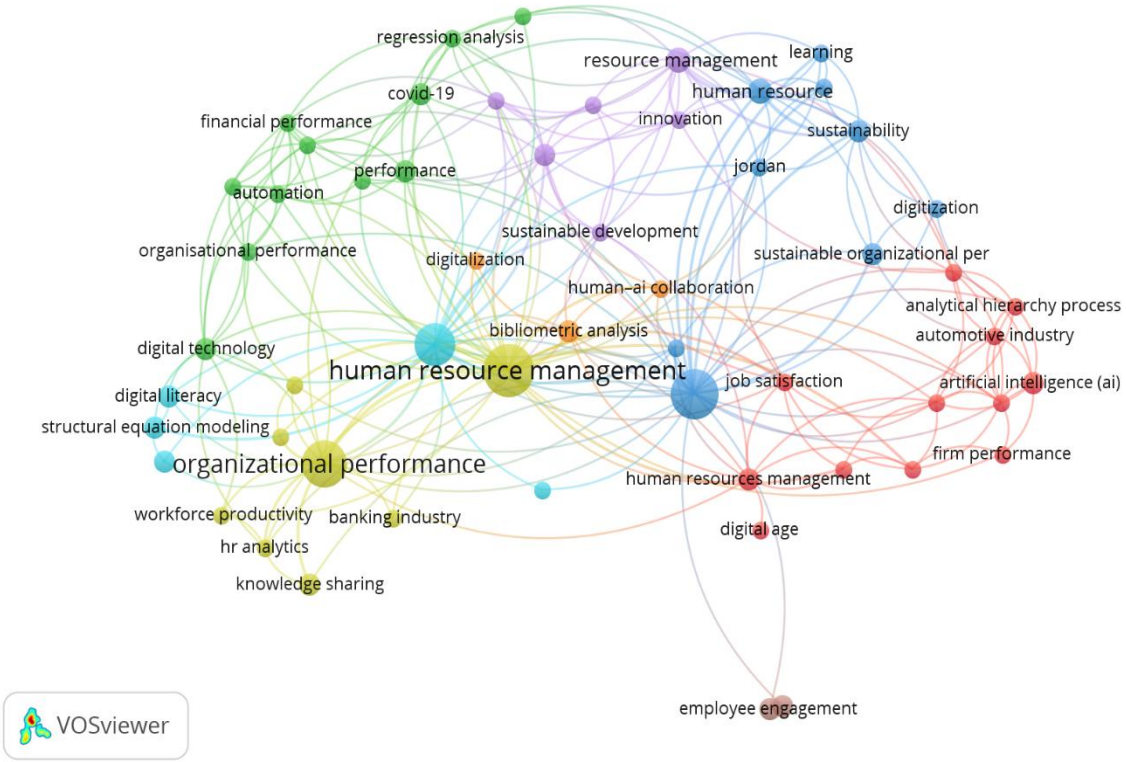
Source: IRAMUTEQ calculation

Current literature: Research fundamentally revolves around redefining HR practices as levers for optimizing overall performance and employee well-being in the context of transformation. A detailed examination of the 8 clusters identified by the algorithm allows us to map research dynamics and emerging paradigms. The network particularly highlights a research axis strongly oriented toward technological transformation. The red cluster, for example, illustrates the integration of disruptive technologies with nodes such as “artificial intelligence (AI)” and “digital age,” which are closely linked to “firm performance.” In synergy, other clusters (yellow and light blue) connect these innovations to operational practices, underscoring the importance of HR analytics and human-AI collaboration. At the same time, the emergence of clusters dedicated to sustainability (“sustainable development,” “green human resource management”)

demonstrates that the literature is moving toward a model of organizational performance that simultaneously integrates digital innovation and social responsibility.

In summary, the network map reveals the empirical and contextual grounding of the studies included in our systematic review. The peripheral branches of the network link the central themes to recent macro-environmental shocks (e.g., “COVID-19”) and to adaptation strategies such as automation. Methodologically, the network confirms the quantitative rigor of this disciplinary field. The prominent presence of concepts such as structural equation modeling and regression analysis indicates a clear desire among researchers to empirically validate, through robust statistical models, the complex causal links between the digitalization of HR practices and organizational performance.

Fig. 6. Occurrence of keywords in abstracts

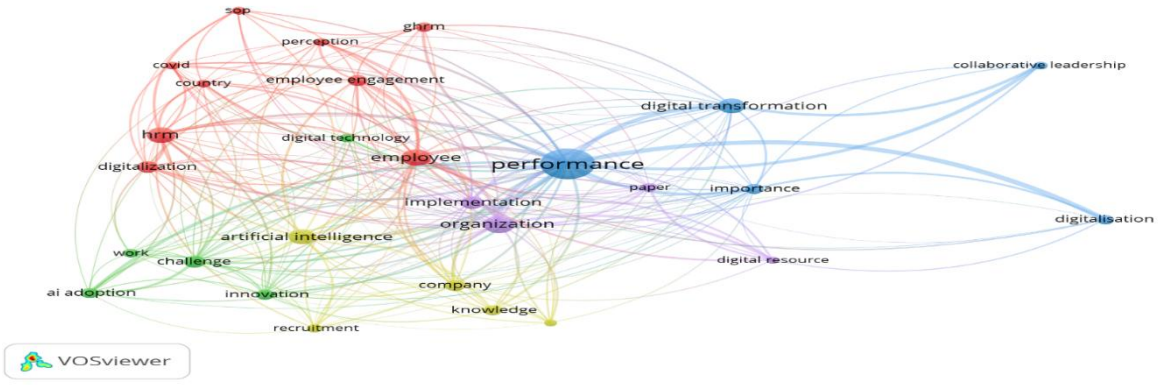


Source: VOSviewer calculation

Frequency of word occurrence in abstracts.

Fig. 7. displays the network map generated by the textual analysis of the abstracts in our study corpus. Unlike the keyword analysis, this modeling highlights the terms most frequently used by researchers to describe the core of their work, thereby offering a granular perspective on the rhetorical orientation of the literature. The VOSviewer algorithm reveals a network characterized by very high density: it consists of 28 items interconnected by 251 links, accumulating a particularly high total link strength of 4,626. Given the limited number of items, this volume of connections demonstrates that the concepts used in the abstracts are systematically studied in an interdependent manner, forming a highly cohesive theoretical corpus structured around 5 clusters distinct. At the heart of this semantic architecture, two major nodes dominate the network due to their size and degree of centrality: “performance” (blue cluster) and “employee” (red cluster). Their strategic positioning indicates that the literature converges on a fundamental duality: the relationship between organizational objectives and human capital. The remarkable thickness of the arcs connecting “performance” to “digital transformation” and “collaborative leadership” underscores that contemporary research conceptualizes overall effectiveness no longer as a static state, but as the direct result of a technological shift supported by agile managerial practices. A detailed exploration of the five clusters helps to decipher the underlying mechanisms studied by the authors. The large red cluster, centered on the “employee,” closely links human resource management practices (“HRM” and “GHRM”) to crucial behavioral variables such as employee engagement and perception. The presence of contextual nodes such as “covid” confirms the literature’s focus on human resilience in the face of recent crises. Working in synergy, the green, purple, and yellow clusters map out the operational dimension of this transition. The central emergence of “artificial intelligence” within the green cluster, directly linked to “innovation,” “AI adoption,” and inherent “challenges,” illustrates researchers’ major concern regarding the impact of disruptive technologies on “work.” At the same time, the ubiquity of terms related to “organization,” “company,” and “implementation” demonstrates that studies go beyond the theoretical framework to focus on the practical operationalization of digital technology. In short, this textual mapping confirms that current scientific discourse focuses on the systemic integration of artificial intelligence and digital transformation as catalysts for organizational performance that remains, fundamentally, rooted in employee engagement.

Fig. 7. Word frequency in abstracts



Source: VOSviewer analysis

3.4. Author co-citation

Fig. 8. shows the author co-citation network, modeled using VOSviewer, revealing the intellectual framework underpinning the scientific literature in our corpus. Unlike dense textual networks, this map features a very specific linear topology composed of a rigorous selection of 21 items (key authors) connected by only 53 links (total link strength of 88). This streamlined, sequential structure, divided into 4 disciplinary clusters, is highly explanatory: it demonstrates that the study of HR digitalization proceeds through a gradual hybridization between classical theories of human behavior and recent economic models of technological disruption. The network's architecture is structured around three distinct theoretical poles, forming a continuum of thought:

1) Anchored in Organizational Behavior and Leadership (Red and yellow clusters, on the left)

At the far left of the spectrum, the literature draws its foundations from canonical theories of human resource management. The network relies heavily on leading figures such as Allen (seminal reference: Allen & Meyer, 1990), a key figure for his models on organizational commitment, and Avolio (seminal reference: Avolio et al., 1999, 2004), a pioneer of transformational leadership. Their strong presence indicates that the adoption of digital technologies is intrinsically dependent on leaders' ability to inspire and sustain employee

engagement. Within this same cluster, the emergence of Carnevale (e.g., Carnevale & Hatak, 2020) marks a theoretical evolution, linking these classical concepts to the emerging challenges of Artificial Intelligence in HRM.

2) The Structural and Sociological Bridge (Green Cluster, Center)

At the heart of the network, authors such as Adler (e.g., Adler & Kwon, 2002) and Baron (e.g., Baron & Kreps, 1999) serve as intellectual bridges. Their work, centered on social capital, organizational design, and structural agility, enables the translation of individual behaviors (studied on the left side of the network) into indicators of overall organizational performance. They provide the conceptual framework necessary to understand how technology reconfigures social relationships within the organization.

3) Labor economics and technological disruption (Blue cluster, right)

At the far right, the literature moves away from traditional HRM and shifts toward innovation economics. Researchers draw on the seminal work of Autor (e.g., Autor et al., 2003), a world-renowned expert on the impact of automation on employment polarization and task redeployment, as well as on Agrawal (e.g., Agrawal et al., 2018), whose theories on the economics of artificial intelligence model AI not as an HR tool, but as a predictive technology that is revolutionizing decision-making.

Summary of the 53 co-citation links:

The linear structure of this network (from left to right) offers a major epistemological conclusion. To effectively conceptualize the digital transformation of HR practices today, the scientific community demonstrates that it is impossible to remain confined to pure management sciences. The 53 co-citation links compel researchers to build a continuous interdisciplinary bridge: starting from Avolio's (1999) leadership theories to successfully integrate the automation shocks described by Autor (2003) and Agrawal (2018), in order to achieve sustainable organizational performance.

Fig. 8. Authors' co-citation network



Source: VOSviewer analysis

Table 3. The most frequently co-cited authors

Author	Quotes	Total strength of links	Cluster	% Quotes	% of total bond strength
Avolio	25	15	1 (Red)	16,67%	17,05%
Adler	20	12	2 (Green)	13,33%	13,64%
Allen	18	10	1 (Red)	12,00%	11,36%
Agrawal	15	10	3 (Blue)	10,00%	11,36%
Carnevale	12	8	4 (Yellow)	8,00%	9,09%
Ali h.	12	8	2 (Green)	8,00%	9,09%
Baron	10	6	2 (Green)	6,67%	6,82%
Anandhi s.	8	5	1 (Red)	5,33%	5,68%
Autor	6	4	3 (Blue)	4,00%	4,55%
Other authors (12 items)	24	10	Miscellaneous	16,00%	11,36%
TOTAL (21 Items)	150	88	4 Clusters	100%	100%

Source: The authors based their analysis on calculations from VOSviewer

Analysis of co-citation metrics and the intellectual structure of the network

The analysis of co-citation metrics helps to highlight the intellectual structure and theoretical foundations of the literature under study. The evaluation is based on two major bibliometric indicators provided by VOSviewer: the number of citations (which measures a researcher's overall influence and authority within the corpus) and Total Link Strength (TLS) (which reflects the degree to which an author is interconnected with other members of the network).

An examination of the network (21 items, 4 clusters, 150 total citations for a TLS of 88) reveals a body of literature structured around a core group of highly interconnected researchers.

A) A marked asymmetry of influence (Pareto Principle): The network exhibits a high degree of intellectual concentration. Although 21 authors are identified, the 9 main authors account for 84% of citations and nearly 89% of the network's total link strength. The 12 other minor items, grouped under the "Miscellaneous" category, account for only 11.36% of the overall TLS. This asymmetry indicates that the theoretical foundation of the field under study, particularly regarding the dynamics of transformation and performance, rests on a small group of essential references.

B) Cluster 1 (Red): The dominant paradigm. This cluster constitutes the theoretical backbone of the network. Avolio occupies a central and dominant position within it: he is both the most cited author (25 citations, or 16.67% of the network) and the one with the highest connectivity (TLS of 15, or 17.05% of the total). His positioning suggests that his work is essential reading for researchers in the field. Along with Allen (who also has strong metrics with a TLS of 10) and Anandhi S., this group likely provides the behavioral or leadership foundations necessary for understanding the subject.

C) Cluster 2 (Green): A major connecting force. The second cluster is led by Adler (20 citations, 13.33% of total influence), who serves as the network's second pillar with a TLS of 12. With contributions from Ali H. (TLS of 8) and Baron, this group exhibits high internal density. The robustness of their linkage indicators suggests that these authors are very frequently associated in the literature to explain specific phenomena, potentially constituting the theoretical bridge between organizational resources (human/social capital) and adaptability.

D) Clusters 3 (Blue) and 4 (Yellow): Specialized yet integrated anchors. Although less dense in absolute volume, these clusters provide essential thematic ramifications:

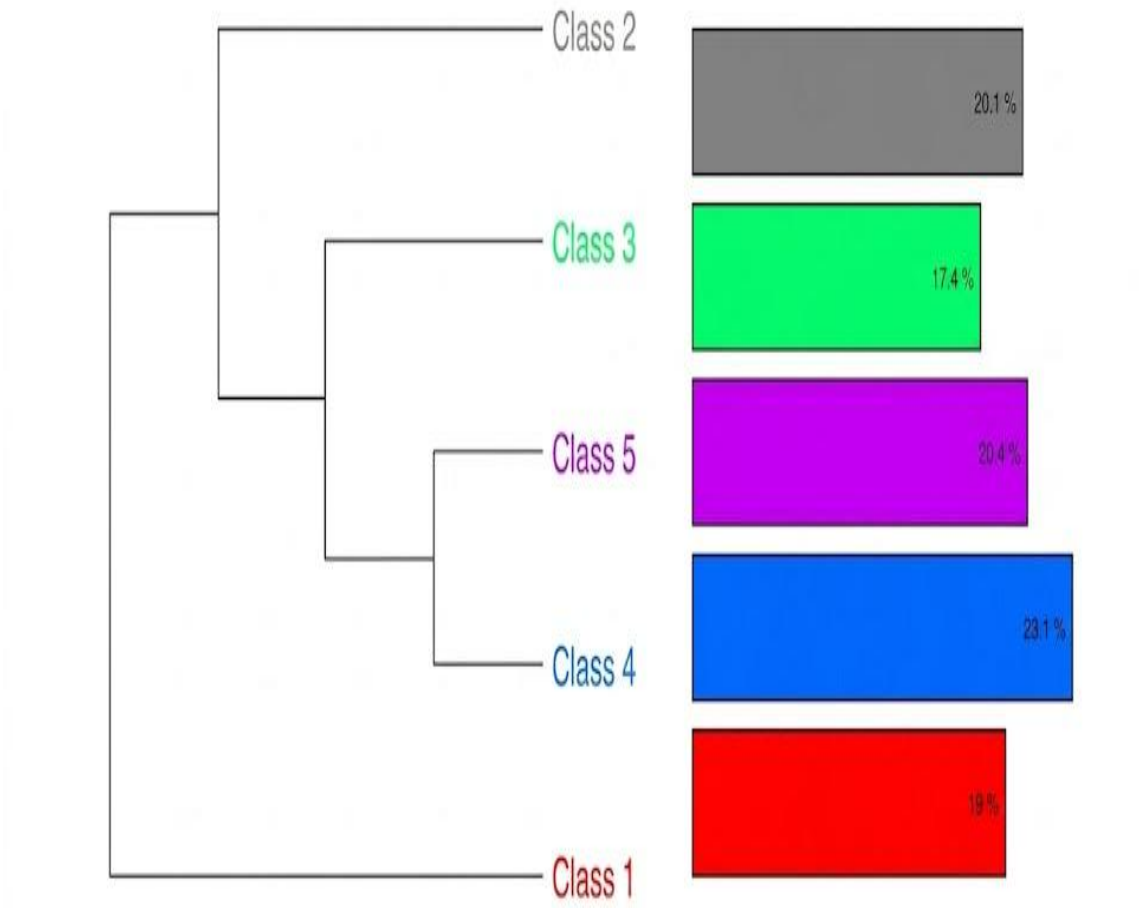
• Cluster 3 is dominated by Agrawal (15 citations, TLS of 10), supported by Autor. The presence of these profiles generally points to approaches related to the impact of technology, digitalization, and automation on work structures. Their work significantly feeds into the other clusters (TLS of 11.36% for Agrawal).

• Cluster 4 revolves exclusively around Carnevale among the major nodes (12 citations). His link strength (TLS of 8) demonstrates that, although he represents a more niche research stream, his concepts remain closely tied to the network's central debates.

Overall, the ratio between the number of citations (150) and the total link strength (88) indicates moderate to strong cohesion within the literature. The field is not fragmented into isolated intellectual silos; on the contrary, the various schools of thought (clusters) engage in active dialogue. Researchers simultaneously draw on the work of Avolio, Adler, and Agrawal to structure their research, demonstrating the multidimensional and interdisciplinary nature of the literature under study.

Word clustering analysis

Fig. 9. Dendrogram of the descending hierarchical classification



Source: IRAMUTEQ calculation

Word Clustering Analysis and Descending Hierarchical Classification (DHC)

Word clustering analysis, implemented using Descending Hierarchical Classification (DHC), was applied to a corpus of 63 texts. Algorithmic processing using the IRAMUTEQ software enabled the extraction of a total of 42,243 occurrences distributed across 1,038 text segments. The corpus's overall lexicon consists of 3,911 distinct forms, of which 2,458 were selected as active forms for statistical analysis. In accordance with the method developed by Reinert (1990), this classification test considers only words with a frequency of occurrence of at least 10 and for which the χ^2 test value is greater than 3.80 ($p < 0.05$). The other terms, which do not meet this dual robustness criterion, are automatically rejected by the algorithm. In this regard,

it is worth noting that the $p < 0.05$ threshold formally establishes the statistical significance of the association between words and their respective categories, thereby ensuring the reliability of the thematic structuring. The validity of this modeling is further confirmed by the volume of data selected: from the initial corpus, 722 text segments were classified, representing a highly significant inclusion rate of 69.56%. The resulting dendrogram (**Fig. 9**) reveals a structuring of the literature into five distinct thematic classes:

- **Class 4 (167 text segments; 23.1% of the corpus): Performance and Competitive Advantage.** This class represents the strategic focus of the corpus. It centers on organizational outcomes through concepts related to *"innovation,"* optimization (*"enhance," "efficiency"*), and market value creation (*"competitiveness," "customer"*).
- **Class 5 (147 text segments; 20.4% of the corpus): AI Integration in HR Practices.** This class highlights operational technological shifts. Its characteristic vocabulary illustrates how *"artificial intelligence"* is used to *"reshape"* talent management, particularly through *"recruitment"* and *"analytics."*
- **Class 2 (145 text segments; 20.1% of the corpus): HR Digital Transformation Strategy.** This class conceptualizes organizational transition. It links *"HR strategy"* to the *"digital"* imperative, emphasizing the *"sociotechnical" "synergy"* required to evolve organizational *"practices."*
- **Class 1 (137 text segments; 19.0% of the corpus): Bibliometric Grounding.** This class is specifically oriented toward literature review methodology. It aggregates the vocabulary of documentary analysis, featuring terms such as *"literature," "research," "SLR,"* and *"bibliometric."*
- **Class 3 (126 text segments, accounting for 17.4% of the corpus): Quantitative research methodology.** This class reflects the predominant empirical approach within this research field. It clusters conventional tools for primary data collection and analysis—such as *"survey," "questionnaire,"* and *"data"*—alongside established statistical modeling techniques, notably *"SEM"* and *"PLS"* (structural equation modeling).

Table 4. Word Class Diagram

Class 1				**Class 2**				**Class 3**				**Class 4**				**Class 5**			
Bibliometric grounding				Digital transformation strategy				Quantitative research methodology quantitative				Performance and competitive advantage				Integrating AI into HR practices			
Text excerpts : 383 (17.41%)				Text excerpts : 669 (30.41%)				Text excerpts : 355 (16.14%)				Text excerpts : 436 (19.82%)				Text excerpts : 357 (16.23%)			
Mots	Fréquence	χ^2	P	Mots	Fréquence	χ^2	P	Mots	Fréquence	χ^2	P	Mots	Fréquence	χ^2	P	Mots	Fréquence	χ^2	P
digital	213	-51.308	<0.0001	organizational	229	-63.723	<0.0001	strategy	160	-40.399	<0.0001	hr	168	-56.101	<0.0001	research	194	-28.263	<0.0001
hr	168	-42.078	<0.0001	enhance	165	-44.456	<0.0001	enhance	165	-21.368	<0.0001	hrm	95	-29.989	<0.0001				
employee	126	-30.016	<0.0001	human	146	-39.93	<0.0001	innovation	75	-17.694	<0.0001	research	194	-22.593	<0.0001				
resource	152	-23.545	<0.0001	management	172	-36.074	<0.0001					digital	213	-15.385	<0.0001				
firm	102	-22.365	<0.0001	resource	152	-28.738	<0.0001												
ai	85	-19.851	<0.0001	ai	85	-24.211	<0.0001												
human	146	-17.502	<0.0001	efficiency	81	-20.195	<0.0001												

strategy	160	-15.739	<0.0001	study	140	-20.176	<0.0001												
				innovation	75	-18.332	<0.0001												
				sustainability	59	-16.146	<0.0001												
				capacity	59	-16.146	<0.0001												

Source: IRAMUTEQ calculation

3.5. Discussion of the results of the analysis of the relationship between DT, AI, and OP

To determine the topics to be addressed, we used the results of the word-class flowchart (Table 4). The objective was to identify the body of literature that addresses digital transformation, artificial intelligence, and organizational performance collectively. The approach adopted ensures a comprehensive overview of existing bibliographic sources in the database used: Scopus.

Thus, the analysis of the results identified the following five main themes, which structure the literature at the intersection of digital transformation, AI, and organizational performance:

Theme 1: The bibliometric foundation of research (derived from Class 1). This theme encompasses studies focused on literature review and the structuring of the field through systematic literature reviews.

Theme 2: The digital transformation strategy of the HR function (from Class 2). This theme highlights the importance of a socio-technical approach, where HR strategy must work in synergy with digital technology to drive changes in corporate practices.

Theme 3: The quantitative methodological and empirical approach (from Class 3). This theme illustrates the predominance of studies that validate their conceptual models using primary data

collection tools (surveys, questionnaires) and robust statistical modeling techniques such as structural equation modeling.

Theme 4: Overall performance and the pursuit of competitive advantage (from Class 4). This theme, which constitutes the strategic core of the corpus, focuses on the objectives of digitalization: innovation, optimization of operational efficiency, and value creation in response to market demands.

Theme 5: The operational integration of artificial intelligence into HR practices (from Class 5). This final theme explores technological disruption in concrete terms, describing how AI is reshaping talent management, particularly through predictive recruitment and HR analytics.

Mapping these five thematic areas demonstrates that the impact of Digital Transformation (DT) and Artificial Intelligence (AI) on Organizational Performance (OP) transcends mere technological determinism. This systematic literature review, conducted on a corpus of sixty-three articles, confirms that the advent of the augmented organization is fundamentally redefining corporate architecture. Far from being sidelined by algorithms, the HR function is establishing itself as the indispensable socio-technical architect capable of orchestrating the symbiosis between machine capabilities and human capital. Nevertheless, while the promises of efficiency and innovation are well documented, the realization of a sustainable competitive advantage remains contingent upon structural agility and responsible algorithmic governance.

4. Contributions and Managerial Implications

4.1. Theoretical Contributions

From a conceptual standpoint, this research brings rigorous structure to a disciplinary field hitherto characterized by intense scholarly activity and semantic fragmentation. Drawing on a hybrid methodological approach that combines textometric analysis and bibliometric network mapping (via IRAMUTEQ and VOSviewer), the study empirically substantiates a triadic conceptual model grounded in the Antecedents–Mediators–Outcomes (AMO) framework. Specifically, it demonstrates that Digital Transformation (DT) and Artificial Intelligence (AI)—operating as antecedents—influence multidimensional organizational performance solely through the strategic mediation of a reinvented HR function.

Furthermore, this systematic review transcends a purely technocentric approach by consolidating the concept of the "augmented organization," a paradigm within which human heuristic and cognitive capabilities are amplified by big data analytics and machine learning (Budhwar et al., 2023; Votto et al., 2021). Finally, the study executes a major epistemological shift: in light of the geographical asymmetry and the hegemony of literature originating from Asian and Western contexts, it highlights the theoretical urgency of confronting these global models with the institutional frameworks of emerging economies. It thus paves the way for a recontextualization of organizational agility theories, calling for an assessment of how local socio-economic specificities—particularly within the Moroccan context—impact the adoption of disruptive technologies.

4.2. Methodological Contributions

From a methodological standpoint, this study adopts a structured hybrid research design intended to mitigate the subjectivity biases commonly associated with traditional narrative literature reviews. By following the PRISMA protocol guidelines (Page et al., 2021) for data extraction and filtering from the Scopus database, the study enhances the transparency and reproducibility of the corpus selection process. A key methodological contribution of this work lies in the triangulation of analytical approaches. Combining a quantitative bibliometric analysis (mapping co-citation and co-occurrence networks via VOSviewer) with a lexicometric and thematic analysis (Descending Hierarchical Classification using IRAMUTEQ) enables a systematic and more objective examination of the literature. This methodological framework maps the intellectual structure of research on AI in human resources while illustrating the intersection between organizational behavior studies and technological change.

4.3. Managerial Implications

On a practical level, this research provides an actionable roadmap for decision-makers and practitioners facing technological disruption. First, it establishes the necessary transformation of the HR function, which must permanently break free from its administrative legacy to emerge as a true socio-technical architect (Tambe et al., 2024). The mission of leaders is no longer limited to the mere acquisition of digital tools; rather, it lies in orchestrating a symbiosis between algorithmic efficiency and human capital, a *sine qua non* condition for generating the structural agility needed to respond to environmental volatility (Appelbaum et al., 2023).

Second, the study warns that the sustainability of this competitive advantage is strictly contingent upon the establishment of ethical and responsible algorithmic governance (Stahl et al., 2023). Without increased transparency in automated decision-making and proactive change management, the risk of alienation, psychological resistance, or a loss of employee trust could annihilate the anticipated performance gains.

Third, by transposing these macroscopic findings to local realities, the study reminds leaders—particularly within Moroccan public institutions and socio-economic structures—that value creation through AI inherently depends on its adaptation to the cultural dynamics on the ground (Jebbari, 2024). The success of digitalization thus requires adaptive leadership capable of realigning internal competencies with the imperatives of both public and private performance.

5. Limitations and Perspectives

5.1. Limitations of the Research

Despite the rigor of the methodological protocol employed (PRISMA), this research has certain limitations inherent to its design that should be highlighted.

- First, although the Scopus database guarantees high scientific standards, the decision to rely exclusively on it potentially excludes relevant contributions from other indexing databases (such as Web of Science or Cairn).
- Second, the application of a language filter limiting the sample to English-language publications only, coupled with the exclusion of "gray literature" (institutional reports, non-peer-reviewed works), introduces a deliberate but real selection bias.
- Finally, while the time frame examined (2020–2025) is justified by the recent acceleration of generative AI technologies (Dwivedi et al., 2023), it freezes the analysis at a single point in time "T" for a phenomenon undergoing exponential change, thereby limiting the longitudinal scope of the findings.

5.2. Future Perspectives and Research Directions

From both theoretical and practical perspectives, this study highlights areas of uncertainty that offer fertile ground for future research.

- Exploration of moderating variables: It is necessary to enrich the scientific literature by studying in greater detail the concepts that moderate or influence the relationship between DT, AI, and OP (such as organizational culture, ethical leadership, or psychological resistance to change).
- Methodological diversification: Since our analysis revealed a strong predominance of quantitative approaches (using structural equation modeling), future qualitative research (multiple case studies, action research) would be particularly useful for providing an in-depth understanding of the sociological mechanisms underlying employees' adoption of AI.
- Geographical and cultural contextualization: Bibliometric analysis has highlighted the dominance of literature originating from Asian (China, India) and Western economies. It is now crucial to test these theoretical models against other organizational realities, particularly within the emerging economies of the Global South. Furthermore, studying HR digitalization in specific institutional contexts (such as the Moroccan context) would help us understand how local dynamics influence the adoption of AI and digital transformation.

CONCLUSION

This systematic literature review, conducted in accordance with the PRISMA protocol, elucidates the mechanisms through which Digital Transformation (DT) and Artificial Intelligence (AI) are redefining organizational performance (OP). An in-depth analysis of our corpus of 63 peer-reviewed articles—76% of which are published in top-quartile (Q1 and Q2) journals—underscores the scholarly vitality and maturity of this research field. Notably, this momentum is remarkably recent: nearly 75% of the corpus (47 articles) was published in 2024 and 2025 alone, reflecting the growing academic and managerial urgency prompted by the rapid diffusion of algorithmic and generative technologies.

Our Descending Hierarchical Classification (DHC) demonstrates that the impact of these technologies extends beyond strict technological determinism to adopt a systemic perspective. The literature revolves primarily around the pursuit of competitive advantage (Class 4, 23.1% of the discourse) and the operational integration of AI into HR practices (Class 5, 20.4%). The emergence of the "augmented organization" (Budhwar et al., 2023) thus requires a profound strategic reconfiguration. At the core of this paradigm, the HR function emerges not as a casualty of automation, but as a genuine socio-technical architect (Class 2, 20.1%) tasked with orchestrating the symbiosis between algorithmic capabilities and human capital. However, the literature cautions that the sustainability of these performance gains remains strictly contingent upon structural agility and robust ethical governance (Stahl et al., 2023).

While methodologically robust, this study has certain inherent limitations that warrant acknowledgment. Relying exclusively on the Scopus database—though justified by its prominence in management sciences—combined with a strict English-language filter, may have excluded relevant contributions from gray literature or non-Anglophone academic spheres. Furthermore, the selected time window captures a static snapshot of a rapidly evolving technological phenomenon, thereby constraining the longitudinal scope of our findings.

Nevertheless, these limitations outline a fertile agenda for future research. Methodologically, given the predominance of quantitative designs (Class 3, 17.4%), incorporating qualitative approaches—such as case studies and action research—is essential to capture the nuanced sociological processes underlying employee technology adoption. Theoretically, integrating

moderating variables such as organizational culture or ethical leadership would significantly enrich the modeling of the DT–AI–OP triadic relationship.

Finally, given the pronounced geographical asymmetry revealed by the bibliometric analysis—dominated by Asian scholarship, with China (19.0%) and India (15.9%) accounting for nearly 35% of the corpus—a broader contextual diversification is needed. Testing these global models against the institutional, regulatory, and socio-economic realities of underrepresented emerging economies, particularly through the lens of the Moroccan context, represents a promising avenue for future empirical research. Such investigations will offer valuable insights into how local institutional dynamics ultimately shape the success of digital transformation and the optimization of organizational performance.

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