



Generative AI and the algorithmic workplace: A bibliometric and conceptual analysis of its impact on organisational decision-making and work design

Carlos Luengo Vera ^{a,*}, Alnoor Bhimani ^b , José Andrés Gómez Gandía ^c, Antonio de Lucas ^d

^a Universidad de Alcalá, Spain

^b London School of Economics and Political Science (LSE), United Kingdom

^c Business Units Department, Universidad de Alcalá, Spain

^d Faculty of Economics, Business & Tourism, Universidad de Alcalá, Spain

ARTICLE INFO

Keywords:

Generative Artificial Intelligence
Algorithmic workplace
Organisational decision-making
Managerial transformation
Bibliometric analysis
Thematic mapping
Socio-technical systems
Work design

ABSTRACT

This study investigates how generative artificial intelligence (GenAI) is transforming the architecture of the workplace and reconfiguring managerial agency in contemporary organisations. While prior research has explored task automation and human-machine collaboration, scholarship has under-examined the broader structural and epistemic implications of GenAI on authority, coordination, and organisational decision-making. To address this gap, a bibliometric and conceptual analysis was conducted on a corpus of 212 Scopus-indexed publications (2018–2025). Using VOSviewer and Bibliometrix, the study maps performance trends, thematic structures, and the conceptual evolution of the field. The findings reveal a dynamic knowledge domain where technical constructs such as large language models and generative adversarial networks intersect with behavioural and managerial concepts including autonomy, coordination, and decision-making. Thematic mapping and co-word analysis uncover six coherent conceptual clusters, while a Sankey diagram of thematic evolution illustrates the convergence of lexical frameworks and the pivotal role of a small group of authors in structuring the discourse. The article advances a conceptual framework of the algorithmic workplace, characterised by hybrid agency, decentralised decision-making, and the erosion of rigid managerial boundaries. It suggests a transition from command-and-control models to guide-and-collaborate paradigms, with GenAI acting as a socio-technical intermediary in decision-support processes. By offering a systematic and theory-informed mapping of the field, the study contributes to emerging scholarship on AI-enabled organisational transformation and outlines future trajectories for research at the intersection of technology, management, and decision systems.

1. Introduction

In recent years, the rapid diffusion of generative artificial intelligence (GenAI) has begun to reshape organisational life. Beyond automating routine operations (Sayal et al., 2025), GenAI systems are now embedded in managerial decision-making, altering how knowledge, authority and accountability are shared between human and algorithmic agents. As organisations deploy large language models (LLMs), decision-support systems and coordination tools, issues of trust, transparency and control have moved to the centre of management and organisation studies.

The strategic relevance of these changes is growing. GenAI is being

integrated into core processes such as resource allocation, performance management and strategic planning, turning it from an operational aid into a structural force. This evolution affects organisational strategy, labour policy and corporate governance, particularly as firms confront emerging regulation, demands for algorithmic transparency and concerns about workforce adaptation.

At this stage of diffusion, the stakes are not only technical but strategic and institutional. Decisions made now about how GenAI is deployed, governed and evaluated will harden into organisational routines, power relations and accountability arrangements that are difficult to reverse. Policymakers are also moving quickly to define standards for transparency, human oversight and liability, often in advance of a

* Corresponding author.

E-mail addresses: carlos.luengov@edu.uah.es (C.L. Vera), a.bhimani@lse.ac.uk (A. Bhimani), josea.gomez@uah.es (J.A.G. Gandía), antonio.lucas@uah.es (A. de Lucas).

mature evidence base. Understanding GenAI's organisational effects in real settings is therefore urgent if corporate strategy and public policy are to be guided by robust analysis rather than vendor narratives or ad hoc experimentation.

Although research on artificial intelligence in organisations is expanding, it remains fragmented across disciplines and theoretical traditions (Olawore et al., 2023). Empirical work has addressed productivity, innovation and ethical governance, yet there is limited synthesis of how these insights jointly redefine organisational design and managerial roles in the algorithmic workplace. Much of the evidence still focuses on automation and analytics rather than on generative, interactive and adaptive systems that now mediate decision processes.

There is therefore a need to systematically map and interpret how academic discourse on this topic is evolving. Following review research as scientific inquiry, this paper addresses three guiding questions:

QR 1. Why is it essential to study GenAI's organisational effects at this stage of technological diffusion?

QR 2. What is currently known about how GenAI transforms managerial decision-making, authority structures and work design?

QR 3. How has the scholarly field developed conceptually and methodologically over time?

2. Theoretical background

The evolution of the workplace has historically been shaped by general-purpose technologies (GPTs) (Bresnahan, 2024) that restructure the coordination, execution, and supervision of labour. From mechanisation to computing, each wave of technological innovation has redefined not only task performance but also the architecture of work. GenAI, enabled by LLMs, is increasingly recognised as the latest GPT, possessing the capacity to automate, augment, and collaborate in tasks once reserved for human cognitive agents.

Unlike previous waves of automation—primarily associated with the displacement of routine, rule-based activities—GenAI introduces adaptive capabilities that reshape epistemic work itself (Wu et al., 2025). By generating code, composing text, resolving queries, and enabling iterative dialogue, GenAI becomes embedded in the fabric of knowledge work (Sandhaus et al., 2025). This shift calls for a theoretical reconceptualisation of how labour is organised, how managerial authority is exercised, and how collaborative dynamics unfold in technology-mediated workplaces (Brown et al., 2024).

2.1. Three interlocking theoretical domains inform this investigation:

(1) Human–AI task allocation and the rise of autonomous work

Task-based theories of technological change suggest that automation alters the marginal cost and relative attractiveness of specific tasks (Acemoglu and Restrepo, 2024). GenAI substantially reduces the effort required for tasks such as writing, summarising, translating, or generating code. Evidence from Hoffmann et al. (2024) shows that developers with access to GenAI tools reallocate their time towards core technical work, reducing engagement in peripheral managerial tasks. Such reallocation suggests a shift in the task boundary between individuals and supervisors, empowering employees to operate with increased autonomy (Colombari et al., 2024). This aligns with earlier conceptualisations of skill-biased technological change (Didier, 2024), in which digital systems disproportionately enhance the productivity of cognitively intensive roles.

(2) Flattening hierarchies and algorithmic coordination

A central tenet of organisational theory posits that managerial hierarchies exist to reduce coordination costs, resolve uncertainty, and process information (Mintzberg, 1994). GenAI challenges this logic by replicating or supporting many of these functions—task scheduling,

knowledge distribution, and quality control—at scale and on demand. As AI systems take on intermediary roles, the informational asymmetry that justifies managerial layers begins to erode. This shift resonates with theories of distributed cognition and decentralised decision-making (Zammuto et al., 2007), suggesting that organisations may evolve towards flatter, more modular forms. Hoffmann et al. (2024) report a decline in collaborative frictions among GenAI users, further reinforcing the idea that AI mediates and redistributes coordination, reducing dependence on formal supervisory structures.

(3) Exploration, exploitation and cognitive flexibility

March's (March, 1991) distinction between exploration and exploitation provides a useful lens for understanding how GenAI reshapes workplace behaviour. By lowering the cost of ideation, prototyping and trial-and-error learning, GenAI expands exploratory behaviour: users test new tools, languages and approaches, and adopters engage more with unfamiliar repositories and technologies. (Hoffmann et al., 2024). This fuels organisational learning but also complicates coherence, alignment and control in decentralised settings where experimentation is pervasive and less predictable.

In this context, GenAI does more than automate discrete tasks. It reconfigures role boundaries, redistributes cognitive labour and strains traditional organisational design principles (Law and Varanasi, 2025). As an epistemic actor, it shapes how work is conceptualised, delegated and performed (Satyanarayan and Jones, 2024), while algorithmic coordination can displace managerial oversight and raise concerns about accountability, opacity and the erosion of relational leadership. Benefits are also uneven, favouring workers and organisations with higher digital readiness and absorptive capacity. These dynamics make it crucial to examine how scholarly discourse is framing GenAI-driven workplace change. The following section therefore details the bibliometric methodology used to identify, structure and interpret the conceptual foundations and emerging trajectories of research on GenAI and workplace transformation.

2.2. Open innovation dynamics and generative AI

The diffusion of GenAI technologies also resonates with the broader dynamics of open innovation. Generative systems operate as boundary-spanning mechanisms that accelerate knowledge recombination, enable crowd-sourced creativity, (Bejarano et al., 2023) and expand collective intelligence. Recent studies emphasise that GenAI reshapes the open innovation paradigm by integrating algorithmic co-creators into processes of idea generation and evaluation (Yun and Zhao, 2024). This convergence between algorithmic intelligence and open innovation culture highlights the need for governance models capable of balancing openness, accountability, and value capture in increasingly hybrid innovation ecosystems.

3. Methodology

3.1. Research design and theoretical rationale

This study adopts a mixed bibliometric and conceptual review design that follows the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework (Lim, 2025). The design ensures methodological transparency, reproducibility, and a coherent link between quantitative evidence and theoretical interpretation (Paul and Menzies, 2023a).

Following Post et al. (2023, *Organizational Research Methods*), the review adopts a mixed bibliometric–conceptual design to ensure transparency, reproducibility and theoretical integration (Fauvel et al., 2025).

The choice of a bibliometric–conceptual hybrid responds to two main needs: (a) to provide a data-driven overview of the field's structure and

evolution, and (b) to interpret the intellectual patterns revealed by bibliometric mapping considering organisational theory, innovation management, and sociology of work. This combination allows us to go beyond descriptive performance indicators to capture the conceptual dynamics of how generative AI is transforming the understanding of decision-making and organisational design. The review follows the best-practice guidelines for conducting high-quality systematic literature reviews proposed by (Paul and Menzies, 2023b) ensuring conceptual transparency, methodological rigor and replicability.

3.2. Data sources, search protocol, and inclusion criteria

The review draws on Scopus and the Web of Science Core Collection to ensure broad disciplinary coverage of management, innovation and organizational studies. The search was conducted for the period 2015–2025, which captures the emergence and consolidation of generative AI research following the introduction of transformer-based architectures.

The Boolean search combined terms related to generative AI and organizational transformation and included only peer-reviewed journal articles in English, excluding editorials, conference proceedings, dissertations and non-academic material. A total of 532 records were identified, and after duplicate removal and screening, 212 studies met the inclusion criteria.

To maintain conciseness, the full search strings, exclusion criteria and the PRISMA 2020 flowchart are provided in [Appendix A](#).

3.3. Analytical procedures and tools

The bibliometric analysis was conducted using Bibliometrix (R package, version 4.2) and VOSviewer (version 1.6.20). The combination of these tools allows for both statistical and network-based exploration of the field:

- *Bibliometrix* was used for performance analysis, capturing publication trends, source impact, author productivity, and citation distribution.
- *VOSviewer* was employed for science mapping, visualising keyword co-occurrences, co-citation networks, and thematic clusters that represent the intellectual architecture of the field.

The analysis applied the full counting method with a minimum threshold of five occurrences was selected to balance statistical robustness and conceptual interpretability, as lower thresholds introduce noise while higher thresholds reduce thematic diversity in emerging fields. Clusters were evaluated for internal coherence and modularity, ensuring that the resulting network structures were both statistically and theoretically meaningful.

Additionally, temporal overlays were generated to visualise the evolution of research fronts over time, allowing for a longitudinal interpretation of emerging and declining topics. This step was crucial for understanding how the academic discourse has evolved in response to technological and organisational shifts associated with GenAI.

3.4. Conceptual synthesis and integration

Quantitative patterns were subsequently interpreted through a qualitative, theory-driven synthesis. Each bibliometric cluster was examined in relation to major theoretical perspectives in organisational and innovation studies. This interpretive phase aimed to translate the visual and statistical outputs into conceptual categories that capture the transformation of managerial logic under GenAI.

Four overarching meta-themes emerged from this synthesis:

1. Algorithmic Authority and Control, focusing on how decision power is delegated to AI systems.

2. Human–AI Teaming and Coordination, examining collaborative and hybrid forms of management.
3. Ethics, Transparency, and Accountability, addressing fairness, explainability, and governance.
4. Capability Building and Learning, relating to managerial adaptation and reskilling.

This step bridges quantitative evidence and theoretical abstraction, laying the groundwork for the conceptual framework developed later in [5](#).

3.5. Reliability, validity, and transparency

The validity of findings was ensured through triangulation between data sources, methods, and interpretive perspectives. Using two complementary tools (Bibliometrix and VOSviewer) reduces single-method bias and strengthens construct validity. The inter-rater reliability ($\kappa = 0.87$) further supports procedural rigour during the inclusion process.

To enhance reproducibility, all scripts, datasets, and parameter settings have been archived following open-science standards. A detailed Data and Code Availability Statement is presented in [Appendix C](#), specifying how these materials can be accessed upon publication (Lada et al., 2023).

Given that the study exclusively analyses published documents and does not involve human participants, no ethical approval was required. However, the research adheres to the principles of transparency, accuracy, and traceability established in systematic review ethics.

4. Results and analysis

4.1. Overview of the dataset

The bibliometric corpus analysed in this study comprises **212 peer-reviewed journal articles** published between **2023 and 2025**, retrieved from the Scopus database using a targeted Boolean query (see [3](#)). Despite the brevity of the timespan, the dataset reflects a rapidly expanding research domain, with an impressive **annual growth rate of 115.06 %**. This acceleration is indicative of the increasing scholarly interest in the intersection between GenAI and workplace transformation, particularly in the wake of technological advancements following the release of large-scale language models.

The documents are distributed across **158 sources**, evidencing the interdisciplinary nature of the field ([Fig. 1](#)), which spans business, information systems, applied linguistics, education, and computational science. A total of **831 distinct authors** contributed to the corpus, with a **co-authorship average of 4.16 authors per paper** and an **international co-authorship rate of 30.19 %** ([Fig. 2](#)), pointing to a moderately globalised research effort. Notably, only **31 documents** were single-authored, underscoring the collaborative character of knowledge production in this domain ([Fig. 3](#)).

In terms of content richness, the dataset includes **784 unique author keywords** and over **11,600 cited references**, offering fertile ground for both conceptual structure analysis and intellectual mapping. Although the **average document age is only 0.59 years**, reflecting the recency of the field, the **average citation rate of 5.06 citations per article** suggests that several contributions have already gained academic traction ([Fig. 4](#)).

Collectively, these indicators confirm that the scholarly conversation around GenAI and the reconfiguration of the workplace is not only gaining momentum but also crystallising into a recognisable domain of inquiry. The subsequent sections unpack the descriptive performance of this literature and explore its intellectual and conceptual underpinnings through advanced science mapping techniques.

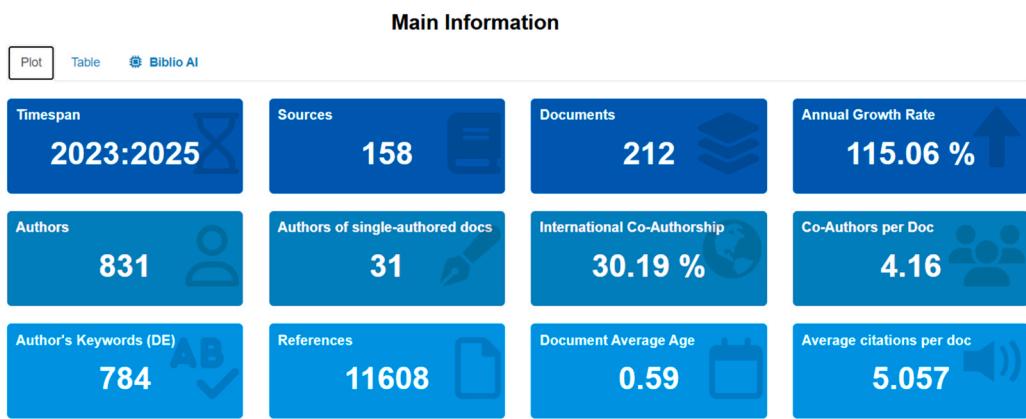


Fig. 1. Annual scientific production in the field of generative artificial intelligence and workplace transformation (2023–2025).

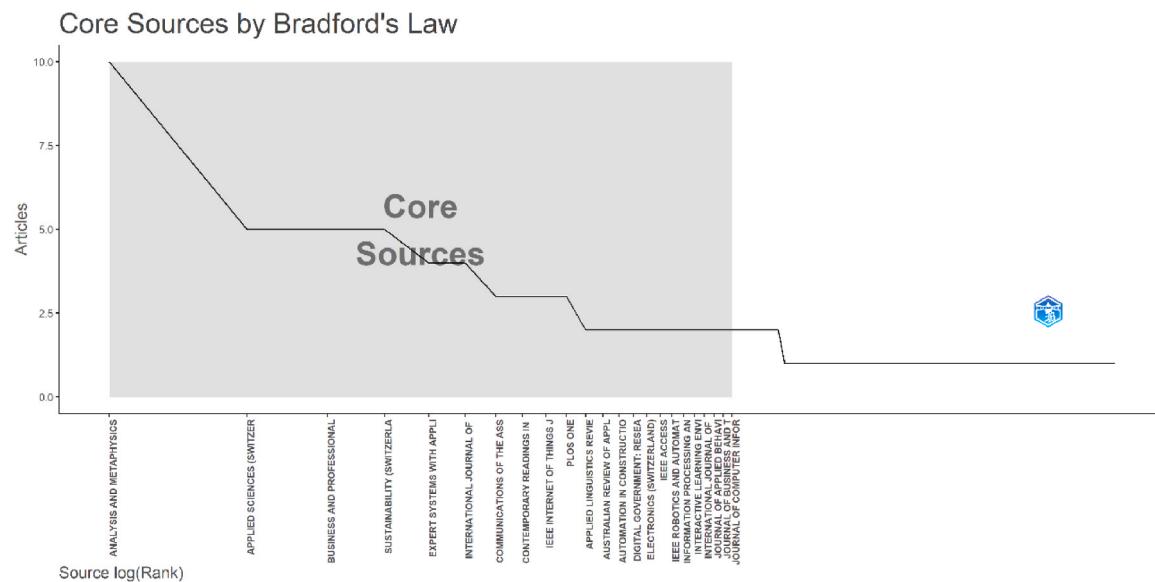


Fig. 2. Core sources identified through Bradford's Law.

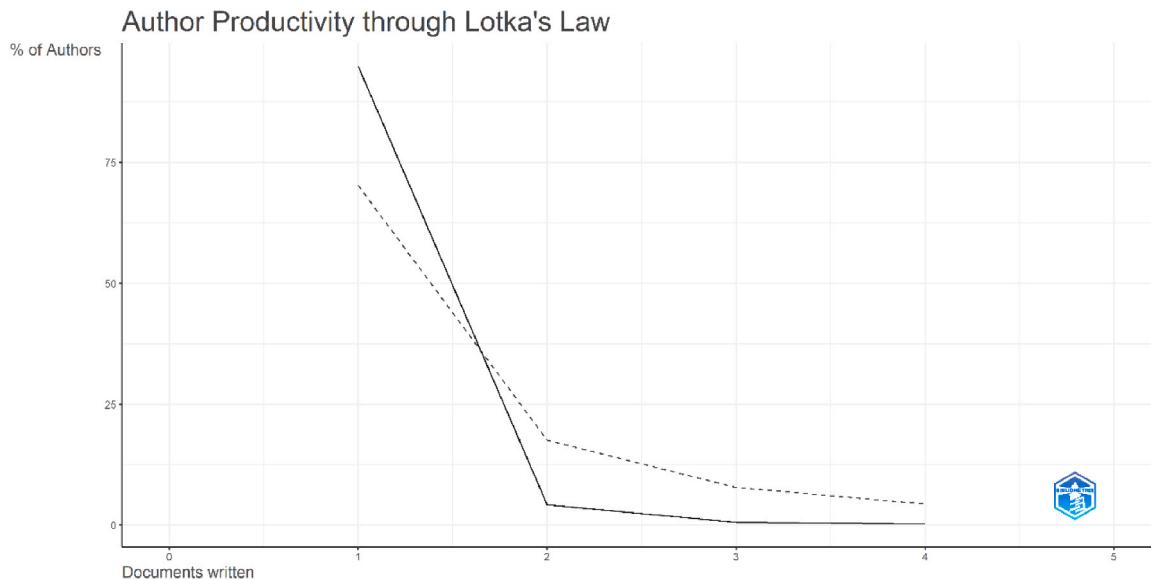


Fig. 3. Author productivity distribution according to Lotka's Law.

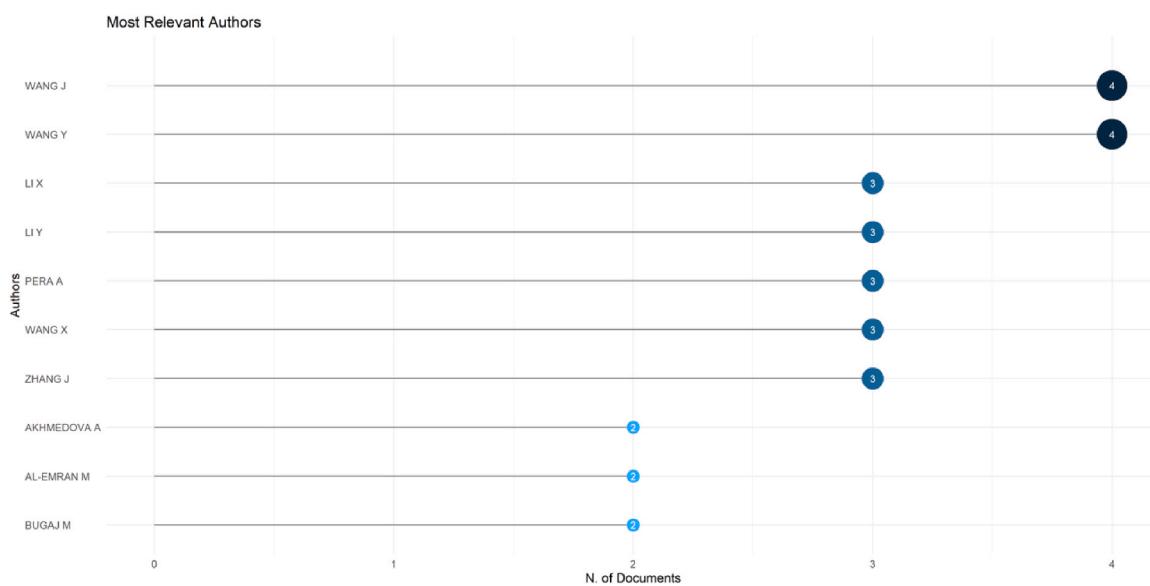


Fig. 4. Most globally cited documents in the corpus.

4.2. Descriptive performance analysis

The descriptive analysis provides an empirical overview of the research output related to GenAI and workplace transformation. Despite covering only a three-year period (2023–2025), the dataset demonstrates an exceptional rate of expansion, with the number of publications growing from 24 to over 100 annual articles (Fig. 1). This surge reflects the heightened scholarly attention triggered by technological developments such as ChatGPT, GitHub Copilot, and other GenAI tools, which have reignited debates on task allocation, organizational structures, and human–AI collaboration.

A total of 158 academic sources contributed to the publication corpus. The application of Bradford's Law (Fig. 1) reveals a concentration of influential contributions in a relatively narrow set of journals. Notably, these core sources include *Expert Systems with Applications*, *Sustainability*, *IEEE Internet of Things*, and *PLoS ONE*, pointing to a field situated at the intersection of applied computing, management innovation, and socio-technical systems. The dispersion across additional sources suggests an ongoing process of disciplinary anchoring, which is typical of emergent and interdisciplinary topics.

The productivity structure of the field follows a distribution consistent with Lotka's Law (Fig. 2). Most authors (over 75 %) have contributed to only one publication, while a much smaller cohort is responsible for multiple outputs. This pattern is common in research areas undergoing rapid expansion, where topical interest spreads across a diverse and diffuse author base.

Despite this dispersion, certain authors have already begun to establish themselves as recurrent contributors. As shown in Fig. 3, the most prolific authors (e.g. Wang J., Wang Y., Li X., Pera A.) have authored between three and four publications during the analysed period. Their presence across different subfields—ranging from computational linguistics to human resource management—illustrates the thematic breadth of the topic.

In terms of scholarly influence, the most cited articles globally (Fig. 4) provide insight into early intellectual consolidation. Ooi (2025), Cardon (2023), and Capraro (2024) occupy the top ranks with citation counts ranging from 77 to 225. These papers explore diverse facets of the phenomenon—from AI-mediated communication to trust dynamics and ethical frameworks—suggesting that the conceptual agenda remains broad and exploratory at this stage.

Collectively, the descriptive performance analysis highlights a field in early consolidation, marked by exponential growth, emerging prolific

authorship, and concentrated publication venues. These characteristics reinforce the need for science mapping techniques to uncover the latent thematic and intellectual structures that underlie this rapidly evolving domain, as detailed in the following sections.

4.3. Science mapping and network visualisation

To complement the descriptive analysis, this section presents a set of science mapping visualisations that uncover the intellectual, social, and conceptual structures of the field. These maps were generated using VOSviewer, applying full counting and normalisation methods with minimum thresholds tailored to each network type. Three dimensions are explored: international collaboration (country co-authorship), intellectual structure (author co-citation), and conceptual structure (keyword co-occurrence).

4.3.1. International collaboration: country co-authorship network

Fig. 5 presents the country co-authorship network, highlighting global collaboration patterns within the research corpus. The map reveals five main clusters, with the United States, China, and the United Kingdom acting as key hubs of knowledge exchange. The United States forms the densest node, connected to diverse regions including India, Canada, Saudi Arabia, and the United Arab Emirates. Meanwhile, China exhibits strong ties to Hong Kong, South Korea, and Taiwan, indicating robust intra-Asian scientific interaction.

Europe is represented primarily through the United Kingdom, Germany, Italy, and Spain, all of which show consistent co-authorship links with Australia and other Anglophone countries. Interestingly, a discrete Eastern European cluster is also visible, with Romania and Slovakia maintaining high-density internal connections but limited bridging to other global hubs. This suggests partial geographic fragmentation, with significant yet regionally bounded collaborative ecosystems.

4.3.2. Intellectual structure: author co-citation network

The author co-citation network in Fig. 6 uncovers the intellectual foundations of the field. Three principal clusters are observed:

- A red cluster comprising densely connected Chinese authors (e.g., Liu Y., Zhang Y., Wang X.), indicating an emerging and cohesive research front with a strong internal citation ecosystem.
- A green cluster centred around European scholars such as Lazarou G., Klimeš T., and Nica E., suggesting a thematically distinct stream

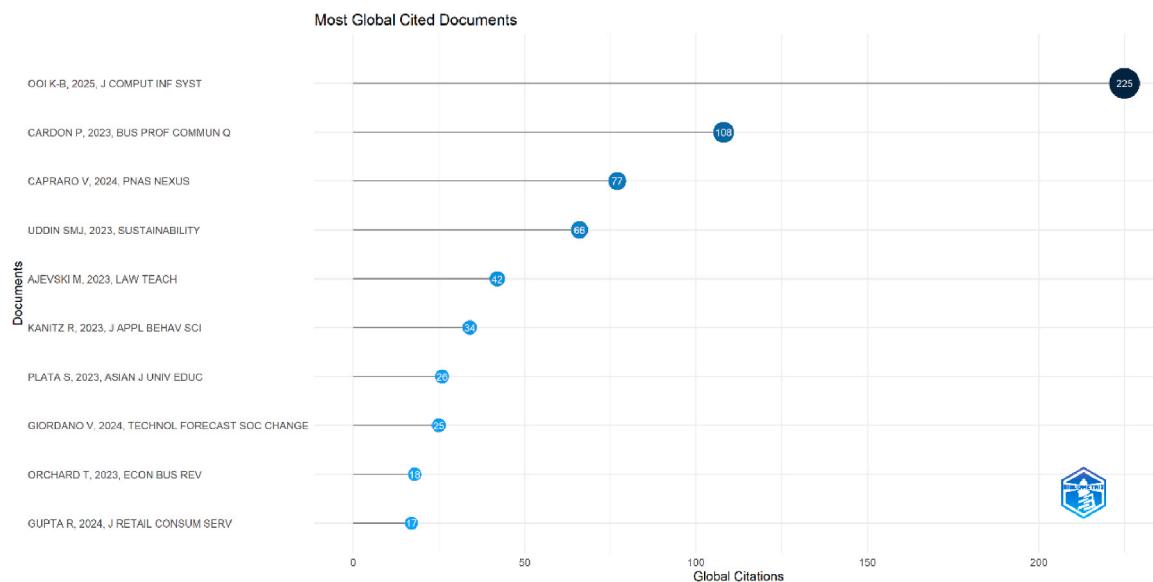


Fig. 5. Most globally cited documents.

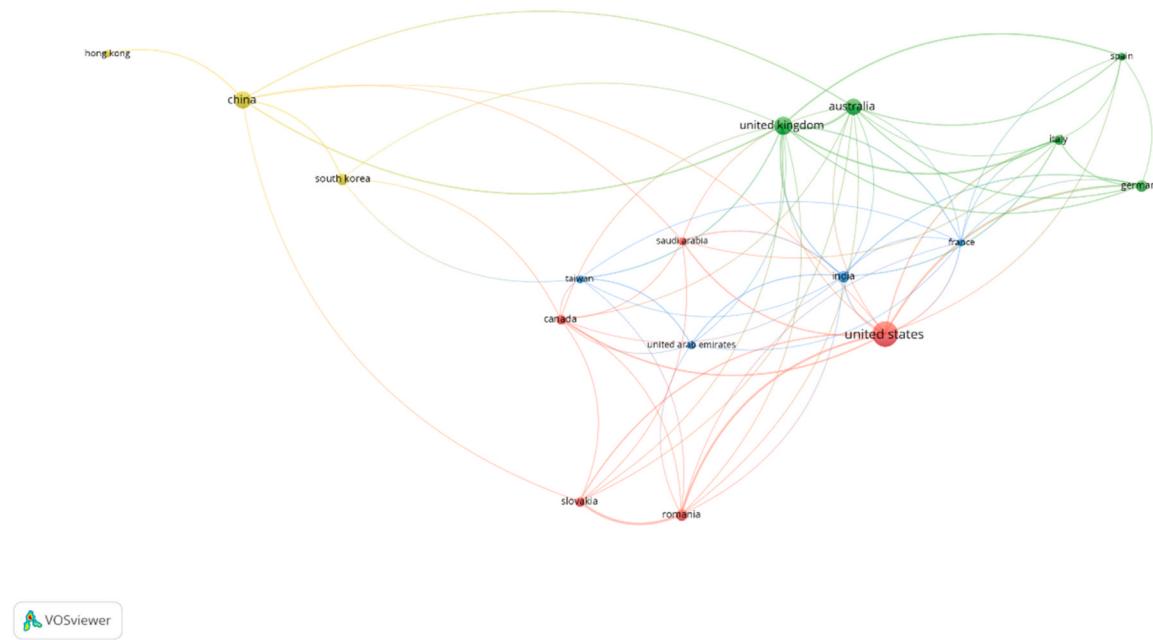


Fig. 6. Country co-authorship network. Node size reflects publication volume.

concerned with human factors, sustainability, and organisational impact.

- A blue cluster, smaller but well-defined, includes authors like Iranmanesh M. and Sarstedt M., whose methodological contributions—particularly in measurement models and structural equation modelling—appear foundational.

The concentration of co-citation links within national or linguistic blocs may point to intellectual silos, though several bridging authors help connect the clusters, notably through interdisciplinary methodological frameworks.

4.3.3. Conceptual structure: keyword co-occurrence network

Fig. 7 maps the co-occurrence of author keywords, offering a visual representation of the conceptual landscape of GenAI and the workplace. The map reveals five dominant thematic clusters:

- The red cluster, anchored by terms such as *generative AI*, *chatbots*, *human resource management*, and *teaching*, represents applied use cases in education and HRM contexts.
- The green cluster, revolving around *language models*, *semantics*, and *machine learning*, reflects the technical and computational backbone of the field.
- The yellow cluster, including terms such as *workplace*, *humans*, and *adult*, captures social and behavioural dimensions—likely tied to employee interaction and human–AI collaboration.
- The blue cluster encompasses *ethics*, *AI*, *deep learning*, and *higher education*, indicating a stream oriented towards philosophical, ethical, and pedagogical implications.
- A smaller cyan cluster, with terms like *immersive*, *pedagogy*, and *engineering education*, points to emerging intersections between GenAI and experiential learning environments.

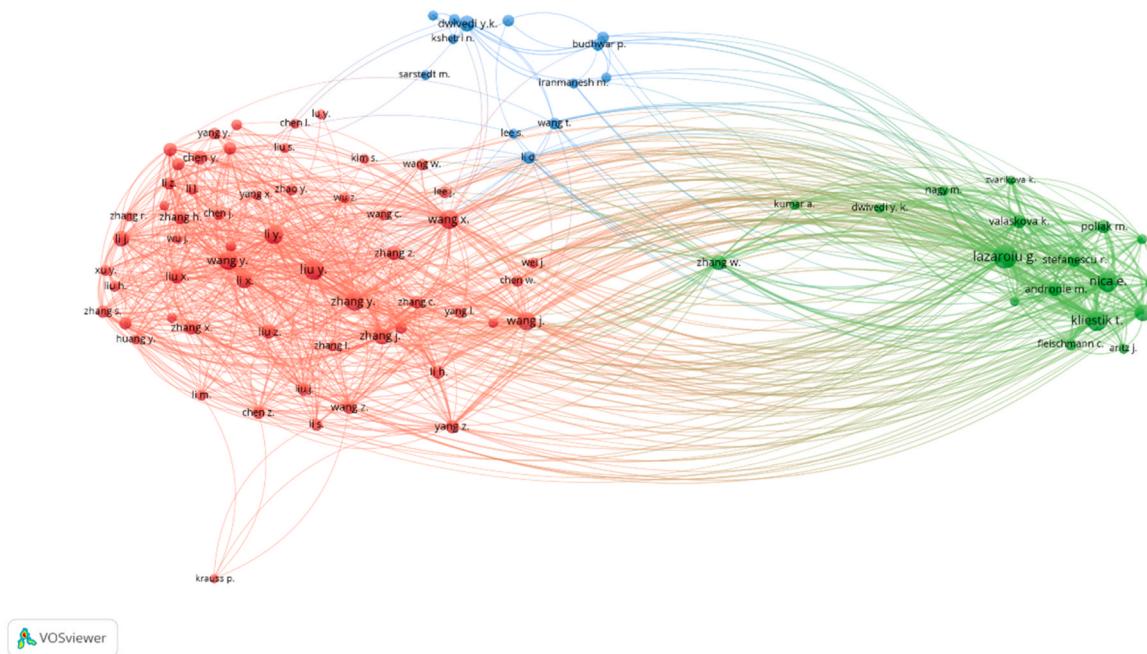


Fig. 7. Author co-citation network. Node size indicates frequency of co-citation;.

These thematic groups suggest that the field, while still fragmented, is beginning to exhibit semantic convergence around key problem areas, including workforce transformation, educational adaptation, algorithmic accountability, and technical implementation.

4.4. Thematic and conceptual structure modelling

4.4.1. *Thematic mapping*

Fig. 8 displays the thematic map derived from Callon's centrality and density metrics, which positions clusters of keywords across four quadrants—motor themes, niche themes, basic themes, and emerging or declining themes—based on their structural relevance and

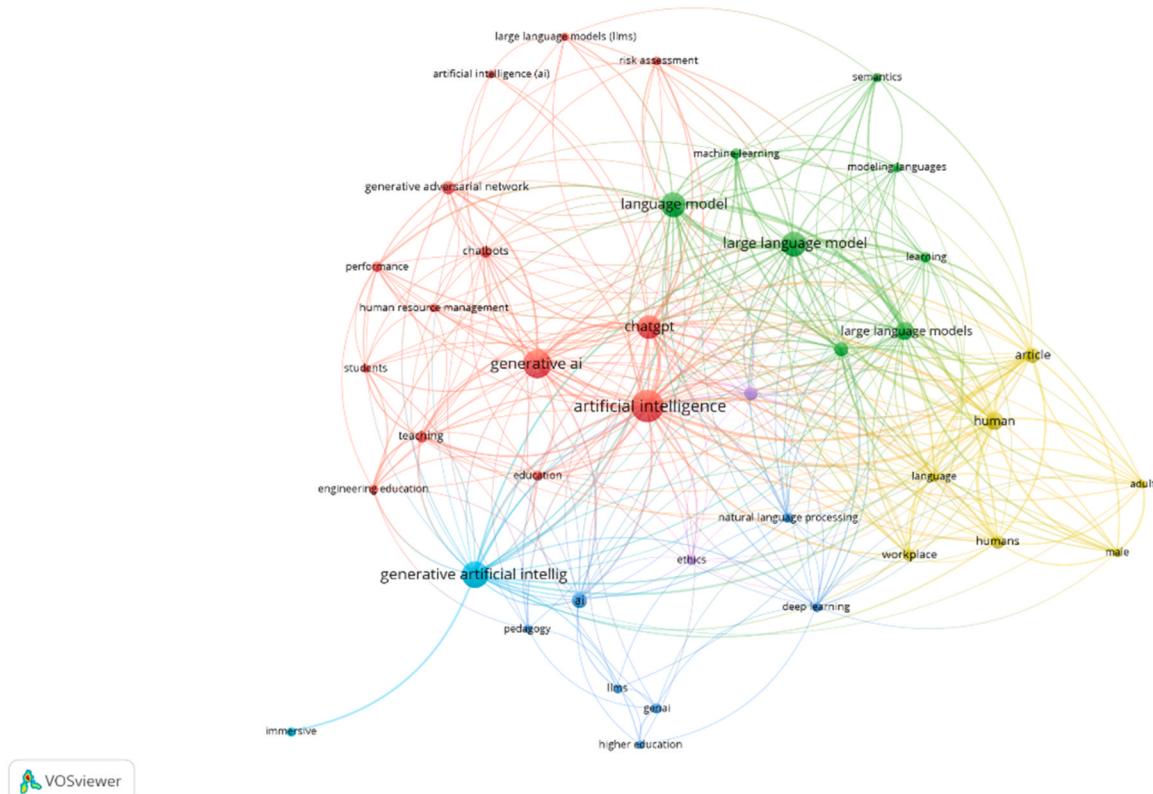


Fig. 8. Keyword co-occurrence network based on author keywords (DE).

developmental maturity within the research field.

The upper-right quadrant (Motor Themes) comprises the most influential and well-developed areas of the discourse. This cluster is dominated by terms such as *generative adversarial networks*, *reinforcement learning*, *language model*, and *machine learning*, indicating a robust interplay between foundational computational architectures and their optimisation in natural language processing contexts. The presence of *human* and *modeling languages* within this quadrant suggests that human-centric design and semantic modelling remain key pillars in high-impact GenAI research within workplace settings.

The lower-right quadrant (Basic Themes) contains widely used but conceptually less mature themes, such as *generative AI*, *artificial intelligence*, and *generative artificial intelligence*. These keywords exhibit high centrality but relatively low density, reflecting their widespread usage across the literature, albeit often as framing constructs rather than tightly bound research subfields. Their positioning underscores their function as anchoring concepts in a rapidly evolving domain yet still lacking cohesive internal development in specific workplace contexts.

Conversely, the upper-left quadrant (Niche Themes) reveals relatively isolated but highly developed specialisms. Keywords such as *employee performance*, *employee engagement*, *technology acceptance*, and *knowledge graphs* suggest pockets of concentrated scholarship that, while methodologically or conceptually mature, are not yet deeply integrated into the broader thematic network. These represent potential reservoirs of insight for future synthesis with mainstream GenAI research.

Finally, the lower-left quadrant (Emerging or Declining Themes) includes concepts such as *automated employment decision tools*, *workplace monitoring systems*, *multimodal behavioural analytics*, and *algorithmic monitoring*. The low density and centrality of these clusters point to either nascent research strands beginning to gain visibility or areas that are losing scholarly traction. Their proximity to terms like *academic integrity* and *interactional competence* may also reflect growing ethical and behavioural concerns related to algorithmic governance in organisational contexts.

In sum, the thematic map captures a nuanced stratification of

conceptual zones within the literature. While some clusters are consolidating around technical foundations and cognitive modelling, others signal emerging socio-technical debates that warrant closer integration into future GenAI and workplace transformation studies.

4.4.2. Thematic evolution via three-field sankey diagram

Fig. 9 illustrates a three-field Sankey diagram connecting author keywords (DE), most prolific authors (AU), and merged keywords (KW_Merged), enabling a granular exploration of thematic evolution and discursive convergence across the corpus.

On the left-hand side, the author's keywords reflect the conceptual inputs as expressed in individual contributions. Notably, terms such as *generative AI*, *generative artificial intelligence*, *large language model*, and *artificial intelligence* dominate, signifying the lexical core of the domain. The inclusion of peripheral yet semantically loaded terms like *immersive*, *AI literacy*, *multimodal behavioural analytics*, and *future of work* suggests thematic experimentation at the margins of the mainstream discourse.

The central column showcases the principal authors who act as epistemic conduits, linking conceptual inputs with broader thematic categories. Figures such as *Wang J.*, *Zhang J.*, *Li X.*, and *Al-Emran M.* emerge as high-frequency contributors whose research output spans multiple thematic axes. Their bridging roles are evidenced by the multiplicity of connections flowing from diverse DE terms into multiple refined thematic expressions.

On the right-hand side, the merged keyword field captures the dominant thematic crystallisations as they have been normalised across the literature. Here, *language model*, *large language model*, *human*, and *decision making* appear as refined destinations of conceptual consolidation. The repeated occurrence of *generative artificial intelligence* and *artificial intelligence* confirms the thematic saturation of foundational constructs, while *machine learning* and *generative adversarial networks* extend the horizon toward algorithmic specificity.

Importantly, the structure of the flows reveals the non-linear and overlapping evolution of the discourse. The same author may be linked to both foundational terms and application-oriented expressions,

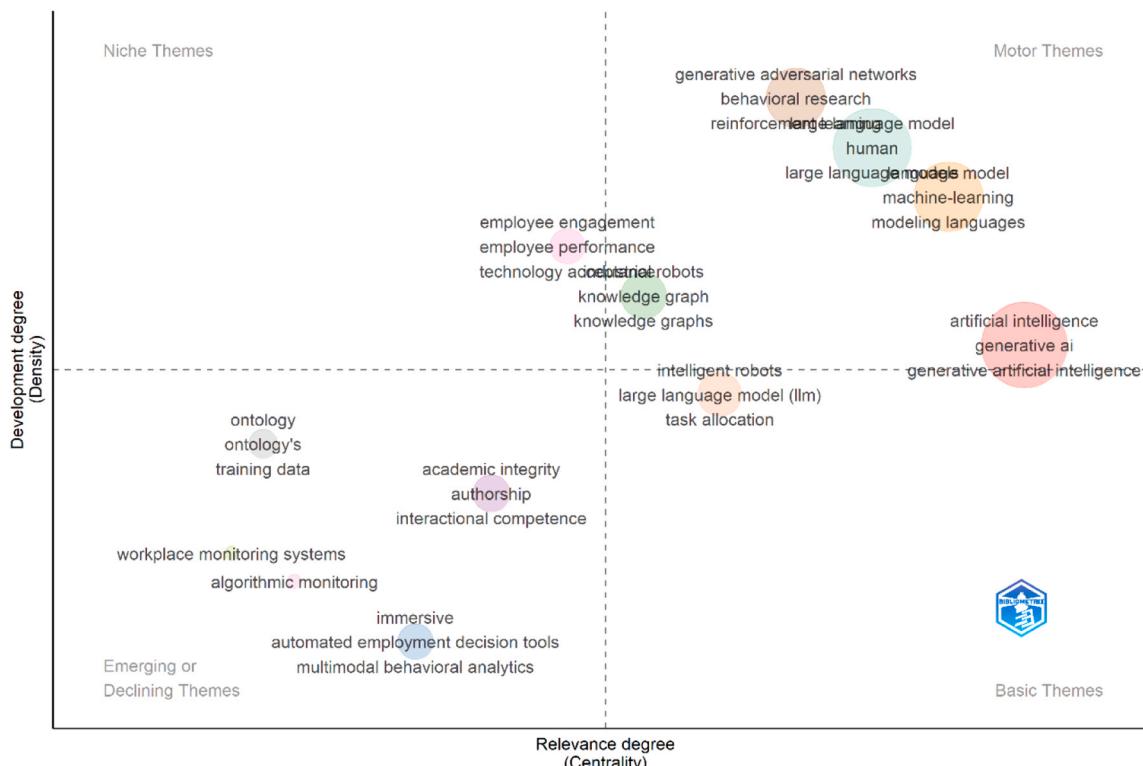


Fig. 9. Thematic map based on Callon's centrality and density metrics.

suggesting a dual research orientation: one focused on the formal and technical dimensions of GenAI, and another oriented towards its organisational and behavioural implications in the workplace. Moreover, the limited presence of distinctly managerial keywords (e.g., *employee engagement, task allocation, organisational change*) within the DE and KW fields signals a potential lacuna in integrating AI-centred discourse with managerial and organisational science—an observation that opens avenues for future research.

In essence, the Sankey diagram not only confirms the coalescence of conceptual terminology but also illustrates the relational agency of prolific authors in shaping and diffusing thematic continuity across the GenAI literature. The evolution mapped here is not sequential but layered, highlighting the concurrent emergence, reinforcement, and redistribution of ideas across adjacent epistemological zones.

To synthesise the thematic structures identified through Callon's centrality-density mapping and the Sankey diagram, **Table 1** presents a summary of conceptual clusters, representative keywords, interpretive labels, and their thematic roles within the field (**Table 2**).

4.5. Recent research trajectories (2020–2025)

The scientific production on generative AI and organisational management has grown exponentially in the past five years, reflecting a phase of conceptual acceleration. Between 2020 and 2025, three major trends can be observed:

1. Shift from Automation to Collaboration:

Research moved beyond discussions of AI as a replacement technology towards examining hybrid systems in which human and algorithmic actors collaborate. Concepts such as *human–AI teaming, augmented decision-making, and hybrid intelligence* gained prominence.

2. Emergence of Ethical and Governance Themes.

Recent studies emphasise *algorithmic transparency, accountability, and trust calibration*, especially as generative models become embedded in organisational processes. The literature shows convergence between management ethics and digital governance.

3. Expansion of Sectoral Applications.

Whereas earlier work concentrated on manufacturing and digital

Table 1
Conceptual clusters and thematic interpretations.

Cluster / Theme	Representative Terms	Interpretive Label	Thematic Role
1. Foundational AI Architectures	<i>large language model, language model, ChatGPT, machine learning</i>	Core Computational Foundations	Motor Theme
2. Generative AI Discourse	<i>generative AI, generative artificial intelligence, AI literacy</i>	Generalised Lexical Frameworks	Basic Theme
3. Human-Centric Dimensions	<i>human, decision making, AI and humans, future of work, employee engagement</i>	Human–AI Interaction and Organisational Impact	Under-integrated, Cross-cutting
4. Ethical and Governance Concerns	<i>automated employment decision tools, workplace monitoring systems, algorithmic bias</i>	Governance, Ethics, and Algorithmic Control	Emerging Theme
5. Educational and Competency Aspects	<i>AI literacy, academic integrity, interactional competence, training data</i>	Pedagogical and Competency Development	Niche / Emerging
6. Algorithmic Optimisation	<i>reinforcement learning, generative adversarial networks, modelling languages</i>	Model Efficiency and Specialised Techniques	Motor / Niche Theme

platforms, post-2021 research extended to healthcare, public administration, and creative industries, suggesting a diversification of empirical contexts and methodological sophistication.

Visual evidence from the thematic evolution maps (**Figures 9a–9b**) confirms a clear trajectory towards managerial innovation, decision augmentation, and organisational learning, consolidating generative AI as a core research domain within management studies.

This evolution aligns with the conceptual shift identified in this review—from *command-and-control* paradigms to AI-augmented, decentralised forms of coordination.

5. Discussion

5.1. Integrating bibliometric and conceptual insights

The integration of the bibliometric results with the qualitative analysis shows that academic discourse on Generative Artificial Intelligence (GenAI) and organisational design is in a phase of rapid conceptual consolidation. Earlier debates on automation and decision support have evolved into more refined examinations of hybrid intelligence, distributed agency and algorithmic governance.

Co-occurrence and co-citation analyses indicate a move from descriptive accounts of AI adoption towards theoretically grounded work on how algorithms reshape authority, knowledge and control. This convergence points to the emergence of an epistemic field that can be described as “algorithmic management studies”, at the intersection of management, information systems and digital sociology.

Following review research as scientific inquiry, this study does not only report bibliometric patterns but interprets them through a theory-building lens. Each thematic cluster was re-situated within core debates in organisational theory, including managerial cognition, decision autonomy and the ethics of algorithmic coordination. Through this interpretive process, the field appears to be developing its own conceptual grammar, with GenAI treated both as an empirical object and as a transformative force within organisations.

5.2. Core conceptual themes: mapping the intellectual evolution of the field

Four meta-themes capture the main conceptual trajectory of research on GenAI and organisational transformation.

5.2.1. Algorithmic authority and the reconfiguration of managerial judgement

The first meta-theme examines how GenAI systems take on decision-support, and sometimes decision-substitution, roles that redistribute organisational authority. Algorithms are increasingly conceptualised as epistemic actors that produce, filter and legitimise knowledge, rather than as neutral tools.

This raises direct questions about accountability and trust. Weberian bureaucratic authority, grounded in expertise, hierarchy and formal rationality, is being challenged by forms of algorithmic legitimacy based on perceived computational objectivity. Future research needs to clarify how this legitimacy is constructed, contested and institutionalised in managerial settings.

5.2.2. Human–AI collaboration and hybrid coordination

The second theme addresses the relational dynamics between human and machine actors in decision-making. The literature increasingly adopts the notion of “hybrid intelligence”, in which humans and AI systems co-create value through complementary strengths.

From this perspective, management is reframed as an orchestrating function that facilitates distributed cognition and adaptive interaction rather than exercising unilateral control. Important gaps remain regarding the psychological and organisational conditions that support effective human–AI teaming, including role clarity, feedback

Table 2
Clustered future research agenda.

Cluster	Emerging Focus	Core Research Questions	Relevant Theoretical Lenses	Potential Methodologies
C1. Algorithmic Coordination and Authority	Delegation of managerial tasks to AI; legitimacy of algorithmic decisions	How do organisations define and legitimise algorithmic authority? What hybrid accountability models emerge?	Institutional theory; sociotechnical systems; organisational legitimacy	Case studies; ethnography; qualitative comparative analysis (QCA)
C2. Human–AI Teaming and Autonomy	Collaboration, trust, and interdependence	What social and design mechanisms enhance trust and performance in hybrid teams?	Team cognition; behavioural theory of the firm; socio-cognitive systems	Experiments; longitudinal team studies; design-based interventions
C3. Evaluation, Performance, and Productivity Dynamics	Assessing the organisational impact of GenAI	How can productivity and decision quality be measured in AI-augmented contexts?	Dynamic capabilities; performance management; resource-based view	Quantitative performance analysis; panel data models
C4. Ethics, Justice, and Compliance	Governance, accountability, and fairness	How can ethical and regulatory frameworks adapt to generative systems?	Algorithmic governance; business ethics; stakeholder theory	Policy evaluation; comparative institutional studies
C5. Sectoral and Contextual Applications	Industry-specific adoption and translation	How does sectoral context shape the organisational impact of GenAI?	Contingency theory; institutional logics; innovation diffusion	Cross-sector analysis; mixed-methods comparative research
C6. Organisational Capabilities and Learning	AI literacy and reskilling of managers	What learning architectures enable sustainable AI integration?	Knowledge-based view; organisational learning theory; absorptive capacity	Surveys; longitudinal capability assessments; action research

mechanisms and tolerance for error. These issues call for interdisciplinary work linking cognitive psychology, human–computer interaction and organisational design.

5.2.3. Ethics, transparency, and algorithmic governance

The third theme concerns the ethical and governance challenges of GenAI in organisations. Because generative systems are probabilistic and often opaque, their outputs can be difficult to interpret, complicating accountability, fairness and transparency.

Scholars are beginning to explore models of algorithmic governance in which ethical safeguards are built into technical and organisational arrangements rather than added as external compliance mechanisms. This line of work connects management studies with AI ethics, corporate governance and public policy, and requires further empirical research on how organisations implement transparency and fairness in algorithmic decision processes.

5.2.4. Capability building, learning and adaptive organisations

The fourth theme analyses how organisations build capabilities to work with GenAI. Instead of treating AI integration as a one-off technology adoption, this research frames it as a learning trajectory involving managerial reskilling, process redesign and cultural change.

Organisations that perform well in the algorithmic era tend to institutionalise AI literacy, ethical reflexivity and continuous experimentation. The move from automation to collaboration thus implies a shift from efficiency-oriented to learning-oriented organisational logics.

Taken together, these four themes reflect a broader reorientation: from AI as a technological artefact to AI as an organising principle. GenAI becomes part of the cognitive infrastructure of the firm, mediating how strategy, coordination and control are enacted.

5.3. The algorithmic workplace: a conceptual framework

To integrate these themes, the paper proposes the notion of the Algorithmic Workplace, understood as an organisational paradigm in which managerial cognition is co-produced by humans and algorithms.

The framework (Fig. 10) comprises three interdependent layers of transformation:

1. Structural Layer – Redistributed Authority and Decision Rights GenAI systems emerge as new loci of authority, altering how organisations allocate decision rights. Managerial roles shift from direct supervision to oversight, verification and orchestration of algorithmic reasoning.

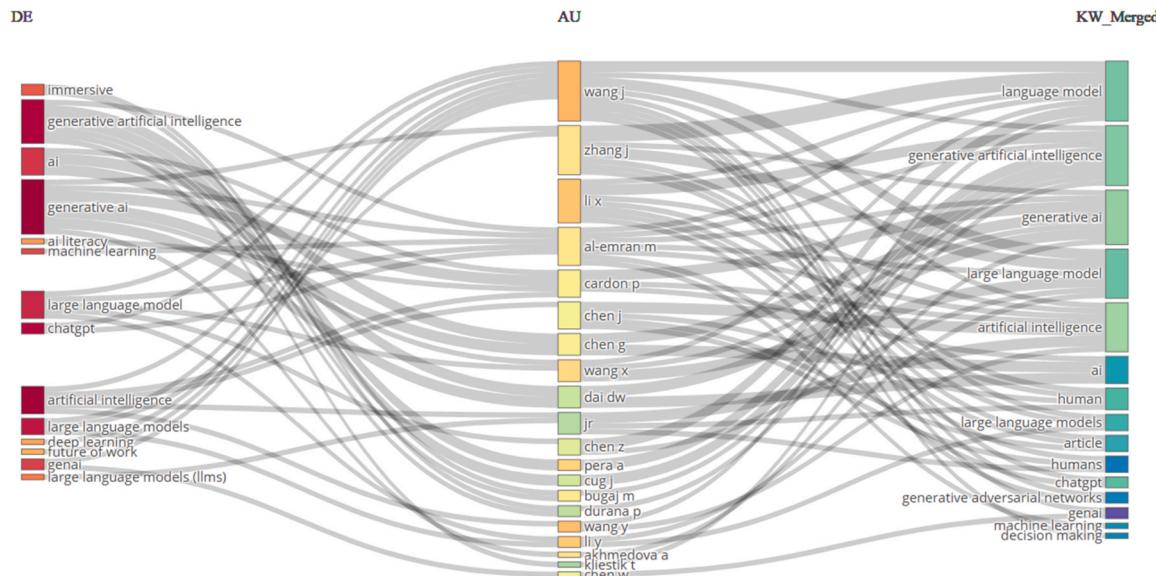


Fig. 10. Three-field Sankey diagram linking author keywords (DE), authors (AU), and merged keywords (KW_Merged).

2. Interactional Layer – Hybrid Workflows and Shared Cognition Everyday work increasingly relies on hybrid workflows in which humans contribute contextual understanding and ethical judgement, while algorithms provide pattern recognition and optimisation. This creates a shared cognitive ecology that challenges conventional boundaries of control and expertise.
3. Normative Layer – Institutionalising Transparency and Trust Organisations must develop normative infrastructures—codes of conduct, audit procedures, explainability standards—to sustain trust in algorithmic systems. These norms support the ethical legitimacy of AI-enabled management.

The Algorithmic Workplace thus reframes the evolution of management from a command-and-control model to a guide-and-collaborate paradigm, in which leadership is distributed and mediated through digital cognition. This shift has significant implications for theories of organisational behaviour, power and learning.

5.4. Clustered future research agenda

Building upon the bibliometric clusters and conceptual synthesis, this study proposes a clustered research agenda designed to guide future investigations (Table 4). Each cluster represents a frontier of inquiry linking generative AI with a distinct theoretical and methodological domain.

This agenda reflects the field's increasing interdisciplinarity and theoretical pluralism, calling for methodological diversity that spans both data-intensive and interpretive paradigms. By organising the research frontier into clusters, the paper provides a practical roadmap for scholars and practitioners seeking to advance a cohesive research programme on generative AI and work design.

5.5. Practical and societal relevance

Beyond its theoretical contribution, the findings have direct implications for managers, policymakers and educators. For managers, the framework acts as a diagnostic tool to gauge organisational readiness for GenAI, clarifying the competences and governance arrangements needed to achieve responsible augmentation rather than uncritical automation. Policymakers can use these insights to design regulatory ecosystems that balance innovation with accountability, ensuring that algorithmic management serves broader societal well-being. For educators, the results highlight the need to reorient management education around AI literacy, critical data thinking and ethical reasoning, preparing future leaders for algorithmically mediated workplaces.

In practical terms, the Algorithmic Workplace framework can guide organisations in assessing their level of AI integration and governance maturity, inform the design of adaptive regulation, and be embedded into management curricula to foster AI-literate leadership. By linking conceptual clarity with actionable guidance, the study contributes to both organisational innovation and responsible digital transformation.

6. Theoretical contributions

This study articulates three interdependent contributions that redefine the ontology of work, authority, and managerial practice in the age of generative AI.

6.1. The algorithmic workplace as an emergent socio-technical system

First, we extend the socio-technical view of digital transformation by reconceptualising the workplace not merely as a site of technology adoption, but as a dynamic system governed by algorithmic intermediation. While prior literature often treats AI tools as passive infrastructure, this study positions GenAI as an active cognitive infrastructure that structures workflows and mediates collaboration. This shift extends

open innovation theory by illustrating how algorithms act as boundary-spanning mechanisms that accelerate knowledge recombination and collective intelligence. Consequently, the locus of organisational agency shifts from purely human actors to hybrid assemblages of human-machine cognition, requiring scholars to reconsider classical distinctions between technical infrastructure and organisational form.

6.2. The reconfiguration of epistemic authority and decision-making

Second, the study contributes to the theory of managerial authority by arguing that decision-making power is being redistributed across networks where GenAI functions as an epistemic actor. The analytical outputs of language models increasingly inform strategic choices, effectively displacing traditional, top-down command structures. Managerial legitimacy is, therefore, no longer solely derived from human expertise or hierarchical position but is co-constructed through the verification and orchestration of algorithmic outputs. This necessitates a reframing of decision-making theories to incorporate algorithmic co-agency, traceability, and the management of systemic opacity.

6.3. From command-and-control to guide-and-collaborate

Finally, we provide a theoretical basis for the transition of managerial logic from a 'command-and-control' model to a 'guide-and-collaborate' paradigm. In this model, leadership is distributed and exercised through prompting, curating, and calibrating rather than directing and enforcing. This contribution bridges the micro-macro dynamics of organisational change: it links micro-level human-AI interaction with macro-level institutional changes in governance, ethics, and trust. It suggests that the primary competence of the future manager is not task monitoring, but the facilitation of distributed cognition and the maintenance of ethical safeguards within an automated environment.

7. Conclusions

This study has demonstrated that GenAI is a transformative force reshaping the structural and functional contours of the workplace. Through a dual bibliometric and conceptual analysis, we have mapped the transition from discrete task automation to a holistic 'Algorithmic Workplace', characterised by hybrid agency and decentralised decision-making.

Limitations and Future Directions These findings must be interpreted in light of certain limitations. First, the dataset reflects a concentration of publications within technologically advanced sectors—such as education and software—which may obscure patterns prevalent in traditional industrial contexts. Second, the reliance on Scopus data, while ensuring scientific rigour, excludes grey literature and practitioner reports that often capture real-time developments in this fast-moving field.

Future research should address these gaps through qualitative methodologies, such as ethnographic case studies, to capture the lived experiences of workers navigating AI-augmented environments. Comparative studies across diverse sectors—including healthcare and public administration—would further illuminate the variegated impact of GenAI on work practices. Moreover, interdisciplinary work bridging human resource management and AI ethics is essential to foster normative frameworks for responsible deployment. Ultimately, this research offers a foundation for a cumulative research programme dedicated to understanding how artificial intelligence is reconfiguring the nature of work, the exercise of authority, and the conditions of human agency.

CRediT authorship contribution statement

Gómez Gandia Jose: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding

acquisition, Formal analysis, Data curation, Conceptualization. **Antonio de Lucas:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Carlos Luengo Vera:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Alnoor Bhimani:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Ethics statement

Ethics approval were waived for this study because no patients' data were reported.

Appendix A. PRISMA 2020 Flowchart and Search Documentation

The review draws upon two leading academic databases—Scopus and the Web of Science Core Collection (WoS)—to ensure both breadth and disciplinary diversity. These repositories were chosen because they jointly provide comprehensive coverage of the management, innovation, and organisational studies domains, reducing the risk of database bias.

The search covered the period 2015–2025, corresponding to the rise and consolidation of research on Generative Artificial Intelligence (GenAI). The search strategy followed a stepwise Boolean procedure, combining key concepts related to technology, managerial processes, and organisational behaviour:

(“generative artificial intelligence” OR “large language models” OR “algorithmic management”) AND (“organisational decision-making” OR “work design” OR “managerial roles” OR “organisational transformation”).

Only peer-reviewed journal articles in English were included to guarantee scientific rigour and cross-study comparability. Editorials, conference proceedings, dissertations, and non-academic reports were excluded.

The process followed the four canonical PRISMA stages:

1. Identification: A total of 532 records were retrieved from Scopus and WoS. After duplicate removal and screening, the final corpus comprised 212 documents forming the analytical dataset
2. Screening: Titles and abstracts were manually screened for relevance using inclusion criteria focused on the intersection of AI, organisational decision-making, and work design.
3. Eligibility: Full-text assessments were conducted by two independent researchers to ensure reliability and consistency. Inter-rater agreement reached Cohen's $\kappa = 0.87$. less attention has been paid.
4. Inclusion: After reconciliation of differences, the final corpus comprised 212 documents forming the analytical dataset.

The full PRISMA flowchart, together with detailed search strings, exclusion justifications, and the list of sources per database, is provided in Appendix A (Figure A1 and Tables A1–A2).

PRISMA 2020 Flow Diagram

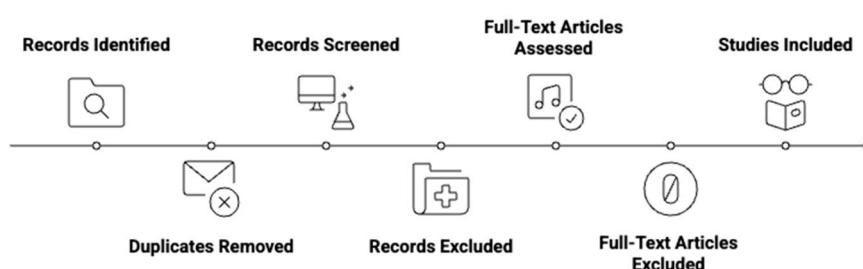


Figure A1. PRISMA 2020 Flowchart

Table A1

Search Strings Used Across Databases

Database	Search String	Period	Notes
Scopus	(“generative artificial intelligence” OR “large language models” OR “algorithmic management”) AND (“organisational decision-making” OR “work design” OR “managerial roles” OR “organisational transformation”)	2015–2025	Peer-reviewed journal articles only
Web of Science (WoS)	Same Boolean string	2015–2025	Excluded conference proceedings and book chapters

Table A2

Exclusion Justifications

Exclusion Category	Description
Non-peer-reviewed material	Editorials, opinion pieces, technical reports
Out of scope	Studies not addressing organisational or managerial aspects of GenAI
Insufficient methodological detail	Papers without adequate information for evaluating quality
Duplicates	Removed using reference management software (Zotero)

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