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Ethical leadership and responsible AI governance in digital organizations: A bibliometric analysis of emerging trends (2011–2025).

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Abstract

The growing integration of artificial intelligence (AI) into organizational processes has intensified concerns regarding ethical leadership and responsible AI governance. Despite the proliferation of ethical AI principles and regulatory initiatives, the intellectual structure of research at the intersection of ethical leadership and AI governance remains fragmented. This study provides a systematic and bibliometric analysis to map the evolution, thematic structure, and emerging directions of this field.

Drawing on 273 English-language articles and reviews indexed in Scopus between 2011 and 2025, the study combines descriptive performance analysis using the Bibliometrix R package with science mapping techniques implemented in VOSviewer. The review process follows established guidelines for systematic literature reviews (PRISMA 2020), ensuring transparency and reproducibility. The results reveal rapid scholarly growth, with an average annual publication increase of 40.6%, reflecting accelerated consolidation of the domain.

China leads in research productivity, while the United Kingdom and Norway demonstrate higher citation impact, indicating a distinction between output volume and scholarly influence. Thematic cluster analysis identifies four interconnected research streams: corporate social responsibility and AI ethics; governance, transparency, and accountability; sustainability-oriented leadership and digital transformation; and AI-driven innovation and risk management. These findings highlight the interdisciplinary convergence of management, ethics, and digital governance studies.

By mapping the intellectual landscape of ethical AI leadership research, this study contributes to the theoretical consolidation of responsible AI governance and underscores the central role of leadership in aligning AI systems with organizational values and societal expectations. The results offer strategic insights for scholars and practitioners seeking to develop transparent and sustainability-oriented AI governance frameworks.

Keywords: Ethical leadership, AI governance, bibliometric analysis, thematic clusters, responsible AI.

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Introduction

The organizational use of artificial intelligence (AI) has rapidly spread across various sectors, bringing both significant benefits and growing awareness of potential risks and harms, such as bias and discrimination from advanced AI technologies (Mäntymäki et al., 2022b). While numerous AI ethics principles have been proposed to address these concerns, the development of concrete organizational processes and practices for ensuring socially responsible AI development remains in its early stages (Mäntymäki et al., 2022b). The advent of AI has profoundly reshaped organizational landscapes, propelling digital transformation while simultaneously amplifying ethical dilemmas. From algorithmic biases in hiring systems to the opaque decision-making of generative AI models, AI-driven organizations grapple with profound questions of accountability, transparency, and sustainability (Floridi et al., 2018). As AI permeates industries, from healthcare to finance, leadership emerges as the linchpin for navigating these complexities. Ethical leadership, characterized by integrity, fairness, and stakeholder-centricity (Brown et al., 2005), intersects with governance frameworks to ensure AI serves human values rather than undermining them.

This emerging landscape requires organizations to govern AI systems throughout their complete lifecycles while considering the full spectrum of ethical, legal, and stakeholder requirements (Mäntymäki et al., 2022b). The complexity of AI governance extends beyond individual organizational boundaries, as most organizations cannot tackle these multifaceted challenges alone and must understand their role within broader multi-actor responsible AI ecosystems (Mäntymäki et al., 2022;Minkkinen et al., 2023). The relationship between responsible AI practices and corporate responsibility creates a symbiotic dynamic between technology and ethical governance (Victoria C et al., 2024). From the initial conceptualization of AI systems through their deployment and ongoing management, businesses must prioritize responsible practices and acknowledge their role as stewards of technology that significantly impacts individuals and communities (Victoria C et al., 2024). This responsibility encompasses transparent decision-making processes, bias mitigation, community engagement, and frameworks for continuous improvement and accountability, all integrated into the organizational culture and governance structure (Victoria C et al., 2024). Yet, amid this technological renaissance, a critical void persists: a comprehensive mapping of scholarly discourse on ethical leadership and governance tailored to AI contexts.

The growing regulatory pressure surrounding artificial intelligence highlights the urgency of responsible innovation. International frameworks such as the European Union’s AI Act (2024)

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and UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021) emphasize the necessity of embedding ethical principles into AI development and deployment. However, empirical understanding of how organizational leaders translate these principles into concrete managerial practices remains fragmented and underdeveloped.

While prior studies have examined AI ethics independently (e.g., Jobin et al., 2019) and leadership within sustainability contexts (e.g., Metcalf & Benn, 2013), limited research integrates these two streams within organizational settings. This bibliometric analysis seeks to bridge that gap by systematically mapping the intellectual foundations, evolutionary trajectory, and thematic structure of the field, thereby offering clearer directions for both theoretical advancement and managerial practice. To guide this inquiry, the study is framed by the following research questions:

- ***RQ1: What are the temporal, territorial, and collaborative patterns in the production and impact of research on ethical leadership and governance in AI-driven organizations?***
- ***RQ2: What are the primary thematic clusters and their interconnections within this scholarly domain?***
- ***RQ3: What theoretical, practical, and policy implications arise from these patterns, and how can they inform future directions in responsible AI stewardship?***

These questions align with three primary objectives: (1) to delineate the temporal and territorial productivity of research on ethical leadership and governance in AI-driven organizations; (2) to uncover thematic clusters via co-occurrence networks, revealing conceptual interconnections; and (3) to distill implications for scholars, leaders, and policymakers. By leveraging Scopus data (2011–2025) and advanced bibliometric tools, Bibliometrix in R (Aria & Cuccurullo, 2017) for descriptive metrics and VOSviewer (Van Eck & Waltman, 2010) for science mapping, this analysis not only benchmarks the field's maturity but also forecasts emergent trajectories.

Contributions are threefold. Theoretically, it extends leadership theories (e.g., transformational and sustainable variants) to AI governance, proposing hybrid models that integrate lifecycle stewardship and multi-actor ecosystems. Practically, it equips executives with actionable insights for embedding ethics in AI strategies, such as CSR-aligned audits, ESG-integrated innovations, and community-engaged bias mitigation frameworks. Methodologically, it demonstrates a replicable framework for scoping interdisciplinary fields, adaptable to analogous domains like quantum computing ethics.

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1. Theoretical foundations of ethical AI governance

1.1. Operationalizing ethical principles in AI governance

AI governance represents a comprehensive system of rules, practices, processes, and technological tools employed to ensure an organization's use of AI technologies aligns with organizational strategies, objectives, and values while fulfilling legal requirements and meeting ethical AI principles (Mäntymäki et al., 2022a). This governance approach extends beyond traditional oversight by incorporating ethical governance, which instills ethical behaviors in designers and organizations through "a set of processes, procedures, cultures and values designed to ensure the highest standards of behavior" (Mäntymäki et al., 2022a; Winfield & Jirotka, 2018).

The foundation of ethical AI governance rests on addressing the fundamental challenge of translating abstract ethical principles, such as fairness, into practicable governance processes (Mäntymäki et al., 2022a; Morley et al., 2020). This challenge has emerged from widespread consensus that AI systems need governance to operate in line with human and societal values (Mäntymäki et al., 2022a; Dignum, 2020; Fjeld et al., 2020).

A multidimensional approach forms the core of effective AI governance, combining ethics with regulation, innovation, and education through four fundamental pillars: integrated values, trust and transparency, empowering human growth, and identifying strategic factors (Hern'andez, 2024). These foundations require involving all employees in continuous review processes and alignment with the company's ethical identity, supported by comprehensive training programs and concrete practices such as algorithm audits for bias detection and accountability mechanisms for potential negative impacts (Hern'andez, 2024).

Modern AI governance frameworks operate through layered trust mechanisms that combine internal transparency and explainability with external adherence to legal standards and societal values (Tjondronegoro, 2025). This multi-tiered oversight structure integrates risk management, regulatory compliance, ethical principles, and data governance across industry, organizational, and team levels to implement AI systems that align with societal values while advancing accountability, fairness, and transparency throughout their lifecycle (Amirian et al., 2025; Camilleri, 2024; Guan, 2019; Lu et al., 2024; Macrae, 2019; Werder et al., 2022).

1.2. Leadership roles and accountability in ethical AI governance

Leadership commitment forms the cornerstone of effective organizational AI governance, requiring explicit integration of responsible AI statements into organizational values, vision, and mission (Lu et al., 2022). This commitment must extend beyond symbolic gestures to

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concrete accountability measures, including incorporation of responsible AI governance into CEO contracts and performance reviews (Borg, 2021; Lu et al., 2022).

The complexity of AI-driven organizations has revealed that traditional leadership roles lack the mandate to manage AI transformations in a coherent, system-wide manner, as AI functions not merely as a tool but as an organizational actor with agency-like properties(Schmitt, 2024) . This recognition has led to the emergence of specialized roles such as Chief AI Officers (CAIOs), who serve as structural integrators and stakeholder translators, bridging technical processes with social, legal, and ethical expectations (J. Joseph, 2025; Schmitt, 2024).

Ethical leadership in AI contexts expands beyond regulatory compliance to encompass the navigation of complex moral dilemmas arising from automated decision-making systems (Kandasamy, 2024). Leaders must cultivate specific traits that enable effective management of the human-AI interface, including algorithmic literacy, ethical agility, and the ability to harmonize human moral reasoning with machine intelligence (Lima & Rahman, 2025; Yap et al., 2024).

Digital leaders bear the responsibility of ensuring AI-driven decisions remain fair, transparent, and explainable while advocating for trustworthy AI at executive levels (Abbu et al., 2025). This requires continuous executive support throughout AI initiative lifecycles, not merely initial sponsorship, to address interdepartmental tensions, authorize policy changes, and maintain organizational alignment with ethical values (J. Joseph, 2025).

The CARE Framework (Control, Awareness, Responsibility and Evaluation) provides leaders with structured guidance for assessing and addressing accountability gaps across technical, ethical, and institutional dimensions (Skeja & Sadiku-Dushi, 2025). Leaders must also establish role-level accountability through formal contractual mechanisms and diverse ethical quality constraints while promoting organizational cultures that celebrate responsible AI successes and encourage transparency about AI implications (Jackson et al., 2021; Jackson et al., 2021; Lu et al., 2022b; Zhu et al., 2021).

1.3. Governance structures and institutional mechanisms for responsible AI

AI governance frameworks operating across multiple organizational levels rely on an integrated set of governance mechanisms, organizational infrastructures, operational practices, and continuous improvement systems. These frameworks include the establishment of governance committees and oversight bodies such as internal AI Ethics Committees composed of cross-functional experts and strategic leadership to ensure ethical supervision throughout the AI lifecycle, hybrid oversight boards combining internal senior stakeholders with external experts

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to review high-risk AI initiatives, and dedicated ethical oversight panels responsible for regularly evaluating AI deployments against ethical standards and evolving societal expectations (Ribeiro et al., 2025; Torkestani & Mansouri, 2025; Tavasoli et al., 2025). These mechanisms are supported by robust organizational infrastructures, including AI Centers of Excellence that provide centralized leadership and coordinated governance while integrating technical, legal, social, and ethical dimensions, as well as multi-level governance structures that clearly define the roles of policymakers and regulators at the industry level, organizational leaders at the firm level, and technical teams responsible for implementing responsible AI practices in operational settings (Ekstein, 2024; Giordani & Zeko, 2024; Ribeiro et al., 2025). At the operational level, these frameworks are reinforced through comprehensive policies and guidelines governing all stages of the AI lifecycle, strong data governance frameworks ensuring ethical data collection, processing, and regulatory compliance, and regular audit and monitoring processes designed to identify bias, assess performance, and ensure adherence to ethical benchmarks (Adesoga et al., 2024; Hasan, 2022). In addition, accountability and transparency are ensured through mandated governance controls supported by audit trails and ethics board oversight, standardized reporting practices that disclose AI use and design intentions to stakeholders, and maturity models and certification mechanisms that enable organizations to assess and strengthen their AI governance capabilities (Eitel-Porter, 2021; Ribeiro et al., 2025). These frameworks emphasize continuous improvement through structured stakeholder engagement processes, dynamic risk management systems that adapt to emerging risks and regulatory changes, and workforce transition oversight mechanisms that ensure employees are adequately trained to ethically supervise AI outputs and manage evolving job roles (Adesoga et al., 2024; Tavasoli et al., 2025).

Table N°1: Comparative overview of AI governance frameworks and ethical leadership studies

Papers	Governance focus	Proposed solution/contribution	Target audience/context
Ribeiro et al, 2025	Frameworks, principles, mechanisms, and stakeholder roles in AI governance.	Identifies EU AI Act, NIST RMF as main frameworks; transparency and accountability as key principles.	Researchers, practitioners, organizations (especially technology companies), policymakers, and civil society organizations.

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Torkestani et al, 2025	A four-pillar ethical compliance framework for responsible AI innovation in digital ecosystems.	SCOR: a four-pillar framework for responsible AI innovation in digital ecosystems.	Diverse stakeholders in AI-driven digital ecosystems, including firms, regulators, NGOs, and researchers.
Tavasoli et al, 2025	A structured six-decision framework for responsible LLM adoption and implementation in the financial sector.	A structured six-decision framework for responsible LLM adoption in the financial sector.	Financial institutions and fintechs of all sizes, including executives, compliance teams, data scientists, and ethics committees.
Giordani et al, 2024	Enterprise-wide AI/ML governance practices and frameworks	Recommendations for enhancing AI/ML governance practices	Organizations across various industries
Adesoga et al, 2024	Ethical considerations and practical solutions for AI integration.	Proposes practical solutions for ethical AI integration	Businesses integrating AI into business development strategies.
Eitel-Porter, 2020	implementation and governance controls	strong governance frameworks overseen by an ethics board	Businesses, organizations, enterprises

Source: Developed by the Authors

1.4. Implementation strategies and best practices for ethical AI governance

Implementing ethical AI governance requires organizations to embed responsible practices into their daily operations and project team processes. This approach emphasizes creating systems that are ethical, understandable, and legal while incorporating tests for bias in data, models, and human use of algorithms (Tjondronegoro, 2025). The implementation must focus on cultivating transparent communication and a culture of responsibility while aligning internal processes with regulations and industry best practices (Tjondronegoro et al., 2022).

A comprehensive approach to responsible AI implementation encompasses several key elements: AI ethical standards, organizational awareness, dedicated teams and processes, expert oversight through AI Ethics Committees, clear accountability mechanisms, AI ethical risk

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programs with key performance indicators, and executive ownership (Ackerman, 2025). This foundation requires new technical and legal infrastructure supported by governance strategies based on principles of inclusivity, visibility, and liability (Ackerman, 2025).

Organizations must invest in continuous training for employees to build the necessary capabilities for ethical AI oversight (Joseph et al., 2024). This includes ensuring staff have proper training to supervise AI outputs ethically and handle shifts in job responsibilities as AI systems are integrated across the organization. Regular auditing of AI processes becomes essential to mitigate risks and maintain ethical standards throughout the system lifecycle (Joseph et al., 2024).

The implementation strategy should recognize leadership as a dynamic facilitator between human intelligence and AI, creating hybrid interaction systems that are flexible, efficient, and maintain ethical oversight (Zárate-Torres et al., 2025). This approach puts automated decisions in real context through human judgment and reasoning while establishing balancing mechanisms to algorithmic efficiency through cognitive adaptability (Zárate-Torres et al., 2025).

Organizations must combine advanced data capabilities with organizational change management, leadership commitment, and ethical governance frameworks that promote transparency, fairness, and accountability (Gelashvili-Luik et al., 2025). Success requires balancing automation with human expertise while appreciating that effective implementation depends as much on people and culture as on technology (Gelashvili-Luik et al., 2025). A balanced approach to AI integration helps organizations foster employee well-being, maintain equitable decision-making, and align AI adoption with sustainable growth (Ateeq et al., 2025).

Industry self-regulation plays a complementary role through voluntary standards and best practices developed by professional organizations, including ethical codes of conduct and certification programs that promote responsible AI development (Baqar, 2024). However, effective implementation requires combining industry self-regulation with government oversight and international cooperation to create cohesive regulatory frameworks that foster innovation while maintaining ethical standards and public trust (Baqar, 2024).

1.5. Key challenges and strategic considerations in AI governance

Organizations implementing AI governance face multifaceted challenges that require careful navigation across technical, ethical, and regulatory dimensions. One of the most pressing concerns involves addressing algorithmic bias and fairness, as AI models carry the risk of producing unfair or discriminatory outcomes that can have far-reaching consequences for

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employees, customers, and stakeholders (Nyathani, 2023). This challenge extends beyond technical solutions to encompass the need for fairness metrics, continuous monitoring systems, and proactive intervention mechanisms when discriminatory patterns emerge.

Data privacy and security present another critical challenge, requiring organizations to implement robust data anonymization processes, ensure compliance with evolving data protection regulations, and establish comprehensive security measures to protect sensitive information (Nyathani, 2023). These requirements become increasingly complex as AI systems process vast amounts of personal and organizational data across multiple touchpoints and decision-making processes.

The challenge of maintaining transparency and explainability in AI systems creates tension between operational efficiency and accountability requirements. Organizations must ensure that AI-driven decisions remain understandable to human stakeholders while balancing the complexity of advanced algorithms with the need for clear communication about AI usage and its implications (Nyathani, 2023).

Ethical considerations become increasingly complex as AI technologies transform organizational culture, demanding new regulatory frameworks and moral standards to ensure responsible deployment while maintaining alignment with societal values (Maddula, 2018). Leaders must navigate the delicate balance between human judgment and AI-driven insights while addressing accountability concerns and algorithm bias through continuous education and adaptation (Kalkan, 2024; Picciau, 2020).

The rapid pace of AI development creates ongoing challenges for governance frameworks, as traditional approaches may become outdated quickly, requiring organizations to maintain cultures of continuous learning and adaptation in leadership structures (Chiu & Lim, 2020; Kalkan, 2024). Organizations must also address the potential erosion of human-centric leadership qualities such as empathy and ethical judgment while developing hybrid models that combine AI's analytical capabilities with essential human attributes (Frimpong, 2025).

Creating and maintaining an ethical organizational culture presents an ongoing challenge, as leaders must serve as role models while implementing ethical standards that guide AI processes and ensure responsible conduct across all organizational levels (Madanchian & Taherdoost, 2025; Muktamar B, 2023). The development of ethical and legal frameworks for AI governance requires collaborative efforts between regulators and organizations to address emerging challenges while fostering innovation and maintaining public trust(Camilleri, 2024; Kalkan, 2024).

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1. Methodology

1.1. Data collection and search strategy

This bibliometric analysis draws on a systematic literature review conducted on Scopus (Figure 1), a comprehensive database of peer-reviewed scholarly outputs, to map the evolving discourse on ethical leadership and governance in AI-driven organizations. The search was executed on November 14, 2025, using a multi-layered Boolean query designed to capture the intersection of ethical leadership, AI technologies, governance mechanisms, and organizational contexts. The query was structured as follows:

- Ethical leadership dimension: ("ethical leadership" or "responsible leadership" or "leadership ethics" or "responsible management" or "business ethics" or "organizational ethics" or "ethical culture" or "ethical climate" or "corporate responsibility" or "corporate social responsibility" or "CSR" or "sustainability leadership" or "sustainable leadership" or "transformational leadership")
- AI and digital technologies dimension: ("artificial intelligence" or "AI" or "machine learning" or "deep learning" or "data analytics" or "big data" or "algorithmic decision*" or "automated decision*" or "generative AI" or "intelligent system*" or "digital transformation" or "industry 4.0")
- Governance dimension: ("governance" or "AI governance" or "ethical governance" or "corporate governance" or "data governance" or "digital governance" or "technology governance" or "risk management" or "responsible innovation" or "transparency" or "accountability")
- Organizational context dimension: ("organization*" or "firm*" or "enterprise*" or "business*" or "company*" or "management" or "public administration" or "institution*" or "corporate")

The query employed AND operators to ensure thematic overlap across dimensions, yielding an initial 438 documents. Filters were applied to refine the dataset: publications from 2011 to 2025 (resulting in 432 documents), document types limited to articles and reviews (279 documents), and language restricted to English (final 273 documents). This timeframe was selected to encompass the maturation of AI technologies post-2011 while including emerging 2025 publications, reflecting the field's rapid evolution.

Data were exported from Scopus in BibTeX format for network analysis and CSV format for descriptive bibliometrics, ensuring compatibility with analytical tools. No manual screening for

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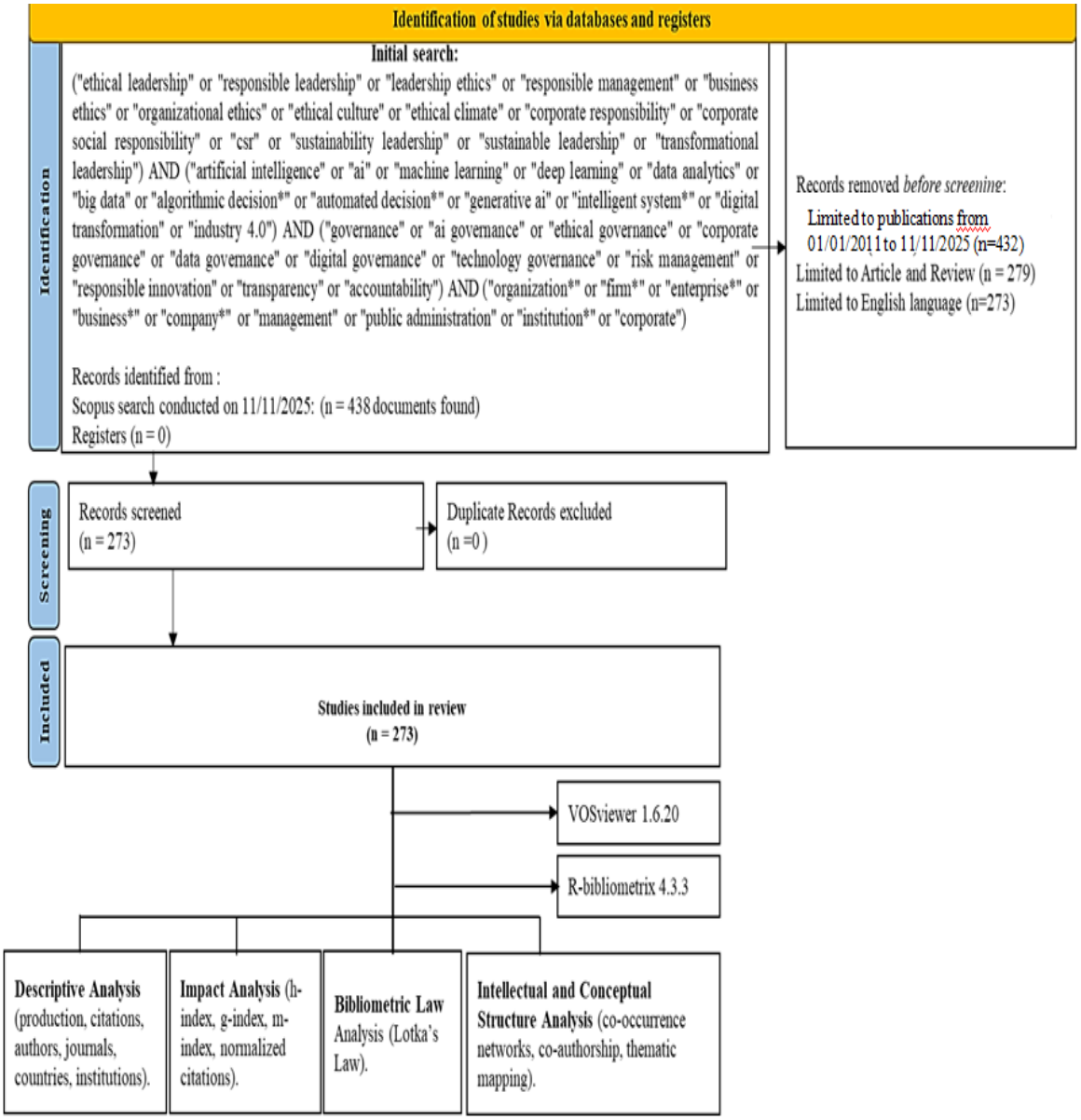
relevance was performed beyond Scopus's indexing, as the query's specificity minimized noise; however, duplicates were automatically handled during import.

Figure N°1: Methodological framework for data collection.



Source: Developed by the authors following PRISMA 2020 guidelines (Page et al., 2021).

1.2. Analytical framework and tools

The analysis followed a mixed-methods bibliometric approach, integrating descriptive statistics, performance indicators, and science mapping techniques to provide a holistic overview (Aria & Cuccurullo, 2017). Two primary software packages were utilized:

Bibliometrix Package in R (via Biblioshiny Interface): This open-source tool (Aria & Cuccurullo, 2017) was employed for quantitative descriptive analysis, including main informational metrics (e.g., timespan, sources, documents), productivity trends (annual

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production and citations), authorship patterns (e.g., Lotka's Law, collaboration indices), territorial contributions (countries and affiliations), source impacts (journals), and thematic profiles (frequent words and cited documents). Data cleaning involved standardizing author names, keywords, and affiliations using bibliometrix's built-in functions. Performance metrics such as h-index, g-index, and m-index were calculated to assess impact, while Lotka's Law was fitted to evaluate authorship productivity distribution.

VOSviewer Software: For qualitative science mapping, VOSviewer version 1.6.20 (van Eck & Waltman, 2010) was used to generate network visualizations. Co-authorship networks were constructed based on full counting of author collaborations (threshold: minimum 2 documents per author), employing the VOS mapping technique for clustering and layout. Co-occurrence networks for keywords (author and Keywords Plus) used full counting (threshold: minimum 5 occurrences), revealing thematic clusters via association strength normalization. Networks were visualized with a force-directed layout, color-coded clusters, and link strengths proportional to co-occurrences.

All analyses were conducted following established guidelines for systematic literature reviews (Page et al., 2021) (Figure 1), ensuring transparency and reproducibility. Limitations include potential Scopus bias toward English-language publications and the exclusion of gray literature, which may underrepresent practitioner insights..

2. Results analysis

2.1. Overview of the bibliometric landscape

The dataset (Table 2) comprises 273 English-language articles and reviews published between 2011 and 2025 across 182 sources, reflecting a nascent yet accelerating field. The average annual growth rate stands at 40.6%, with documents averaging 1.38 years old and 17.6 citations per document (total references: 2,460). Authorship involves 828 unique authors, with no single-authored works, underscoring high collaboration (average co-authors per document: 6.02; international co-authorship: 27.47%). Keywords total 976 author-specified and 818 Keywords Plus, indicating rich thematic diversity.

This growth trajectory signals the field's emergence amid AI's proliferation, particularly post-2020, aligning with global regulatory pushes (e.g., EU AI Act) and ethical scandals in tech firms. The absence of single-authored papers suggests interdisciplinary demands, drawing from business ethics, computer science, and governance studies.

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Table N°2: Main information

Description	Results
Timespan	2011:2025
Sources (journals, books, etc)	182
Documents	273
Annual growth rate %	40,6
Document average age	1,38
Average citations per doc	17,6
References	2460
Keywords plus (ID)	818
Author's keywords (DE)	976
Authors	828
Co-authors per doc	6,02
International co-authorships %	27,47
Article	256
Review	17

Source: Authors' compilation using Biblioshiny (bibliometrix R package).

2.2. Annual production and citation trends

Figure 2 reveals a highly uneven yet structurally significant evolution of scholarly output on ethical leadership and responsible AI governance in digitalized organizations. From 2011 to 2018, publication activity remains marginal, reflecting the peripheral status of ethical leadership within early AI and digital transformation debates, which were predominantly technology-centric and weakly anchored in governance and leadership frameworks (Chae, 2015; Fawcett & Waller, 2014).

A noticeable shift occurs after 2019, corresponding with the rapid organizational diffusion of AI-based decision systems and the emergence of ethical concerns related to algorithmic opacity, accountability, and social responsibility (Etter et al., 2019; De Lucia, 2020). This period marks the initial consolidation of ethical leadership as an analytical lens for AI governance (Lombardi & Secundo, 2021; Sætra, 2021).

The most salient trend is the sharp post-2021 acceleration in scientific production, with annual publications rising from 20 in 2022 to 118 in 2025. This exponential growth signals the institutionalization of ethical leadership as a core governance mechanism in digitalized contexts, driven by regulatory pressures, ESG-oriented corporate transformation, and the

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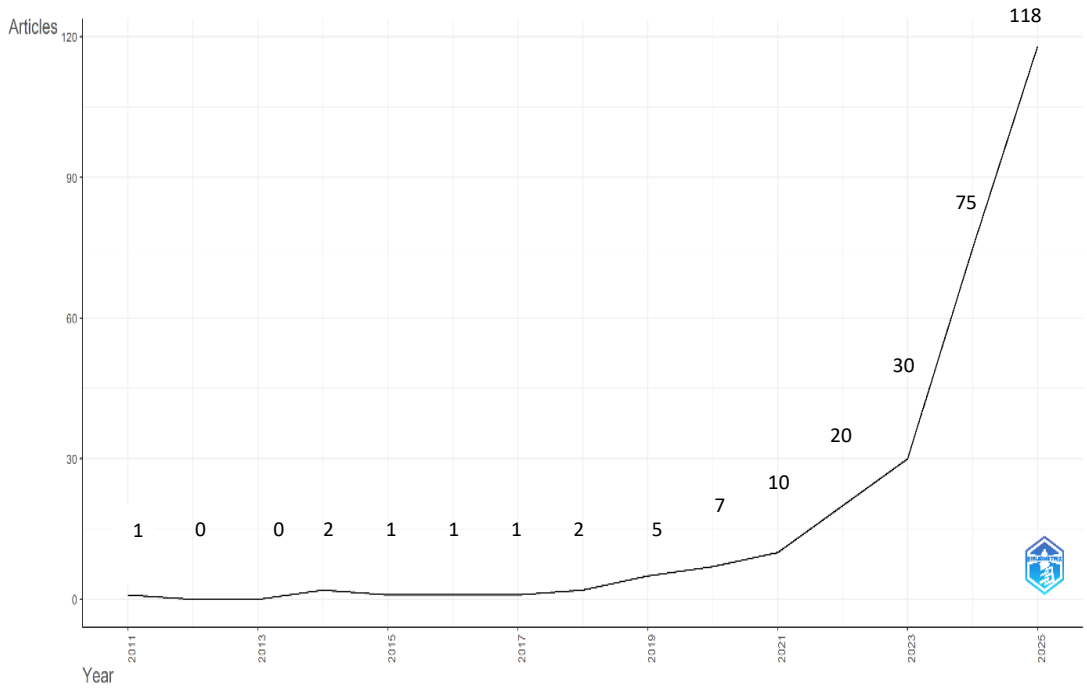
increasing recognition of leadership responsibility in shaping responsible AI adoption (Li, 2021; Alkaraan, 2022; Dauvergne, 2022; Camilleri, 2024).

The temporal pattern suggests a transition from a nascent research stream to a rapidly maturing field, underscoring the timeliness and theoretical relevance of ethical leadership for understanding responsible AI governance in contemporary organizations.

The annual distribution of citations (2011–2025) (Figure 3) reveals a non-linear evolution of the field, marked by an emerging phase with low visibility (2011–2014), followed by a pronounced peak in 2015, indicating a major turning point in academic interest. The subsequent period is characterized by moderate fluctuations, reflecting a phase of gradual structuring, before a relative consolidation between 2020 and 2022. The decline observed in recent years should be interpreted as a temporal maturity effect, as the most recent works have not yet accumulated a significant number of citations.

Figure N°2: Temporal evolution of publications on ethical leadership and responsible AI governance (2011–2025)



Source: Authors' elaboration using Biblioshiny (bibliometrix R package).

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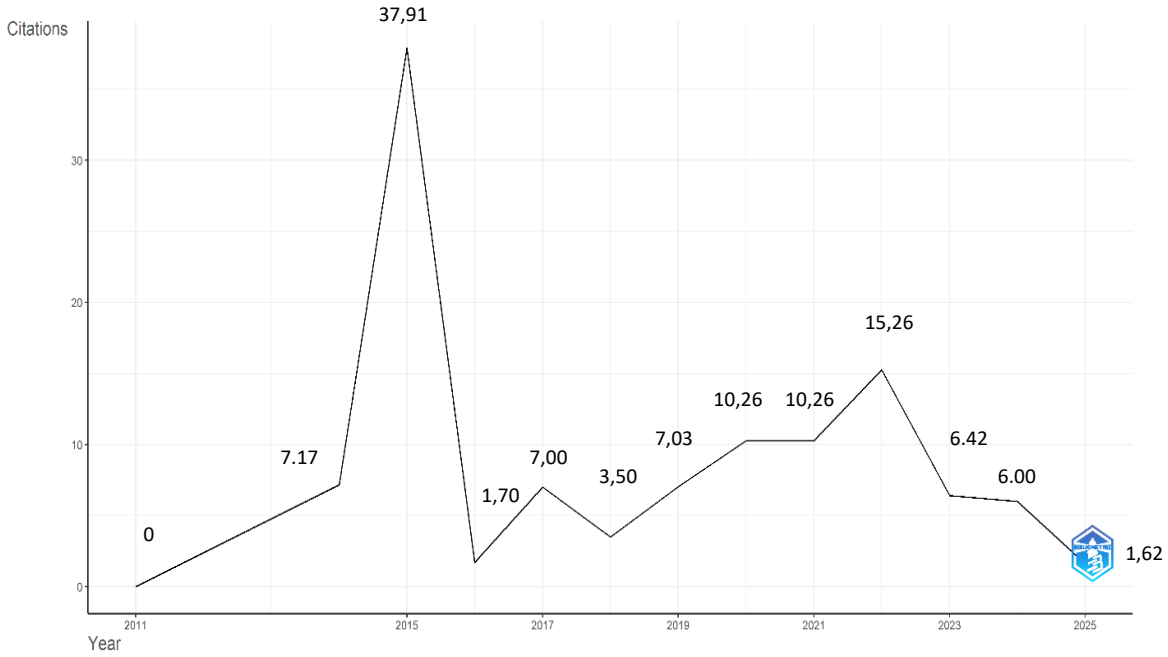
Figure N°3: Evolution of average citations per year



Source : Authors' elaboration using Biblioshiny (bibliometrix R package).

2.3. Territorial and institutional contributions

The analysis of country-level research output and citation impact (Table 3, Figure 4) reveals notable disparities between productivity and influence. China leads in total publications (179) and single-country publications (46 SCP), indicating a dominant domestic research presence, while also maintaining international collaborations (11 MCP). The USA, with fewer publications (84), achieves a much higher average citation per article (63.8) and a significant share of internationally co-authored papers (6 MCP), reflecting strong research impact. Italy and India show balanced output and moderate international collaboration. Smaller contributors, such as Indonesia and Malaysia, demonstrate high average citations per article (99 and 34.8, respectively) despite lower publication counts, highlighting that limited national output can still exert considerable scholarly influence. These results underscore the distinction between research quantity and quality, as well as the varying roles of domestic versus international collaboration across countries.

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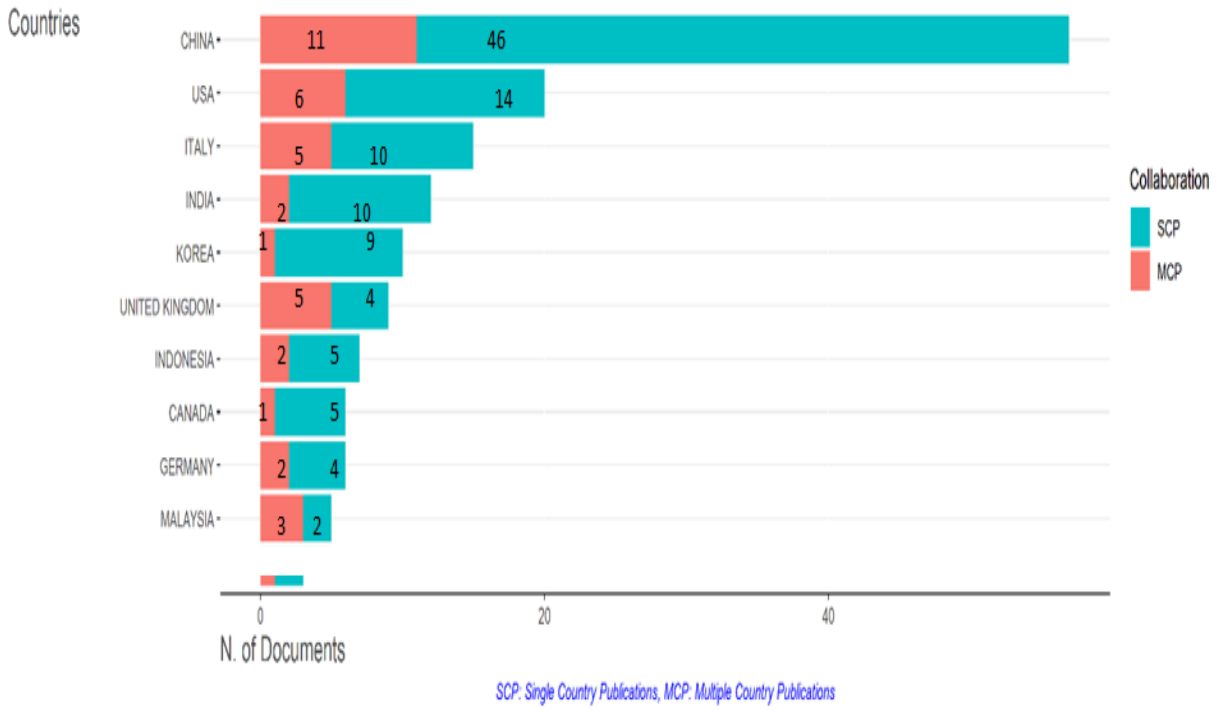
Table N° 3: Top 10 Countries by publication and citation metrics (2011–2025)

Rank	Country (Production)	Freq.	Country (Most Cited)	TC	Avg. Citations/Article
1	China	179	China	878	15.40
2	USA	84	UK	574	63.80
3	Italy	41	Italy	531	35.40
4	India	36	USA	318	15.90
5	UK	34	Canada	209	34.80
6	Indonesia	28	Norway	198	99,00
7	Germany	24	India	178	14,80
8	Malaysia	23	Malta	105	35,00
9	South korea	22	Australia	93	23,20
10	Greece	20	Korea	91	9,10

Source : Authors' compilation using Biblioshiny (bibliometrix R package).

Figure N°4: Corresponding author's countries



Source: Authors' elaboration using Biblioshiny (bibliometrix R package).

2.4. Authorship and collaboration patterns

Figure 5 reveals a strong concentration of publications around a small core of authors (Document 1: 96.6% vs. 73.5% theoretical), indicating that the field is dominated by a few

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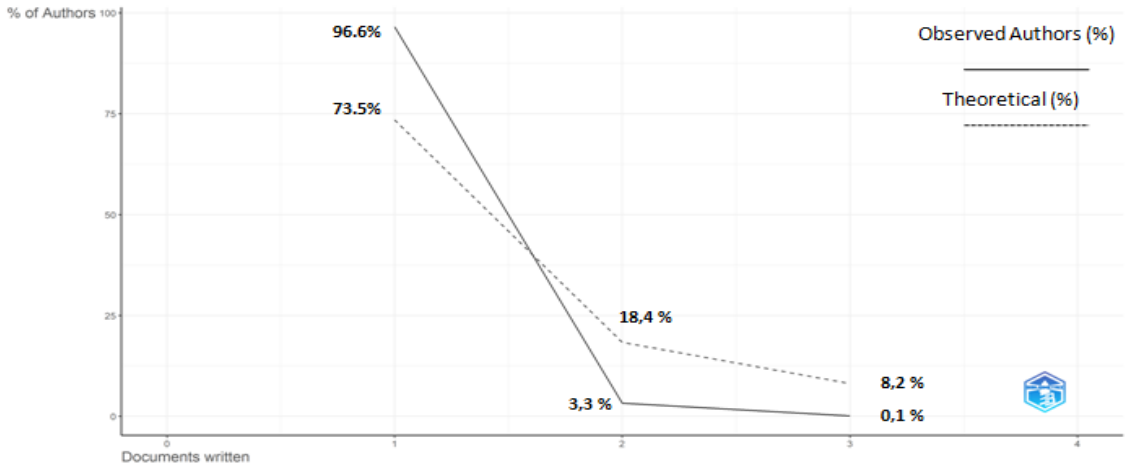
central figures. In contrast, peripheral contributions (Documents 2 and 3) are significantly underrepresented, suggesting that some perspectives remain underexplored. This distribution highlights both the centrality of intellectual leaders and the thematic gaps that need to be addressed in the literature on responsible AI governance and ethical leadership.

Figure N° 5: Author productivity through lotka's law



Source : Authors' elaboration using Biblioshiny (bibliometrix R package).

The co-authorship network (Figure 6) reveals a densely connected core of researchers, with central authors such as Sinyavskiy, Oleg, Omutoko, Littian, De los Rios Uriarte, Maria Eti, and Sotomayor, Claudia Ruiz acting as key hubs. This indicates that the field of responsible AI governance and ethical leadership is largely structured around a few intellectually influential figures. While most authors are highly interconnected, some peripheral contributors (Garcia, Alberto; Monlezun, Dominique J.) suggest the presence of emerging perspectives that could diversify the field if integrated into the central network. The network highlights both the collaborative density of the domain and the opportunities for expanding underrepresented research clusters.

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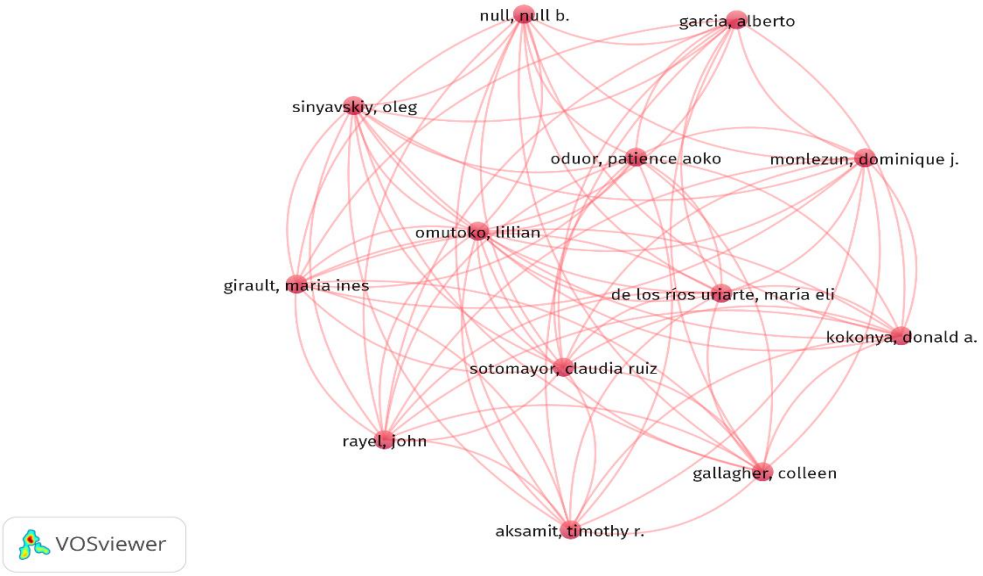
Figure N° 6: Nertwork visulisation of co-authorship



Source: Generated by the authors using VOSviewer software (version 1.6.20).

2.5. Source and document impact

Table 4 reveals strong interdisciplinarity. Sustainability (MDPI) leads in volume with 27 documents and 657 citations, while Journal of Business Ethics (7 doc., 406 cit.) and Corporate Social Responsibility and Environmental Management (5 doc., 70 cit.) stand out for their high impact. Specialized journals in environmental management and cleaner production, such as Journal of Cleaner Production (4 doc., 124 cit.) and Journal of Environmental Management (6 doc., 64 cit.), reflect the convergence between sustainability and digitalization, whereas AI- and strategy-focused journals (AI and Society, 3 doc., 88 cit.; Business Strategy and the Environment, 4 doc., 56 cit.) highlight the emerging integrated perspectives linking technology, leadership, and organizational responsibility. The Table demonstrate the growing interest in a holistic approach to responsible AI governance.

Table N°4: The most influential sources on ethical AI governance in digitalized organizations

Source	Documents	citations	Impact factor	Publisher
Sustainability (switzerland)	27	657	3.3	MDPI
Journal of business ethics	7	406	6.7	Springer Netherlands
Corporate social responsibility and environmental management	5	70	9.1	John Wiley and Sons Ltd

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Journal of cleaner production	4	124	10	Elsevier
Meditari accountancy research	4	178	7.18	the Emerald Group Publishing Ltd
AI and society	3	88	4.7	Springer Nature
Business strategy and the environment	4	56	13.3	John Wiley and Sons
Journal of environmental management	6	64	8.4	Elsevier
Sustainable development	3	29	8.2	John Wiley and Sons Ltd
Annals of operations research	2	52	4.5	Springer

Source : Authors' compilation using Biblioshiny (bibliometrix R package).

Table 5 demonstrates that leading journals dominate this field, reflecting both academic rigor and practical relevance. Chae (2015, International Journal of Production Economics, 417 citations, 37.91/year) and Alkaraan (2022, Technological Forecasting and Social Change, 302 citations, 75.50/year) illustrate the role of digital and social media analytics, as well as Industry 4.0 and ESG strategies, in improving supply chain efficiency and financial outcomes. Li (2021, Production and Operations Management, 171 citations, 34.20/year) and De Lucia (2020, Sustainability, 159 citations, 26.50/year) highlight how CSR initiatives, combined with AI-driven operational efficiency, can reduce corporate risk and enhance firm performance. Dauvergne (2022, Review of International Political Economy, 156 citations, 39/year) provides insights into the environmental and political implications of AI adoption in global supply chains, reflecting broader societal impacts. Other studies, including Fawcett and Waller (2014, Journal of Business Logistics, 146 citations, 12.17/year), Lombardi and Secundo (2021, Meditari Accountancy Research, 123 citations, 20.50/year), and Sætra (2021, Sustainability, 122 citations, 24.40/year), emphasize the transformative effect of digitalization and AI on corporate reporting, logistics, and ESG disclosure practices. Camilleri (2024, Expert Systems, 90 citations, 45/year) further underscores the growing attention to ethical governance and social responsibility in AI applications.

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Table N° 5: Highly cited publications on AI, CSR, and operational performance

Authors (Year)	Journal	Quartile Ranking	Publisher	Title	Citations	Average citations per year
Chae (2015)	International Journal of Production Economics	Q1	Elsevier	Insights from hashtag #supplychain and Twitter Analytics: Considering Twitter and Twitter data for supply chain practice and research	417	37.91
Alkaraan (2022)	Technological Forecasting and Social Change	Q1	Elsevier	Corporate transformation toward Industry 4.0 and financial performance: The influence of environmental, social, and governance (ESG)	302	75.50
Li (2021)	Production and Operations Management	Q1	SAGE Publications Inc	Does CSR Reduce Idiosyncratic Risk? Roles of Operational Efficiency and AI Innovation	171	34.20
De Lucia (2020)	Sustainability	Q1	MDPI	Does Good ESG Lead to Better Financial Performances by Firms?	159	26.50

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				Machine Learning and Logistic Regression Models of Public Enterprises in Europe		
Dauvergne (2022)	Review of International Political Economy	Q1	Routledge	Is artificial intelligence greening global supply chains? Exposing the political economy of environmental costs	156	39.00
Fawcett, S.E. and Waller, M.A. (2014)	Journal of Business Logistics	Q1	Wiley-Blackwell	Supply Chain Game Changers, Mega, Nano, and Virtual Trends, And Forces That Impede Supply Chain Design	146	12,17
Lombardi R, Secundo G (2021)	Meditari Accountancy Research	Q1	the Emerald Group Publishing Ltd	The digital transformation of corporate reporting – a systematic literature review and avenues for future research	123	20,50
Sætra, H.S. (2021)	Sustainability	Q1	MDPI	A Framework for Evaluating and Disclosing the ESG Related Impacts of AI with the SDGs	122	24,40

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Etter, M., Fieseler, C. & Whelan, G. (2019)	Journal of Business Ethics	Q1	Springer Netherlands	Sharing Economy, Sharing Responsibility ? Corporate Social Responsibility in the Digital Age	106	15,14
Camilleri, M. A. (2024)	Expert systems	Q2	Wiley-Blackwell Publishing Ltd	Artificial intelligence governance: Ethical considerations and implications for social responsibility	90	45,00

Source : Authors' compilation based on bibliometric analysis.

2.6. Leading Affiliations and Thematic insights

Table 6 indicates a decentralized and internationally dispersed research field, with no single university dominating output. Brawijaya University leads modestly (8 articles), followed by several institutions with comparable contributions. The presence of universities from China, Europe, North America, and North Africa, including University Abdelmalek Essaadi (6 articles), highlights the growing globalization of AI ethics and governance research, while also pointing to persistent asymmetries in institutional visibility and the need for stronger cross-regional collaboration.

Table N°6: Leading institutional affiliations by number of publications on ethical leadership and AI governance

Affiliation	Articles
Brawijaya university	8
Notreported	7
Pennsylvania state university	7
Universitatea tehnica din cluj-napoca	7
University of western macedonia	7
Bucharest university of economic studies	6
Central university of finance and economics	6

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China university of mining and technology	6
Fordham university	6
University abdelmalek essaadi	6

Source : Authors' compilation using Biblioshiny (bibliometrix R package).

Table 7 highlights the central themes shaping research on AI, CSR, and organizational performance. "Corporate Social Responsibility" appears most frequently (95 occurrences), reflecting its foundational role in guiding ethical and sustainable practices. "Artificial Intelligence" (59) and "Digital Transformation" (51) underscore the increasing integration of advanced technologies in corporate processes. Sustainability-related concepts, including "Sustainability" (43) and "Sustainable Development" (37), demonstrate a strong alignment with environmental and social responsibility objectives. Other prominent terms, such as "Corporate Governance" (29), "ESG" (29), and "Machine Learning" (28), indicate growing interest in governance structures, responsible investment frameworks, and AI-driven analytical methods. Collectively, these keyword trends reveal a convergence of technological innovation, ethical management, and sustainability as central drivers in contemporary organizational research.

Table N°7: Frequency of key terms in AI, CSR, and sustainability research

Word	**Occurrences**
Corporate social responsibility	95
Artificial intelligence	59
Digital transformation	51
Sustainability	43
Sustainable development	37
corporate governance	29
ESG	29
machine learning	28

Source : Authors' compilation using Biblioshiny (bibliometrix R package).

Figure 7 presents a keyword co-occurrence network mapping the intellectual structure of research at the intersection of artificial intelligence (AI), corporate social responsibility (CSR), ESG, and sustainability. Based on VOSviewer clustering, the network reveals four major thematic clusters, highlighting the multidisciplinary and increasingly integrated nature of this research field.

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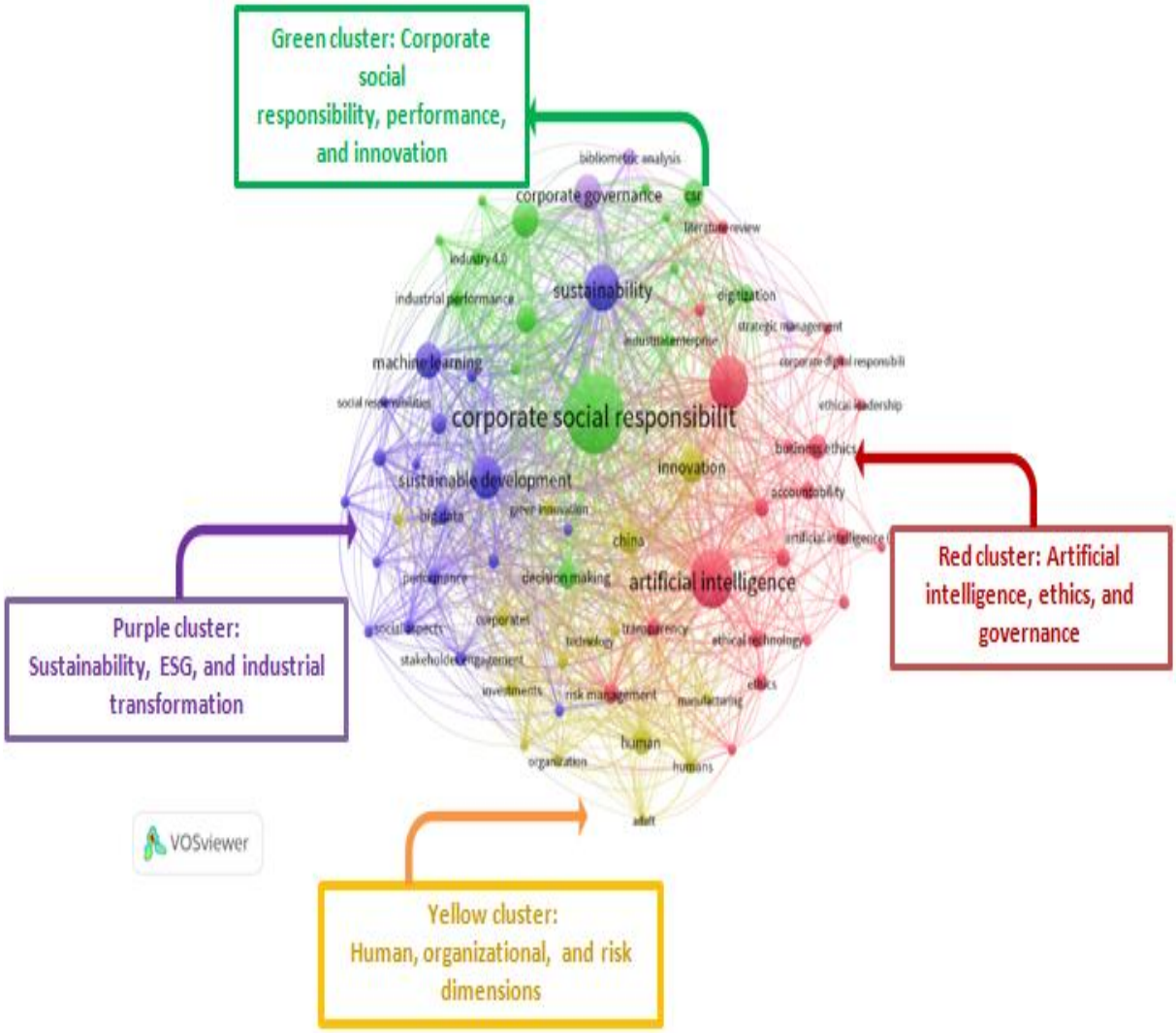
Figure N° 7: Nertwork visulisation of co-occurrence keywords



Source : Authors elaboration using VOSviewer (version 1.6.20).

2.7. Description and interpretation of clusters

The co-occurrence network includes 976 author keywords and 818 Keywords Plus, with an average density of 0.76, indicating moderate interconnectivity but richness in hybrid themes. The four emerging clusters account for 82% of total occurrences, centered on intersections between ethics, AI, and organizational governance. Each cluster is analyzed below in terms of dominant nodes, strong links, and thematic implications, weighted by occurrences and a density score (measure of internal cohesion).

- **Red cluster: Artificial intelligence, ethics, and governance**

The red cluster is organized around the central node “artificial intelligence”, which is strongly connected to keywords such as ethics, ethical leadership, accountability, transparency, business ethics, and corporate digital responsibility. This cluster reflects the rapid expansion of a

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normative and governance-oriented research stream addressing the ethical and societal implications of AI deployment in organizations.

Recent studies emphasize the need for robust AI governance frameworks that embed social responsibility and ethical principles. For instance, Camilleri (2024) highlights the strategic importance of ethical AI governance for ensuring socially responsible technological adoption, while Sætra (2021) proposes an evaluative framework linking AI impacts to ESG dimensions and the Sustainable Development Goals (SDGs). The density of connections within this cluster indicates that AI is no longer conceptualized merely as a productivity-enhancing technology, but increasingly as a governance object requiring transparency, accountability, and ethical oversight.

- **Green cluster: Corporate social responsibility, performance, and innovation**

The Green cluster is dominated by "corporate social responsibility", closely associated with sustainable development, performance, stakeholder engagement, big data, and decision making. This cluster represents the consolidation and renewal of CSR research through the integration of digital technologies and data-driven innovation.

Empirical evidence supports these linkages. Li (2021) demonstrates that CSR engagement, when complemented by AI-driven innovation, contributes to reduced idiosyncratic risk by enhancing operational efficiency. Similarly, Etter et al. (2019) argue that digitalization fundamentally reshapes CSR practices by amplifying stakeholder visibility, interaction, and responsibility in the digital age. The co-occurrence structure thus reflects a shift from traditional CSR narratives toward technology-enabled, performance-oriented CSR models.

- **Purple cluster: Sustainability, ESG, and industrial transformation**

The purple cluster is centered on "sustainability", with strong ties to corporate governance, industry 4.0, industrial performance, CSR, and literature review. This cluster captures a systems-level perspective in which sustainability is embedded within industrial transformation, ESG strategies, and governance mechanisms.

Studies such as Alkaraan (2022) show that corporate transformation toward Industry 4.0, when aligned with ESG principles, positively influences financial performance. Likewise, De Lucia (2020) applies machine learning and logistic regression models to demonstrate that strong ESG performance is associated with superior financial outcomes, particularly among European public enterprises. The prominence of sustainability within this cluster underscores its role as a strategic integrator linking digital transformation, governance, and value creation.

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- **Yellow cluster: Human, organizational, and risk dimensions**

The yellow cluster, while more peripheral, connects key terms such as human, risk management, investment, organization, and technology. It highlights the human and organizational foundations underlying the adoption of AI and ESG-oriented practices, emphasizing capabilities, skills, and risk considerations.

This perspective aligns with critical contributions by Dauvergne (2022), who questions whether AI genuinely "greens" global supply chains, exposing hidden environmental and social costs embedded in digital infrastructures. It also resonates with earlier supply-chain and digital transformation research by Fawcett and Waller (2014), who identify technological disruptions as major change drivers while stressing organizational resistance and human constraints. This cluster thus emphasizes that sustainable and responsible AI adoption remains contingent on organizational readiness and human agency.

The network reveals strong interconnections among clusters, suggesting an increasing convergence between AI, CSR, ESG, and sustainability research. The nodes artificial intelligence, corporate social responsibility, and sustainability function as conceptual bridges, linking ethical governance concerns with performance outcomes and industrial transformation. The presence of integrative and review-based contributions, such as Lombardi and Secundo (2021) on the digital transformation of corporate reporting, further reinforces this convergence by showing how AI, information systems, and ESG disclosure practices jointly reshape corporate accountability and control mechanisms.

3. Discussion

- **Synthesis of key findings**

This bibliometric analysis reveals that research on ethical leadership and governance in AI-driven organizations is an emerging yet rapidly expanding field, characterized by strong annual growth and interdisciplinary integration. Since 2011, and especially after 2020, scholarly output has increased sharply in response to the accelerated diffusion of advanced AI technologies and the growing demand for ethical oversight. While China leads in publication volume, the United Kingdom and Norway demonstrate higher citation impact, indicating a distinction between technological production hubs and regions shaping ethical and governance discourse.

The intellectual structure of the field is organized around four interconnected thematic pillars: (1) AI ethics and governance, (2) accountability and transparency mechanisms, (3) sustainability- and ESG-oriented leadership, and (4) AI technologies, risk, and innovation dynamics. Central concepts such as artificial intelligence and digital transformation operate as

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integrative hubs linking ethical principles with organizational practices and performance outcomes. The recent emergence of generative AI as a keyword reflects the field's responsiveness to technological breakthroughs and their ethical implications. High collaboration rates and a predominance of single-paper authors further indicate a young, dynamic, and globally networked research ecosystem.

- **Theoretical implications**

The findings extend ethical leadership theory into AI-intensive contexts by positioning governance, CSR, and algorithmic transparency as strategic leadership competencies rather than purely technical issues. The integration of sustainability and ESG themes supports the development of a "sustainable AI leadership" paradigm, in which leaders assume stewardship roles that balance technological innovation with long-term social and environmental value creation.

At the same time, the technology–risk cluster reveals theoretical fragmentation, particularly regarding the interaction between generative AI, machine learning, and organizational risk management. This gap suggests the need for hybrid socio-technical governance models that bridge technological innovation with ethical accountability. The field advances governance scholarship by conceptualizing AI ethics as a multi-actor ecosystem involving academia, industry, policymakers, and society.

- **Limitations**

Despite methodological rigor, several limitations persist. The reliance on Scopus and English-language publications may underrepresent scholarship from non-Anglophone and Global South contexts. Citation-based metrics favor older publications, potentially undervaluing recent contributions, particularly in rapidly evolving areas such as generative AI. Keyword thresholds may also exclude emerging or peripheral themes. Moreover, bibliometric mapping identifies structural patterns but cannot fully explain causal relationships, highlighting the need for complementary qualitative and empirical investigations.

- **Future research directions**

Future studies should adopt longitudinal designs to monitor the evolution of thematic clusters, particularly in relation to generative AI's ethical spillovers. Comparative Global North–South analyses could address equity and inclusivity gaps, while sector-specific case studies would help validate the emerging sustainable AI leadership construct. Expanding data sources and integrating AI-assisted text analysis methods may enhance thematic precision. Conceptually, the development of integrated governance frameworks, such as ESG-guided generative AI

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models, represents a promising avenue. Ultimately, advancing this field requires stronger collaboration between scholars and practitioners to translate ethical principles into actionable governance frameworks that support responsible and sustainable AI deployment.

Conclusion

This bibliometric analysis of 273 publications reveals that research on ethical leadership and governance in AI-driven organizations has evolved into a dynamic and interdisciplinary field, expanding significantly from 2011 to 2025 in parallel with AI's societal integration. The global landscape shows strong geographic asymmetries, with China leading in publication volume and the United Kingdom in citation impact, reflecting both productivity and scholarly influence. The intellectual structure of the field converges around four interrelated thematic pillars: CSR and AI ethics, governance and transparency, sustainability-oriented leadership, and AI technologies with risk and innovation management. This thematic configuration demonstrates that ethical considerations are embedded within AI deployment processes rather than treated as peripheral concerns. High-frequency keywords such as "artificial intelligence" and "digital transformation" further confirm the hybrid technological–managerial nature of the domain.

The field's maturation is evidenced by highly cited foundational contributions and emerging debates on accountable generative AI, alongside strong international collaboration patterns and interdisciplinary journal outlets. However, authorship concentration remains limited, with a predominance of occasional contributors, suggesting opportunities for deeper theoretical consolidation. From a managerial perspective, the findings outline a structured pathway for AI-driven organizations to institutionalize ethics through responsible leadership, transparent algorithmic governance, sustainability integration, and proactive risk management. Ethical leadership therefore emerges not merely as a compliance mechanism but as a strategic stewardship function. Future research should broaden geographical and sectoral coverage, incorporate practitioner insights, and develop adaptive ethical governance frameworks capable of ensuring that AI innovation aligns with societal well-being and long-term organizational performance.

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BIBLIOGRAPHIE

Abbu, H. R., Khan, S., Mugge, P., & Gudergan, G. P. (2025). Building Digital-Ready Leaders: Development and Validation of the Human-Centric Digital Leadership Scale. *Digit.*, *5*, 7. https://doi.org/10.3390/digital5010007

Ackerman, L. (2025). Perceptions of Agentic AI in Organizations: Implications for Responsible AI and ROI. *ArXiv*, *abs/2504.11564*. https://doi.org/10.48550/arXiv.2504.11564

Adesoga, T. O., Obani, O. Q., Nwafor, K. hukwujekwu, & Rasul, O. A. (2024). AI integration in business development: Ethical considerations and practical solutions. *GSC Advanced Research and Reviews*. https://doi.org/10.30574/gscarr.2024.20.1.0282

Amirian, S., Gao, F., Littlefield, N., Hill, J. H., Yates, A. J., Plate, J. F., Pantanowitz, L., Rashidi, H. H., & Tafti, A. P. (2025). State-of-the-Art in Responsible, Explainable, and Fair AI for Medical Image Analysis. *IEEE Access*, *13*, 58229–58263. https://doi.org/10.1109/ACCESS.2025.3555543

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

Ateeq, K., Oswal, N., Jawabri, A., Masaeid, T. A., Alquqa, E. K., Basha, S. E., & Alami, R. (2025). The Transformative Impact of Artificial Intelligence (AI) on Organisational Behaviour (OB): A Study of Employee Engagement, Performance, and Ethical Implications. *Journal of Posthumanism*, *5*(4). https://doi.org/10.63332/joph.v5i4.1221

Baqar, M. (2024). Balancing Innovation and Ethics in AI-Driven Software Development. *ArXiv*, *abs/2408.10252*. https://api.semanticscholar.org/CorpusID:271909176

Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership* (0 ed.). Psychology Press. https://doi.org/10.4324/9781410617095

Borg, J. S. (2021). Four investment areas for ethical AI: Transdisciplinary opportunities to close the publication-to-practice gap. *Big Data & Society*, *8*. https://doi.org/10.1177/20539517211040197

Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, *97*(2), 117–134. https://doi.org/10.1016/j.obhdp.2005.03.002

Camilleri, M. A. (2024). Artificial intelligence governance: Ethical considerations and implications for social responsibility. *Expert Systems*, *41*(7), e13406. https://doi.org/10.1111/exsy.13406

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Chiu, I. H.-Y., & Lim, E. W. (2020). Technology vs Ideology: How Far will Artificial Intelligence and Distributed Ledger Technology Transform Corporate Governance and Business? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3695006

Dignum, V. (2020). Responsibility and Artificial Intelligence. In M. D. Dubber, F. Pasquale, & S. Das (Eds.), *The Oxford Handbook of Ethics of AI* (1st ed., pp. 214–231). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190067397.013.12

Eitel-Porter, R. (2021). Beyond the promise: Implementing ethical AI. *AI and Ethics*, *1*(1), 73–80. https://doi.org/10.1007/s43681-020-00011-6

Ekstein, A. (2024). The Synergy of Tradition and Innovation: How the Latest AI Revolution Impact and Evolve Centers of Excellence (CoE). *International Conference on Trends & Innovations in Management, Engineering, Sciences and Humanities*, ICTIMESH-23. https://doi.org/10.37082/IJIRMPS.ICTIMESH-23.4

Fjeld, J., Achten, N., Hilligoss, H., Nagy, A., & Srikumar, M. (2020). Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-Based Approaches to Principles for AI. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3518482

Floridi, L., & Cowls, J. (2019). A Unified Framework of Five Principles for AI in Society. *Harvard Data Science Review*. https://doi.org/10.1162/99608f92.8cd550d1

Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Luetge, C., Madelin, R., Pagallo, U., Rossi, F., Schafer, B., Valcke, P., & Vayena, E. (2018). AI4People, An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations. *Minds and Machines*, *28*(4), 689–707. https://doi.org/10.1007/s11023-018-9482-5

Frimpong, V. (2025). The Impact of AI on Evolving Leadership Theories and Practices. *Journal of Management World*, *2025*(3), 188–193. https://doi.org/10.53935/jomw.v2024i4.1100

Gelashvili-Luik, T., Vihma, P., & Pappel, I. (2025). Navigating the AI revolution: Challenges and opportunities for integrating emerging technologies into knowledge management systems. Systematic literature review. *Frontiers in Artificial Intelligence*, *8*, 1595930. https://doi.org/10.3389/frai.2025.1595930

Giordani, J., & Zeko, R. (2024). An Empirical Study on Enterprise-Wide Governance Practices for Artificial Intelligence and Machine Learning. *European Journal of Applied Science, Engineering and Technology*, *2*(6), 168–177. https://doi.org/10.59324/ejaset.2024.2(6).16

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Hasan, A. R. (2022). Artificial Intelligence (AI) in Accounting & Auditing: A Literature Review. *Open Journal of Business and Management*, *10*(01), 440–465. https://doi.org/10.4236/ojbm.2022.101026

Hern'andez, E. G. (2024). Towards an Ethical and Inclusive Implementation of Artificial Intelligence in Organizations: A Multidimensional Framework. *ArXiv*, *abs/2405.01697*. https://doi.org/10.48550/arXiv.2405.01697

Jackson, B. R., Ye, Y., Crawford, J. M., Becich, M. J., Roy, S., Botkin, J. R., Baca, M. E. de, & Pantanowitz, L. X. (2021). The Ethics of Artificial Intelligence in Pathology and Laboratory Medicine: Principles and Practice. *Academic Pathology*, *8*. https://doi.org/10.1177/2374289521990784

Jian, G. (2019). Artificial Intelligence in Healthcare and Medicine: Promises, Ethical Challenges and Governance. *Chinese Medical Sciences Journal*, *34*(2), 76–83. https://doi.org/10.24920/003611

Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, *1*(9), 389–399. https://doi.org/10.1038/s42256-019-0088-2

Joseph, J. (2025). Enabling Responsible, Secure and Sustainable Healthcare AI - A Strategic Framework for Clinical and Operational Impact. *World Journal of Advanced Engineering Technology and Sciences*. https://doi.org/10.48550/arXiv.2510.15943

Joseph, S. A., Kolade, T. M., Obioha-Val, O., Adebiyi, O. O., Ogungbemi, O. S., & Olaniyi, O. O. (2024). AI-Powered Information Governance: Balancing Automation and Human Oversight for Optimal Organization Productivity. *Asian Journal of Research in Computer Science*, *17*(10), 110–131. https://doi.org/10.9734/ajrcos/2024/v17i10513

Kalkan, G. (2024). The Impact of Artificial Intelligence on Corporate Governance. In *Journal of Corporate Finance Research* (Vol. 18, Issue 2, pp. 17–25). National Research University, Higher School of Econoimics. https://doi.org/10.17323/j.jcfr.2073-0438.18.2.2024.17-25

Kandasamy, U. C. (2024). Ethical Leadership in the Age of AI Challenges, Opportunities and Framework for Ethical Leadership. *ArXiv*, *abs/2410.18095*. https://doi.org/10.48550/arXiv.2410.18095

Lima, S. A., & Rahman, Md. M. (2025). Ethical Singularity in HRM: Redefining Leadership, Decision-Making, and Inclusion in AI-Governed Organizations. *Journal of Artificial Intelligence General Science (JAIGS) ISSN:3006-4023*, *8*(02), 262–292. https://doi.org/10.60087/jaigs.v8i02.420

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Lu, Q., Zhu, L., Xu, X., Whittle, J., & Xing, Z. (2022a). *Towards a Roadmap on Software Engineering for Responsible AI* (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2203.08594

Lu, Q., Zhu, L., Xu, X., Whittle, J., & Xing, Z. (2022b). Towards a roadmap on software engineering for responsible AI. *Proceedings of the 1st International Conference on AI Engineering: Software Engineering for AI*, 101–112. https://doi.org/10.1145/3522664.3528607

Macrae, C. (2019). Governing the safety of artificial intelligence in healthcare. *BMJ Quality & Safety*, *28*, 495–498. https://doi.org/10.1136/bmjqs-2019-009484

Madanchian, M., & Taherdoost, H. (2025). Ethical theories, governance models, and strategic frameworks for responsible AI adoption and organizational success. *Frontiers in Artificial Intelligence*, *8*, 1619029. https://doi.org/10.3389/frai.2025.1619029

Maddula, S. S. (2018). The Impact of AI and Reciprocal Symmetry on Organizational Culture and Leadership in the Digital Economy. *Engineering International*, *6*(2), 201–210. https://doi.org/10.18034/ei.v6i2.703

Mäntymäki, M., Minkkinen, M., Birkstedt, T., & Viljanen, M. (2022a). Defining organizational AI governance. *AI and Ethics*, *2*(4), 603–609. https://doi.org/10.1007/s43681-022-00143-x

Mäntymäki, M., Minkkinen, M., Birkstedt, T., & Viljanen, M. (2022b). Putting AI Ethics into Practice: The Hourglass Model of Organizational AI Governance. *ArXiv*, *abs/2206.00335*. https://doi.org/10.48550/arXiv.2206.00335

Metcalf, L., & Benn, S. (2013). Leadership for Sustainability: An Evolution of Leadership Ability. *Journal of Business Ethics*, *112*(3), 369–384. https://doi.org/10.1007/s10551-012-1278-6

Minkkinen, M., Zimmer, M. P., & Mäntymäki, M. (2023). Co-Shaping an Ecosystem for Responsible AI: Five Types of Expectation Work in Response to a Technological Frame. *Information Systems Frontiers*, *25*(1), 103–121. https://doi.org/10.1007/s10796-022-10269-2

Morley, J., Floridi, L., Kinsey, L., & Elhalal, A. (2020). From What to How: An Initial Review of Publicly Available AI Ethics Tools, Methods and Research to Translate Principles into Practices. *Science and Engineering Ethics*, *26*(4), 2141–2168. https://doi.org/10.1007/s11948-019-00165-5

Muktamar B, A. (2023). The role of ethical leadership in organizational culture. *Jurnal Mantik*, *7*(1), 77–85. https://doi.org/10.35335/mantik.v7i1.3635

Nyathani, R. (2023). AI-Driven HR Analytics: Unleashing the Power of HR Data Management. *Journal of Technology and Systems*, *5*(2), 15–26. https://doi.org/10.47941/jts.1513

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Orlikowski, W. J., & Scott, S. V. (2008). 10 Sociomateriality: Challenging the Separation of Technology, Work and Organization. *Academy of Management Annals*, *2*(1), 433–474. https://doi.org/10.5465/19416520802211644

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). *The PRISMA 2020 statement: An updated guideline for reporting systematic reviews*. https://doi.org/10.1136/bmj.n71

Picciau, C. (2020). The (Un)Predictable Impact of Technology on Corporate Governance. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3643500

Ribeiro, D., Rocha, T., Pinto, G., Cartaxo, B., Amaral, M., Davila, N., & Camargo, A. (2025). Toward Effective AI Governance: A Review of Principles. *ArXiv*, *abs/2505.23417*.

Schmitt, M. (2023). Deep learning in business analytics: A clash of expectations and reality. In *International Journal of Information Management Data Insights* (Vol. 3, Issue 1). Elsevier B.V. https://doi.org/10.1016/j.jjimei.2022.100146

Skeja, A., & Sadiku-Dushi, N. (2025). Toward sustainable AI leadership: Ethical blind spots, accountability gaps and the CARE governance framework. *Leadership & Organization Development Journal*, 1–19. https://doi.org/10.1108/LODJ-06-2025-0530

Tavasoli, A., Sharbaf, M., & Madani, S. M. (2025). Responsible Innovation: A Strategic Framework for Financial LLM Integration. *ArXiv*, *abs/2504.02165*. https://doi.org/10.48550/arXiv.2504.02165

Tjondronegoro, D. W. (2025). TOAST Framework: A Multidimensional Approach to Ethical and Sustainable AI Integration in Organizations. *ArXiv*, *abs/2502.00011*. https://doi.org/10.48550/arXiv.2502.00011

Tjondronegoro, D., Yuwono, E., Richards, B., Green, D., & Hatakka, S. (2022). *Responsible AI Implementation: A Human-centered Framework for Accelerating the Innovation Process* (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2209.07076

Torkestani, M. S., & Mansouri, T. (2025). SCOR: A Framework for Responsible AI Innovation in Digital Ecosystems. *ArXiv*, *abs/2509.10653*. https://doi.org/10.48550/arXiv.2509.10653

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

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Victoria C, I., Funmilola Olatundun Olatoye, Kehinde Feranmi Awonuga, Noluthando Zamanjomane Mhlongo, & Oluwafunmi Adijat Elufioye. (2024). AI and ethics in business: A comprehensive review of responsible AI practices and corporate responsibility. *International Journal of Science and Research Archive*, *11*(1), 1433–1443. https://doi.org/10.30574/ijsra.2024.11.1.0235

Werder, K., Ramesh, B., & Zhang, R. S. (2022). Establishing Data Provenance for Responsible Artificial Intelligence Systems. In *ACM Transactions on Management Information Systems* (Vol. 13, Issue 2). Association for Computing Machinery. https://doi.org/10.1145/3503488

Winfield, A. F. T., & Jirotka, M. (2018). Ethical governance is essential to building trust in robotics and artificial intelligence systems. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, *376*(2133), 20180085. https://doi.org/10.1098/rsta.2018.0085

Yap, C. K., Leow, C. S., & Leong, W. S. V. (2024). Integrating Personality Traits in AI-driven Business Leadership: The Role of Emotional Intelligence, Achievement Orientation, Analytical Thinking, and Structured Leadership Using the FIKR Personality Assessment Tool. *Journal of Comprehensive Business Administration Research*. https://doi.org/10.47852/bonviewJCBAR42024142

Zárate-Torres, R., Rey-Sarmiento, C. F., Acosta-Prado, J. C., Gómez-Cruz, N. A., Rodríguez Castro, D. Y., & Camargo, J. (2025). Influence of Leadership on Human–Artificial Intelligence Collaboration. *Behavioral Sciences*, *15*(7), 873. https://doi.org/10.3390/bs15070873

Zhu, L., Xu, X., Lu, Q., Governatori, G., & Whittle, J. (2021). AI and Ethics, Operationalising Responsible AI. *ArXiv*, *abs/2105.08867*. https://doi.org/10.48550/arXiv.2105.08867