



# Artificial Intelligence, Territorial Development, and Ethical Governance: Strategic Convergences for Emerging Futures

Inteligencia artificial, desarrollo territorial y gobernanza ética: convergencias estratégicas para futuros emergentes

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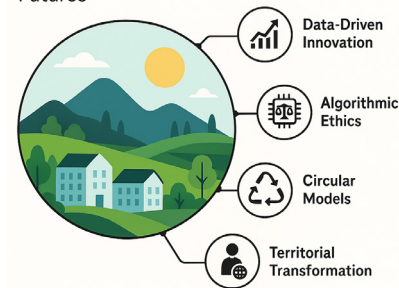
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## HIGHLIGHTS

- Provides an editorial synthesis of Volume 1, Issue 10 of IJMSOR, which focuses on data-driven innovation, algorithmic ethics, circular models, and territorial transformation.
- Emphasizes the strategic role of universities, SMEs, digital platforms, and public agencies in building resilient knowledge ecosystems.
- Advocates for algorithmic transparency, predictive education, and collaborative knowledge management across Latin America.

## GRAPHICAL ABSTRACT

**Artificial Intelligence, Territorial Development, and Ethical Governance:**  
Strategic Convergences for Emerging Futures



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Keywords:

Organizational transformation; algorithmic ethics; circular sustainability; territorial intelligence; applied knowledge; digital governance; contextual innovation.

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This editorial article presents a critical and integrative reflection on five thematic axes central to current debates on organizational transformation, sustainability, and territorial innovation. From a human-centered and applied perspective, it analyzes recent contributions regarding the ethical use of artificial intelligence, algorithmic governance, circular sustainability models, strategic knowledge management in SMEs, and the role of territorial intelligence in public policy design. Rather than a thematic summary, it offers an articulated interpretation of emerging trends that suggest sustainable development depends on the convergence of human capabilities, meaningful technologies, and context-sensitive institutional decisions. The article advocates for a science of responsible transformation grounded in ethics, territory, and collective action.

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ABSTRACT

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Palabras clave:

Transformación organizacional; ética algorítmica; sostenibilidad circular; inteligencia territorial; conocimiento aplicado; gobernanza digital; innovación contextual.

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Este artículo ofrece una reflexión crítica e integradora sobre cinco ejes temáticos que confluyen en los debates contemporáneos sobre transformación organizacional, sostenibilidad e innovación territorial. Desde una perspectiva humanista y aplicada, se analizan los aportes recientes en torno al uso ético de la inteligencia artificial, la gobernanza algorítmica, los modelos circulares sostenibles, la gestión estratégica del conocimiento en pymes, y el rol de la inteligencia territorial en el diseño de políticas públicas. Más que una revisión temática, se propone una lectura articulada de tendencias emergentes que revelan cómo el desarrollo sostenible exige conjugar capacidades humanas, tecnologías con sentido y decisiones institucionales contextualizadas. El artículo destaca la importancia de avanzar hacia una ciencia de la transformación responsable, anclada en la ética, el territorio y la acción colectiva.

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## 1. Introduction

The transformation of our organizations, territories, and educational systems can no longer be interpreted solely through the lens of technical procedures or structural planning. More so ever, sustainable solutions require a transversal perspective that recognizes the interconnectedness between situated knowledge, collective decision-making, digital innovation, and ethical responsibility. In this context, various currents of scientific thought converge in asserting that organizational and territorial change must be guided by a humanistic, participatory, and critical approach.

In the face of today's challenges—unregulated automation, territorial inequality, and the obsolescence of traditional educational models—an opportunity arises to rethink our paradigms through frameworks that are more sensitive to context, communities, and data as a public resource. As [Silvera Sarmiento, A. \(2017\)](#) points out, it is not merely a matter of educating for innovation, but of innovating in the way we educate, govern, and collaborate.

This editorial article provides an integrative analysis of contemporary scientific contributions related to these transformations, offering a critical reflection on five thematic trends that—despite their methodological differences—share a common core: the construction of more human, sustainable, and territorially contextualized futures.

## 2. Emerging Thematic Axes

Current debates on predictive automation and data-driven decision-making have placed artificial intelligence at the center of multiple sectors. However, it is in education where its impact is felt most immediately and sensitively. Predictive models not only allow for early detection of student performance but also identify opportunities for more human-centered academic support ([Garcés Giraldo, L. F., et al. 2018](#)), avoiding the depersonalization of learning processes ([Arenas-Peñaloza et al. \(2024\)](#)). When technology is designed to care, not just classify, it becomes a true ally in education.

In parallel, discussions on algorithmic governance invite a necessary question: who defines what is just when an algorithm makes the decision? Tensions between bias, explainability, and institutional oversight reveal that it is not enough to develop ethical technologies; these must be embedded within organizational cultures that uphold strong ethical values and capabilities ([Jobin et al. 2019](#); [Díaz, Sarmiento & Montoya 2016](#)).

Another field of convergence is digital platforms and their role in circular economy models. These are no longer mere service intermediaries; they are ecosystems that enable measurement, reuse, traceability, and regeneration. Technology becomes a bridge between economic efficiency and environmental commitment, and organizations adopting this circular logic are better prepared for sustainable markets ([Higuera Ojito, V. H., et al., 2019](#), [Jobin, A., Ienca, M., & Vayena, E. 2019](#)).

At the business level, small and medium-sized enterprises (SMEs) are widely recognized as the “living fabric” of emerging economies. Their ability to innovate under constraints, learn through experience, and mobilize collective knowledge has been extensively documented ([Silvera Sarmiento et al. 2018](#), [Díaz, O. et al., 2016](#)). In this context, knowledge management is not a corporate manual—it is a daily practice that connects leadership, culture, and territory.

Finally, the use of spatial data in public policy design is transforming our understanding of regional development. Territorial intelligence, supported by simulation and visualization models ([Zuboff, S. 2019](#)), allows for scenario forecasting, strategic investment planning, and evidence-based reduction of structural inequalities ([Anttiroiko, A.-V. \(2022\)](#)). The goal is not to centralize decisions in massive algorithms but to democratize planning by redistributing analytical power.

## 3. Conclusion

Knowledge is not neutral, and innovation is not inevitable. Both must be guided by principles, by context, and by shared commitments. Science, in its most transformative expression, does not simply describe the world—it helps reshape it. This editorial proposes an integrative reading of diverse scholarly approaches that coincide in one point: the future is better built when it begins with an ethic of care, situated technology, and inclusive governance ([Silvera Sarmiento, A. 2017](#), [Silvera et al. 2018](#)).

At IJMSOR, we reaffirm our mission to be a space for applied research with real-world impact—one that is open to interdisciplinary dialogue and committed to serving the academic, institutional, and territorial communities that envision and make possible new ways of innovating.

### Credit authorship contribution statement

The author was responsible for the conceptualization and thematic framing of the article, integrating perspectives on artificial intelligence, algorithmic governance, circular sustainability, knowledge management, and territorial analysis. He undertook the original drafting of the manuscript, crafting a critical and transdisciplinary narrative from a human-centered and context-aware standpoint. He also carried out the review and editing process to ensure argumentative coherence and discursive clarity. Formal analysis of the emerging trends was conducted based on the scientific contributions reviewed, and the author performed a targeted literature review using updated and relevant sources. Conceptual validation of the article’s framework and structure was conducted in coordination with the editorial board of IJMSOR. The author also oversaw the supervision and editorial project administration, working closely with the journal’s editorial team.

## Referencias

- [Anttiroiko, A.-V. \(2022\)](#). Smart cities and post-pandemic futures: COVID-19, digital transformation and public policy. Springer.
- [Arenas-Peñaloza, J., Silvera-Sarmiento, A., Rodríguez-Nieto, C. A., Rodríguez-Vásquez, F. M., Navarro-Yepes, N., & Jiménez, A. M. I. \(2024\)](#). Analysis of primary school students' process of understanding about the concept of ratio: A view from the Pirie-Kieren theory. *Eurasia Journal of Mathematics, Science and Technology Education*, 20(12).
- [Díaz, O. H., Sarmiento, A. S., & Montoya, A. F. O. \(2016\)](#). Dinámica integración de la jurisprudencia colombiana (sistema de precedente judicial constitucional colombiano). *Revista Republicana*, 20, 97–115.
- [Garcés Giraldo, L. F., Arboleda López, A., Sepúlveda-Aguirre, J., & Silvera Sarmiento, A. \(2018\)](#). Justice in Aristotle: A virtue for the perfection of the socio-legal nature of man and its incidence in the experimentation with animals. *Espacios*, 39(13).
- [Higuera Ojito, V. H., Silvera Sarmiento, A. J., Corredor Gómez, A. L., & Pineda Carreño, M. \(2019\)](#). Entrepreneurship in Colombia: Obstacles, drivers and recommendations. *Revista Venezolana de Gerencia*, 24(85).
- [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>
- [Silvera Sarmiento, A. \(2017\)](#). Ecosistemas y ecoformación: Perspectivas para una sociedad sostenible y sustentable. *Revista Lasallista de Investigación*, 14(1), 11–12.
- [Silvera Sarmiento, A., Correa de Molina, C., & Garcés Giraldo, L. F. \(2018\)](#). Resignification of the social fabric in the school community relationship: A complex and interdisciplinary investigative approach. *Espacios*, 39(23).
- [Zuboff, S. \(2019\)](#). The age of surveillance capitalism: The fight for a human future at the new frontier of power. PublicAffairs.
- Silvera-Sarmiento., A. (2025). Artificial Intelligence, Territorial Development, and Ethical Governance: Strategic Convergences for Emerging Futures. *International Journal of Management Science & Operation Research (IJMSOR)*, 10 (1), 1-4