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Artificial Intelligence and Sustainability Reporting: A Conceptual Agenda

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Abstract

Artificial intelligence (AI) holds significant promise in addressing persistent challenges in sustainability reporting, such as fragmented disclosure standards, inconsistent sustainability reporting data, and stakeholder scepticism. With AI applications such as natural language processing and machine learning gaining traction, questions remain about how these technologies could be integrated into reporting processes in ways that enhance transparency, accountability, and stakeholder trust.

This study adopts a conceptual approach, grounded in stakeholder and legitimacy theory, supported by a structured review of academic literature and emerging regulatory frameworks. It identifies conceptual priorities for the responsible use of AI in sustainability reporting. Key thematic areas include ethical governance of AI tools, stakeholder-responsive narrative generation, and the assurance of AI-generated disclosures.

By framing AI adoption through the lenses of relational and normative disclosure theories, the study contributes a research-informed perspective on aligning technological innovation with stakeholder accountability and institutional legitimacy. It also outlines a forward-looking agenda for empirical research, offering practical insights for organisations, policymakers, assurance providers, and researchers navigating the intersection of AI and sustainability disclosure.

Keywords: artificial intelligence; sustainability reporting; accountability; transparency; stakeholder theory