Managing ESG Asymmetry with AI-Enabled Knowledge Governance: A Cyber-Systemic Perspective

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Socio-economic systems are under growing pressure to provide credible environmental, social, governance (ESG) disclosures and to integrate sustainability into their decision-making processes. Nevertheless, the practice of ESG reporting frequently faces multiple challenges, such as fragmentation of data, divergent interpretations, and misaligned purposes among the multiple involved stakeholders. These issues can generate conditions of information asymmetry, reducing the quality of sustainability reporting and performance. This paper sets out a conceptual framework for decoding the role of Artificial Intelligence (AI)-driven knowledge governance in ensuring the balance between ESG information and sustainability management through a cyber-systemic lens based on the Viable Systems Approach (VSA).

The model has been developed by drawing from research on knowledge governance, information asymmetry, cybernetics/system thinking, and AI for organisational decision support. The model proposes a multi-layered representation for connecting ESG data with meaning-making processes, governance mechanisms, and feedback loops. The framework outlines how AI can support traceability, interpretability, and responsible use of ESG information when integrated into appropriate governance structures.

Keywords: ESG reporting; Knowledge governance; Information asymmetry; Artificial Intelligence (AI); Cyber-systemics; Viable systems approach (VSA).