



[Digital Transformation, Sustainable Innovations and Development in the African Continent]

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Artificial Intelligence and Sustainability in Higher Education in Relationship with UN SDGs and Vision 2030 (SDG 4 (Quality Education), SDG 9 (Innovation), SDG 13 (Climate Action) and Social Pillar (Vision 2030) Systematic Literature Review

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ABSTRACT

Background: Artificial Intelligence (AI) is increasingly transforming the higher education landscape globally. In Kenya, its potential aligns closely with development priorities set out in the United Nations Sustainable Development Goals (SDGs) and Kenya Vision 2030, particularly in promoting quality education, fostering innovation, and addressing climate change.

Purpose: The core objective of carrying out this systematic review of literature was to respond to the very critical question on the nexus between artificial intelligence and the sustainability in higher education in relationship with UN SDGs and Vision 2030.

Methods: The study adopted a qualitative, literature-based approach, synthesizing peer-reviewed articles, policy reports, and grey literature to analyze the dual impact of AI on educational sustainability.

Result: AI offers significant benefits in enhancing personalized learning, improving academic efficiency, supporting climate-related research, and driving institutional innovation. However, it also raises critical concerns, including digital inequality, ethical risks, academic dependency, and a notable environmental footprint through high energy consumption. The short-term advantages may obscure longer-term risks if not adequately addressed.

Conclusion and recommendation:

To ensure that AI contributes positively to educational and national development outcomes, its adoption must be guided by evidence-based policy, contextual sensitivity, strong regulatory frameworks, and inclusive stakeholder engagement. Institutions must weigh both the short- and long-term implications of AI use and align technology deployment with Kenya's socio-economic goals and global sustainability commitments. Ultimately, the success of AI in higher education will depend not only on technological capabilities but also on ethical governance, equitable access, and sustainable implementation practices that safeguard both educational quality and environmental responsibility.

Key Words:

Artificial Intelligence, Higher Education, Sustainability, SDGs, Vision 2030

