

# Beyond Affordability: The Nexus of Disruptive Digital Frugal Innovation (DDFI) and Transformative Sustainable Development in Africa

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## **Abstract**

Across Africa, disruptive digital frugal innovations (DDFIs) are evolving as potent catalysts for sustainable development. This research explored into the complex interplay between DDFI and sustainability, moving beyond traditional narratives of mere affordability to discover its potential for transformative change across environmental, social, and economic dimensions. This chapter sought to firstly unravel the multifaceted relationships between DDFI and Sustainable Development Goals (SDGs) in diverse African contexts; secondly it examined the socioeconomic and environmental impacts of DDFI across key sectors, thus healthcare and agriculture, identifying both positive contributions and unintended consequences. Diffusion of innovation theory formed the lens of the study; qualitative data were analyzed according to emerging themes. Research findings revealed that implementation of DDFI exhibits immense potential to address critical sustainability challenges, empowering communities through social inclusion, improve access to essential services, and empower marginalized communities to actively participate in development processes. Data privacy, intellectual property rights, and potential exploitation of communities were some of the challenges noted which require careful consideration and responsible innovation practices. The study recommends to foster inclusive cocreation processes that involve local communities in needs assessment, design, and implementation of DDFI solutions and bridge the digital divide through investing in robust infrastructure development, digital literacy programs, and affordable access to technology.

**Keywords:** Sustainable Development, Digital, Innovation, Communities, Research