


Chapter 5

Digital Maturity and Ecosystems: Catalysts for Achieving the Sustainable Development Goals in the 21st Century

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ABSTRACT

The rapid advancement of digital technologies has revolutionized every aspect of our global society, offering immense potential to drive change across sectors. The United Nations' 2030 Agenda for Sustainable Development highlights the crucial need to meet the 17 Sustainable Development Goals (SDGs) by the year 2030. However, as emphasized by UN Secretary-General Antonio Guterres, we are far from achieving these ambitious targets, and immediate action is required to prevent this agenda from becoming an “epitaph for a world that might have been.” This chapter proposes an in-depth exploration of how digital maturity—the integration

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and optimization of digital technologies—and digital ecosystems can catalyze sustainable solutions across industries, governments, and societies, accelerating progress toward the SDGs.

INTRODUCTION

The 21st century has been defined by rapid technological advancements that have significantly reshaped the global socio-economic landscape. Digital transformation has emerged as a fundamental driver of progress, influencing various industries, governance models, and societal structures (Westerman et al., 2014). In this context, the concept of digital maturity—the extent to which an organization or society effectively integrates digital technologies—has gained prominence as a critical determinant of sustainable growth and development (Kane et al., 2015). Concurrently, the notion of digital ecosystems, characterized by interconnected digital technologies, platforms, and stakeholders, has provided a framework for fostering collaboration, innovation, and resilience in achieving long-term goals (Adner, 2017). At the heart of global development efforts, the United Nations' 2030 Agenda for Sustainable Development outlines 17 Sustainable Development Goals (SDGs) aimed at addressing challenges such as poverty, climate change, education, health, and social inequalities (United Nations, 2015). However, despite concerted efforts by governments, organizations, and civil society, progress toward achieving these goals has been uneven. UN Secretary-General Antonio Guterres has repeatedly warned that, without immediate and transformative action, the SDGs risk becoming an “epitaph for a world that might have been” (Guterres, 2022). Against this backdrop, digital maturity and well-structured digital ecosystems present unprecedented opportunities to bridge gaps, enhance efficiency, and accelerate progress toward the SDGs (WEF, 2020).

The Role of Digital Maturity in Sustainable Development

Digital maturity refers to the strategic adoption, integration, and optimization of digital technologies within an entity, be it a business, government, or society at large (Fitzgerald et al., 2013). Organizations with high digital maturity leverage data-driven decision-making, artificial intelligence (AI), blockchain, cloud computing, and the Internet of Things (IoT) to enhance efficiency, improve service delivery, and foster innovation (Bughin et al., 2018). In the context of sustainable development, digital maturity enables stakeholders to develop and deploy scalable, impact-driven solutions for complex global challenges. One of the most notable ways digital maturity contributes to sustainability is through data-driven policy-

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