Chapter 20
Evolution of Sustainable Business Models:
A Study of Past, Present, and Future

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ABSTRACT

This chapter explores the transformative impact of sustainable business models, tracing their evolution across past, present, and future. It highlights early efforts to balance profitability with environmental and social responsibility and examines how digital technologies—such as AI, blockchain, and IoT—have accelerated this shift. These technologies enhance resource efficiency, reduce waste, and improve supply chain transparency, demonstrated through case studies of leading firms. Emerging trends like circular economies, stakeholder capitalism, and regulatory innovation are discussed alongside challenges like digital equity, data privacy, and infrastructure impacts. The chapter emphasizes collaboration among stakeholders to align digitalization with sustainability, fostering resilient, equitable, and environmentally responsible practices.

1. INTRODUCTION

Modern-day companies now focus on sustainability, which stimulates further demand to cater to environmental concerns and customer needs for responsible business practices. Besides their profitability, companies these days are not just gauged on their profitability but also on their capacity to integrate social and environmental (Singh et al., 2012) responsibilities in their business. Sustainable business models aim at balancing social justice, environmental sustainability, and profitability thereby ensuring survivability and long-term success. Companies are more and more turning away from "take, make, dispose" linear consumption patterns towards more innovative ideas focused on circularity, waste minimization, and

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resource optimization. The digital revolution makes sustainable business practises possible to a considerable degree. Technologies such as blockchain, Sparviero & Ragnedda, 2021) artificial intelligence (AI), and the internet of things (IoT) have completely transformed the manner in which businesses monitor, manage, and optimize their resources. Through the provision of data-driven insights, these technologies enable businesses to monitor their environmental footprint, create sustainable products, and establish green supply chains. Additionally, digital tools (Feroz et al., 2021) facilitate cross-sector collaboration, which increases the scalability of sustainable projects. For example, IoT devices track energy efficiency in real time, and predictive analytics can predict patterns in resource consumption. Thus, digital innovation has emerged as a crucial driver for accomplishing sustainable development objectives.

This chapter examines how firms are changing as a result of implementing digital sustainable business models, examining how practices have changed over time and providing insights for the future. It highlights (Deev et al., 2021) two well-known frameworks—the Circular Economy Model and the Cradle-to-Cradle Model for Sustainability—to show how companies are currently using them to maximise value creation and reduce environmental harm. The chapter offers practical insights for companies looking to connect with global sustainability goals by analysing the synergy between these methods and future technologies. In the end, it provides a road map for combining sustainability and innovation, allowing businesses to prosper in a quickly changing economic environment and allowing businesses to prosper in a quickly changing economic environment.

1.1 Awareness of Sustainable Business Models

Frameworks referred to as sustainable business models (SBMs) enable companies to create, offer, and capture value for society and the environment besides their stakeholders. They integrate ESG concepts into their core (Bakker et al., 2010) business activities beyond traditional profit-making strategies. The key objectives include resource use reduction, moral behaviour promotion, and long-term economic resilience. The idea of sustainability, which includes social, economic, and environmental aspects, has become a pillar of contemporary debate. The Circular Economy model and the Cradle to Cradle (C2C) model stand out within this broad framework as paradigm shifters intended to rethink systems of production and consumption. Although (Peralta et al., 2021) waste reduction, resource conservation, and sustainable growth are the objectives of both models, their different strategies provide different means of reaching these ends. This chapter explores the complexities of these models, examining their theoretical underpinnings and practical ramifications while placing them within the larger framework of sustainability. The Cradle-to-Cradle philosophy, created by Michael Baumgart and William McDonough, revolutionized our way of thinking about materials and their life cycles. The traditional linear model of production, which can be characterized as "take, make, dispose," is opposed, and a regenerative model that mimics the cyclical nature of nature is advocated in its place. The core contention of the C2C model is that no risks are posed by the repeated recycling or re-entry of materials into the biosphere. This way of thinking stems from the belief that waste is not something which need be, but an asset that could be utilized in future cycles.

Practically, the Cradle-to-Cradle philosophy addresses two distinct material flows: biological and technical. The biological components such as organic fibres are recycled safely back into nature via biodegradation and enhance the ecosystems. Technical materials specially crafted to recycle eternally without losing value are metals and polymers. Such a twin approach facilitates closed-looping systems with no wastes through making all the components of products potentially recycled or biodegradable.