


Chapter 3

Integrating Emerging Technologies for Organizational Agility: An Interdisciplinary Approach to Digital Transformation


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ABSTRACT

In today's volatile and complex environment, organizations face immense pressure to continuously evolve with emerging technologies such as AI, blockchain, IoT, and quantum computing. However, the fragmented and siloed approach to technology adoption often leads to missed opportunities for transformation. This chapter proposes an interdisciplinary framework for integrating emerging technologies to foster systemic agility, innovation, and resilience. Through case studies from healthcare, finance, and education, the chapter outlines practical steps for successful technology integration, emphasizing readiness assessments, stakeholder engagement, ethical

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decision-making, and strategic alignment. It also advocates for continuous learning and adaptation in the face of rapid technological change. Ultimately, this framework offers a guide for organizations, policymakers, and educators to navigate digital transformation while promoting responsible, sustainable innovation.

INTRODUCTION

In the context of accelerating digital transformation, organizations across industries are grappling with complex pressures to adapt, innovate, and sustain competitive advantage. The proliferation of emerging technologies—such as artificial intelligence (AI), blockchain, quantum computing, and the Internet of Things (IoT)—has triggered a profound shift in how enterprises operate, compete, and deliver value (Bharadwaj et al., 2013; Wamba-Taguimdje et al., 2020). According to a recent McKinsey Global Survey, nearly 90% of executives say their business models will need to change within the next five years to remain viable in a digital economy (Bughin et al., 2021). This urgency is echoed in academic literature, which underscores the strategic imperative of transformation as a driver for long-term resilience and innovation (Susanti et al., 2023; Ribeiro-Navarrete et al., 2021).

These technologies are not merely tools for operational improvement; they are transformative forces that compel a rethinking of traditional business paradigms, industry boundaries, and organizational models. However, despite the potential benefits, many digital transformation efforts fall short. Studies reveal that 70% of digital initiatives fail due to cultural resistance, lack of leadership alignment, or insufficient capability development (Fitzgerald et al., 2022; Bican & Brem, 2020). These failures often stem from a narrow, technology-centric perspective that prioritizes technical deployment over systemic transformation. Organizations tend to focus on deploying tools or gathering data without sufficiently considering the broader implications on culture, governance, and ethical accountability (Vial, 2019; Li et al., 2022).

Effective digital transformation transcends technology. It necessitates a comprehensive, organization-wide shift involving alignment of strategy, culture, structure, workforce capabilities, and leadership practices (Kane et al., 2015; Sebastian et al., 2020). This has led to increased scholarly consensus around the value of interdisciplinary frameworks that bridge technical, human, and ethical dimensions to drive successful transformation (Raimo et al., 2023).

Organizational agility—a central focus of this book—is a critical enabler of such transformation. It refers to the capability of an enterprise to rapidly sense and respond to changes in its environment in a productive and sustainable manner (Tallon et al., 2019). Recent empirical research highlights that agile enterprises are 2.7 times more likely to achieve digital maturity than those with rigid, siloed structures

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