Chapter 8
Transition Pathways: From Traditional Business Models to Metaverse-Driven Enterprises

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ABSTRACT

The transition from traditional business models to metaverse-driven enterprises represents a transformative shift in how organizations create value, manage operations, and collaborate across immersive digital ecosystems. This chapter outlines a structured, multi-phase pathway that guides enterprises from foundational digital readiness to fully immersive metaverse architectures powered by AI, digital twins, XR, and blockchain technologies. Emphasis is placed on organizational capability building, governance reform, cultural adaptation, and the integration of human–AI collaboration. A central focus is the need for robust AI hallucination management to ensure accuracy, safety, and trust as autonomous systems influence simulations, decision-making, and customer experiences. By synthesizing technological, managerial, and ethical dimensions, the chapter provides a strategic roadmap for enterprises seeking responsible, resilient, and scalable metaverse adoption.

1. INTRODUCTION

The emergence of the Enterprise Metaverse marks a profound transformation in how organizations create, deliver, and capture value. Traditional business models rely on predictable workflows, physical interactions, and siloed information systems. In contrast, the metaverse introduces immersive, persistent, and interconnected virtual environments where digital twins, AI-driven agents, and intelligent automation

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operate alongside human decision-makers. These environments enable enterprises to simulate entire business processes, redesign customer experiences, and optimize complex operations with a degree of precision and scalability that conventional digital platforms cannot match. As a result, the metaverse functions not merely as a technological extension of current business systems but as a foundational shift toward experiential and computational business ecosystems. With the continuous advancement of technologies such as big data, artificial intelligence, virtual reality, robotics, human-machine collaboration, and augmented reality, many business organizations are finding new avenues for digital transformation and intelligent enhancement (H. Zhang, Li, Zhang, Song, & Tao, 2025).

This transformation challenges many long-standing assumptions about organizational design, digital infrastructure, and strategic capability. Enterprises must integrate advanced technologies such as XR interfaces, spatial computing, distributed ledgers, multimodal AI pipelines, and large-scale digital twin networks. Each of these layers contributes to a new form of value creation that depends on real-time sensing, adaptive simulation, and interactive intelligence. However, the integration of these components introduces complexity that extends beyond technical implementation. It requires rethinking talent development, redefining workflow orchestration, revising governance frameworks, and establishing new standards of transparency and accountability. Figure 1 illustrates how enterprise structures evolve from traditional siloed processes into an interconnected metaverse-driven architecture linking humans, AI, and autonomous agents. Users, designers, and companies can make joint decisions about product design and development solutions, and Metaverse technology can also optimize products with continuous iteration and get optimal solutions (Lin, Li, Wang, & Hu, 2024).

A central challenge during this transition is the emergence of AI hallucinations within generative and predictive systems. Hallucinations refer to outputs that deviate from factual or contextual accuracy, often producing misleading or fabricated information. Within the metaverse, where AI models directly influence virtual operations, workforce activities, and financial or logistical simulations, hallucinations can spread rapidly through interconnected environments. For example, a hallucinated forecast could distort supply chain digital twins, while an inaccurate AI-generated compliance recommendation could misguide regulatory processes. These risks underscore the need for rigorous hallucination detection, validation pipelines, and human-in-the-loop controls that ensure reliable system behavior in high-velocity virtual environments. There was a higher distrust effect on the relationship between performance risk, social risk, psychological risk, and non-adoption intent to the corporate metaverse for high-textured individuals compared to low-textual individuals (Kumar, Shankar, Shaik, Jain, & Malibari, 2025).