Chapter 5
Challenging the Status Quo:
Redefining PMIS for Transformative Project Management in Global Pharmaceutical Supply Chains

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ABSTRACT

The integration and optimization of Project Management Information Systems (PMIS) represent a transformative opportunity for global pharmaceutical supply chains, especially in addressing the complex, multi-stakeholder nature of modern projects. This chapter challenges the status quo by redefining PMIS frameworks to emphasize agility, data-driven decision-making, and seamless execution. The study critically examines the traditional limitations of PMIS and explores their evolution into platforms that not only track progress but also empower strategic foresight, collaboration, and adaptive responses to dynamic challenges.

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INTRODUCTION

Global pharmaceutical supply chains operate within a highly complex and dynamic environment characterized by stringent regulatory requirements, diverse stakeholder interests, and rapidly evolving market conditions. These supply chains must navigate challenges such as geographic dispersion, escalating demands for transparency, and the need to manage innovation and compliance simultaneously. In this context, effective project management is not just a supporting function but a strategic enabler of organizational resilience and competitiveness (Haleem et al., 2022). Project Management Information Systems (PMIS) have traditionally played a pivotal role in ensuring project control, resource allocation, and timely delivery. However, the conventional scope of PMIS often limits their potential to address the increasingly multifaceted demands of global pharmaceutical supply chains. Many existing systems are designed primarily for linear workflows and retrospective reporting, creating barriers to real-time adaptability and forward-looking decision-making. This disconnect necessitates a critical revaluation of PMIS frameworks to align them with contemporary challenges and opportunities (Amini & Jahanbakhsh Javid, 2023).

The importance of reimagining PMIS lies in their capacity to bridge operational silos, foster collaboration, and empower decision-makers with actionable insights. As pharmaceutical supply chains embrace digital transformation, PMIS must evolve into integrative platforms that leverage cutting-edge technologies such as AI, blockchain, and predictive analytics (Kaplan & Hays, 2022). These technologies can enable PMIS to transition from being static repositories of information to dynamic ecosystems capable of driving strategic foresight and operational excellence. Existing literature highlights the limitations of traditional PMIS in adapting to complex supply chain ecosystems (ElBaih, 2023). While PMIS has historically supported basic project tracking and resource management, its role in empowering cross-functional teams, supporting compliance, and driving innovation remains underexplored. Recent advancements in technology provide a unique opportunity to redefine PMIS as a tool for proactive risk management, real-time execution, and collaborative planning. By addressing these gaps, organizations can unlock the full potential of PMIS to transform project management practices and meet the demands of an increasingly interconnected global market (Bhattamisraet al.,2023).

This chapter aims to challenge the status quo by presenting a theoretical and practical foundation for redefining PMIS in the context of global pharmaceutical supply chains. The research objectives include: (1) To explore the theoretical underpinnings of PMIS as transformative tools in supply chain management. (2) To develop a conceptual framework that integrates advanced technologies with project