

Chapter 9

Application of Agile Stage Gate Hybrid Model in the Healthcare Industry: A Paradigm Shift in Project Management

Abhik Patra

Amity University, Kolkata, India

Pushan Kumar Dutta

 <https://orcid.org/0000-0002-4765-3864>

School of Engineering and Technology, Amity University, Kolkata, India

ABSTRACT

The healthcare industry is witnessing a dynamic and rapidly evolving landscape, with an increasing need for efficient project management methodologies to adapt to changing demands, regulations, and technological advancements. Traditional project management approaches often struggle to keep pace with the dynamic nature of healthcare projects. This chapter explores the application of an Agile–Stage-Gate hybrid model as a novel project management approach tailored to the unique challenges of the healthcare industry. The Agile–Stage-Gate model combines the flexibility of Agile with the structured framework of Stage-Gate, providing a synergistic solution for enhancing project outcomes in healthcare settings.

INTRODUCTION

The healthcare industry faces unique challenges, such as stringent regulations, evolving technologies, and the need for interdisciplinary collaboration. Traditional project management methodologies, while effective in many industries, often fall short in addressing the dynamic nature of healthcare projects. The Agile–Stage-Gate hybrid model aims to bridge this gap by integrating the iterative and adaptive principles of Agile with the structured and milestone-driven approach of Stage-Gate.

DOI: 10.4018/979-8-3693-3318-1.ch009

Agile and Stage-Gate Principles

Agile methodologies emphasize flexibility, collaboration, and iterative development. They are well-suited for projects with evolving requirements and where continuous stakeholder feedback is crucial. On the other hand, the Stage-Gate process provides a structured framework that divides the project into distinct stages or gates, with defined deliverables and decision points at each stage. This structured approach is beneficial for risk management, resource allocation, and ensuring alignment with strategic goals.

In the dynamic landscape of project management, where adaptability and structured progress are equally vital, two prominent methodologies have emerged as frontrunners: Agile and Stage-Gate. Agile methodology emphasizes flexibility, iterative development, and continuous stakeholder involvement, while the Stage-Gate process provides a structured framework for project progression, milestone achievement, and risk management. This introduction provides an overview of Agile and Stage-Gate principles, highlighting their significance in modern project management practices, particularly in industries characterized by rapid change and innovation.

Agile Methodology

Agile methodology originated from the software development domain in response to the challenges posed by traditional, rigid project management approaches. Its core principles, as outlined in the Agile Manifesto, prioritize individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, and responding to change over following a plan (Beck et al., 2001). Agile methodologies, such as Scrum, Kanban, and Extreme Programming (XP), advocate for iterative development cycles, frequent deliveries of working products, and continuous adaptation based on customer feedback (Schwaber & Beedle, 2002). The Agile approach promotes collaboration, transparency, and responsiveness, enabling teams to deliver value to customers more effectively and efficiently in rapidly evolving environments.

The Stage-Gate process, pioneered by Cooper (1990), provides a structured framework for managing innovation projects from ideation to commercialization. It divides the project into distinct stages or phases, with gatekeeping points between them. At each gate, project teams must evaluate the project's progress, assess risks, and make decisions regarding whether to continue, modify, or terminate the project. The Stage-Gate model facilitates resource allocation, risk management, and alignment with strategic objectives by providing clear criteria for advancing to the next stage. This systematic approach helps organizations prioritize projects, allocate resources effectively, and minimize the risk of investing in unsuccessful ventures.

Both Agile and Stage-Gate methodologies offer unique advantages in project management. Agile's emphasis on adaptability and customer collaboration aligns well with industries characterized by rapidly changing requirements and stakeholder preferences. On the other hand, the Stage-Gate process provides the structure and discipline necessary for managing complex projects, particularly in industries with stringent regulations and long development cycles. Integrating Agile and Stage-Gate principles can offer a synergistic approach that combines flexibility with structured progress, enabling organizations to achieve optimal project outcomes while mitigating risks effectively.

Agile and Stage-Gate methodologies represent two influential paradigms in modern project management. While Agile prioritizes flexibility, collaboration, and iterative development, Stage-Gate provides a structured framework for project progression, milestone achievement, and risk management. By under-

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/application-of-agile-stage-gate-hybrid-model-in-the-healthcare-industry/348482

Related Content

The Importance of Strategic Agility and Resilience in Work-Life Balance

Rupa Chatterjee Das and Santosh Basavaraj (2024). *Practical Approaches to Agile Project Management* (pp. 270-288).

www.irma-international.org/chapter/the-importance-of-strategic-agility-and-resilience-in-work-life-balance/348488

How Does Terrorism Change the Business Landscape for Firms?: A New Framework for Analyzing Risks

Luis Alfonso Dau, Elizabeth M. Moore and Max Abrahms (2022). *Contemporary Challenges for Agile Project Management* (pp. 267-293).

www.irma-international.org/chapter/how-does-terrorism-change-the-business-landscape-for-firms/290861

Can the Project Manager's Transformational Leadership Lead to Project Success?: Empowerment, Goal Clarity, and CR Leadership

Muhammad Khaliq Ahmad, Abu Bakar Abduhamid, Sazali Abd Wahab and Muhammad Umair Nazir (2023). *International Journal of Information Technology Project Management* (pp. 1-21).

www.irma-international.org/article/can-the-project-managers-transformational-leadership-lead-to-project-success/323206

Impact of Cause and Effect on Project Performance and Mitigation Management

Shamsuddin Ahmed, Yazeed Abdullah Alahmadi and Mohammed Aman (2026). *International Journal of Information Technology Project Management* (pp. 1-23).

www.irma-international.org/article/impact-of-cause-and-effect-on-project-performance-and-mitigation-management/408169

Comprehensive Approach to Customer Loyalty Management

Anastasiia Panchuk, Nataliia Lialina, Galyna Matvienko-Bilyaeva and Ganna Chumak (2022). *International Journal of Information Technology Project Management* (pp. 1-16).

www.irma-international.org/article/comprehensive-approach-to-customer-loyalty-management/311842