

PM WORLD BOOK REVIEW¹



Book Title: ***The Project Management AI Handbook: Leveraging Generative Tools in Waterfall and Agile Environments***

Authors: **Dr. Prasad Kodukula and Guz Vinueza**

Publisher: J. Ross Publishing

List Price: \$59.95

Format: Hardcover, 334 pages

Publication Date: 2025

ISBN: 978-1-60427-205-5

Reviewer: **Prof. Shankar Sankaran PhD, PMP, PMI Fellow**

Review Date: July 2026

The book titled "*The Project Management AI Handbook: Leveraging Generative Tools in Waterfall and Agile Environments*" by Dr. Prasad Kodukula and Gus Vineza stands out among resources for project managers and teams seeking to responsibly leverage Artificial Intelligence (AI), particularly Generative AI (Gen AI), to enhance project performance and deliver results while addressing ethical considerations in human-AI collaboration.

While many books on AI in project management focus on applying AI for specific project tasks, this book aims to cater to both newcomers and experienced project team members who are keen to integrate AI into their project management practices. It achieves this through a systematic approach, first discussing essential project and portfolio management principles, their key functions, and activities, before explaining how AI can support these functions in use cases. Even when AI usage in the Use cases is detailed the tasks for which AI is used and its importance are also clearly explained so that this book also serves newcomers to projects.

While explaining how AI can support project management both waterfall and agile approaches are explained before demonstrating how AI can be utilized in either methodology.

A highlight of this book is its logical four-section structure.

¹ How to cite this review: Sankaran, S. (2026). The Project Management AI Handbook: Leveraging Generative Tools in Waterfall and Agile Environments, book review, *PM World Journal*, Vol. XV, Issue VIII, August.

Section 1: AI in Project Management

In this section, the authors clearly articulate the book's intent: to help project teams and managers enhance efficiency and productivity by partnering with AI for administrative and procedural tasks. AI can assist project teams in managing time and cost, assessing risks, engaging stakeholders, allocating resources, and handling project documentation for scope definition and reporting. The book also explores how AI tools can support project portfolio management by screening and ranking projects, categorizing them into funding buckets, and ensuring alignment with the organization's strategic objectives and the projects' missions.

The authors define AI and its classifications, explain how AI learns through different forms of machine learning, and trace its evolution before discussing the rapid development and impact of Generative AI on our lives and on project management. This provides an excellent introduction for those unfamiliar with AI and its relevance at operational, tactical, and strategic levels, and how it improves project results and outcomes. The section concludes by exploring AI's potential evolution from a useful tool to a strategic partner, given its ability to process vast amounts of data and offer predictive capabilities. The authors advocate that leaders in both organizations and projects must address the challenges of adopting AI to ensure its contribution to project delivery is carefully managed, considering both risks and opportunities.

The authors argue that AI can be a powerful ally, enabling project teams to delegate routine, repeatable tasks and leverage its data analysis and predictive capabilities. This frees teams to focus on strategic activities, leading to more effective project leadership. A significant feature of the book is its inclusion of 50 use cases for applying Generative AI across portfolio and project management. The authors also provide access to a companion website for longer AI responses and future updates, given AI's rapid evolution.

Chapter 4 in Section 1 introduces PRIME (Prepare-Relay-Inspect-Modify-Execute), a step-by-step methodology for optimizing conversations with Generative AI through prompting (providing instructions for responses). For efficient prompting, the authors recommend:

- Preparing by gathering necessary data to formulate clear and concise directives.
- Relaying by communicating with AI using a well-designed, unambiguous prompt.
- Inspecting the AI-generated content against desired objectives, assessing accuracy and alignment with goals, while considering tone and style.
- Modifying the prompt based on inspection to refine AI's output, fine-tuning or providing more data, editing generated content, and iteratively continuing the conversation until a useful and satisfactory response is achieved.
- Executing by deciding on the final form of AI-generated content to use.

This process clearly emphasizes that while AI can assist, the user remains in charge and responsible for the outcome and actions. This is crucial because AI can generate false and misleading information (referred to as hallucinations) due to inadequate training, leading to fabricated content. Although Generative AI is improving, learning effective prompting is a new, essential skill for project teams. To minimize misinformation, the authors suggest adopting a "chain-of-thought" approach, breaking down AI tasks into smaller, logical steps to help AI reason more systematically and reduce errors.

The book provides examples of effective prompts, integrating well-designed prompts into use cases throughout the text to help readers improve their prompting skills.

To enhance collaboration with AI and achieve high-quality results, the authors advise project teams to develop a well-maintained Project Input Folder by compiling all relevant project documents and information. They also recommend AI tools that can securely manage private and personalized information.

Chapter 4 further illustrates how Generative AI can boost personal productivity for daily tasks performed by project teams, including:

- Writing professional emails.
- Creating effective PowerPoint presentations.
- Summarizing reports into readable, digestible formats.
- Creating templates for frequently used tools like project charters or reports.
- Analyzing data to calculate performance metrics from collected project data.

A key takeaway from this chapter is that project teams can sharpen their prompting skills by using AI in daily tasks before applying it to more complex project management functions.

Sections 2 through 4 share a similar logical structure, progressing from fundamental concepts to key functions and then to case study use cases. These case studies detail tasks associated with each function with associated prompts demonstrating how Generative AI can be used with data, allowing readers to practice with their own applications. This structure benefits both newcomers and experienced professionals.

Section 2: AI in Portfolio Management

After discussing the importance of Project Portfolio Management (PPM), this section illustrates how Generative AI can be used for seven key PPM applications through a case study called GeneMatrix - a biotechnology company. BY using this case study the authors demonstrate how AI can support organizations in navigating complex decision processes in portfolio management, ensuring strategic alignment of selected projects to maximize value.

The use cases for AI support seven essential PPM applications:

- Strategic framework
- Project evaluation
- Strategic alignment
- Project categorization
- Project prioritization
- Project selection and optimization
- Efficient frontier: Visualizing trade-offs between investment levels and expected returns for portfolio optimization

Section 3: AI in a Waterfall Environment

This section begins with an introduction to project management essentials, discussing both Waterfall and Agile development approaches. This is followed by four subsections illustrating AI use cases within the four phases while using the Waterfall Method: Initiation, Planning, Execution, and Closeout, using a case study called Pinot, that helps to manage increased wastewater volume from new adhesive production being implemented by an organization through a project.

In the initiation subsection, AI use cases cover key activities to ensure all necessary parameters are clearly understood and properly documented:

- Business case
- Project Charter
- Stakeholder Registry
- Stakeholder Grid
- Stakeholder Engagement Matrix
- Communication Plan

In the planning subsection, AI use cases cover activities for developing and managing three fundamental baselines—scope, schedule, and cost—as well as risk management:

- Work Breakdown Structure (WBS)
- Project Scheduling
- Cost Estimation
- Resource Allocation and Leveling
- RACI Chart
- Integrated Performance Baseline
- Risk Register
- Risk Response Planning

In the execution subsection, AI use cases cover activities utilizing AI's data analytic and predictive capabilities to prepare for potential conflicts, forecast project costs and schedules, and streamline change control processes:

- Conflict Resolution
- Earned Value Management (for cost)
- Earned Time Management (for schedule)
- Change Control Form
- Project Progress Report

In the closeout subsection, AI use cases cover activities to ensure project outcomes are comprehensively documented for future use:

- Lessons learned
- Project closeout report

Section 4: AI in an Agile Environment

This section begins with agile essentials, covering its history and development, the agile manifesto, and the application of Scrum.

It uses a project named Victor to enhance a software product for a biotechnology company called GeneMatrix (also featured in the project portfolio management section). The subsections within this section are dedicated to Scrum Artifacts and Scrum Ceremonies.

In the Scrum Artifacts subsection, AI use cases cover activities to automate repetitive tasks, anticipate potential challenges, and streamline user story development for a more efficient workflow:

- Product Backlog
- Epics
- User Stories
- Predictive Analytics

In the Scrum Ceremonies subsection, AI use cases cover activities during sprint planning, allowing agile teams to focus on strategic decision-making and reduce time-consuming manual tasks:

- Creating tasks from user stories
- Task estimation
- Sprint backlog
- Sprint reviews

- Sprint assessment
- Velocity charts
- Sprint retrospectives

Chapter 16, at the end of Section 4, offers final thoughts on the future of AI in project management including the development of Agentic AI.

After reading this review, one might wonder if project teams will still be necessary if AI can perform so many tasks. However, as demonstrated by the authors, AI requires proper prompting, and its output still needs human evaluation before action. The transition to using AI will be gradual, requiring organizations, leaders, and project managers to approach its widespread use carefully. As the authors conclude, with the prevalence of agentic AI where AI agents can also make decisions, further discussions are needed on how humans and AI can collaborate effectively in teams with a "human-in-the-loop" approach and the ethical implications of AI making decisions. We are seeing those discussions on automatically driven cars.

While the book covers several topics and provides sufficient information for project teams, I recommend that the authors consider adding features in future editions to cover program management, project governance, and project management offices, as Gen AI can also assist in these areas. I also believe it would be beneficial to explore how Gen can help in choosing appropriate methods when hybrid methodologies are adopted during a project which is becoming more common. Furthermore, as organizational leaders will also utilize GenAI, its impact on project leaders should be explored.

I believe this book deserves a place on the shelves of project managers and organizational managers involved in portfolio management as a handy guide during their work to use AI. As an academic teaching project management, I will certainly find it useful to incorporate ideas from the book in my teaching to prepare our graduates to work in AI-supported project environments.

Declaration of use of AI: A software called editGPT was used to proofread and improve this article.

For more about this book, go to: <https://jrosspub.com/catalog/business-default-category/project-program-management/project-management-ai-handbook/>

About the Reviewer



Prof Shankar Sankaran, PE

Sydney, Australia



Shankar Sankaran PhD, PMP, PMI Fellow, is Professor of Organizational Project Management at the University of Technology Sydney (UTS) Australia. He is a member of the faculty of Design and Society at UTS where he teaches advance level subjects at the Master of Project Management course including Project Governance, Project Leadership, Digital Transformation and Systems Thinking. His research areas are in project governance, project leadership, sociotechnical systems, and action research. Shankar has won awards for research excellence from PMI and IPMA. He is a Chief Investigator in two Australian Research Council (ARC) funded research grants, one in an Industry Transformation Research Hub for Human Robot Teams for Sustainable and Resilient Construction and Project Governance and Governmentality as Collaborative Challenges.

Shankar has been involved in the publication of 15 books including a research handbook on project governance and has published and/or presented over 150 peer reviewed research publications in international conferences and journals. Shankar worked for several years in industry as a project manager, and a technical director in a Japanese MNC in Singapore before joining academia in Australia in 1999. He has been serving a PMI as a Volunteer for over 20 years including serving as a Chair of the Board of PMI's Global Accreditation Centre, and as an Associate Editor of *Project Management Journal*.

Shankar is also a member of the College of Leadership and Management's Sydney Committee at Engineers Australia where he works with other committee members to promote project governance to improve the performance of major projects in Australia. Shankar is an Honorary Academic Advisor of PM World Journal from Australia

Editor's note: Authors of book reviews published in the PM World Journal can normally receive professional development units (PDUs) from the Project Management Institute (PMI) or

continuing education units (CEUs) from other professional bodies for certification or recertification purposes. Reviewed books should be directly or indirectly related to program, portfolio or project management.

If you would like us to publish a book review or are an author or publisher of a project management-related book, and would like the book reviewed, please contact editor@pmworldjournal.com.