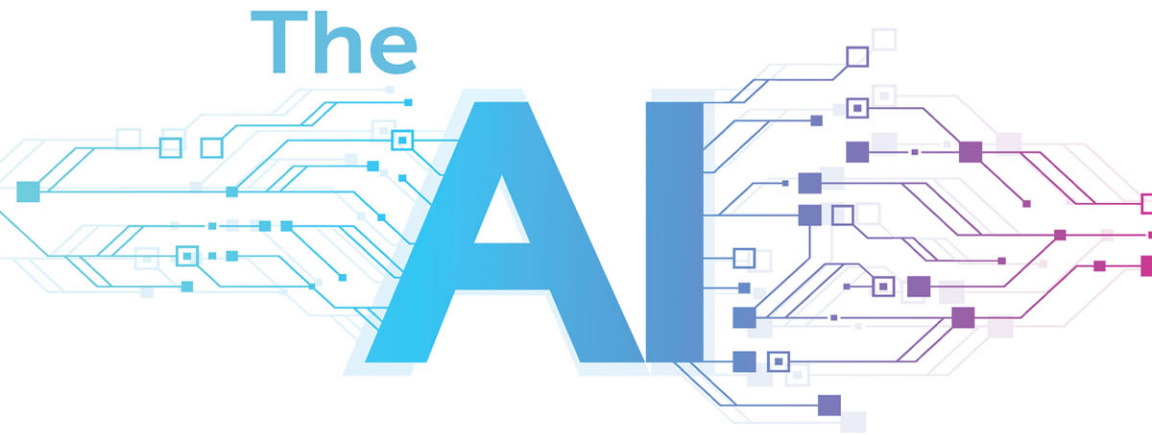


ELEVATING PRODUCTIVITY WITH **GENERATIVE AI**



REVOLUTION in **PROJECT MANAGEMENT**



VIJAY KANABAR, PhD |

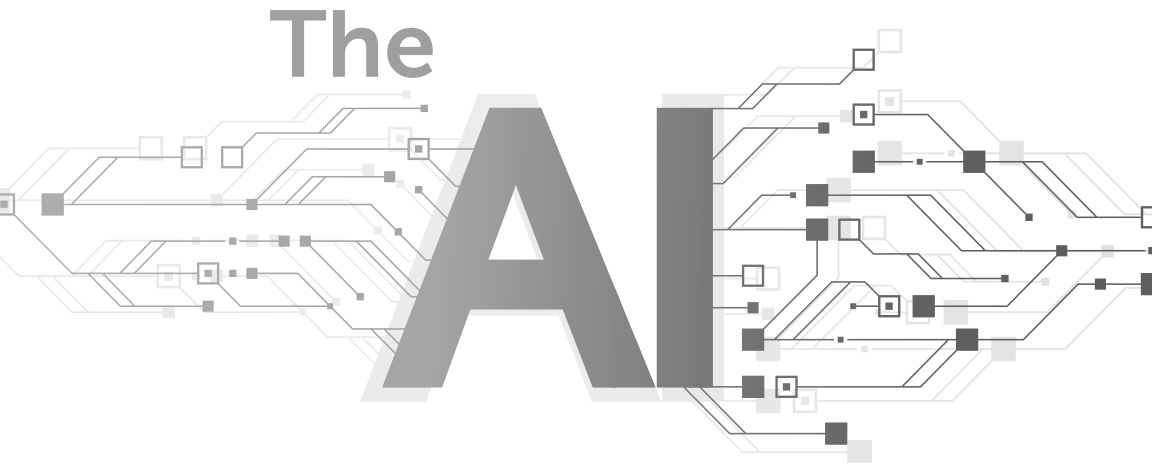
JASON WONG

Foreword by **Ricardo Viana Vargas, PhD**

FREE SAMPLE CHAPTER |



ELEVATING PRODUCTIVITY WITH **GENERATIVE AI**



REVOLUTION
in **PROJECT
MANAGEMENT**



VIJAY KANABAR, PhD |

JASON WONG

Foreword by Ricardo Viana Vargas, PhD

The AI Revolution in Project Management: Elevating Productivity with Generative AI

Vijay Kanabar, PhD and Jason Wong

Pearson

www.informit.com

Copyright ©2024 by Pearson Education, Inc. or its affiliates. All Rights Reserved.

To report errors, please send a note to errata@informIT.com

Notice of Rights

This publication is protected by copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. For information regarding permissions, request forms and the appropriate contacts within the Pearson Education Global Rights & Permissions department, please visit www.pearson.com/permissions.

Notice of Liability

The information in this book is distributed on an “As Is” basis, without warranty. While every precaution has been taken in the preparation of the book, neither the author nor Peachpit shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it.

Trademarks

All other trademarks are the property of their respective owners. Unless otherwise indicated herein, any third-party trademarks that may appear in this work are the property of their respective owners and any references to third party trade-marks, logos, or other trade dress are for demonstrative or descriptive purposes only. Such references are not intended to imply any sponsorship, endorsement, authorization, or promotion of Pearson Education, Inc. products by the owners of such marks, or any relationship between the owner and Pearson Education, Inc., or its affiliates, authors, licensees or distributors.

Executive Editor: Laura Norman

Development Editor: Margaret Anderson

Senior Production Editor: Tracey Croom

Tech Editor: Anish Kanabar

Copy Editor: Liz Welch

Composer: Danielle Foster

Proofreader: Dan Foster

Indexer: Rachel Kuhn

Interior Design: Danielle Foster

Illustrations: Vived Graphics

Cover Design: Chuti Prasertsith

Cover Illustration: TechSolution/Shutterstock

ISBN-13: 978-0-13-829733-6

ISBN-10: 0-13-829733-9

\$PrintCode

Dedications

We want to dedicate this book to our mentors, colleagues, project management practitioners, and students who have shaped our thinking and work in project management over the years. Your insights, opportunities, and partnership have made us better professionals and educators, and your support guided us successfully to where we are today.

I dedicate this book to my family—my wife Dina, daughter Meera, and son Anish, the loyal companions of the past, and the present “Hail Caesar!” Additionally, my sincere gratitude to my mom Chandrika, who keeps asking if the book is done yet (“Yes Mom, it is done!”), and my sisters Rekha and Bina and their families. I would like to extend my deepest gratitude to my mother-in-law, Manjula, and the supportive extended families in Vancouver. Finally, my dozen-plus cousins and friends—please don’t forget me simply because I am not active in the WhatsApp group.

—Vijay Kanabar

I would like to dedicate this book to the aspiring and current project managers looking to navigate our AI future. May this book equip you with the knowledge to effectively lead projects and teams in our ever-evolving technological landscape. My hope is that through these pages you will gain the understanding to harness AI as a tool and partner in delivering successful initiatives that make a difference in the world. I also want to extend gratitude to my friends who have supported me along the way. Last but not least, I want to dedicate this book to my family: my mother Kristina; my father Peter; my sister Jennifer; and my loyal companion, Sophie. They have cheered me on, and I wouldn’t have been able to do it without them.

—Jason Wong

Pearson's Commitment to Diversity, Equity, and Inclusion

Pearson is dedicated to creating bias-free content that reflects the diversity of all learners. We embrace the many dimensions of diversity, including but not limited to race, ethnicity, gender, socioeconomic status, ability, age, sexual orientation, and religious or political beliefs.

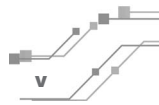
Education is a powerful force for equity and change in our world. It has the potential to deliver opportunities that improve lives and enable economic mobility. As we work with authors to create content for every product and service, we acknowledge our responsibility to demonstrate inclusivity and incorporate diverse scholarship so that everyone can achieve their potential through learning. As the world's leading learning company, we have a duty to help drive change and live up to our purpose to help more people create a better life for themselves and to create a better world.

Our ambition is to purposefully contribute to a world where:

- Everyone has an equitable and lifelong opportunity to succeed through learning.
- Our educational products and services are inclusive and represent the rich diversity of learners.
- Our educational content accurately reflects the histories and experiences of the learners we serve.
- Our educational content prompts deeper discussions with learners and motivates them to expand their own learning (and worldview).

While we work hard to present unbiased content, we want to hear from you about any concerns or needs with this Pearson product so that we can investigate and address them.

- Please contact us with concerns about any potential bias at www.pearson.com/report-bias.html.



Contents

Foreword	xiii
Prologue	xv
1 DAWN OF A NEW ERA.....	1
Not Robots.....	2
<i>AI in Action: Swift Project Turnover</i>	4
AI and Brook’s Law	7
Artificial Intelligence	16
ChatGPT	24
Prompt Engineering	27
Ethical Considerations and Professional Responsibility.....	30
Key Points to Remember	31
Technical Guide	32
2 STAKEHOLDERS AND GENERATIVE AI.....	35
<i>AI in Action: LML Home Improvement</i>	36
Identifying Project Stakeholders.....	37
The Impact of AI on Stakeholder Expectations.....	42
Stakeholder Analysis with AI	46
Engaging Stakeholders through AI-Driven Communication	54
AI as a Stakeholder for Project Management?	60
Ethical Considerations and Professional Responsibilities	61
Key Points to Remember	63
Technical Guide	64



- 3 BUILDING AND MANAGING TEAMS USING AI..... 67**
 - AI in Action: Walmart Managing Buyer–Seller Negotiations*.....68
 - AI-Assisted Recruitment and Selection 69
 - AI-Driven Team Onboarding, Training, and Development 74
 - Enhancing Leadership with AI 80
 - Using AI Tools to Enhance Team Collaboration..... 91
 - AI in Conflict Resolution and Decision-Making 98
 - Ethical Considerations and Professional Responsibility..... 108
 - Key Points to Remember 109
 - Technical Guide 110

- 4 CHOOSING A DEVELOPMENT APPROACH WITH AI..... 115**
 - AI in Action: HealthCare.gov* 116
 - Understanding Predictive, Adaptive, and Hybrid Life Cycle Approaches..... 118
 - Using AI to Select the Right Development Approach for Projects..... 122
 - Tailoring Your Approach with AI..... 134
 - Ethical Considerations and Professional Responsibility..... 139
 - Key Points to Remember 140
 - Technical Guide 141

- 5 AI-ASSISTED PLANNING FOR PREDICTIVE PROJECTS..... 145**
 - AI in Action: Tom’s Planner*..... 146
 - AI-Assisted Project Initiation..... 147
 - AI-Assisted Planning 156
 - AI-Assisted Project Scope Definition..... 163



AI in WBS Creation.....	166
Creating a Schedule from the WBS Using AI.....	172
AI-Enhanced Cost Estimation and Budgeting.....	176
Ethical Considerations and Professional Responsibility.....	182
Key Points to Remember.....	183
Technical Guide.....	184
6 ADAPTIVE PROJECTS AND AI.....	189
<i>AI in Action: Transforming the Travel Industry</i>	190
Adaptive Projects.....	192
Scrum Prompts.....	197
Agile Estimation.....	207
Project Execution.....	210
Project Measurement and Tracking.....	217
Ethical Considerations and Professional Responsibility.....	222
Key Points to Remember.....	222
Technical Guide.....	223
7 MONITORING PROJECT WORK PERFORMANCE WITH AI.....	225
<i>AI in Action: AI Tools Battle Meeting Overload</i>	226
Direct and Manage Project Work.....	227
Quality Management with AI.....	234
AI in Monitoring and Controlling Project Work.....	239
Validating and Controlling Scope, Schedule, and Cost with AI.....	242
Ethical Considerations and Professional Responsibility.....	248
Key Points to Remember.....	248
Technical Guide.....	250



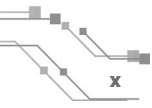
- 8 THE ROLE OF AI IN RISK MANAGEMENT259**
 - AI in Action: Managing Risks in the Banking Sector*..... 260
 - Risk Identification with AI: Understanding Threats and Opportunities 262
 - Enhancing Traditional Risk Identification Methods with AI 264
 - Qualitative Risk Analysis and AI..... 271
 - Quantitative Risk Analysis and AI..... 275
 - AI in Risk Responses 285
 - AI in Risk Monitoring 288
 - Ethics and Professional Responsibility..... 292
 - Key Points to Remember 293
 - Technical Guide 294

- 9 FINALIZING PROJECTS WITH AI 299**
 - AI in Action: Verification and Validation*.....300
 - Releasing Products and Services 301
 - Verifying and Validating Project Deliverables and Usability Testing with AI..... 307
 - Deployment with Knowledge from AI.....313
 - Project Closure317
 - Value Delivery 324
 - Ethics and Professional Responsibility..... 325
 - Key Points to Remember 326
 - Technical Guide 327

- 10 AI TOOLS FOR PROJECT MANAGEMENT333**
 - Value and Implications of AI-Integrated Tools for Project Managers..... 334
 - Factors to Consider When Evaluating AI Tools..... 335



Project Management Systems	337
Scheduling Tools	343
Communication and Meeting Tools.....	345
Productivity and Documentation Tools.....	348
Collaboration and Brainstorming Tools.....	351
Ethics and Professional Responsibility.....	352
Key Points to Remember	356
Technical Guide	357
11 LOOKING AHEAD	359
<i>AI in Action: Health Care's Enterprise Landscape</i>	360
Embrace of AI Is a Boon to Project Management	361
The AI-Powered Future in Enterprises	363
Risks from AI	365
Introduce AI Solutions Only to Address a Need	366
Closing Remarks.....	367
INDEX.....	369



Acknowledgments

Heartfelt gratitude is extended to the executive editor, Laura Norman, for the unwavering support and encouragement that were instrumental in bringing this book to fruition. Your dedication to investing both time and expertise has had a profound effect on the success of this project. Your commitment and guidance were paramount in propelling this work to its completion swiftly and efficiently.

Thanks are also due to the development editor, Margaret Anderson. Her insights, perspectives, and patience contributed significantly to the book's quality and depth.

Additional recognition to the rest of the publishing team: production editor Tracey Croom for managing the production team, copy editor Liz Welch for refining the content, and Danielle Foster for both the interior design and composition, enhancing the book's visual appeal. Laura Robbins of Vived Graphics is acknowledged for the book's illustrations, while thanks are extended to Dan Foster for proofreading and to Rachel Kuhn for indexing.

The leadership of the Project Management Institute (PMI) continues to exert a tangible influence, inspiring the drive necessary for projects of this kind to reach fruition and advance the profession and literacy of AI.

Special mention is reserved for the team, colleagues, and students at the Metropolitan College at Boston University. Their dedication, commitment to research, and excellence shaped this work and paved the way for academic and professional opportunities. To the faculty, our thanks for the collaborations, discussions, and shared knowledge that cultivated a space for development and creativity in project management.

About the Authors

Dr. Vijay Kanabar is an associate professor and the director of Project Management Programs at Boston University's Metropolitan College. In recognition of his outstanding contributions to the field, he was honored with the PMI Linn Stuckenbruck Teaching Excellence Award in 2017. He has a track record of advising organizations such as Blue Cross Blue Shield, Staples, United Way, and Fidelity Investments on training and technology needs. As a distinguished author, he delved into AI research three decades ago, developing AI expert systems that aided project practitioners in cost estimation. Additionally, he holds certifications such as PMP, PMI-ACP, and CSM.

Jason Wong is an IT leader at a Boston-based hospital and an adjunct professor at Boston University, where he teaches project, program, and portfolio management and shares his profound understanding of generative AI with students, guiding them to master the methods necessary for developing generative AI systems. He imparts his deep knowledge of generative AI to students, ensuring they grasp both the foundational concepts and advanced techniques essential for creating cutting-edge artificial intelligence models. He lends his expertise as a practitioner in leading, managing, and overseeing diverse IT projects and products, with a specialized focus on electronic health records (EHR) and picture archiving and communications systems (PACS). He holds a masters in computer information systems and is a certified PMP, PMI-ACP, and CSPO.

This page intentionally left blank

Foreword

A New Era in Project Management

I've spent most of my professional life navigating the intricate world of project management, from being an entrepreneur to leading humanitarian projects at the United Nations, and from sharing insights through my podcast to being a volunteer leader in PMI. During this journey, I've seen the field evolve in countless ways. But until now, nothing has been as transformative in my own experience as the advent of artificial intelligence (AI).

AI is not just a buzzword; it's a tool reshaping how we manage projects and engage with stakeholders. Imagine a world where AI can sift through mountains of data to understand stakeholder needs better than ever before and better than any human being could do.

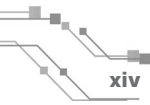
This is not a future perspective. This is happening right now! Generative AI can help us identify, engage, and communicate with stakeholders in ways we never thought possible. It can automate the mundane, freeing our time to focus on strategic issues requiring human insight.

But let's not forget that technology is a tool, not a replacement for our human skills. While AI can help us in many ways, from team building to decision-making, it has its pitfalls—and they are not little. Issues like ethical considerations, bias, and nuanced decision-making remind us that human oversight is irreplaceable. We must use AI responsibly, ensuring it aligns with our ethical standards and complements our human skills. This is what our organizations expect from us and what society expects from responsible human beings.

In *The AI Revolution in Project Management*, Vijay Kanabar and Jason Wong help us drive this intricate machine, showcasing real-world scenarios such as Walmart, which is already leveraging AI to make their procurement processes more efficient.

Another relevant aspect of the book is about Agile and AI. Integrating AI with adaptive project management approaches such as Agile and Scrum is particularly exciting. AI can help create detailed product backlogs and even articulate a project's vision. It's like having a super-powered assistant that understands your project's needs intimately.

These examples are clear indications of how the future can be bright, but it's up to us to steer the ship correctly.



Artificial intelligence is powerful, but, like any tool, it has limitations and drawbacks. One of the biggest concerns people have regarding AI is bias in the decision-making process. For instance, an AI system designed to screen résumés and select the best candidates could inadvertently favor individuals from specific backgrounds. This is a severe concern that responsible project managers need to be aware of, especially when using AI in recruitment or stakeholder engagement. In project management, building trust and rapport with stakeholders is crucial.

Another limitation is the absence of the “human touch.” While AI can analyze data and generate responses, it can’t understand the nuances of human emotion or the subtleties of interpersonal relationships. Let’s not forget: AI does not have feelings.

Data privacy is another area that requires our attention and is covered by Vijay and Jason in this book. As we feed more and more data into AI systems, the question of who owns this data and how it’s used becomes increasingly essential. Project managers must ensure that data is stored securely and its usage complies with privacy laws and ethical standards.

Finally, as we stand on the brink of this AI revolution in project management, I am filled with both hope and caution. Hope for the incredible efficiencies and insights that AI promises, and caution for the ethical and practical considerations that come with it.

So, as you turn the pages of this book, I invite you to explore this brave new world. Let’s learn together, apply our knowledge responsibly, and lead our projects to success in this exciting era of AI.

Our organizations and society deserve that.

Ricardo Viana Vargas, Ph.D.

Ricardo is an experienced leader in global operations, project management, business transformation, and crisis management. As founder and managing director of Macrosolutions—a consulting firm with international operations in energy, infrastructure, IT, oil, and finance—he managed more than \$20 billion in international projects in the past 25 years.

As former chairman of the Project Management Institute (PMI), Ricardo created and led the Brightline Initiative from 2016 to 2020 and was the director of project management and infrastructure at the United Nations, leading more than 1,000 projects in humanitarian and development projects.

He wrote 16 books in the field, has delivered 250 keynote addresses in 40 countries, and hosts the “5 Minutes Podcast,” which has reached 12 million views. His course on LinkedIn Learning, “Generative AI in Project Management,” has more than 52,000 students.

Ricardo holds a Ph.D. in Civil Engineering, a master’s in Industrial Engineering, and an undergraduate degree in Chemical Engineering.



Prologue

The Intersection of Project Management and AI

Project management, at its core, is a discipline of orchestrating complex tasks, managing resources, and ensuring the successful completion of projects within set parameters of scope, time, cost, and quality. Over the years, tried-and-true methodologies have been established, shaping how industries approach and execute projects. From the predictive model's linear approach to the adaptive agile approach, project management has continually evolved to address the changing needs of industries and organizations.

Enter the world of generative artificial intelligence (AI)—a realm where machines mimic human intelligence processes, such as learning, reasoning, and self-correction. The fusion of AI with project management offers an exciting promise: the ability to harness vast computational powers to streamline processes, anticipate risks, and optimize resources in unimaginable ways.

With AI, project managers like you can tap into deep data reservoirs of knowledge, glean insights from patterns invisible to the human eye, and make rapid, informed decisions previously unfeasible. Imagine a scenario in which an AI tool could predict potential project bottlenecks weeks in advance or suggest optimal resource allocations based on historical data and current project dynamics. Such capabilities can transform the very fabric of project management, making it more proactive than reactive.

Moreover, integrating AI into project management signals a broader cultural shift in organizations—a move toward embracing innovation and staying agile in a rapidly changing technological landscape. Organizations willing to harness the combined might of project management and AI stand to gain a competitive edge, delivering projects with greater efficiency, reduced costs, and enhanced quality.

Navigating This Book

The journey of knowledge is often as critical as the destination. As readers embark on this exploration of the confluence of project management and AI, they will find the structure of this book meticulously designed to facilitate a seamless and enriching learning experience.



The emphasis of our narrative in this book, based on our research, is on text generation by AI tools. While AI's capabilities extend to various modalities, such as video and image generation (e.g., DALL-E), this book focuses on text generation. This concentration allows for a deeper understanding and exploration of how AI can be applied effectively to textual data in project management practice.

Each chapter can be thought of as multilayered tapestry. The fictional case studies are used to ground each chapter in real-world possibilities. We illustrate scenarios where AI tools such as ChatGPT, Google Bard, and Claude could play pivotal roles in planning, organizing, and managing project outcomes. All generative AI responses seen in the text are produced by ChatGPT, unless otherwise specified by a source notation. These narratives serve dual purposes: they paint a vivid picture of AI's capabilities and highlight the nuances and intricacies of prompt engineering with such tools.

The book goes beyond passive reading; immerse yourself in the unique tripartite dialogue—where authors, AI, and readers can participate in dynamic conversations. It's an opportunity for readers to actively question, ponder, and challenge the unfolding narrative. The entire book is written by humans who use AI-generated examples to illustrate how project managers can leverage AI in their work.

Interspersed within this dialogue, a technical guide in each chapter offers a deeper dive on one or more topics for those keen on the “how-to.” These guides demystify AI tools, providing practical insights, step-by-step instructions, and tangible examples. These guides ensure that you not only understand the theoretical potential of AI but also have an opportunity to practice with the tools and techniques and harness their practical applications.

Understanding the Tools and Terminology

The world of AI is as vast as it is intriguing. As with any specialized field, it has unique tools, terminologies, and nuances. It might appear daunting to a newcomer, but a closer look reveals a structured ecosystem designed for diverse applications.

AI products such as ChatGPT, Google Bard, or Claude, introduced in this book, each possess different strengths and serve distinct needs. While they all fall under the umbrella of generative AI tools, the subtleties in their functionalities, algorithms, and interfaces can significantly impact their application in project management.



Consider the difference between a hammer and a screwdriver. Both are tools, but their design and functionality are determined by their specific uses. Similarly, while a prompt might be designed for ChatGPT, its outcome in Google Bard could differ due to the underlying differences in how these AI products have been trained and developed.

The diverse array of tools reflects professionals' varied challenges and requirements. Some tools might excel in data analysis, whereas others could be optimized for natural language processing or predictive modeling. Professionals must understand these nuances, ensuring they select the right AI tool for the task.

AI TOOLS See Chapter 10, “AI Tools for Project Management,” for some selected recommendations. A comprehensive coverage of AI tools for project management can be found at the Pearson website: www.informit.com/AIforPM.

Some content or features highlighted in our chapters and technical guides may be exclusive to paid services. For instance, ChatGPT Plus operates on a subscription model. Its advanced features, such as GPT-4 capabilities, plug-ins, and advanced data analysis tools, are available solely to subscribers.

Beyond tools, the terminology of AI also plays a crucial role. Terms like “token” or “context window” aren't mere jargon; they are fundamental concepts that define how AI interacts, understands, and responds. Grasping these concepts is essential for anyone looking to integrate AI effectively into their workflows. It equips them with the knowledge to anticipate AI's behavior, understand its limitations, and fully harness its capabilities.

It may also be useful to clarify a couple of software terms:

- **Plug-ins:** Within this book, we refer to ChatGPT plug-ins exclusively. However, another AI, Bard, also recently introduced plug-ins.
- **Extensions:** These refer to Internet browser extensions commonly found in popular web browsers such as Google Chrome, Firefox, and Edge.

Interactive Learning and Application

Traditional books provide knowledge in a linear format, with the author imparting wisdom and the reader passively consuming the content. However, in the age of interactive technologies and the dynamic realm of AI, we believe that the learning experience can—and should—be more immersive.



This book is not just a compilation of information; it's an interactive platform. It is designed to foster a multidimensional learning experience, blurring the lines between passive reading and active engagement. We have striven to create an environment where readers are not just consumers of content, but active participants in the unfolding narrative.

At the core of this interactive approach are the fictional case studies, which provide both illustrative examples and catalysts for thought. As you navigate these narratives, you are invited to engage with the scenarios, question the AI's responses, and even experiment with your own prompts. It's a hands-on approach, allowing readers to witness the capabilities of AI in real time and in realistic settings.

Complementing these case studies is the unique tripartite dialogue. This three-way conversation between the authors, the AI, and the readers serves multiple purposes. It demystifies complex concepts, provides diverse perspectives, and encourages you to challenge and validate your understanding. This dynamic interaction ensures that learning is not a one-way street but a collaborative journey.

Lastly, the technical guides at the end of each chapter act as deep dives into the practical implementation of AI. They provide a transition from theoretical understanding to practical application, ensuring that the knowledge gained is conceptual and actionable.

Ethical and Practical Considerations

Navigating the world of AI is not merely about understanding its capabilities but also about being keenly aware of its limitations and ethical considerations. AI, with all its predictive might, remains a tool. It can't replace the human touch, intuition, and experience seasoned professionals bring to the table.

From a practical standpoint, understanding AI's capabilities is paramount. While the allure of AI's potential can be captivating, it's crucial to approach it with a discerning eye. AI tools, regardless of their sophistication, have limitations. These limitations are not just in terms of computational capabilities but also in the form of inherent biases, context windows, and the occasional "hallucinations." A seasoned professional knows that AI can provide invaluable insights and augment decision-making, but it should not be the sole decision-maker. Human intuition, experience, and judgment, remains irreplaceable.

But beyond the practical lies the domain of the ethical. In an age where data breaches and privacy concerns make headlines, the ethical use



of AI is non-negotiable. When feeding project or company data into AI systems, one must tread carefully and be fully aware of the implications. This awareness extends beyond the immediate concerns of data privacy to the broader impact of AI-driven decisions. For instance, if an AI tool recommends resource allocation that might lead to layoffs, the ethical implications of such a decision need careful consideration.

Moreover, the data-sharing policies of AI platforms warrant scrutiny. Different platforms have varied approaches to data usage, and understanding these nuances is critical. For example, while ChatGPT might refine its model based on user interactions, other platforms like Claude might adopt a different stance.

Furthermore, understanding the “currency” of AI is crucial. Tokens, or word chunks, form the basic units that AI understands and processes. Just as a project manager might allocate resources judiciously, understanding token limits and context windows becomes paramount when engaging with AI. These constraints mean that AI can “forget” during lengthy interactions, necessitating occasional reminders from the user.

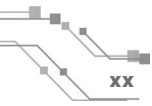
Equally important is the understanding that AI can “hallucinate.”

AI HALLUCINATION This term simply means AI might sometimes generate inaccurate outputs based on factual data and reasonably good prompts.

Because of this, it's essential to approach AI-generated content discerningly, cross-referencing and validating when necessary. For instance, if you are not confident about a response generated by the AI, consider copying the response just generated and pasting it into a new chat session and asking the same AI to verify its accuracy. If the AI has web access—whether through plug-ins or incorporated natively—you can explicitly ask for citations in your prompts. Additionally, leveraging traditional sources, such as a quick Google search or a scholarly journal review, provides a layer of validation, ensuring the information generated is accurate and reliable.

Data Privacy and User Responsibility

In the digital age, data is often equated to currency. Its value is immense in terms of the insights it can offer. The potential risks associated with its misuse continue to be a concern even with newer generative AI applications. The intersection of AI and data privacy is a critical area of focus, and understanding the intricacies of data handling by AI platforms is paramount. Every piece of data fed into an AI system leaves a digital footprint. Whether it's project timelines, resource allocations, or financial data, the



sensitivity of this information varies, and so do the potential repercussions of its exposure.

You must also understand the broader ecosystem in which AI platforms operate. Different AI tools have varied policies on data retention, sharing, and usage. For instance, while some platforms might use user interaction data to improve and refine their algorithms, others might prioritize user anonymity and not store interaction data.

NOTE Currently, ChatGPT uses your input prompts and data and outputs for future training unless the user turns off data sharing. However, Claude won't use your interactions for training its model.

To conclude, data privacy and user responsibility stand as twin pillars. Together, they ensure that the adoption of AI is effective, secure, and responsible.

Embarking on the Journey

The journey into the confluence of project management and AI is not a mere exploration of tools and techniques. It's a voyage into the future of how projects are conceptualized, executed, and delivered. As the chapters of this book unfold, they paint a picture of a world where traditional project management methodologies meld seamlessly with the capabilities of generative AI.

This journey requires both curiosity and caution: curiosity to explore the myriad ways AI can augment human capabilities, offering new insights and solutions, and caution to navigate the landscape carefully, always prioritizing ethical considerations.

One of the undeniable truths of the generative AI domain is its rapid evolution. The pace at which advancements are occurring is staggering, and new features and capabilities are constantly emerging. Recognizing this, we have provided readers with an accompanying online repository to access the most current information and tools. This repository will be periodically updated with information on new technology as it becomes available.

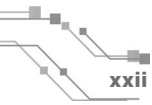
By the conclusion of this book, you will have gained a comprehensive understanding of various competencies and generative AI capabilities essential in the discipline of project management, such as project planning tools, task management tools, collaboration and communication tools, document management tools, risk management tools, budgeting

and cost management tools, performance monitoring tools, resource management tools, quality management tools, and project management software enhanced by AI.

Specifically, as you review the chapters, you will uncover the excellent capabilities of AI as illustrated in the following table for specific competencies.

COMPETENCY	CAPABILITY				
	Explaining Concepts	Communications	Creativity, Brainstorming, & Decision-Making	Rehearsing & Role-Playing	Summarizing and Reporting
PM Tasks					
Stakeholder Management	✓	✓	✓	✓	
Project Planning	✓	✓	✓		✓
Risk Assessment	✓	✓	✓		✓
Resource Allocation	✓	✓	✓		✓
Task Prioritization	✓	✓	✓		✓
Meeting Agenda and Minutes		✓	✓		✓
Leadership & Communication	✓	✓	✓	✓	✓
Monitoring and Control		✓			✓
Change Management	✓	✓	✓	✓	✓
Knowledge Management	✓	✓			✓

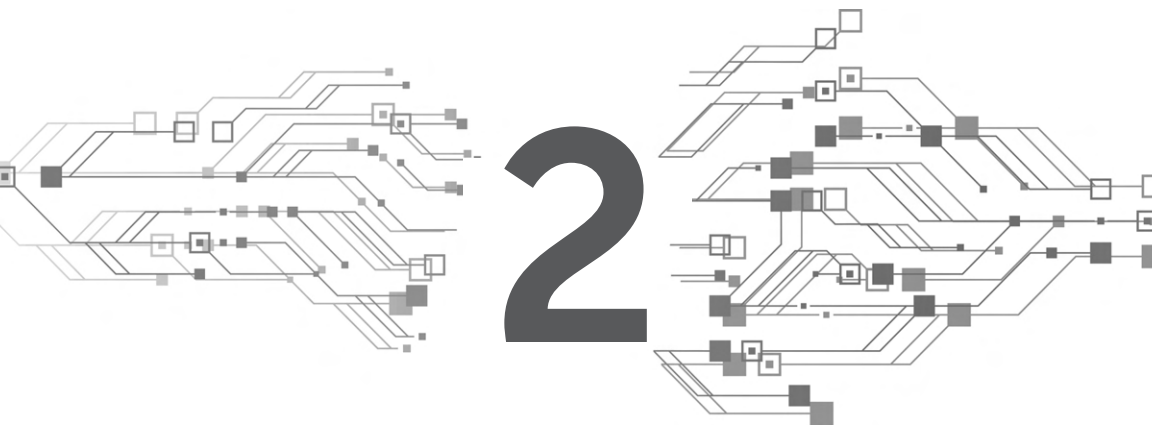
The best way to start is to dive in. You can learn the prompt engineering that is relevant to you as the need arises. We suggest you simply download the app and start right away. Give AI your scenario and ask it to address your problem or opportunity. Brace yourself for astonishment!



Supplemental Content

AI is a fast-changing field with new developments and features every day. To help readers keep up with the latest trends and tools, the authors have provided supplemental content where you can find the most up-to-date information.

1. Go to www.informit.com/AIforPM and either sign in to your account or create an account.
2. Click Submit to register your product.
3. In your account on the Registered Products page, you will see your registered products.
4. Click the Access Bonus Content link to go to the Downloads page for this product.
5. Click the link(s) to download the desired files.

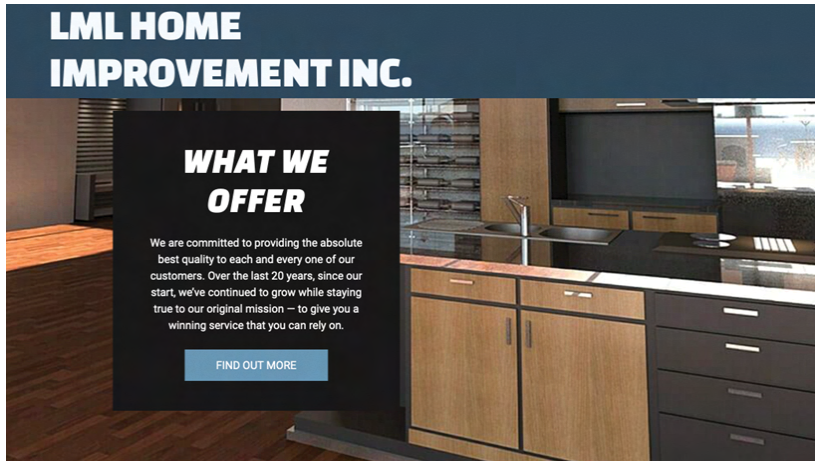


Stakeholders and Generative AI

Projects succeed if you as the project leader successfully identify and engage stakeholders, constantly communicating with them and meeting their expectations. Stakeholder management is more than just a valuable skill—it's a necessity. Generative artificial intelligence (AI) is a precious tool in this effort. Whether you're a novice or an experienced project manager, you can benefit by leveraging AI throughout the project delivery life cycle. AI technologies will significantly enhance productivity and efficiency, from identifying and engaging stakeholders to maintaining effective communication.

AI IN ACTION: LML HOME IMPROVEMENT

For each topic, we will present a real-world use case of an AI model such as ChatGPT, in action. LML Home Improvement Inc. was founded by Luiz M. Lorenzo, originally a carpenter by trade. After a successful start in the home improvement sector, completing small projects such as building basements, rooms, and garages, Luiz sought to grow his business. He decided to move into the home construction sector. He'd heard of AI tools like ChatGPT and quickly mastered using ChatGPT at a basic level.



LML Home Improvement Inc.

Luiz needed to identify stakeholders for his new construction project in a small neighborhood in the outskirts of Acton, Massachusetts. Using a ChatGPT app on his phone, he was quickly presented with a list of eight stakeholders. He was fully aware of most of the stakeholders, such as those listed here:

- Architect/designer
- Subcontractors
- Suppliers
- Finance providers
- Local government/regulators

But it was the list of stakeholders that he had not been aware of that proved to be valuable. Luiz had no experience with issues that could arise when a large project is planned. The AI models have information about



projects, both small and large, and ChatGPT listed three additional stakeholders he had not considered:

Neighboring Community: Neighbors may have a stake, particularly regarding disruption during the construction process.

Real Estate Agents: Real estate agents could assess the home's potential value.

Insurance Companies: LML Home Improvement had insurance, but the fact that AI prominently identified insurance companies got Luiz thinking about whether his insurance was sufficient.

Luiz wrote a letter to the neighboring community and informed them about the disruption. He proactively contacted a real estate agent to get ideas for designing and furnishing. Finally, Luiz increased his liability coverage after talking with his existing insurance company.

Identifying Project Stakeholders

In this section, we will consider how AI can facilitate identifying the stakeholders for any given project. Later in the chapter, we will illustrate how you can keep your stakeholders engaged by keeping them better informed, involved, and appreciated.

Understanding Stakeholders

Stakeholders. We've all heard the term. Let's consult the *Project Management Body of Knowledge* (PMBOK):

A stakeholder is an individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.

Basically, a stakeholder in project management is anyone interested in the project's outcome and who is impacted by the project. These could be individuals, groups, or even organizations. Stakeholders can be internal or external to the project.

RESOURCE The PMBOK is a global standard from the Project Management Institute (PMI) leveraged by professionals worldwide. *The Process Groups: A Practice Guide*, is a useful companion to PMBOK that offers practical guidance.¹

1 www.PMI.org

The PMBOK guide identifies eight project performance domains: groups of related activities critical for effectively delivering project outcomes. The first and possibly the most important domain is the *stakeholder performance* domain.

There are different kinds of stakeholders in the project environment (**Figure 2.1**), and they all need to be identified, rated for their impact, and managed.

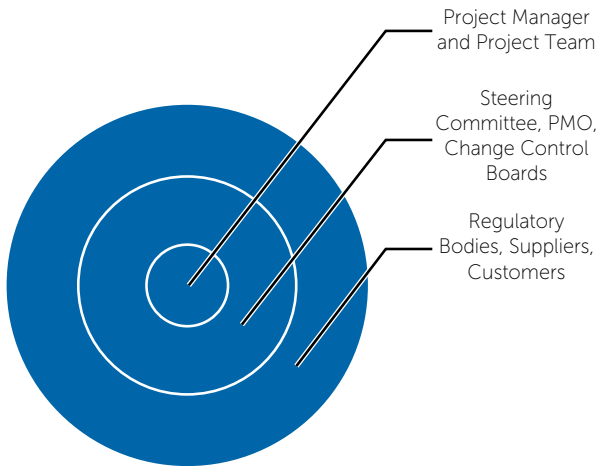


FIGURE 2.1 Stakeholders in the project environment

Throughout this book, you will see examples of the project team—developers, designers, clients, and sponsors—interacting with AI tools. This might include project management software and automation tools. In this chapter, we focus specifically on using an AI tool such as ChatGPT to streamline various aspects of the project with stakeholders.

Leveraging AI to Identify Stakeholders

Identifying stakeholders is a critical aspect of project management. So, how can you leverage AI to streamline this process?

Here's where a tool like ChatGPT comes in handy. Its ability to quickly process large volumes of data can help identify stakeholders based on their interactions and engagements. To begin with, such language models have learned lessons from millions of projects across industries of all types. Additionally, with training, these models can analyze additional project data such as active or historic email communications and identify individuals who are involved in project-related conversations and who might be stakeholders. AI tools can delve into organizational data to



identify relevant parties, depending, of course, on the training or learning documents provided. AI can identify stakeholders from various sources, including project documentation, emails, and social media. ChatGPT, for example, understands the context and frequency of these communications. These techniques can help you, as a project manager, quickly and accurately identify the relevant stakeholders.

A fictional case study can clarify this. Say you are working with Global Health Inc., a start-up in a highly digitized industry. Let's see how AI can help you with activities associated with the stakeholder performance domain. Global Health has several email threads about the project. Consider the following prompt:

"ChatGPT, can you analyze these email threads and help me identify potential stakeholders for our project?"

I'd be happy to help, but as an AI language model, I'm unable to directly access or analyze your emails due to privacy and security concerns. However, I can guide you on how to do this analysis yourself or with a supervised AI tool that complies with your organization's data security guidelines. Typically, you'd look for individuals frequently involved in the email conversations, those with decision-making power, and those impacted by the project.

This conversation highlights the critical aspect of data privacy and the role of responsible AI use in project management. Before utilizing AI tools like ChatGPT, ensure you are fully aware of and compliant with your company's data privacy guidelines. If you're granting AI access to your emails or manually pasting email content into ChatGPT, it's paramount that you're not violating any company rules or regulations. An interaction might look like this

"I have been rummaging through all these email threads for our Global Health project, and it's making my head spin. We need to identify our stakeholders, but there are so many emails! Could you lend me a hand?"

I get where you're coming from, and I'd be thrilled to help! Based on what we understand about the project and its correspondence and the emails you provided, I noticed a chain of emails between John Doe, the Director of Global Health Operations, and Sarah Brown, the Head of Finance, deep in discussing the project's budget.

There are also multiple threads where Mike Green, a Regional Director, juggles resources and timelines with the project team.

There are also emails from Emily White, a Senior Analyst, voicing concerns and sharing insights about how the project might unfold.

Now, what could you infer from this?

- John Doe, the Operations Director, is likely to be one of your key stakeholders. He’s right in the thick of things, especially regarding financial decisions.
- Sarah Brown is equally crucial. As the person holding the purse strings, she’s a stakeholder who would significantly influence the project’s financial standing.
- And let’s remember Mike Green. His input as a Regional Director in project planning and resource allocation suggests that he’s an operational stakeholder who can directly influence project execution.
- Emily White, too, deserves a mention. She might not have a managerial role, but as a Senior Analyst, her insights about the project’s impact make her a stakeholder to be considered.

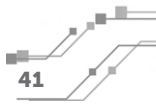
By playing out this scenario, you can see how an AI tool can help you sift through all that data and identify your stakeholders. All four individuals could be stakeholders based on their involvement and influence. Remember, this is a simplified example, but it gives you an idea of how AI works.

Let’s see a few more prompts to ChatGPT as examples. First, a prompt to get started on the list of stakeholders:

“ChatGPT, I have a list of people I have engaged in email conversations about the Global Health website project. Can you review my emails and help me identify other key stakeholders and their role in these interactions?”

Sure, I can help you analyze the frequency and context of these interactions. However, please note that while I can provide suggestions based on data, the final decision should also consider qualitative factors like their influence, interest, and impact on the project. Here is a table that might address your needs:

STAKEHOLDER	ROLE
John Smith	Director of Business Analysis
Mary King	Director of IT
Das Pear	Director of Marketing



Isn't it incredible how AI can transform the working day of a project manager? The possibilities of AI being able to scan through heaps of data to identify potential stakeholders are endless.

The beauty of AI lies in its ability to dive deeper. For instance, AI can analyze the tone, sentiment, and context of email conversations and other forms of communication. This level of analysis goes beyond just identifying who is involved to discerning how they're involved, their potential impact, and their interest in the project.

Consider a prompt like this:

“Analyze the sentiment and context of interactions with Jane from the IT department regarding the Global Health website project. Could you provide an estimate of her potential influence and interest?”

ChatGPT will scan the data, look for patterns and contextual cues, and might respond with something like this:

Based on my analysis, Jane frequently discusses the technical aspects of the project and often proposes innovative solutions. This suggests she has considerable technical influence and seems highly invested in the project's success. The overall sentiment of the interactions with Jane appears positive.

Now, you've identified a stakeholder and gained insights into her potential influence and interest. These insights can be invaluable in strategizing stakeholder engagement.

Engagement, too, can reach new heights of personalization with AI to solidify someone's role as a stakeholder. Let's say you ask,

“Could you draft an engaging, personalized update for Jane acknowledging her contributions and encouraging her continued involvement?”

ChatGPT might respond with a draft saying:

Dear Jane,

Just wanted to take a moment to acknowledge the remarkable work you've been doing on the Global Health website project. Your knack for technical problem-solving and innovative suggestions have really lit up the way forward for us. Your dedication is appreciated, and we look forward to your continued involvement.

Updating the Stakeholder List

Consider the complex dynamics of a project: multiple teams, various roles, shifting priorities, and an evolving environment. In this context, you must keep updating your stakeholder list, acknowledging that new significant participants may emerge while others may recede into the background.

AI can play a critical role in this dynamic stakeholder identification. By continuously monitoring and analyzing communications and interactions, AI can alert you to new potential stakeholders as they emerge. Here's another hypothetical conversation with ChatGPT:

“Are there any emerging stakeholders in the Global Health website project based on the recent email communications?”

After analyzing the recent interactions, I have noticed that Alex from the Legal department has started actively participating in the discussions. Although not previously identified as a key stakeholder, Alex's increasing involvement and legal expertise might make him a significant stakeholder moving forward.

This continuous monitoring allows you to keep your finger on the pulse of the project, ensuring that no potential stakeholder is overlooked.

The Impact of AI on Stakeholder Expectations

Stakeholders in the era of AI also have different expectations. With technology advancing at breakneck speeds, stakeholders expect more transparency, faster responses, and personalized interactions—areas where AI can excel.

As a project manager, you can meet and exceed these high expectations using AI, such as ChatGPT. Real-time reporting, for instance, is a task that you can automate with AI. This way, you keep your stakeholders informed and foster transparency. Additionally, ChatGPT can help provide instantaneous responses to stakeholder queries or concerns, improving stakeholder satisfaction.

Consider this example in our case study: Global Health is working on a tight deadline, and your stakeholders are anxious about the progress.

“Could you please generate a progress report for the website project to share with our stakeholders?”

Of course. Here's a draft of the progress report:

Project Name: Global Health Website Development

Current Phase: Design Stage

Key Accomplishments:

1. Completed user interface design
2. Established color scheme and branding
3. Developed site structure and navigation

Upcoming Milestones:

1. Begin front-end development (Expected start date: 9/1/2025)
2. User testing (Expected start date: 11/1/2025)

Risks and Issues:

Potential delay in front-end development due to dependency on external vendors.

Please note that these are projected dates and may be subject to change. We appreciate your understanding and continued support.

Remember to customize this template based on your actual project details.

That was good practice. While ChatGPT provides an initial draft, it's up to you as the project manager to fine-tune and customize the message to suit your stakeholders. The initial prompt provided was very generic, but if we'd given more project context in the prompt, ChatGPT would have generated more specific and tailored information.

As we push further into the age of AI, not only are stakeholders expecting faster responses and increased transparency, but they are also seeking deeper engagement and more proactive communication. They want to feel like they're part of the conversation and not just passive recipients of updates. And this is where AI's predictive and analytical capabilities can be leveraged.

Imagine, for instance, asking ChatGPT to predict your stakeholders' potential questions after seeing the latest progress report. With its ability to process large volumes of data and predict patterns, ChatGPT can help anticipate and prepare for stakeholder reactions.

Based on the data provided, stakeholders might ask about the following:

- What are the specifics of the dependency on the external vendor, and how might it cause a delay?
- What steps are we taking to mitigate this risk?
- Are there any budgetary implications associated with the potential delay?

By proactively addressing these anticipated concerns in your communications, you'll be meeting the stakeholders' need for a deeper level of engagement, thus building their trust and support.

Beyond generating reports and answering queries, AI can also help manage stakeholder expectations regarding project risks. By analyzing project data, AI can identify risk patterns and potential pitfalls, enabling you to proactively communicate these risks to your stakeholders.

Assuming ChatGPT already has access to customized datasets of a company or organization, think about a prompt like this:

"Based on past project data and our current progress, what potential risks should we communicate to our stakeholders?"

Alternatively, you can use this prompt if you need to input some context to ChatGPT to better understand your project.

"Act as an expert in project management, risk analysis, and stakeholder communication. Use your capabilities to analyze the project information provided. Review our current project progress, the resources involved, potential hurdles, and our existing risk mitigation strategies. From this, generate a report that includes a current status update, identified risks, progress made, potential stakeholders who should be informed, and strategic advice on next steps. This report should be in semi-formal language and structured in a way that is easy to comprehend for all stakeholders involved. Information to consider includes:

Project Description: We're currently developing a new AI model to optimize our recommendation system.

Progress Details: We're halfway through our timeline with major milestones achieved on time.

Known Risks: Potential data bias and resource allocation.

Current Risk Mitigation Strategies: Regular bias testing and reallocation of resources as needed.

Stakeholder Information: Includes a team of data scientists, business executives, product managers, and end users."

As we utilize AI in managing stakeholder expectations, another crucial aspect that's rapidly gaining prominence is AI's role in stakeholder *sentiment analysis*. Understanding how stakeholders feel about a project can



be instrumental in managing their expectations effectively. AI can analyze stakeholder communication for sentiment, providing valuable insights into their emotional state and overall attitude toward the project.

Let's consider a scenario. You ask ChatGPT,

"Based on the recent communications, how does the design team feel about the recent changes we've implemented?"

Based on recent emails and messages analysis, the design team appears to have positive sentiment toward the changes. Positive language and expressions suggest they are satisfied with the recent implementations.

Armed with this information, you can craft your messages and responses more accurately, keeping the positive sentiment alive and addressing any concerns promptly.

Additionally, as you navigate this new landscape, you'll notice an increasing demand for AI that doesn't just respond to commands but that also offers suggestions and recommendations proactively. Stakeholders could expect this level of initiative from AI, further influencing the dynamics of project management.

Imagine a scenario in which ChatGPT notices a pattern of recurring issues during a particular phase of your projects. It might proactively suggest:

In the past few projects, there have been noticeable delays during the testing phase due to unexpected bugs. To mitigate this risk, I recommend incorporating a more robust debugging process in the project plan.

Such proactive insights from AI can significantly improve your preparedness, allowing you to manage stakeholder expectations more effectively.

Moreover, with AI's data analysis and predictive modeling capabilities, you can now give your stakeholders more realistic project forecasts, reducing the gap between expectations and reality. This level of predictive accuracy can go a long way in maintaining stakeholder confidence and ensuring their continued support.

For example,

"Based on past projects of similar scale, what is the most realistic timeline for the testing phase of our project?"

With a response from ChatGPT, you'd be better equipped to set more accurate timelines and manage stakeholder expectations more effectively.

And as you continue to explore this terrain, you must focus on practical and empathetic communication, stakeholder engagement, and respect for data privacy. In each chapter, we include a section that specifically addresses ethical situations, including transparency about data privacy. It's clear that as we harness the power of AI in managing stakeholder expectations, we are not just evolving our methodologies but also redefining the boundaries of what is achievable in project management.

Stakeholder Analysis with AI

Once you have identified your stakeholders, it's time to delve deeper into their interests, needs, and preferred communication channels—this is *stakeholder analysis*. Stakeholder analysis is a crucial step in any project management process, as it helps you to understand the various parties involved, their interests, needs, and preferred communication channels. This analysis enables organizations to develop effective strategies for stakeholder engagement, ensuring that all parties are informed, involved, and satisfied with the project's progress and outcomes. A problem we face is that there are differing personal and political interests. AI is able to provide out-of-the-box solutions to such dilemmas.

Understanding Stakeholder Interests and Needs

After identifying your stakeholders, you must develop a full understanding of their interests and needs to manage their expectations and ensure the project's success. Stakeholders are the heart and soul of any project. Understanding their needs and interests is crucial to managing their expectations and ensuring project success. Traditional methods of stakeholder analysis can be time-consuming and complex. AI can add a whole new dimension to this process.

AI models like ChatGPT can assist you in understanding your stakeholders by analyzing textual data such as emails, project briefs, and even meeting transcripts. This information can effectively tailor project plans and communication strategies to address stakeholder needs and interests.



For example, in our Global Health example, assume you have a project brief and some initial conversations recorded. You can ask ChatGPT for an analysis:

“All right, we’ve done a great job identifying potential stakeholders. But understanding them is a different ball game. We need to grasp their interests and needs for this project, and we have a project brief and a bunch of initial conversations with them. Could you help me determine what our stakeholders might be interested in?”

I’m with you, and it sounds like a fascinating challenge. Based on the information you’ve given me, let’s create another hypothetical scenario:

Project Quality: From what we know, our stakeholders seem keen on a high-quality website. They’re looking for something comprehensive that covers all of Global Health’s services. But it’s not just about information—the website must be user-friendly, accessible, and visually appealing. They’re not going to compromise on the quality!

Time Crunch: There’s also this undercurrent of a tight deadline. There might be upcoming marketing campaigns or events that hinge on this project.

Time is of the essence here.

Budget Constraints: Amidst all this, there are murmurs about budget constraints. The stakeholders need cost-efficient solutions that will ensure the quality of the website is maintained.

NOTE ChatGPT’s interpretation is based on the information provided. It’s essential to confirm the analysis with the stakeholders themselves. Human judgment is essential when it comes to understanding nuanced human needs and interests.

Next, ask ChatGPT for specifics about individual stakeholders that have been identified:

“That’s great to start with. Can you help us delve deeper into some of the specific stakeholders’ interests and needs?”

You’re right, and I’d be glad to help! Let’s build upon our earlier conversation and dive deeper into those stakeholder needs and interests.

John Doe, the Director of Global Health Operations, likely has a vested interest in the project’s overall success, ensuring all operations are running smoothly and aligning with the organization’s strategy.

Sarah Brown, as the Head of Finance, might be particularly interested in the cost-efficiency of the project, closely monitoring the budget and looking for ways to optimize spending.

{Response continues with the other stakeholders, truncated for brevity and relevance.}

Imagine using an AI model to sift through textual data—emails, project briefs, meeting transcripts—to pinpoint stakeholders' interests and needs. It could analyze linguistic patterns, frequency of topics, sentiments, and more. Such insights will allow you to tailor your project plans and communication strategies more effectively. You could proactively address stakeholder needs and interests, leading to better engagement and, ultimately, a more successful project.

Ranking Stakeholders by Power and Interest

As a project manager, you can consult ChatGPT to help assess stakeholders' power and interest levels, using a tool from the PMBOK:

"Could you please generate a Power Authority vs Interest Matrix for your identified stakeholders?"

Sure, I'd be happy to help you generate a Power vs Interest Matrix for these stakeholders. In a Power vs Interest Matrix, we plot stakeholders based on their level of interest in the project against their level of power or influence over the project.

Given the information provided in the conversation, here's how you might plot the stakeholders:

John Doe, Director of Global Health Operations: High Power, High Interest. As the Director, John Doe likely has significant influence over project decision-making. Given his role, he's likely to have a high interest in the overall success and efficiency of the project, aligning it with the organizational strategy.

Sarah Brown, Head of Finance: High Power, High Interest. Sarah, being in charge of the finances, can influence project decisions based on budget and cost concerns. She is likely to be interested in optimizing spending and maintaining cost efficiency.

{Response continues with the other stakeholders, truncated for brevity and relevance.}



Please remember that this is an approximate classification, and these stakeholders' actual power and interest levels could vary based on many factors, including organizational culture and personal commitment. This information is based on historical data and job titles, but in many cases, the job title might not accurately reflect power or authority.

It is also important not to publicly show this information to the stakeholders. Although this document is a vital project plan document, it should be kept in a private notebook. Case in point: Emily might not be pleased that she is classified as a low-power and low-interest stakeholder.

For quick reference, ChatGPT can generate a table and matrix to help you better visualize this information:

"Hey ChatGPT, can you please put that information in table format?"

Of course, here's the Power vs Interest Matrix in a table format

STAKEHOLDER	POWER	INTEREST
John Doe	High	High
Sarah Brown	High	High
Mike Green	Medium	High
Emily White	Low	Medium

TECHNICAL GUIDE Refer to Technical Guide 2.3 for a step-by-step guide to uploading an attachment to allow ChatGPT to create a visual presentation of the data.

Remember that the classifications of power and interest as low, medium, or high can vary based on the specific circumstances and dynamics within your organization. They are approximations that can serve as a guideline for how much attention and management each stakeholder might require during the project.

"That was great! Can you please put that in a grid or quadrant please?"

Certainly!

Figure 2.2 shows how, based on the description of the job titles of these stakeholders, ChatGPT Advanced Data Analysis (Code Interpreter) has inferred their power levels in a grid.

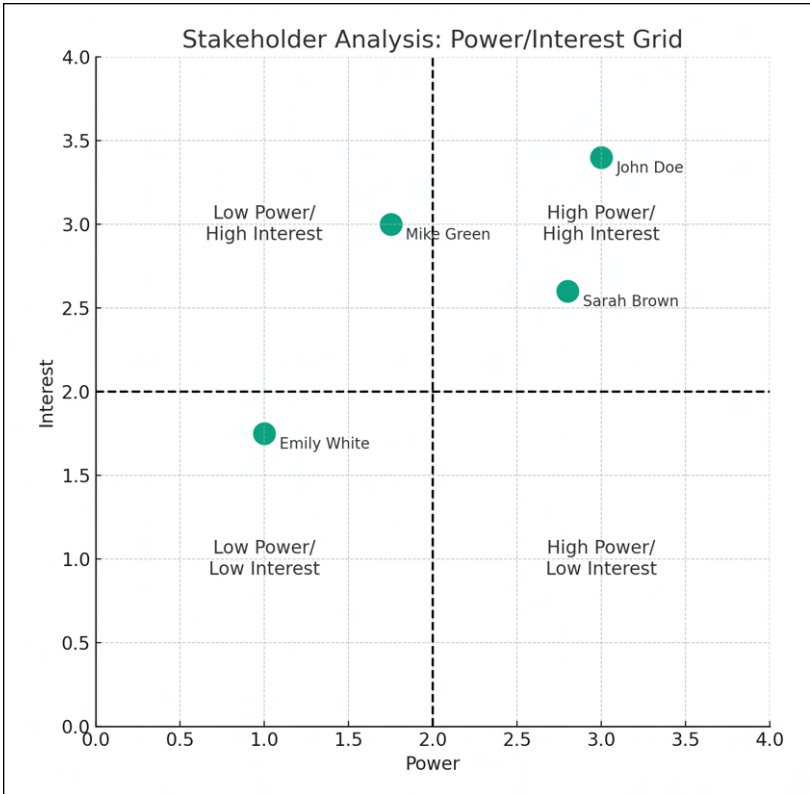


FIGURE 2.2 Power vs. Interest grid generated by ChatGPT Advanced Data Analysis

Of course, as with any tool, AI has its limitations. Real-world decision-making calls for human judgment, empathy, and an understanding of cultural and emotional nuances that AI might not fully grasp. But it's undeniable that AI offers a valuable support system, helping you navigate stakeholder management challenges with greater ease and confidence.

Stakeholder Communication Preferences and Channels

Effective communication is critical to successful stakeholder engagement, and understanding stakeholder preferences for communication channels is crucial to achieving this. AI can analyze stakeholder interactions to determine whether they prefer email, phone calls, or face-to-face meetings, and their selected frequency and style of communication. You can then use this information to develop tailored communication plans that meet the needs of each stakeholder.

For instance, a stakeholder who is highly engaged and responsive to visuals might receive a dynamic project dashboard, where we used ChatGPT



Advanced Data Analysis tool to add visual aids to communications. Another stakeholder, who prefers detailed reports, might receive an in-depth written analysis. Similarly, messages to stakeholders can be tailored to address their specific concerns, whether those are about cost, quality, schedule, or other aspects of the project. By understanding, addressing, and personalizing each stakeholder's unique needs and preferences, AI can help foster stronger, more effective stakeholder relationships to better manage their expectations and foster their engagement and support.

In the context of our case study, if Global Health has previous projects with similar stakeholders, you could use AI to analyze communication patterns:

“How would I go about identifying the preferred communication channels of our stakeholders?”

Sure. Look for frequency and responsiveness across different channels (such as email, Slack, and Teams). Stakeholders who respond quickly on a certain channel likely prefer that one. Also, consider the formality and complexity of the information being shared. Complex or formal information is often better suited to email or face-to-face meetings, while casual or urgent updates may be better for chat apps.

This example provides some general strategies for determining the best communication method. However, as companies adopt AI and integrate their datasets, AI can sift through massive quantities of data to unveil patterns and connections that might otherwise be missed. And because AI constantly learns and adapts, it can provide even more accurate and timely insights into stakeholder needs.

“Based on historical communication data, can you help identify the preferred communication channels of our stakeholders?”

Absolutely, I can help you understand the communication preferences of your project stakeholders based on the fictional historical data available.

Here's what the analysis suggests:

Jane from IT, for instance, tends to respond most quickly and effectively when contacted via Slack. She is typically active during regular business hours, and her concise responses indicate a preference for direct, short communication. She also frequently uses emojis to convey her reactions, suggesting that she appreciates a certain level of informality in digital communications. However, Jane usually prefers emails for more formal and complex topics, particularly when discussing system upgrades or significant IT decisions.

Then there's Bob from Marketing. He prefers face-to-face meetings or video calls on Zoom for detailed discussions. He is more likely to respond to emails when a session is requested or to confirm details. His communication style indicates a preference for personal interaction and in-depth conversation.

(Response truncated for brevity and relevance).

Understanding these preferences can significantly enhance your communication efficiency with stakeholders. Remember that stakeholders' preferences can change over time and with changing circumstances, so it's always a good idea to review and ask for feedback regularly.

If you continually engage with an AI tool like ChatGPT, it progressively refines its understanding based on the feedback and additional information provided. Jane from the IT department prefers direct, concise communication rather than lengthy updates. If we feed this preference back into the AI, it can adjust its communication style when interacting with Jane, making future messages more tailored to her liking.

Consider a prompt like this

"Remember that Jane prefers concise updates. Can you provide a short but comprehensive update on the project status for her?"

NOTE AI models like ChatGPT operate based on *tokens*, which can be thought of as words, characters, or slices of text. Each conversation has a token limit, a maximum amount of information the model can hold at once. In extended chats, if the token limit is reached, earlier tokens might be dropped, making it seem like the AI has forgotten a detail. If that happens, it's perfectly okay to jog its memory with a reminder!

ChatGPT would then adjust its response:

Sure, here's a brief update: Dear Jane, ...

AI's ability to learn and evolve makes it a dynamic tool in stakeholder engagement that becomes more attuned to stakeholder preferences the more you interact with it.

In essence, AI encourages a shift from a one-size-fits-all approach to a nuanced, personalized strategy centered on understanding and respecting individual stakeholder preferences. As you adopt and integrate AI into your project management practices, you'll be better equipped to foster meaningful, productive relationships with your stakeholders.



Benefits of AI in Stakeholder Analysis

In our Global Health example, you've seen how AI has helped identify stakeholders, understand their needs, and determine their communication preferences. Now let's consider the benefits of AI in stakeholder analysis.

AI can quickly analyze vast amounts of data, which is particularly helpful for large-scale projects involving numerous stakeholders. This capability enables you to quickly identify potential risks, opportunities, and areas requiring attention.

Another benefit of AI in stakeholder analysis is its ability to identify patterns and trends, which can help predict stakeholder behavior and preferences. By understanding these patterns, you can better tailor your communication strategies and engagement efforts to maximize stakeholder satisfaction.

“Could you provide more insight into how AI can help predict stakeholder behavior?”

Certainly! AI can analyze historical data and previous interactions with stakeholders to identify patterns in their behavior, preferences, and concerns. By leveraging machine learning algorithms, AI can predict how stakeholders react to certain situations or decisions. This information empowers project managers to proactively address potential issues, adapt communication strategies, and foster stronger relationships with stakeholders.

That's quite impressive! Another notable advantage of AI in stakeholder analysis is the ability to learn and improve continuously. As AI systems are exposed to more data and interactions, they can refine their understanding of stakeholder dynamics and provide more accurate insights. This continuous improvement can lead to documenting a sound relationship strategy, better project outcomes, and increased stakeholder satisfaction.

AI has the potential to revolutionize stakeholder analysis by providing valuable insights, predicting stakeholder behavior, and continuously learning and improving. As AI continues to advance, it will be crucial for project managers to strike the right balance between leveraging AI's capabilities and maintaining a human-centric approach to stakeholder engagement. AI assistance allows project managers to focus on strategic planning and relationship building, ultimately leading to more successful projects.

Engaging Stakeholders through AI-Driven Communication

It's time to actively engage our stakeholders. This is where AI can add significant value. AI-driven communication can help project managers engage stakeholders more effectively by generating personalized content, targeting specific groups, and measuring engagement levels through sentiment analysis.

Personalized engagement goes beyond disseminating information; it builds relationships and fosters dialogue. Automated reports generated by AI can offer real-time updates, ensuring stakeholders are always in the loop. This kind of timely transparency can significantly boost stakeholder confidence and engagement.

AI-Generated Content and Messaging

Let's see what ChatGPT has to say about this topic:

"Could you explain how AI-generated content and messaging can help engage stakeholders?"

Absolutely! AI-generated content and messaging can help project managers create tailored messages for stakeholder groups. By analyzing the interests and needs of each stakeholder, AI can generate relevant and engaging content that resonates with them. This can save time and effort for project managers while ensuring that the communication is effective and well-received by the stakeholders.

"Thank you, ChatGPT. That's an interesting point."

AI-generated content can help you save time and effort while creating engaging messages. AI can aid in generating clear, concise, and compelling messages tailored to the communication preferences of different stakeholders.

Suppose Global Health needs to send its stakeholders an email update about the website project. You can use ChatGPT to generate a draft by providing relevant details:

"Help me draft an email update about the website project. The development phase is complete, and we're entering the testing phase. We are on track to meet our deadline."



Subject: Global Health Website Project: Progress Update

Dear [Stakeholder's Name],

I hope this message finds you well. I'm writing to provide an update on the Global Health Website Project.

I'm delighted to share that our dedicated team has completed the development phase and is now transitioning into the testing phase. This crucial stage involves rigorously checking all functionalities and features to ensure optimal performance.

Rest assured, we are on track to meet the previously communicated project deadline, affirming our commitment to delivering quality work promptly.

We look forward to presenting you with a user-friendly, accessible, visually appealing website that aligns with Global Health's esteemed reputation.

Thank you for your ongoing support and trust in our team. We will continue to keep you informed as we progress further.

Best regards,

[Your Name]

AI-generated messaging can also extend to more immediate channels such as Slack or Teams, creating regular, concise updates tailored to those platforms.

Personalized and Targeted Communication

AI-driven communication can help project managers deliver personalized and targeted messages to stakeholders. By understanding each stakeholder's communication preferences and needs, AI can help tailor the message format, tone, and content to better resonate with them. This personalized approach can lead to more effective communication, stronger relationships, and better project outcomes.

"Can you provide an example of how personalized and targeted communication can work?"

Sure! A project manager needs to update stakeholders on the project's progress. AI can analyze the preferences of each stakeholder and segment them into groups, such as those who prefer visual presentations, written reports, or short updates via email. The AI can then generate appropriate content for each group, ensuring that each stakeholder receives the information in their preferred format. This personalized approach can lead to increased engagement and satisfaction among stakeholders.

That's a great example of how AI can help project managers deliver personalized and targeted communication to stakeholders.

Personalization is a crucial benefit of AI in communication. Language models like ChatGPT can help craft messages that consider each stakeholder's unique needs and interests.

For example, the tech-savvy stakeholders at Global Health may appreciate more detailed updates about the technical aspects of the project, whereas others may prefer high-level progress updates.

"Could you help me craft a detailed technical update about the website project for our tech-savvy stakeholders."

Hi, team,

We've wrapped up the development phase of the Global Health Website Project, and we're now transitioning into testing. Here's a quick rundown of what that involves:

We'll perform unit tests on individual components, integration tests to ensure all parts of the site work together smoothly, and usability tests to provide a top-notch user experience.

Our tech stack [mention the technologies used] has proved robust and efficient so far, and we're making sure our code is clean and well-documented to facilitate future updates.

We are on track with our timeline, and we'll keep you updated with any significant milestones or roadblocks.

Thanks for your support and do let us know if you have any questions or need further details.

Best,

[Your Name]

When it comes to engagement, AI's capacity for personalization truly shines. Different stakeholders might prefer different modes of communication—some might prefer a brief text message, others a comprehensive email, and others might appreciate a visual representation of data. AI can adapt to these preferences, tailoring each stakeholder's communication medium and style.



Let's see how ChatGPT can tailor a communication mode to the design team that prefers visual updates:

"Since the design team comprises individuals who typically learn and process information visually, could you please communicate the project's progress to them in a visual format? I will upload an Excel file for you to review. It would be helpful if you could create a project update using pie charts and bar graphs given the data provided, as these are effective visual aids that will assist the team in comprehending the information more effectively."

Absolutely. I can create a visual representation of the current project status for the design team. I will create a bar graph to show the progress of each design stage and a pie chart to showcase the distribution of tasks among the team members given the file you uploaded.

With ChatGPT Advanced Data Analysis, you have the capability to upload a file containing data, which can then be interpreted and represented visually using both a bar graph and a pie chart (**Figure 2.3**). In this case, ChatGPT was able to work with the data tables in the uploaded Excel file without having to touch Excel. The bar graph showcases the progress of each design stage. The y-axis represents the percentage of completion, and the x-axis represents different design stages such as Concept Development or Prototyping. Each bar provides a visual representation of the current progress in each stage.

The pie chart in Figure 2.3 showcases the distribution of tasks among the team members. Each slice represents a team member, and the size of the slice corresponds to their level of involvement in the project. Such personalized engagement helps stakeholders feel valued and acknowledged, which can significantly enhance their involvement and commitment to the project.

AI's potential in stakeholder identification and engagement extends beyond mere efficiency. It offers the capability to keep the stakeholder list dynamic, aligns communication with stakeholder preferences, and adds a layer of personalization. As we fully embrace AI's potential, we move toward a more nuanced, practical approach to stakeholder management.

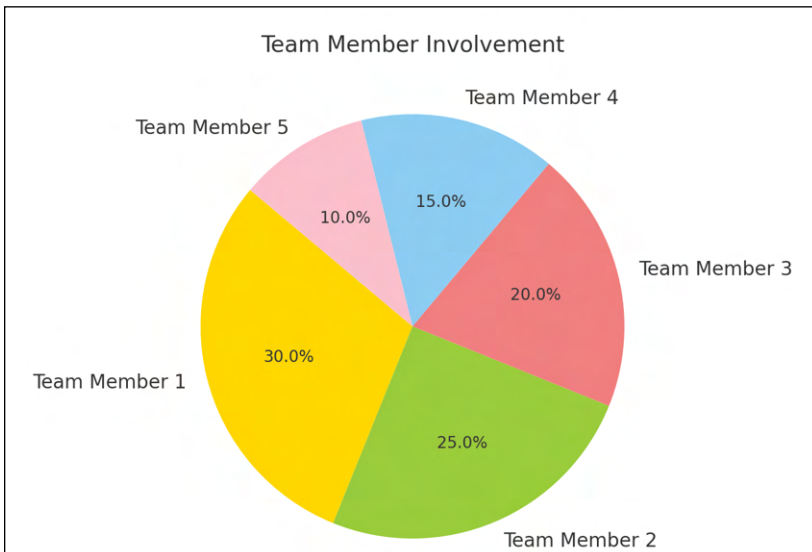
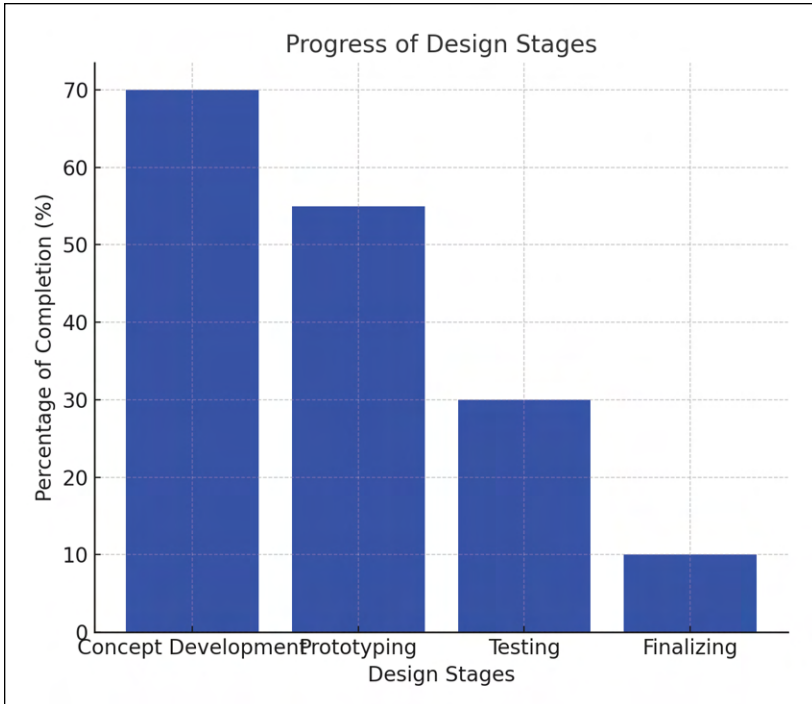


FIGURE 2.3 Bar chart and pie chart generated by ChatGPT Advanced Data Analysis



A NOTE OF CAUTION Project managers must consider the company policy and work with IT to ensure that email communications are kept confidential.

TECHNICAL GUIDE Refer to Technical Guide 2.3 to see how to use ChatGPT Advanced Data Analysis tool (formerly Code Interpreter) to upload an attachment and instruct ChatGPT to present data visually.

Measuring Stakeholder Engagement and Sentiment Analysis

AI can also help you measure stakeholder engagement and analyze their sentiments toward the project. By tracking metrics such as email open rates, click-through rates, and social media engagement, AI can provide insights into how effectively the communication reaches and engages stakeholders. Additionally, sentiment analysis can help you understand your stakeholders' emotions and opinions, allowing them to proactively address any concerns or issues.

“Could you give me an example of how sentiment analysis can be used in stakeholder engagement?”

Certainly! Sentiment analysis can gauge stakeholders' reactions to project updates, announcements, or other communications. For example, suppose a project manager shares a significant milestone update on social media. In that case, AI can analyze the comments and reactions to determine whether stakeholders are generally positive, negative, or neutral about the news. This information can help the project manager identify issues requiring further attention or communication, ensuring stakeholders feel heard and valued.

Sentiment analysis can provide valuable insights into stakeholders' emotions and opinions, helping you proactively address concerns. With this information, you can take appropriate actions to enhance stakeholder engagement.

“Could you provide some examples of how these insights can improve engagement?”

Absolutely! Insights from engagement metrics and sentiment analysis can be used in various ways such as identifying communication gaps, addressing concerns, tailoring content, and monitoring trends.

Beyond AI-driven stakeholder engagement, we're now entering a new era where AI is not only a tool but a potential partner and stakeholder.

Furthermore, AI tools can also assist in measuring stakeholder engagement. AI can identify positive, negative, or neutral sentiments through sentiment analysis in stakeholder communications. It can analyze email responses, feedback surveys, or even social media posts related to the project, helping you understand stakeholder sentiment and engagement levels in real time.

For example, you could ask,

“Could you analyze the sentiment of the feedback received from stakeholders about the latest project update?”

The AI could then provide a sentiment analysis report, shedding light on how well the update was received and where improvements might be needed.

Through our Global Health case study, we’ve illustrated the practical application of AI in project management and how prompt engineering plays a significant role in the interaction between you and the AI tool. Now, you can see the capabilities of AI and how using tools like ChatGPT can save time and ensure consistent, engaging communication with stakeholders.

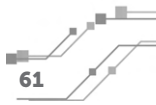
NOTE Global Health project managers must consider the company policy and work with IT to ensure that email communications are kept confidential.

In conclusion, AI-driven communication can significantly enhance stakeholder engagement in a project. You can use AI responsibly and transparently to foster stronger relationships with your stakeholders by generating personalized content, targeting specific stakeholder groups, and measuring engagement levels.

AI as a Stakeholder for Project Management?

As AI continues to evolve and play increasingly vital roles in project management, it raises the question: should AI, even though a tool, be considered a key stakeholder? This provocative idea challenges the conventional perspective on stakeholder management, as we acknowledge AI’s learning capabilities and potential impact on project outcomes.

Admittedly, it is difficult to pinpoint the specific needs an AI system like ChatGPT would have in comparison to human stakeholders. However, its learning capabilities enable it to improve over time, becoming more efficient and accurate in its tasks. This autonomous evolution distinguishes AI from traditional project management tools.



Consider the Global Health case study, where ChatGPT's continuous improvement in drafting email updates is evident. The more you use it, the more it learns to align with your style, making its responses more personalized and precise. This adaptability is an asset but requires the user to continually review AI's performance and provide feedback, just as you would with any other team member.

Beyond AI-driven stakeholder engagement, we're now entering a new era where AI is not only a tool but a potential partner and stakeholder. While this perspective is still in its infancy and we've yet to fully comprehend the ramifications, it raises thought-provoking questions about AI's role in project management and its potential to shift our understanding of stakeholders.

Ethical Considerations and Professional Responsibilities

Think about being a project manager as you'd think about coaching a sports team: every player has an impact. It's the same when using AI tools like ChatGPT to work with stakeholders. These tools can make a real difference when chatting with stakeholders, planning, and monitoring risks. So, you must keep a close eye on how the AI is doing to ensure it's working properly, being used effectively, and not causing any problems. Always be aware that real-world decision-making calls for human judgment, empathy, and an understanding of cultural and emotional nuances that AI might not fully grasp. In addition, AI has limitations: one notable gap is its inability to understand or interact with the world in real time. Let's look at Global Health again. Assess how ChatGPT's email drafts and stakeholder analysis are helping (or not helping) with stakeholder engagement. Are the stakeholders happy with the emails the AI is writing?

Powerful models like ChatGPT can completely change how we manage project stakeholder engagement, but it's also essential to consider the ethical issues around using ChatGPT in stakeholder engagement. This includes keeping data private, avoiding bias, being transparent, and ensuring that someone is accountable and responsible for data practices.

Data Privacy and Security

When an AI product such as ChatGPT is used in stakeholder engagement, it handles sensitive data. Keeping that data safe from anyone who shouldn't have it is essential. You should know how the AI handles privacy and data

and ensure it sticks to the rules. For example, if you upload emails for AI to learn from, can you trust that AI will keep them confidential?

It is also important to get *explicit* consent for data processing and storage when using AI systems. Let stakeholders know precisely how ChatGPT will be used and what that means for their data privacy. In addition, allow your stakeholders to change their minds at any time about how their data will be used and stored.

Bias and Discrimination

AI models like ChatGPT learn using loads of data, and they might pick up and continue any bias that is present in that data. This could lead to biased or offensive content in the responses from the AI, which could damage relationships with your stakeholders and throw a wrench in the works for your project.

To reduce the risk of bias, keep a close eye on what the AI product is producing and give feedback to the AI provider so that the software can keep improving. Aim for diversity and inclusivity in stakeholder engagement, involving stakeholders with different backgrounds and views. This can help prevent the AI from accidentally reinforcing existing biases or creating new ones.

NOTE AI's understanding of ethics and legality is limited to the training data it has received.

Depending on its training, AI might unintentionally generate inappropriate or harmful content, which could be a significant issue in a management context.

Transparency and Explainability

Being transparent is also important when using ChatGPT for stakeholder engagement. Stakeholders should know when they are interacting with an AI tool and understand its potential limitations and risks. Being open about what's happening helps build trust and credibility, which are key to good stakeholder engagement.

EXPLAINABILITY AI's ability to provide understandable reasons for its predictions or recommendations.



It's key that the system explain *why* it's giving the outputs it is. You must ensure that stakeholders have some understanding as to why the AI is saying what it is. You can do so by providing clear explanations and context to back up what the AI is saying.

Accountability and Responsibility

Finally, having accountability and responsibility is essential when using ChatGPT in stakeholder engagement. Be clear about who's responsible for what the AI says and how it affects the engagement process. Also be ready to handle any issues or worries stakeholders might have about using AI.

By thinking about data privacy, bias, transparency, and accountability, as project managers we can make sure we're using ChatGPT responsibly and ethically, helping to build trust and cooperation among stakeholders and contributing to the success of their projects.

Key Points to Remember

As we have journeyed through this chapter, we have come to understand that the advent of artificial intelligence represents a particularly significant shift in the landscape of stakeholder management. It's a shift we need to embrace as project managers.

- The powerful analytics and communication capabilities of AI allow it to quickly process large volumes of data.
- AI can streamline stakeholder identification and analysis.
- Using AI, we can personalize stakeholder communications efficiently to more effectively meet stakeholder expectations and foster stronger engagement.
- Real-world decision-making calls for human judgment, empathy, and an understanding of cultural and emotional nuances that AI might not fully grasp.

One notable gap is AI's inability to understand the world in real time. For instance, the project manager upon learning from a colleague that a stakeholder is a keen golfer would naturally recall that and leverage this information to build a good relationship.

Technical Guide

Here's a step-by-step guide to set you up to use the ChatGPT Advanced Data Analysis tool (formerly Code Interpreter) to create graphs and visual data in status reports for stakeholders.

2.1 What Is the ChatGPT Advanced Data Analysis Tool?

ChatGPT Advanced Data Analysis is a powerful feature developed by OpenAI that allows the AI model, ChatGPT, to execute Python code. This feature is integrated into the chat environment in a stateful Jupyter notebook, providing an accessible and user-friendly way to perform real-time code execution, data analysis, and visualization tasks.

Advanced Data Analysis has many potential use cases, especially in project management. Beyond Python code, it can interact with a variety of data sources such as Microsoft Excel and comma-separated values (CSV) files. It can generate a wide range of visuals, including bar graphs and pie charts, making it an incredibly versatile tool to generate data-driven insights.

NOTE You need to be a ChatGPT Plus Subscriber to access Advanced Data Analysis.

2.2 Enabling Advanced Data Analysis for ChatGPT

1. To access Settings, find your username on your ChatGPT account. Click the **ellipsis icon** (three dots) and then click **Settings**.
2. On the Settings page, click **Beta Features**.
3. In the Beta Features section, you'll see the option **Advanced data analysis**. Click the toggle switch to turn it on (**Figure 2.4**).

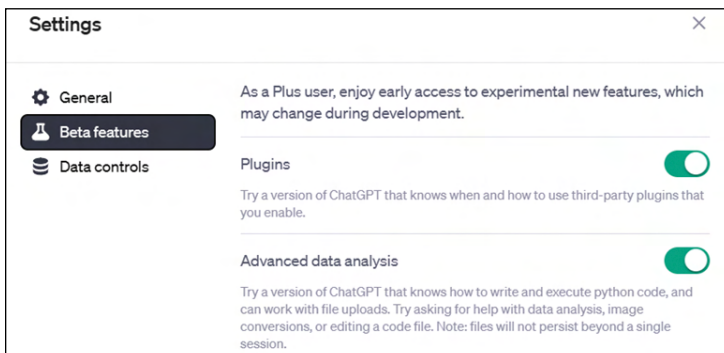


FIGURE 2.4 Enabling Advanced Data Analysis under Beta Features

2.3 Uploading a File with Advanced Data Analysis

As a project manager, you're likely dealing with a lot of data, stored in Excel files or other similar formats.

ChatGPT can analyze this data directly. All you need to do is upload your Excel file containing the project data to ChatGPT. Once the file is uploaded, ChatGPT can read the data and begin the analysis process.

1. Start a New Chat. Choose GPT 4 as your AI model. From the drop-down menu that appears, select **Advanced Data Analysis** (Figure 2.5).

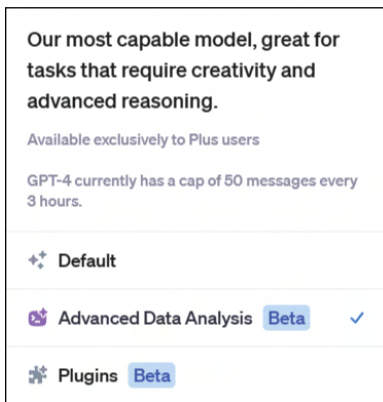


FIGURE 2.5 Selecting Advance Data Analysis (formerly Code Interpreter) in a new chat

2. In the chat window, click the button that looks like a plus sign (+) to upload a file that contains your project data (Figure 2.6).

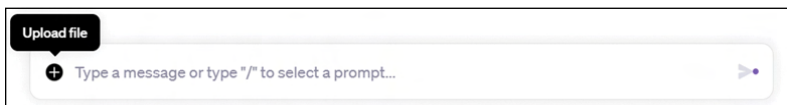


FIGURE 2.6 Uploading a file

3. To create a prompt, type your request for ChatGPT. For example, you might ask it to make a graph or chart from the data that you have uploaded.

From this uploaded data, ChatGPT can generate various types of data visuals, including bar graphs and pie charts.

Bar graphs are excellent for comparing different groups or tracking changes over time. For example, you might want to compare the number of tasks completed by each team member. All you need to do is tell ChatGPT what you want to compare, and it can generate a bar graph for you.

Pie charts are ideal for showing the proportions of a whole. For instance, you might want to see how your project budget is distributed across different areas. Again, simply tell ChatGPT what you want to visualize, and it can create a pie chart based on your project data.

Index

A

acceptance criteria, 203–204
 acceptance phase, 307, 318–319
 accommodation, 112
 accountability
 and AI use, 30
 for decision-making, 108
 in RACI matrix, 161
 to stakeholders, 63
 accuracy, AI response, 4, 8, 139, 248
 adaptive approach/projects
 case study of, 190–192, 193–194
 ethical considerations, 222
 iterations/sprints, 201–204
 key metrics, 223
 measurement/tracking in, 217–221
 organizational support for, 192
 overview of, 120–121
 vs. predictive approach, 194–197
 project execution, 210–217
 team building, 199–201
 team culture for, 217
 three phases of, 196–197
 when to choose, 127–131
 adjourning a team, 104, 107
 administrative closure, 322
 Advanced Data Analysis tool
 for burn and velocity charts, 223–224
 for historic risk review, 295–296
 Monte Carlo simulation, 296–297
 technical guide, 59, 64–65
 visual aids, 49, 51, 57
 for what-if scenarios, 256–257
 agile development, 120, 141; *See also*
 adaptive approach
 alignment, goals, 84
 amplified bias, 72
 analogies, terminology, 97, 98
 Applitools, 301

artificial intelligence (AI)
 enterprise versions, 363–364
 ethical responsibilities, 30–31
 history of, 16–18
 as project stakeholder, 60–61
 risks of using, 365
 terms/concepts, 19–23
 traditional chatbots, 2, 4
 See also ChatGPT

Asana, 242, 251–252, 256, 340–341
 assessment, knowledge, 76, 79
 attention mechanisms, 26–27
 automation, expanding field of, 73
 avoiding conflict, 113

B

backlog, product, 198
 Bard
 how to use, 33–34
 image recognition by, 159, 160
 multimodal prompting, 184–185
 use with Google, 330
 behavioral guides, 27
 benefits, evaluating, 151–154
 BERT, 19
 bias, amplified, 72, 73
 bias mitigation
 and AI use, 30, 365
 in recruitment, 70, 72, 74
 and risk, 292
 with stakeholders, 62
 bottom-up budget estimate, 177–179
 brainstorming
 with ChatGPT, 157
 for conflict resolution, 101
 risks, 264–265
 and team collaboration, 93
 tools, 351–352
 Brooks, Frederick P., 7, 8

Brook's Law, 7–11

budgeting

and cost estimates, 176–182

ethical considerations, 182

scope definition for, 163

burndown charts, 218–219, 223

burnup charts, 223

business analysis, 11, 147, 156

business case, 147, 149–154, 182, 366

C

case studies

adaptive projects, 190–192, 193–194

buyer/seller mediation, 68–69

development approaches, 116

for finalization, 300

predictive projects, 146–147

risk management, 260–261

staff turnover, 4–7

stakeholder identification, 36–40

ceremonies, agile, 138

chain-of-thought, 27

change management, 366

charter, project, 154–155, 182

chatbots

generative, 3–4

traditional, 2, 4

ChatGPT

alternatives to, 95

autonomous evolution of, 61

defined, 24

diverse expertise of, 11–16

Enterprise, 364

Gantt charts with, 186–188

how it works, 24–27

how to use, 32–33

as humanlike, 3–4

impact of, 4, 360

as large language model (LLM), 19

needs assessment with, 147–149

NLP advances for, 22

processing power, 38

prompts for, 8

WBS Diagrams with, 185–186

See also Advanced Data Analysis tool

Claude, 19, 34, 139–140, 254–255

Clockwise AI, 344

closure of projects, 317–324

cloud-based platforms, 95

collaboration

in adaptive development, 120, 129

among team members, 91–98

cross-functional, 95–98

Delphi technique for, 266–268

to enhance productivity, 4

ethical considerations, 108

inter-department, 11

need for humans in, 11

prompt template, 112

tools, 130, 334, 351–352

communications

about changes, 136

for agile projects, 192, 205, 217

AI as relieving, 6–7

AI's "soft skills" for, 15–16

and Brook's Law, 7

NLP to serve, 22

persuasive, 86–87

preferred channels of, 50–52

with recruits, 71

to stakeholders, 54–60

team collaboration, 91–98

tools, 130, 334–335, 345–348

of vision to team members, 82–83

competition, 113

completion, prompt, 25

compromise, 112

conflict resolution

and decision-making, 98–101

ethical considerations, 109

prompt template, 112–113

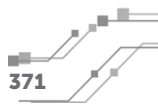
as "storming," 104, 105

confrontation, 112

constraints, 26, 28

consultants, AI, 117

context, 10, 25, 27



- context window, 26
- conversational AI, 3
- cost of AI tools, 335
- cost estimate
 - and budgeting, 176–182
 - cost–benefit analysis, 151
 - ethical considerations, 182
 - of risks, 279
- cost–benefit analysis, 151
- culture, team
 - for agile projects, 217
 - candidate assessment for, 70, 72
 - leadership role in, 83
 - maintaining positive, 85
 - for predictive approach, 118

D

- data analysis
 - accuracy of, 139
 - Advanced Data Analysis tool, 49, 51, 57, 59, 64–65, 223–224
 - AI as time-saver for, 41, 157
 - ChatGPT enterprise version, 158
 - for decision-making, 102
 - to determine project scope, 164
 - targeted updates via, 57–58
- data ownership, 31
- data processing, 38
- deadlines, 93, 103
- decision-making
 - accountability for, 108
 - agile estimation for, 207–209
 - AI support for, 101–103
 - AI-created questionnaire for, 122
 - decision tree analysis, 282–285
 - ethical considerations, 108, 109
 - human, 11, 50, 61, 63, 72, 292
 - tools, 334
- deep learning, 20–21
- defects, identifying, 300
- deliverables
 - deploying, 313–317
 - incremental, 120, 129
 - releasing, 301–307

- roadmap/timeline for, 149
- single, 132
- structured, 124
- verifying/validating, 307–313

- Delphi technique, 266–268
- dependencies, 167, 172, 175
- deployment, 313–317, 326
- design phase, 119, 120, 126
- development approaches
 - adaptive approach, 120–121
 - AI-informed choice of, 122–134
 - case study of, 116
 - ethical considerations, 139–140
 - hybrid life cycle, 121–122
 - integrating various, 135
 - mistakes in, 116
 - for new team members, 74–78
 - predictive life cycle, 118–120
 - tailoring, 134–138
- development team, agile, 211, 216–217
- direct costs, 180
- directing work performance, 227–234
- direction, setting, 81–83
- discrimination, 62
- dissolution, team, 107
- document analysis, 157
- documentation
 - human oversight of, 326
 - for predictive projects, 119
 - of stakeholders, 158–162
 - tools, 348–351
- Dragon Ambient Experience Express Copilot (DAX Copilot), 360
- duration, task, 167, 172

E

- early termination, 317–318
- earned value management (EVM)
 - analysis, 240
- efficiency, 75, 334
- emails
 - AI-generated, 54–55
 - to identify stakeholders, 38–42
 - privacy and, 39, 59

- emotional intelligence, 87, 88–91
- empathy, 15, 16
- employment concerns, 365
- engagement, 59–60, 75
- enterprise versions, 363
- environmental considerations, 30
- Epic, 360–361
- estimating costs, 176–182
- ethical considerations
 - for adaptive projects, 222
 - and AI use, 30–31, 365
 - for development approaches, 139–140
 - in finalization, 325–326
 - in monitoring performance, 248
 - for predictive projects, 182
 - in risk management, 292
 - with stakeholders, 61–63
 - in team management, 108–109
- evolution, autonomous, 61
- execution phase, 227
- expected monetary value (EMV)
 - analysis, 279–280
- experimentation, 192
- expert systems, 19–20
- expertise
 - for Delphi technique, 267–268
 - diversity of AI, 11–16
 - of generative AI, 3
 - managing gaps in, 94–98
- explainability
 - specificity for, 139
 - and stakeholders, 62–63

F

- failures, 142, 217–218
- feasibility analysis, 150
- feedback
 - in adaptive development, 127
 - on agile projects, 193
 - enhancements based on, 302
 - flexibility for, 137
 - for sponsor acceptance, 318

- few-shot prompting, 27
- finalizing projects
 - case studies of, 300
 - deployment, 313–317
 - ethics/responsibilities for, 325–326
 - product releases, 301–307
 - project closure, 317–324
 - value delivery, 324–325
 - verification/validation, 307–313
- flexibility, 121, 128, 129, 132, 137, 141
- focus, selective, 26
- forecasts, realistic, 45, 276–279
- forming a team, 104–105
- foundation model, 23
- future state, desired, 148

G

- Gantt charts, 146, 186–188
- gap, bridging, 94–98, 148
- Gemini, 364
- generative AI
 - adaptability of, 155
 - ChatGPT alternatives, 95
 - cloud-based platforms, 95
 - unique responses by, 8
- generative pretrained transformer (GPT), 23
- goals
 - clarifying team, 81
 - of individuals, 84
 - motivation toward, 82–86
 - resolving conflicts on, 98–99
 - setting future, 85
- Google Bard, 33–34, 159, 184–185
- Google Duet, 350–351
- Google Slides, 330–331
- GPT for Docs Sheets Slides, 330
- GPT-3, 23
- GPT-4, 3, 23



H

- hallucinations
 - as an AI risk, 365
 - fact-checking for, 31
 - impact of, 139
 - reasons for, 26–27
- hierarchy, WBS, 169
- hiring, 69–74
- human work
 - augmentation of, 31, 108, 139
 - for decision-making, 50, 61, 63
 - to discern nuance, 47, 72
 - no replacement for, 365–366
 - See also* ethical considerations
- human-in-the-loop systems, 139
- humanlike interaction, 3, 10
- hybrid life cycle approach, 121–122, 132–134

I

- Impromptu* (Hoffman), 3
- improvement, continuous, 120
- incremental delivery, 120, 133
- indirect costs, 180
- individual goals, 84
- influencing stakeholders, 86–88, 129
- initiating projects, 147–155
- inspiration, team, 82
- instructions, prompt, 28
- interdepartmental issues
 - collaboration on, 95–98
 - RACI matrix for, 162
 - resolving conflicts, 100–101
- iteration
 - in agile projects, 120, 128, 194
 - planning and goals, 204–205
 - of prompts, 155
 - as sprints, 201–204
 - of tailoring, 135

J

- Jira, 79, 130, 242, 247, 256, 298, 341
- judgment, human
 - for decision-making, 11, 50, 72
 - to discern nuance, 47
 - to monitor performance, 248
 - no replacement for, 108

K

- Kanban, 130, 131
- Khanmigo, 362

L

- language, natural, 3, 10, 19
- large-scale projects, 71
- launch, 313–317
- leadership
 - emotional intelligence for, 88–91
 - ethical considerations, 108
 - evolution of project, 367
 - influencing stakeholders, 86–88
 - motivating toward goals, 82–86
 - setting direction, 81–83
 - See also* team management
- Lean, 130, 131, 201
- learning
 - adapting style of, 76
 - capabilities, 61
 - continuous, team member, 79
 - learn/apply gap, 79
- Lee, Peter, 16
- lessons learned, assessing, 107, 323–324, 326
- literacy, loss of, 365
- LLaMA, 19

M

- machine learning (ML), 20, 300, 301
- marketing, 199
- medicine, AI, 16
- meetings
 - analysis/summary of, 94–95, 231–233
 - minutes, 231, 253–254
 - tools for, 345–348

- mentorship
 - as a consultant, 117
 - for new team members, 80
 - for writing skills, 93–94
- messages, AI-generated, 54–55
- methodologies, agile, 130, 131
- Microsoft 365 Copilot, 349–350
- Microsoft Project, 186, 247, 341
- Microsoft Teams Premium, 95, 346
- milestones, identifying, 124, 174
- Miro, 351–352
- misleading information, 8
- mission alignment, 81
- mobile functionality, 335
- momentum, maintaining, 85
- Monday, 247, 338
- Monte Carlo simulation, 280–282, 296–297
- morale, team, 85, 98
- MoSCoW (must-have, should-have, could-have, won't-have) model, 11, 12
- motivation, team, 82–86
- multimodal AI models, 159, 184
- MVP (minimum viable product), 207

N

- natural language processing (NLP), 22
- need analysis, 366
- needs assessment, 147–149
- neural networks, 21
- new hires, 77

O

- objective, prompt, 28
- objectivity, 98
- onboarding
 - AI-driven, 5–6, 74–78
 - ethical considerations, 108
 - prompt template, 112
- OnePlan, 341–342
- OpenAI, 24
- opportunities, 150, 264, 286–288
- options, comparing, 148

- Otter AI Chat, 226
- OtterPilot, 226
- outcomes, 37

P

- performance. *See* work performance
- persona, 27
- personalization
 - drafting emails, 41, 42, 54–55
 - of onboarding, 75–76
 - tools, 335
 - via AI learning capacity, 61
- persuasion, message, 86–87
- phases, distinct project, 119
- planning
 - for agile projects, 207–209
 - of iterations, 204–205
 - for predictive projects, 156–162
 - quality planning, 235
 - risk response, 282–285
 - scope definition for, 163
- Planning Poker, 208
- platform compatibility, 335
- Plugins, ChatGPT, 185, 190, 357–358
- PMOtto, 342–343
- positivity, 85
- PowerPoint, 327–330
- predictability, 121
- predictive accuracy, 45
- predictive life cycle approach
 - adding agility to, 137–138
 - agile vs., 194–197
 - AI-assisted choice of, 123–127
 - case study of, 146–147
 - cost/budget estimates, 176–182
 - ethical considerations, 182
 - implementing, 124
 - overview of, 118–120
 - planning phase, 156–162
 - project initiation, 147–155
 - scheduling via WBS, 172–176
 - scope definition, 163–166
 - WBS creation, 166–171



predictive modeling, 276–279
preferences, determining, 87–88
prioritization
 of product backlog, 199
 resolving conflicts on, 98–99
 stakeholder involvement in, 129
 tutorial to develop, 12–14
privacy, data
 and AI use, 30
 complying with guidelines, 39
 for emails, 39, 59
 in recruitment, 72, 74
 risk-related, 292
 of stakeholders, 61–62
 and uploads to ChatGPT, 125
proactive recommendations, 241
problem/opportunity, 150
problem-solving, 95, 112
product owners, 210–211, 213–216
productivity, 4, 334, 348–351
products
 backlog of, 198
 deploying, 313–317
 releasing, 301–307
 roadmap/timeline for, 149
 verifying/validating, 307–313
progress reports
 performance data for, 103
 personalized/targeted, 55–59
 quick answers for, 92
 real-time, 42
 toward goals, 82, 83
project charter, 154–155, 182
project management
 AI tools for, 334
 AI's benefit to, 2, 3, 361–363
 case study of, 4–7
 evolution of, 367
 history of/need for, 2
 predictive approach for, 125
 regular checks in, 139
 systems for, 337–343
Project Management Body of Knowledge (PMBOK), 37, 227

Project Plan 365, 186–188
project solutions, 10
project team, 38, 199–201
prompts
 for agile projects, 213–217
 burn and velocity chart, 223–224
 ChatGPT use of, 8, 25
 for conflict resolution, 112–113
 for development approaches, 142–143
 for engineering, 27–30
 examples of good, 29
 iterating/refining, 155
 Monte Carlo simulation, 296–297
 multimodal, with Bard, 184–185
 for onboarding, 112
 for quality control, 255
 for risk, 294–295
 for scope control, 257
 Scrum, 197–207
 for Scrum masters, 216
 “step by step” wording for, 272
 templates to structure, 27–28
 Tuckman's model, 114

Q

quality assurance (QA), 236, 304
quality control, 236–239, 305
quality management, 116, 234–239, 255, 304–305
quality planning, 235

R

RACI (Responsible, Accountable, Consulted, Informed) matrix, 161
RAID analysis, 231–232
real-time assistance, 42, 79
recruitment, 69–74, 108, 110–111
regulatory oversight, 30
rehiring, 4–5
relevancy, 26
reliance on technology, 72, 73
requirements collection, 156–162
requirements documentation, 158–162, 166

resource allocation, 125, 172, 179, 230, 233–234

responses by ChatGPT, 25

responsibility, professional

- for adaptive projects, 222
- and AI use, 30–31
- and development approach, 139–140
- in finalization, 325–326
- in monitoring performance, 248
- for predictive projects, 182
- and risk, 292
- and stakeholders, 63
- in team management, 108–109

résumé screening, 69

risk management

- in AI use, 365–366
- assessing risk, 14–15
- case study of, 260–261
- identifying risk, 125, 262–270, 335
- mitigating risk, 102, 335
- monitoring risk, 288–291
- qualitative analysis, 271–275
- quantitative analysis, 275–285
- response strategies, 15
- risk registers, 268–270, 294–295
- risk response with AI, 285–290
- stakeholder concerns, 44

rollout, website, 313–317

S

safety, 24

scenario-based learning, 79

scheduling

- AI help with, 126
- controlled via AI, 245–246
- ethical considerations, 182
- of tasks, 229–230
- tools, 343–344
- via WBS, 172–176

scope

- changes to, 136–137
- control/validation, 242–245, 257
- creep, 141, 163, 164
- ethical considerations, 182
- managing, 165–166
- for predictive projects, 163–166
- scope statement, 163–164

screening of candidates, 71

Scrum

- application of, 131
- defined, 130
- diagram of, 194
- prompts, 197–207
- resources on, 193
- roles, events, artifacts, 193
- Scrum masters, 199, 210–211, 216

search engines vs. AI, 8–9

security, 61–62; *See also* privacy, data

selection, team member, 69–74

self-awareness, 89, 90

self-management, 89, 91

sentiment analysis

- for conflict resolution, 98
- of stakeholders, 41, 44–45, 59–60
- of team members, 88–91

sequence building, 25

services. *See* deliverables; products

single delivery, 132

skills assessment, 71, 72

Slack, 254–255

Slack GPT, 95, 345–346

SMART Framework, 77–78

Smartsheet, 256, 337, 341

social awareness/skills, 89, 91

“soft skills,” 15–16, 41

solution evaluation, 303–307

sponsor acceptance, 318–319

sprints, work

- for agile projects, 120, 128
- estimating, 207–209
- executing, 212–213, 217
- feedback on, 129, 219
- goals for, 130, 204–205
- Lean approach to, 199–201
- in Scrum framework, 194
- tracking progress in, 217–221
- user stories for, 202–204



stakeholders

- AI as potential, 60–61
- AI communication with, 54–60, 126
- AI for identifying, 36–37, 38–41
- analysis of, 46–53
- communication preferences, 50–52
- customers as, 200
- defined, 37
- ethics of AI and, 61–63
- examples of, 38
- final report to, 319–321
- influencing, 86–88
- interest/needs of, 46–48
- meeting expectations of, 42–46
- predicting concerns of, 42, 45
- in RACI matrix, 161–162
- ranking of, 48–50
- response to adaptive work, 129
- updating list of, 42
- in WBS creation, 167
- statement, scope, 163–164, 166
- story map, 206
- structured environments, 118, 124, 133, 135
- success, 122, 163, 318–319
- support
 - from AI tools, 335
 - onboarding, 75
 - from top management, 192
- sustainability, AI solutions, 366

T

- tabular format, WBS in, 170–171
- tailoring development approaches, 134–138
- task assignments, 228–229
- task identification, 167
- team building, 199–201
- team management
 - for collaboration, 91–98
 - conflict resolution, 98–101
 - development and training, 78–80
 - ethical responsibilities, 108–109
 - leadership enhancement, 80–91

- onboarding and training, 74–78
- RACI matrix for, 162
- recruitment/selection, 69–74
- shared team language, 95
- stakeholder buy-in and, 86–88
- syncing teams, 138
- task assignments, 228–229
- Tuckman's model, 104–107
- tech transformation projects, 71
- technical communications, 56
- tedious jobs, 69, 75
- templates, prompt. *See* prompts
- terminology, 19–23, 95–98
- testing
 - human oversight of, 325
 - insufficient, 141
 - iterative, 120
 - in predictive approach, 119
 - test plan, 311–313
 - usability, 307–313
 - validation, 310–311
 - verification, 307–310
- The AI Revolution in Medicine* (Lee), 16
- threats
 - identifying, 263–270
 - response to, 286–288
- time savers
 - data summarizing, 86
 - in staff turnover, 6–7
 - in team collaboration, 92
- timeline
 - in agile projects, 205
 - for deliverables, 149
 - forecasting, 246–248
 - See also* scheduling
- token prediction, 25
- tokenization, 25
- Tom's Planner, 146
- tone, emotional, 89–90
- tools, AI-integrated
 - brainstorming/collaboration, 351–352
 - communication/meetings, 345–348
 - ethics and responsibilities with, 352–355

tools (*continued*)

- evaluation of, 335–337
- further resources, 368
- productivity/documentation, 348–351
- project management systems, 337–343
- for scheduling, 343–344
- value and implications of, 334–336

top management support, 192

top-down budget estimate, 176–177

tracking projects, 217–221

training

- bias via, 70
- hallucinations via improper, 27
- of team members, 74–78

transformers, 22

transparency, 30, 62–63, 108

tree, WBS, 169

Trello, 130, 242, 247

trust building, 16

Tuckman, Bruce, 104

Tuckman's model, 104–107, 114

turnover, staff, 4–7, 9

tutorial development, 11–14

U

up-skilling, 79

usability testing, 307–313

user stories, 202–204, 206, 209

V

validating scope, 242–244

validation, 305, 306, 310–311

value delivery, 324–325

value proposition, 147, 201

values, company, 70

velocity charts, 220–221, 223–224

verification, 305, 306, 307–310

vision

- setting project, 197–198
- setting team, 81–83
- stakeholder buy-in for, 86

visual updates, 57

visual workflow, 130

W

walking skeleton, 207

waterfall model. *See* predictive life cycle approach

Water-Scrum-Fall (Wagile) model, 137

WBS (Work Breakdown Structure)

- ethical considerations, 182
- formats for, 170–171
- for predictive projects, 166–171
- scheduling via, 172–176
- tables, with ChatGPT, 185–186, 188

what-if scenarios, 273–275

“why,” understanding, 81–82

work packages, 166

work performance

- analyzing progress, 103
- directing/managing, 227–234
- monitoring/controlling, 126, 239–242
- optimizing of AI's, 27
- quality management, 234–239
- schedule control, 245–246
- scope control/validation, 242–245
- timeline forecasting, 246–248
- tracking project, 119
- tracking team member, 79
- in Tuckman's model, 104, 106

workflow establishment, 104, 105–106

workstation setup, 6

Wrike, 339

writing skills, 93–94

Z

Zapier, 248–252

zero-shot prompting, 27

Zoom AI Companion, 95, 347