

Shaping the Future of Project Management With AI



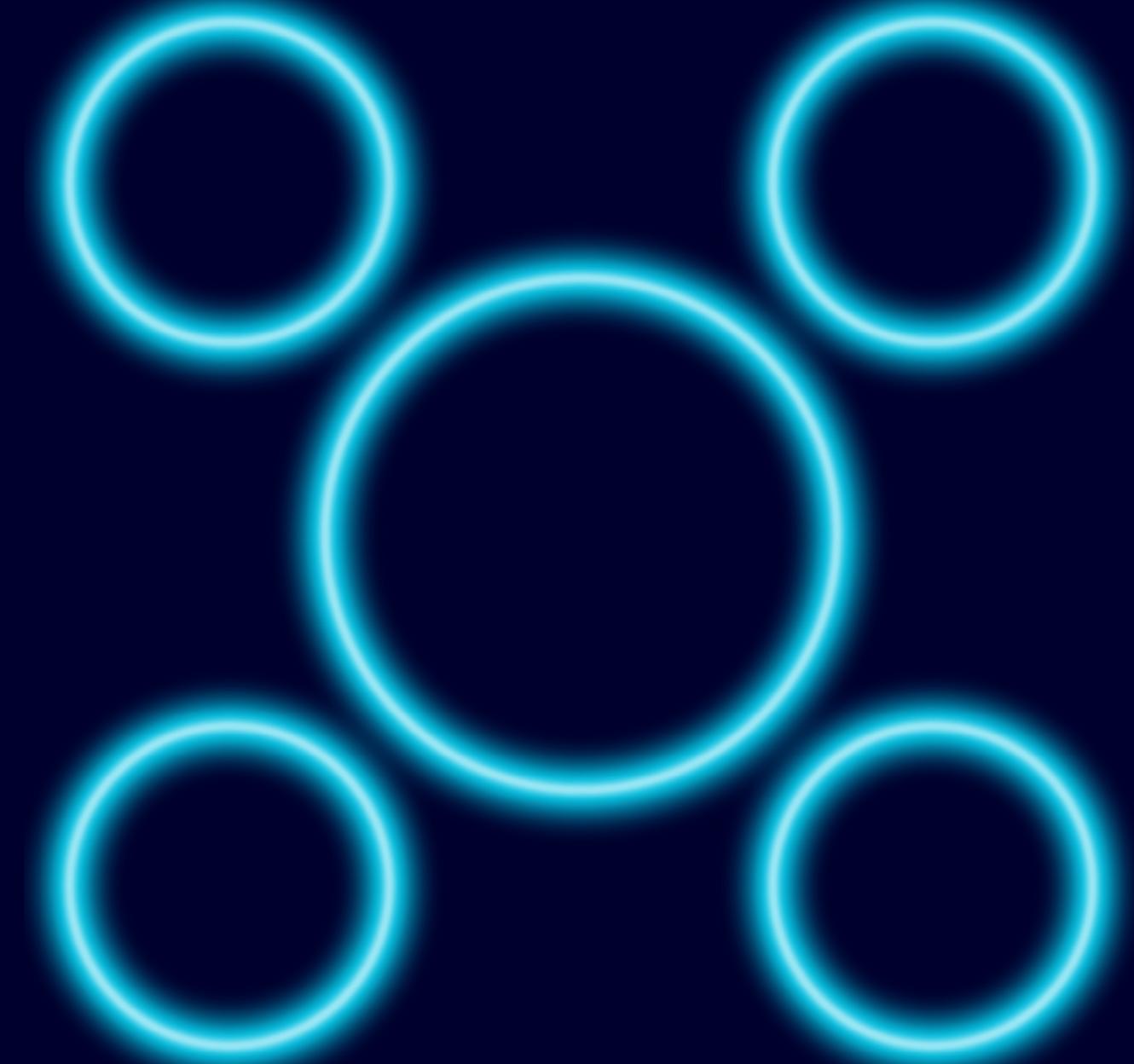
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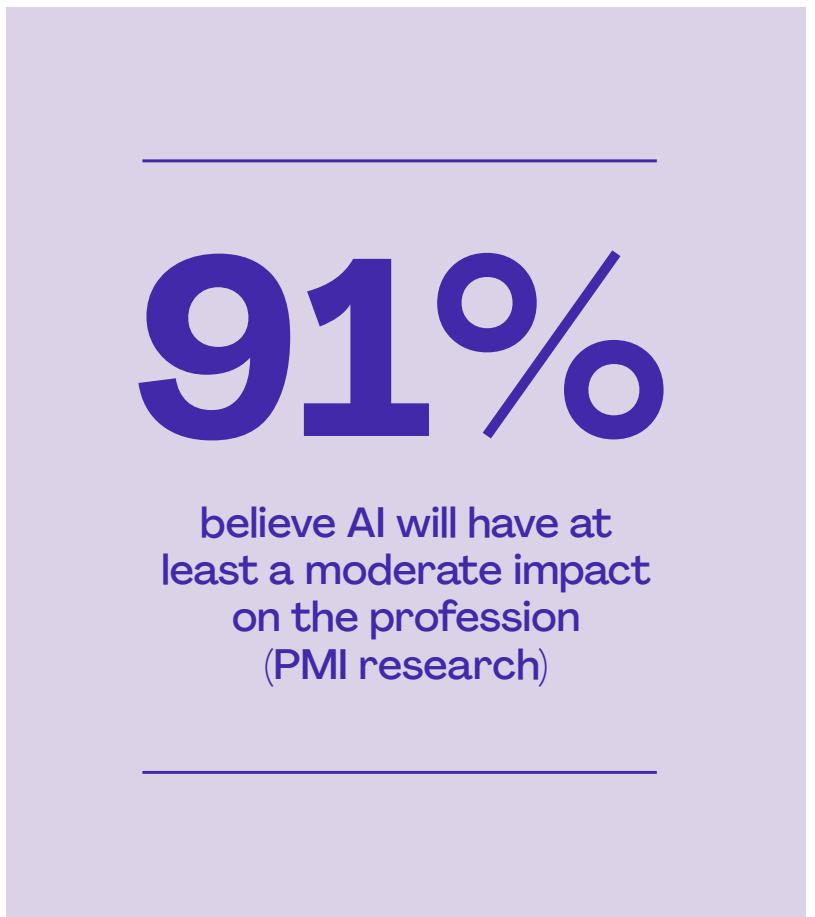
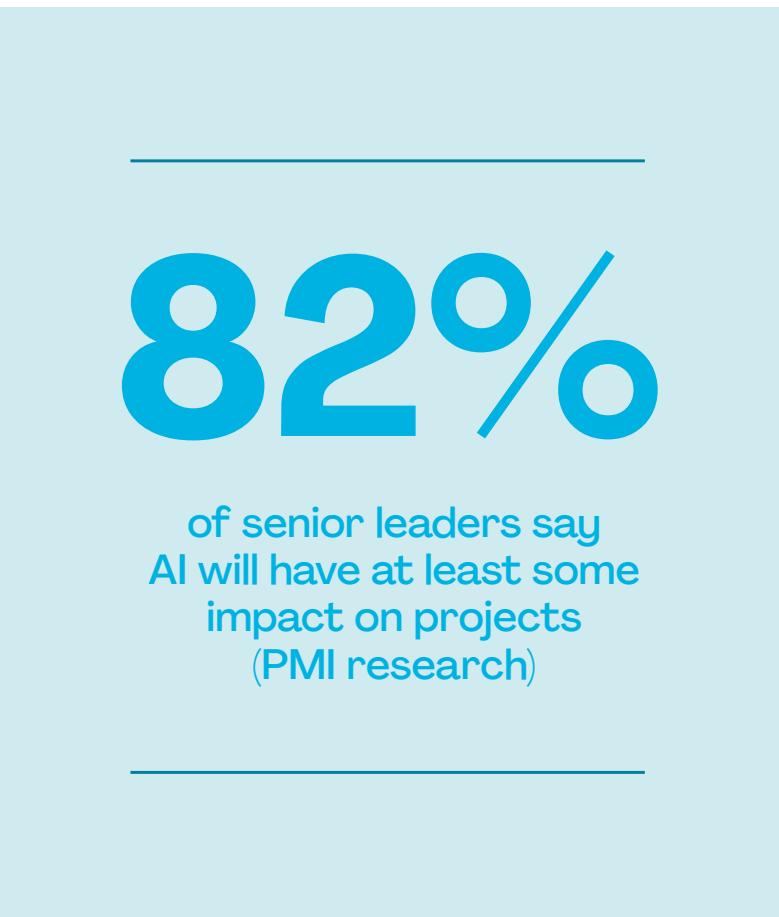
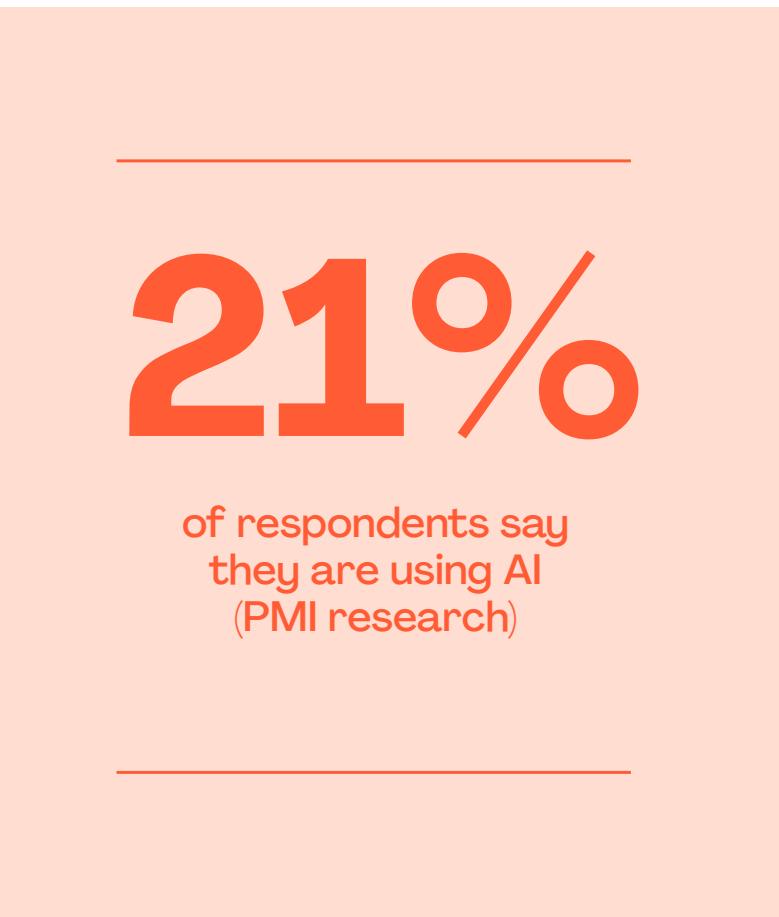
AI Is Already
Impacting
Project Work

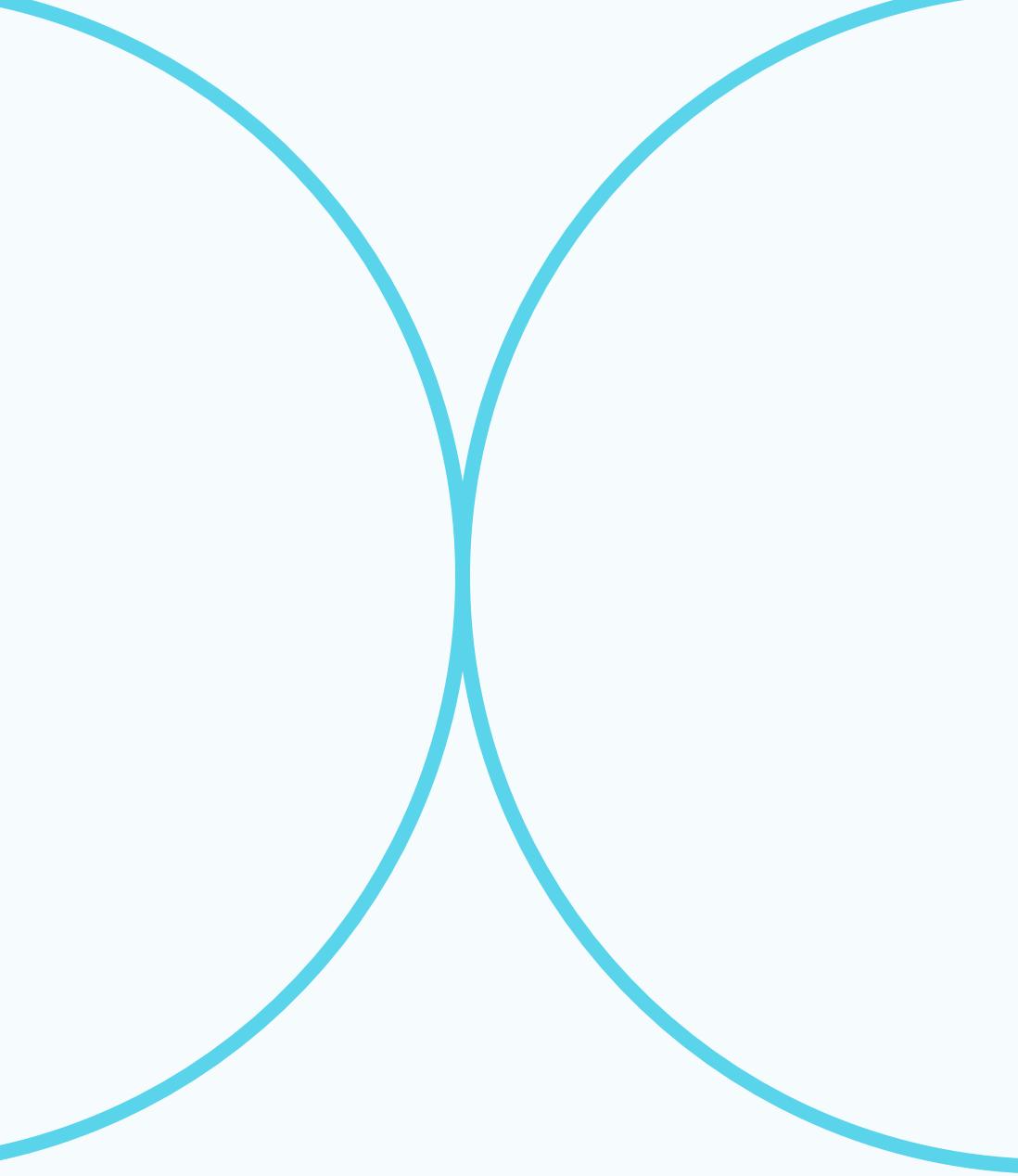


Artificial intelligence (AI) has been impacting the execution of project work and the role of the project manager for some time already.

PMI research shows this impact will only continue to grow:

- In the 2023 PMI Annual Global Survey on Project Management, 21% of respondents say they are using AI always or often in the management of projects.
- 82% of senior leaders say AI will have at least some impact on how projects are run at their organization over the next five years.¹
- 91% of respondents of an unpublished PMI Customer Experience (CX) survey believe AI will have at least a moderate impact on the profession, and 58% say it will have a “major” or “transformative” impact.²





Project managers who stay at the forefront of the progression of emerging technologies and help drive AI adoption within their organizations will best position themselves for career success.

The introduction of Generative AI (GenAI) with the public release of OpenAI's ChatGPT in November 2022 has accelerated the impact of AI on the profession. How can project managers use AI to increase productivity, efficiency and project success in their organizations? They must explore and leverage the opportunities that AI offers. In fact, at the very least, fluency in the basics of AI is non-negotiable: it must be in the DNA of project managers.

Unpublished PMI Customer Experience (CX) research provides evidence that the need for upskilling is urgent, since only about 20% of project managers report having extensive or good practical experience with AI tools and technologies, and 49% have little to no experience with or understanding of AI in the context of project management.

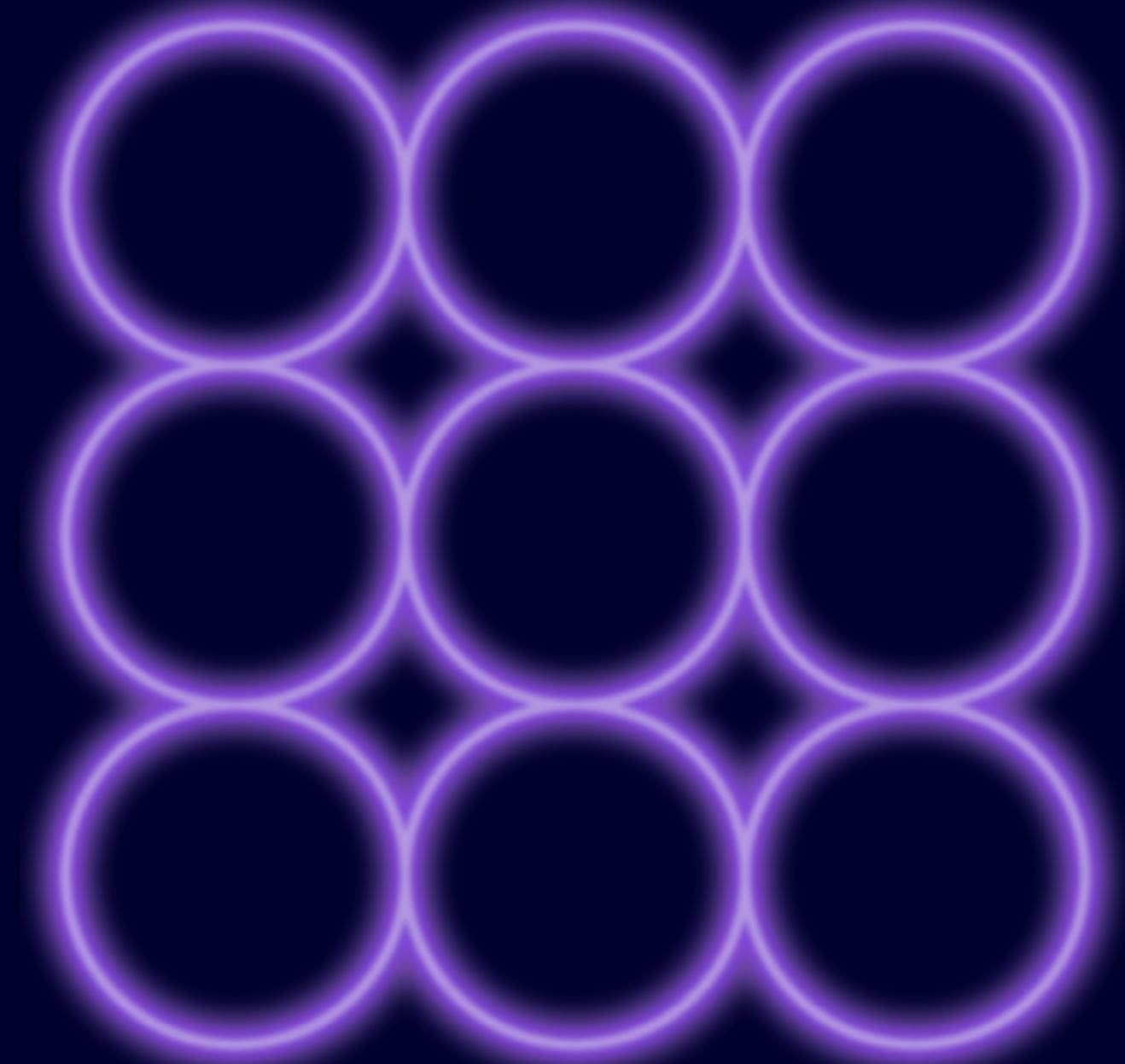
Project managers who stay at the forefront of the progression of emerging technologies and help drive AI adoption within their organizations will best position themselves for career success. The time to act is now, and PMI offers tools and resources to help you chart your journey forward.

Through this article we'll cover:

- Strategies and recommendations to start adopting GenAI, a subset of AI technology, in project management.
- The skills project managers need, viewed through the lens of the PMI Talent Triangle®.
- PMI's commitment to supporting project managers through this technological evolution.

2

Strategies to Start Adopting GenAI in Project Management



Insight

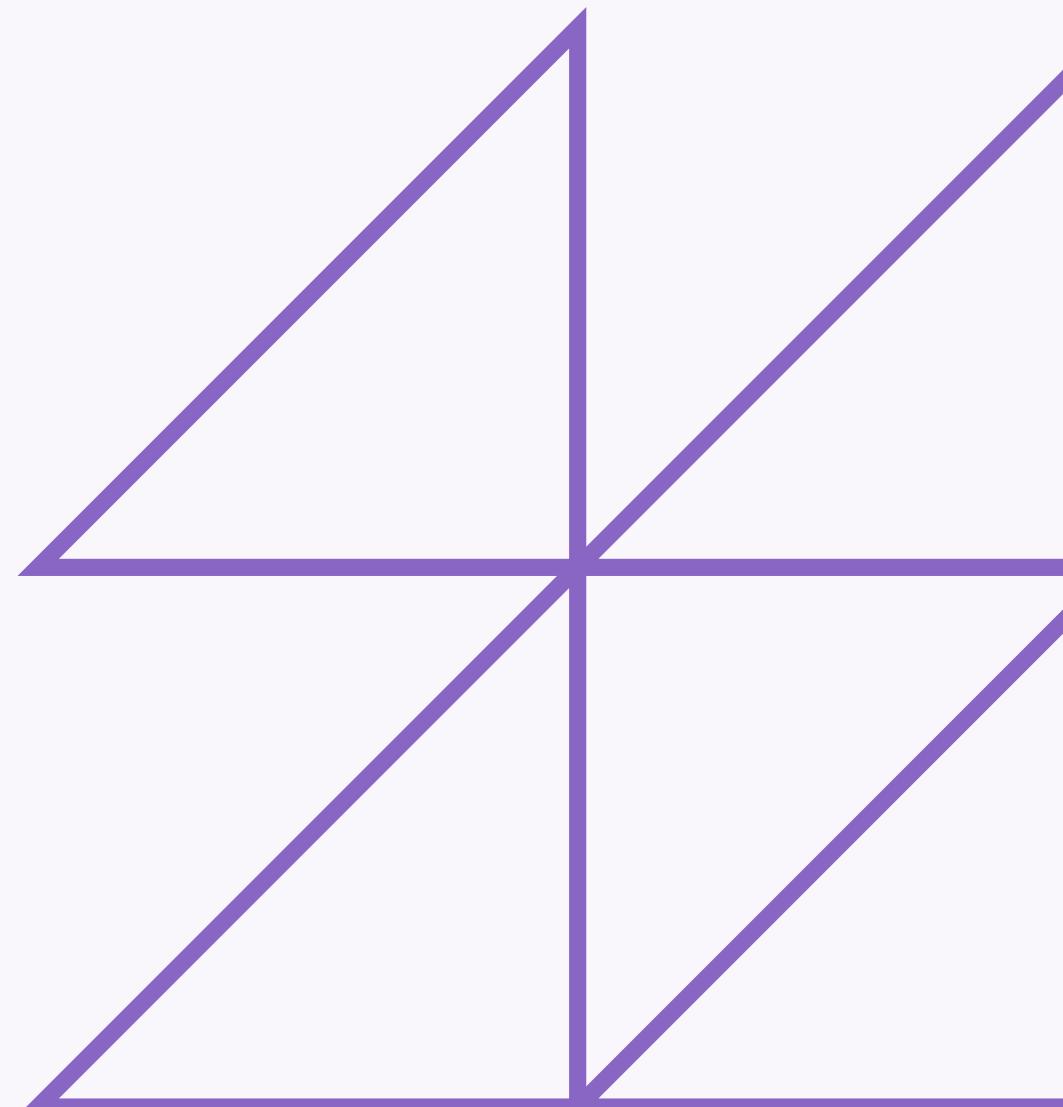


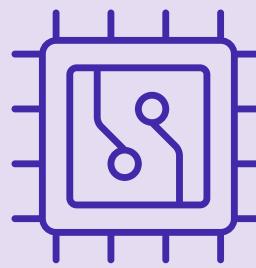
GenAI can support project management tasks in many ways. The more complex the task, the more human intervention is needed to result in high-quality outcomes. This section provides a framework for considering the intersection of efforts between GenAI and project professionals.

To explore and leverage the potential of existing GenAI tools today, consider evaluating the tasks and deliverables of a project under two main dimensions. The first dimension is the level of complexity, which goes from low to high and covers factors such as how many variables are involved in the task, if there are business context perspectives involved or not and if it requires specific project management knowledge and experience. The second dimension is the degree of human intervention needed to get the expected output from the GenAI tool. In this case, the more complex the task is, the greater the need for human intervention to complete the task.

Within these two dimensions, project managers can look at the support GenAI can provide on a spectrum that ranges from automation, to assistance, to augmentation.

The more complex the task is, the greater the need for human intervention to complete the task.





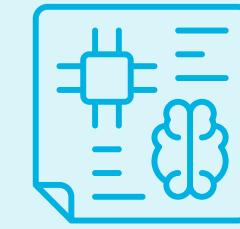
Automation

GenAI can automate tasks that are low complexity and require little human intervention in their final output. Examples include generating reports, analyzing documents with multiple types of data, summarizing meeting notes and performing calculations. The “automating” approach allows project managers to create standard prompts that can be used across different projects and by other team members, since these tasks generally do not need highly experienced project managers to assess and verify the results.



Assistance

At the “assisting” level, project professionals can leverage GenAI tools to complement their analysis, get first drafts for review by experts, and iteratively build the expected output for a particular task. The tool’s results cannot be considered complete without refinement, testing and complementary analysis. Examples of this approach include creating a first draft of a cost-benefit analysis, performing a data analysis to be used on a scope change recommendation, creating scheduling plans and performing a risk analysis. The final result is likely to require moderate intervention from an experienced project professional to ensure it is complete and accurate.



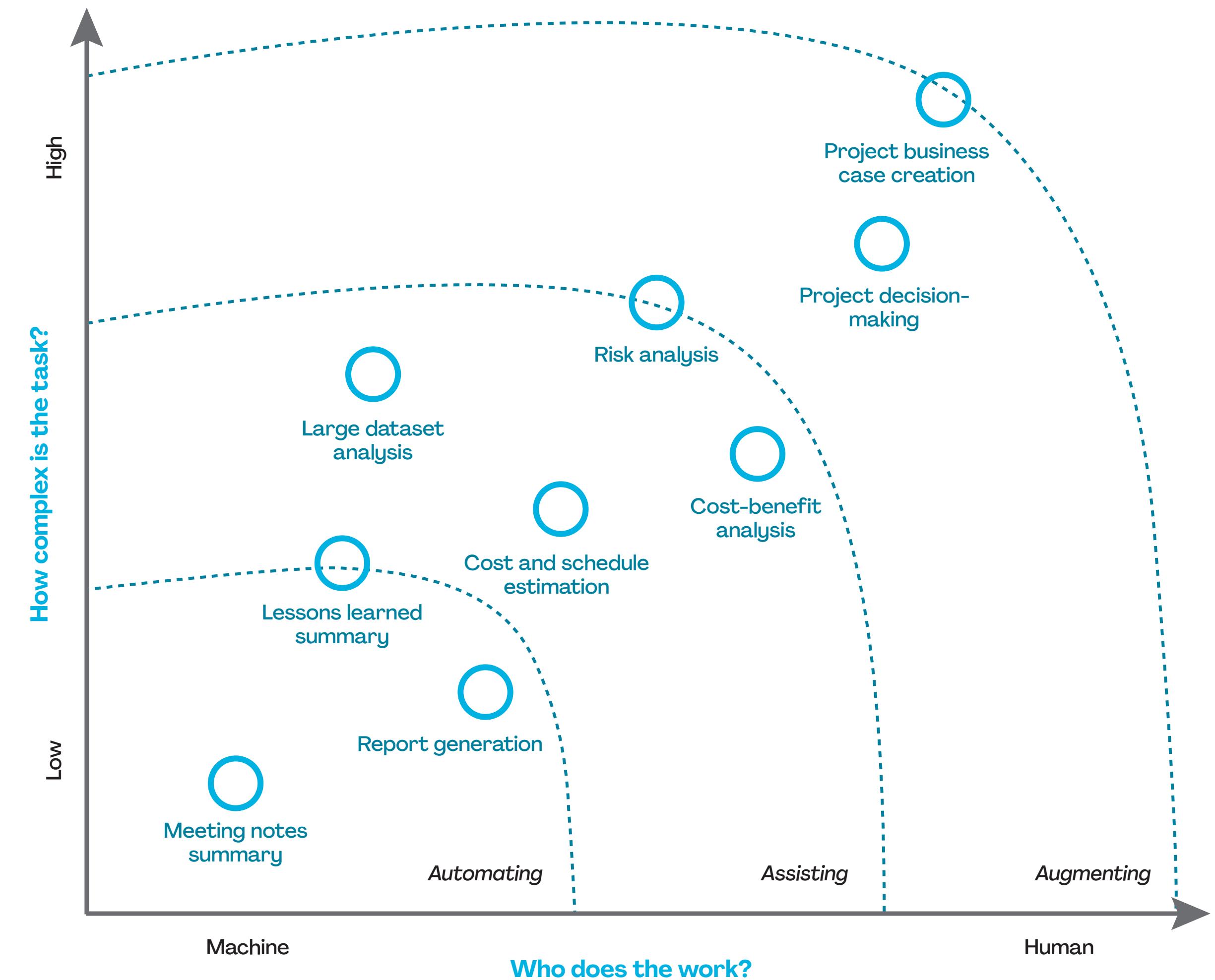
Augmentation

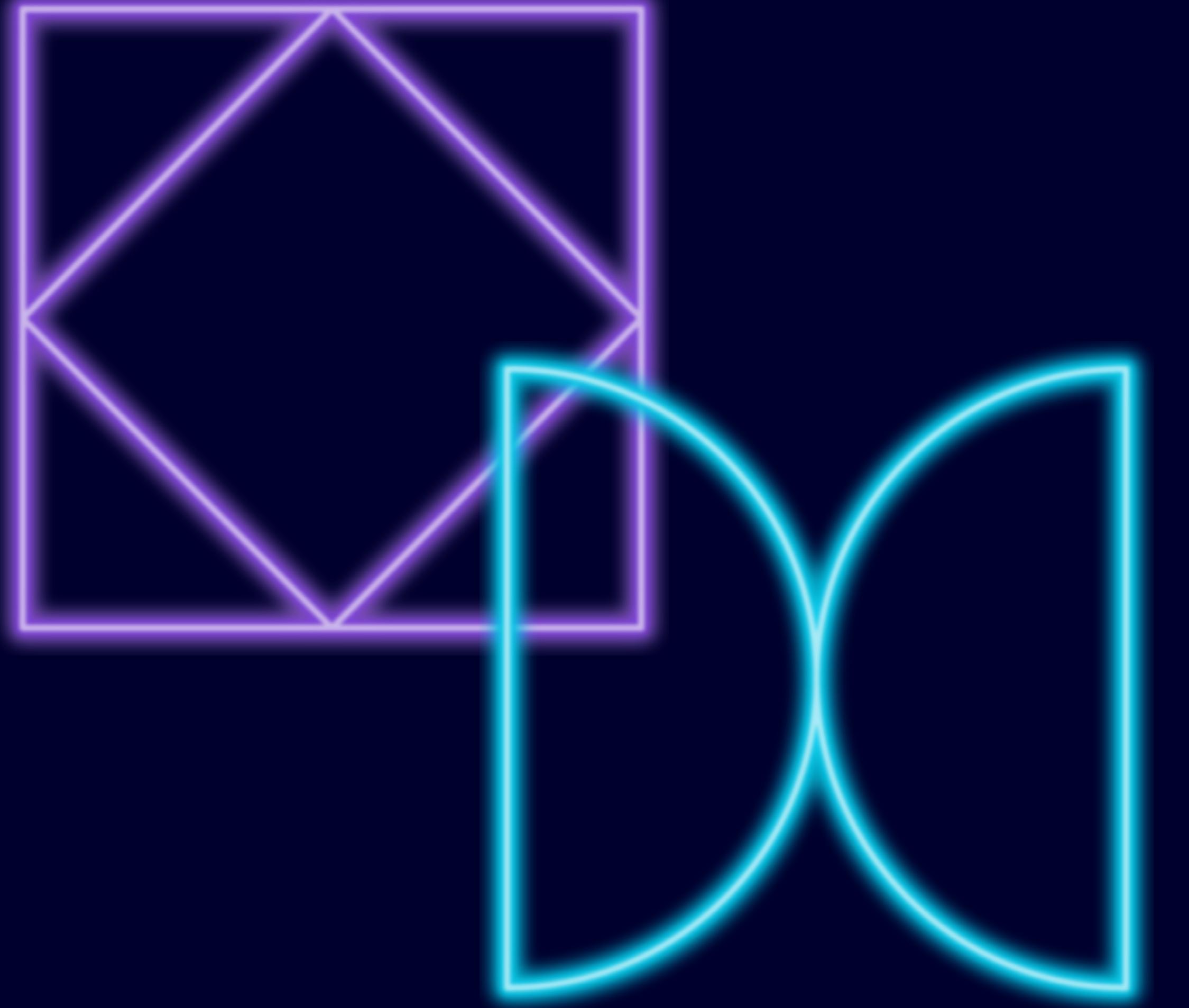
The most complex level is “augmenting,” where project professionals can enhance existing capabilities and explore and develop new capabilities. This approach helps project managers perform more complex and strategic tasks specific to the organization or topic, such as creating outstanding business cases for projects and supporting complex decision-making with many interdependencies and variables.

Ultimately, project professionals will still guide and perform most of the work, but they can leverage GenAI to gain insights and perform specific tasks using multiple interactions with the tool. At this level, it is likely that the individual’s depth of experience and knowledge about the business and project management will influence the quality of the final outcomes.

To benefit from GenAI, project professionals need to take a systemic view of their capabilities and understand the different approaches and strategies that can be adopted to better leverage GenAI technology in their daily work to become more productive, efficient and faster, and to deliver successful projects to the organization.

Figure 1 demonstrates the level of support GenAI can provide for specific project tasks, mapped along the dimensions of task complexity and degree of human intervention.





Action



- GenAI can automate, assist and augment project management tasks. How are you and your team preparing to leverage GenAI's different ways to support project work in your organization?
- GenAI can support project management tasks but still requires human intervention as the complexity of the task increases. How are you ensuring that you and the project managers in your organization provide adequate oversight of GenAI outputs?
- Are you discussing initiatives to review processes, practices and techniques to integrate GenAI tools to support the enterprise project management framework?

3

Guiding Your AI Skill Development Journey

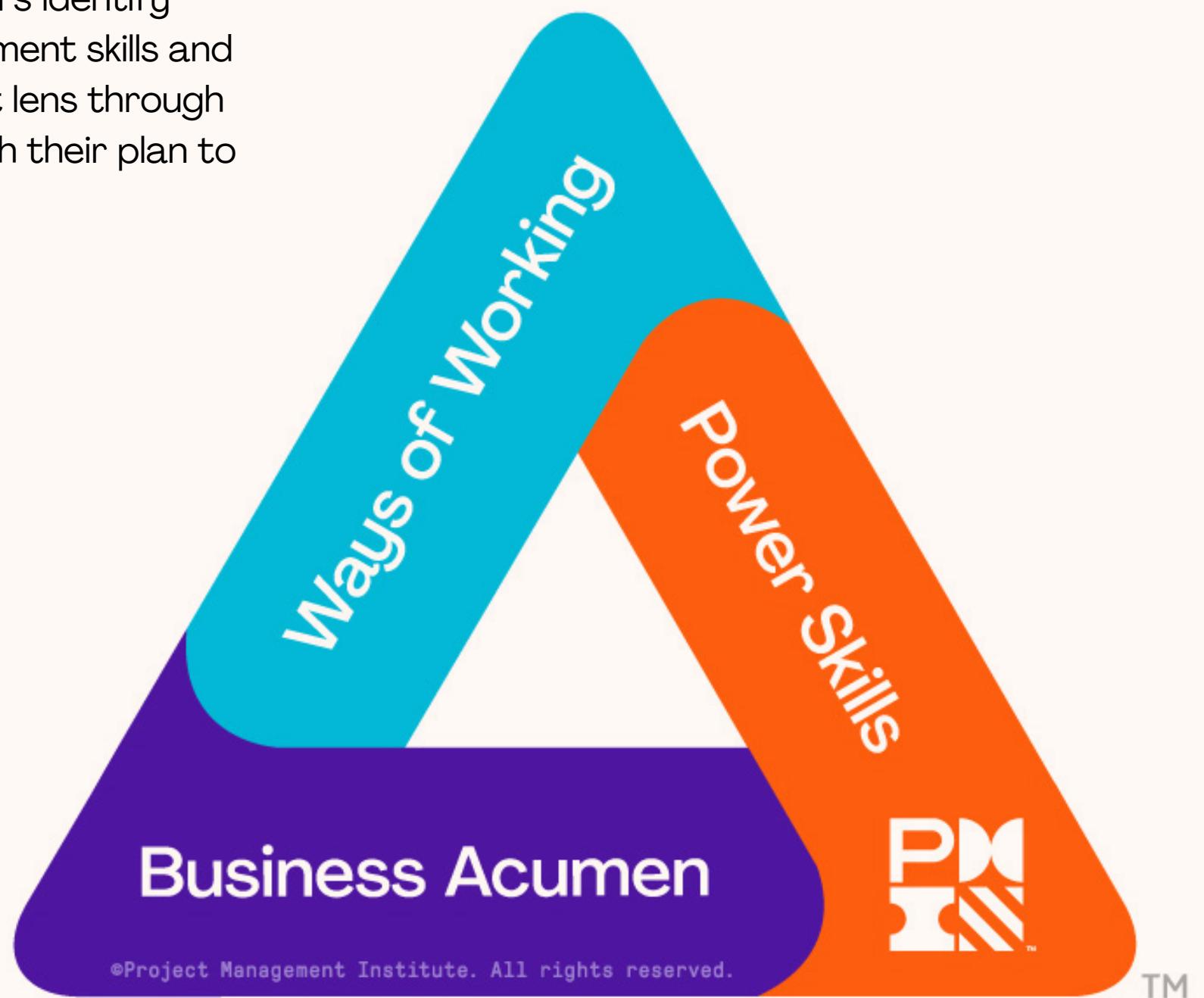


Insight



The PMI Talent Triangle® offers a robust framework to help project professionals understand the impact of GenAI, and what skills and competencies need to be developed and improved. This section reviews how GenAI connects the three aspects of the triangle: Ways of Working, Power Skills and Business Acumen.

Using GenAI to automate, assist and augment your project management capabilities requires new skills and a new mindset toward project work. The PMI Talent Triangle® helps project managers identify and pursue the right project management skills and competencies. It provides the perfect lens through which project managers can approach their plan to build GenAI skills.



Ways of Working

Whether it's predictive, agile, design thinking or new practices still to be developed, it's clear that there is more than one way that work is accomplished today. That's why PMI encourages project professionals to become fluent in as many ways of working as they can so they can apply the right technique at the right time, delivering winning results.

The Ways of Working dimension of the PMI Talent Triangle® focuses on adopting the best approach, practices, techniques and tools to manage projects successfully. With the widespread availability and potential of GenAI tools at both the individual and organizational levels, it is important to take advantage of the improved results that GenAI can help project managers deliver.

Think of "ways of working" as chains of events and tasks to deliver a result, where generative AI can automate, assist or augment project management skills and competencies. For example:

- **Project planning:** Use GenAI to simplify data mining and analysis of historical data to help with the overall project planning and optimization and to generate comprehensive project documentation considering all Knowledge Areas of the PMBOK® Guide.
- **Time and cost management:** Use GenAI to support time and cost estimation and refinement, support cost-benefit analysis, perform earned value analysis, calculate and identify mitigation actions to deal with cost overruns, delays and so forth.
- **Risk management:** GenAI can support and assist with risk identification, analysis and general recommendations for risk mitigation and elimination. It can help define risk planning and risk reports and support communication.

— **Writing and reading assistance:** GenAI is being widely used to improve writing, including documents and emails, to support general and specific communication tasks. It can also be used to generate code, summarize meeting notes and lessons learned from past projects and obtain insights from unstructured data.

Project managers should also learn about the fundamental relationship between data and AI and become familiar with their organization's data strategy and practices. By understanding how data feeds these tools, project managers will be better positioned to understand and evaluate AI outputs. Data literacy will also enable project managers to shape the tools and models that are specific to projects — those that predict project outcomes, risks, resources and so forth — so that they are delivering the most accurate predictions and analysis to drive decision-making. This knowledge will also help project managers identify and solve for the risks that the use of GenAI can potentially introduce to the business.

Example



Context:

While generating meeting summaries or status reports is a useful time-saver, GenAI can bring new value by analyzing underused and/or unstructured data.

Industry: Technology, media and telecommunications

Use case: Project managers can use GenAI to analyze structured and unstructured company and customer data to uncover insights and correlations that will help improve project agility and productivity in creating more customer-driven solutions.

Industry: IT (software development)

Use case: In the IT environment where technical and nontechnical workers need to effectively communicate about projects, GenAI can help prepare code summaries and reports using nontechnical language for multiple audiences, such as functional stakeholders, product managers and business stakeholders and analysts.³

Action



- While predictions indicate the great potential of GenAI in project management, the current adoption rate is still very low. How are you identifying tasks in your projects where AI could be integrated to deliver greater performance?
- Given the rapid integration of AI technology into popular project management tools, are you proactively identifying and adopting these AI-powered features to improve project performance?
- Considering the critical role of data in driving accurate AI outputs, what initiatives are you discussing within your organization to ensure useful project data is available to feed GenAI tools?

Power Skills

These interpersonal skills include collaborative leadership, communication, problem-solving and strategic thinking.

Ensuring teams have these skills allows them to maintain influence with a variety of stakeholders — a critical component for making change.

PMI's *Pulse of the Profession® 2023*⁴ identified four critical power skills that are essential to help organizations transform and deliver sustainable results: strategic thinking, problem-solving, collaborative leadership and communication. All of these are human traits that to some degree can be augmented by AI. For example, project managers can contribute more strategically to their projects and organization by applying AI tools to different aspects of their business, industry and market to solve problems more effectively and quickly.

- **Embed strategic thinking:** GenAI is very familiar with strategic models and constructs. Even if you don't understand the organizational strategy beyond the high-level document, fleshing out what the typical elements of the strategy might be for an organization like yours will open your eyes to many lower-level, but important, connection points that you might have never considered.
- **Improved collaboration:** Prompting GenAI at the front end of a collaboration helps the team start at a different place, since it allows the team to skip all the lowest common denominator brainstorming that might otherwise predominate initial meetings.
- **Faster problem-solving:** Problem-solving in project management requires diverse perspectives. GenAI can help solve specific parts of the problem, perform research and suggest hypotheses. Keep in mind, however, that it lacks a systemic view to put all of the pieces together due to its generic knowledge about the specific business context of your company.

- **Improved communication:** Use GenAI to help streamline communication across different levels, including enhancing stakeholder management, suggesting supporting data, automating less complex communication processes and evaluating content to help convey the right narrative and perspective in more sensitive and complex messages.

Power skills will become even more of a competitive advantage, making or breaking each and every project as AI productivity gains allow more time to be spent on human interaction. PMI's own research, as well as multiple small- and large-scale studies over the last two decades, consistently cite human factors among the top causes of project failure.

Remember that algorithms cannot look anyone in the eye, speak truth to power, stay the ethical course or be accountable for their decisions. Project managers can do all these things and more, including the ability to interact with humans, express empathy, adapt, create counterintuitive solutions, decide in ambiguity, negotiate, manage stakeholders, lead and motivate. Project managers have skills that will never find their way into machines, no matter how smart the machines become.

Example



Context:

GenAI can help project managers with communication, collaborative leadership and other power skills by supporting them in negotiating complex chains of stakeholders, institutions and processes.

Industry:

Life Sciences and Healthcare

Use case:

In drug development, project managers must work with multiple stakeholders, partners, processes and regulatory requirements to successfully discover new drugs and go through development of clinical trials and, finally, approval. GenAI can support communicating across these domains, as well as help streamline and improve knowledge sharing among research groups, reduce data silos and promote a more integrated development process.³

Action



- *How are you planning to leverage GenAI tools to align project objectives with broader organizational strategies and ensure consistent value delivery?*
- *What concrete steps are you taking to integrate AI tools at the initial stages of project brainstorming, definition and preparation of early documents?*
- *In light of the adoption of GenAI tools to perform or support several project management tasks and activities, how are you planning to balance technology with human ingenuity that recognizes and leverages the uniqueness of each project's context?*

Business Acumen

Professionals with business acumen understand the macro- and micro-influences in their organization and industry and have the function-specific or domain-specific knowledge to make good decisions.

Professionals at all levels need to be able to cultivate effective decision-making and understand how their projects align with the big picture of broader organizational strategy and global trends.

Imagine you want to have a better perspective on the risks at the corporate level of your project or program and the most likely scenarios that you may encounter if some of the risks actually occur. AI can help you gain insights to prepare a comprehensive business risk analysis and impact evaluation because of project issues. This will prepare the organization with a recovery plan and to anticipate all mitigation actions before a major event happens and impacts the organization.

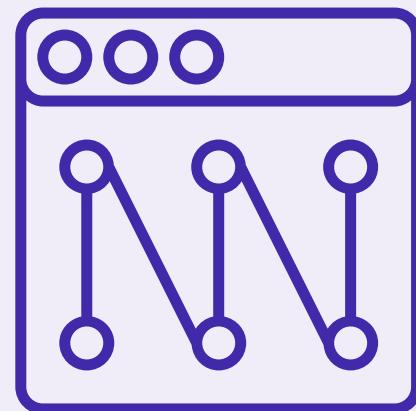
- **Scenario analysis:** GenAI's multimodal data capability can be used to support analysis from different sources (e.g., text, image) to suggest more aligned information with the problem and business sector. It can also be very useful to predict outcomes from different business conditions and scenarios.
- **Insights generation and innovation:** With GenAI tools allowing customization of prompts and questions, project managers can rely on easy and fast data-driven insights and speed up the identification and implementation of business innovation initiatives.
- **Assessment of business implications:** Use GenAI to understand and map the impact and contribution of projects on the business.
- **Systems thinking decisions:** Use GenAI to help understand and consider multiple dimensions and interdependencies of the project within the organization or the broader environment.

The use of AI tools will enhance business acumen in two ways. First, by handling time-consuming, mundane tasks, it will free project managers to spend more time focusing on intraorganizational influences, objectives and relationships. Second, GenAI can augment project managers' abilities to see the strategic implications of their work, enable them to practice and frame their conversations with high-level stakeholders and make better decisions about their projects. The very presence of these tools may also change the types of business acumen that project managers need to deeply understand, versus those that can be accessed by the tools.

For example, generative AI makes it much easier for any project manager to look at a situation through the eyes of an industry expert (through a prompt). So, like individual telephone numbers, general industry knowledge may be less important to retain in the human brain. However, the details of the organization's competitive advantage, potential leverage from data that exists in the ecosystem or new data generated by your project will be something to understand in detail.⁵

Functional operations are becoming more automated and transparent as well. These common software-as-a-service (SaaS) enabled processes are also well-defined in general data sets. Again, here, the business acumen that will set you apart has more to do with what is different about the way your organization operates. What makes it special, more efficient, more effective? This level of understanding will help you not only firmly connect to the strategy with your project but allow you to ensure that all of the project-to-organization connections are in place to truly achieve results.

Example



Context:

GenAI interfaces enable project managers and team members to search and retrieve relevant information and obtain tailored results without having in-depth programming skills. This will take the data-driven decisions to a new level by enabling real-time access to enterprise and past project data, to extract the right insight and intelligence at the right time.

Industry:

Financial Services

Use case:

Throughout the financial industry, banks and insurance, relevant data is stored in multiple locations and formats, making it difficult to query and effectively retrieve relevant information for analysis and decisions. GenAI tools built on top of existing data-lake solutions can provide quick and simple enterprise-level access to business data, allowing project managers and other users to retrieve and generate structured analytical reports to support faster problem-solving and decision-making.³

Action



- *What actions are you taking to adopt GenAI to better communicate the strategic implications of your projects to high-level stakeholders, ensuring project goals and outcomes are consistently aligned with broader business objectives?*
- *In industries with fragmented data across multiple systems, solutions, locations and formats, what actions are being taken to ensure access to quality data is available to use GenAI tools effectively?*
- *Considering the emphasis on understanding what makes the organization's data, operations and ecosystem distinct, are you considering using GenAI in your projects to identify and capitalize on the organization's unique competitive advantages and characteristics?*

4

5

Putting GenAI
to Work for You

Insight



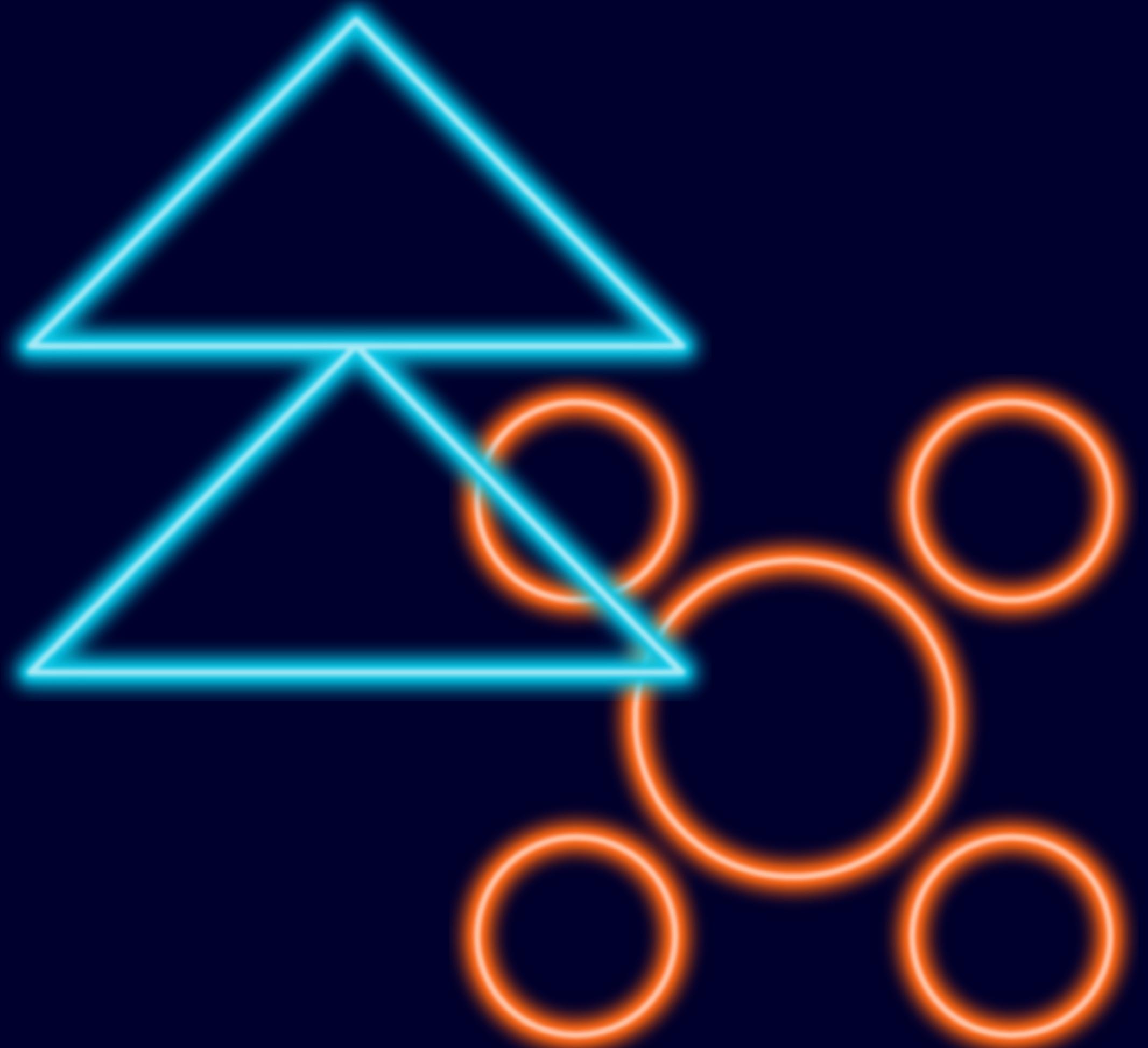
Project managers will best direct their GenAI learning journey by connecting it to specific competencies they want to build and benefits to their current projects. This section offers an explanation and practical examples on how the PMI Talent Triangle® can be used as a guide for competency development.

Project professionals looking to build their GenAI skills can use the PMI Talent Triangle® to frame a plan for their professional development. We propose a two-tiered approach that can be customized to individual needs and goals.

Table 2 proposes a simple but broad approach focused on overall development. Choose the skills you would like to enhance, then map them to your learning needs relative to AI tools and concepts, with the goal of achieving your expected results.

| | Ways of Working | Power Skills | Business Acumen |
|-------------------|--|---|--|
| Enhanced Skills | What practices, techniques and approaches do you want to enhance? For example, become more efficient on risk management or adopt a more data-driven approach to project execution. | What power skills can you enhance and improve with the use of AI tools? For example, faster problem-solving or better written communications. | What skills related to business do you want to improve with the use of AI tools? For example, better understanding about the industry or alignment of project benefits with the organization's strategy. |
| Learning Needs | What do you need to learn about AI to improve your skills within each of the three Talent Triangle® dimensions? For example, master prompt engineering tactics. | Identify the specific learning needs for Power Skills. | Identify the specific learning needs for Business Acumen. |
| Expected Benefits | What benefits do you expect by adopting these tools in your daily project activities? For example, reduce time spent on nonstrategic tasks. | Identify the specific learning needs for Power Skills. | Identify the specific learning needs for Business Acumen. |

| Project Performance Domains | PMI Talent Triangle® Alignment | Tasks | GenAI Tool Examples) | Applications | Expected Impact |
|---|--------------------------------|----------------------------|----------------------------------|--|--|
| <p>Once you have mapped your broader learning and development objectives around AI, you can focus on skill enhancement on a project level. Table 3 offers an exercise to understand the potential of GenAI tools to improve project management for each part of the PMI Talent Triangle®, based on current project performance domains and deliverables to understand which ones can be supported by GenAI.</p> <p>By way of example, the table shows just one domain of project performance – planning – and some essential tasks/deliverables within that domain for each aspect of the Talent Triangle. The tasks are mapped to examples of AI tools that can be applied to deliver results that will positively impact the outcome of the task.</p> <p>Project managers can customize this table with the domains and tasks they are responsible for in a current project and map them to their desired skill development, suitable GenAI tools, and the applications of those tools that can deliver enhanced results.</p> | Planning | Ways of Working | Scope definition | ChatGPT-4, Bard, MS Copilot, Show Me Diagrams (ChatGPT plug-in) | Generate preliminary plans, refine scope description, analyze historical data, generate diagrams such as network diagrams, Gantt charts, etc. |
| | | Ways of Working | Estimate effort, duration, costs | ChatGPT-4, Bard, Smartsheet | Automate calculations, optimize schedules, generate comprehensive and integrated analysis |
| | Power Skills | Develop communication plan | ChatGPT-4, Bard, MS Copilot | Understand stakeholder communication needs, create a communication plan within an existing template, analyze past communication plans for trends and omissions | - Faster execution - More comprehensive analysis - Better use of historical data - Better alignment across the functions and business areas |
| | Business Acumen | Create business case | ChatGPT-4, Bard | Define the business need, evaluate industry context, prioritize among other organizational initiatives, identify positive and negative market conditions | - Faster execution - More comprehensive analysis - Better alignment with business context and market challenges and opportunities |



Action



- *What is your learning strategy and plan to quickly acquire the needed knowledge about GenAI tools to start experimenting with adopting these tools in your projects and teams?*
- *Do you have a process to identify, test and scale use cases in your projects? Do you have a clear adoption roadmap to implement GenAI tools in project management?*
- *What do you think is the maturity level (low, medium, high) of GenAI adoption across the projects in your organization? Are there plans to increase the maturity level and scale adoption?*

5



Get AI Ready
With PMI

PMI stands at the forefront of the evolution of project management, offering advanced courses, certifications and continuous learning opportunities that equip and empower millions of project professionals worldwide to build their GenAI skills to deliver value and better outcomes through operational excellence. PMI's commitment to guide project professionals on how to leverage GenAI, foster career growth and demonstrate resilience in a dynamic business environment is wide, deep and ongoing.

PMI has, and will continue to build, a suite of resources designed to help project professionals understand and apply AI, including content, online and community resources. These resources are available to the PMI community and will expand as the role of AI in project management evolves. There's so much more to come.

The [PMI Artificial Intelligence in Project Management Hub](#) is your comprehensive source for resources to guide you on your AI journey. There you'll find:

- [Generative AI Overview for Project Managers](#): PMI's free, online, introductory course to GenAI
- [Artificial Intelligence Online Community](#): Connect with your colleagues to learn and share about AI
- [Thought Leadership](#): PMI's curated content on the latest in how AI is impacting project management



Endnotes

- ¹ PMI. (2023). *2023 PMI Annual Global Survey*. (Conducted June–August 2023, response base of 342 senior leaders)
- ² PMI. (2023). PMI.org site survey. (Conducted August 10–24, 2023, response base of 998)
- ³ Deloitte. (2023, September 12). *The generate AI dossier — A selection of high-impact use cases across six major industries*. Deloitte AI Institute. <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/us-ai-institute-gen-ai-use-cases.pdf>
- ⁴ PMI. (2023). *Pulse of the Profession® — Power skills: Redefining project success*. PMI. <https://www.pmi.org/learning/thought-leadership/pulse/power-skills-redefining-project-success>
- ⁵ Edelman, DC & Abraham, M. (2023, April 12). Generative AI will change your business. Here's how to adapt. *Harvard Business Review*. <https://hbr.org/2023/04/generative-ai-will-change-your-business-heres-how-to-adapt>



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PMI is the leading authority in project management, committed to advancing the project management profession to positively impact project success. We empower professionals to excel in project management practices through our growing global community, knowledge sharing, and best-in-class certifications—driving positive change in organizations and communities. Since 1969, our unwavering mission has been to advocate for the profession by offering life-long learning and connections to sharpen high-demand skills. Today, PMI provides professionals at every stage of their career journey with the globally recognized standards, online courses, thought leadership, events, and tools they need to succeed. With more than 300 chapters around the world, PMI members can network, find mentors, access career opportunities, and learn from peers, working together to drive greater impact.



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