

 Tech Accelerator

## A guide to artificial intelligence in the enterprise

## FEATURE

## How AI is transforming project management

**As the project management field increasingly embraces AI-powered software, the benefits can help organizations thrive -- but only if the risks are properly considered too.**

By

**Mary K. Pratt** Published: 07 Mar 2024

Incorporating AI into project management can involve anything from automating simple administrative actions to performing complex tasks such as modeling and resource allocation. Given AI's diverse use cases and benefits, organizations are increasingly exploring how to implement AI in their project management workflows.

In a [survey](#) by technology review firm Capterra, 93% of project managers reported positive ROI from their company's AI project management tools or tech investments over the past year, and only 8% of surveyed companies reported no current plans to adopt AI into their workflows. These figures attest to AI's transformative impact on the [project management discipline](#).

"It's not [a question of] whether AI is going to change the project management landscape," Capterra associate principal analyst Olivia Montgomery said. "Those numbers show it already has."

AI is embedded to various degrees in most project management software. That intelligence largely works behind the scenes to help project managers and their teams with many fundamental tasks of their trade, aiming to save time and money while improving project outcomes.

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Expert sources said they expect increasing ROI from AI moving forward. They predicted that both [traditional and generative AI](#) will handle increasing amounts of project management work in the near future, a development that could bring significant gains in project delivery.

"AI is going to transform projects in the near term by improving administration, and it's going to improve project management in the long term by lowering risk," said Barry Cousins, an analyst and research fellow at Info-Tech Research Group who specializes in project portfolio management, project management and organizational change management.

## How AI is used in project management

Today, AI is mostly incorporated into project management through tools designed to assist with existing tasks, such as the following:

- **Prioritization and scheduling.** AI tools can craft and optimize schedules at a project's start based on available resources and other data. They can also adjust schedules based on changes in priorities, resources and other factors, said Te Wu, CEO and chief project officer at project management consulting firm PMO Advisory and an associate professor of management at Montclair State University.
- **Cost estimation.** AI technology can analyze past projects and current prices to estimate a project's total costs more quickly -- and sometimes more accurately -- than human project managers, Wu said.

- **Resource allocation.** AI capabilities are increasingly used to [allocate resources](#), Montgomery said, noting that such capabilities are standard in many modern project management tools. AI models can assist project managers in assigning the right people to the right tasks by analyzing historical data along with information on the current project's requirements and available resources.
- **Modeling.** Project managers can use AI capabilities to explore the outcomes of different scenarios -- for example, forecasting the result of adding five more resources to a project while cutting five weeks off the timeline. "Project managers could certainly do that without AI, but AI just makes it much faster and more comprehensive," Montgomery said.
- **Adjusting projects to different delivery methodologies.** Some AI tools can help users experiment with various project management methodologies. For example, a user could create Kanban charts or try out switching between [Waterfall and Agile](#) software development models, Montgomery said.
- **Predictive analytics.** Here, the AI tool uses available data to identify factors that could affect project success, such as possible scheduling or resource allocation issues, Montgomery said. These insights give project managers a heads-up far enough in advance to take steps to mitigate the issues and keep projects on track.
- **Risk management.** [AI algorithms](#) identify potential threats to project success by analyzing a multitude of data sets, a capability that Wu called "one of the more impactful uses of AI in project management." Moreover, a growing number of project management tools come with AI advanced enough to not only identify risks, but also offer risk mitigation strategies.
- **Automation.** AI tools can automate routine tasks such as generating status reports. "Anytime you can assign rote tasks to your AI, that frees up [workers'] time for more complex work," Montgomery said.

In addition, generative AI can assist with administrative tasks such as the following:

- **Note taking and summarization.** Using generative AI to automate common administrative jobs, such as taking notes in meetings and summarizing reports, frees up team members' time for higher-value work, Wu said.
- **Project planning.** Generative AI tools can help build project plans, with particularly good results for routine projects. "If I want to build a house, I can put in a description of the house I want to build, and almost any of the generative AI tools will come back with something reasonable for

scheduling," Wu said.

- **Task planning.** Generative AI can propose action items and set agendas for follow-up meetings. These capabilities not only improve efficiency for project teams, but also help them stay on track, Cousins said.

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## AI advancements will further aid project management

The level of AI capabilities delivered by project management software varies from one vendor to the next. However, vendors are rapidly adding AI to their products as a standard part of their offerings.

Wu anticipates that AI will improve enough to accurately distinguish voices in project meetings, enabling tools to deliver increasingly accurate summaries of who said what. He also expects vendors to use AI to make such records searchable at increasingly granular levels.

Montgomery expects [large language models](#) to make it easier for project team members to use project management software to perform complex tasks. Using LLMs, those staffers can engage with the software using everyday language rather than writing code.

Cousins anticipates advances in [AI's ability to perform capacity planning](#), a capability that is still nascent. Technological advancements could also increasingly support other areas where AI is only just beginning to make inroads, such as demand management, resource assignment and prioritization.

In the future, Cousins said, project teams will also be able to use AI to generate [synthetic data](#) to further aid predictive and prescriptive analyses. This, in turn, will help project management professionals increase their overall management accuracy, including their ability to audit their entire

project portfolios.

Cousins also expects AI will help teams determine when to cancel struggling projects by bringing data-driven insights to a task that today tends to be more subjective than objective. Furthermore, he said, AI could advance enough to handle many tasks associated with project portfolio manager and change manager positions.

"There will still be a human who has responsibility for [those jobs], but they'll be massively assisted by AI," he said.

## Top benefits of AI in project management

The previously mentioned Capterra survey found that project management professionals are enthusiastic about AI: 77% of respondents expressed optimism about the use of AI in their work. Their reasons for that optimism included task automation (33%), more effective use of resources (32%) and more accurate metrics (27%).

Experts cited other benefits too:

1. **AI helps scale project management.** Project management professionals have always had the ability and responsibility to perform core tasks such as developing schedules, assessing risk, modeling various scenarios and estimating costs. AI lets them do that work at a velocity and volume that would be impossible manually.
2. **AI improves accuracy.** Although AI-powered project management software can't be guaranteed to deliver 100% accuracy, AI can avoid some human errors and deliver a high degree of accuracy for many tasks. "AI will get you to 85, 90 and 95% accuracy for cost estimates, risk and schedules right out of the box," Wu said. "If you want to get beyond that threshold, that's where the human intervention comes in."
3. **AI drives efficiency.** "It's great that the tools are starting to take over the rote, mundane, predictable tasks that are part of project management life," Montgomery said. This frees users to spend more time on higher-value, more complex work, such as decision analysis and meeting with stakeholders.

## Challenges and risks of AI in project management

Such benefits, however, aren't automatic. AI, like nearly all enterprise technologies, is not plug-and-play. Instead, project teams must lay the groundwork if they want to use AI and reap the potential benefits.

A top challenge is readying the enterprise data that AI tools require, Montgomery said, citing data quality, availability and volume as limits on AI tools' helpfulness. [Data quality](#) remains a challenge for 63% of organizations, according to the "2024 Data and AI Leadership Executive Survey" [report](#) from consultancy Wavestone.

Another challenge is rooting out unintended [biases in the algorithms](#) -- an issue in all uses of AI, as those biases can skew results and produce inaccurate insights, Montgomery said.

Experts also cited the lack of prolific data skills and AI experience among project management professionals as additional challenges to optimizing the use of AI tools in the field. "Humans are a limiting factor," Wu said. For example, he said, AI can "inundate" workers with information, meaning that project leaders must know how to apply their expertise to interpret AI output.

Another significant issue is the fact that [AI itself can introduce risks](#) into the project management environment. "The irony is that the use of AI for project management is a risk itself," Wu said. Consequently, project management teams need to develop guardrails and governance to reduce the risks that AI can introduce into their work.

This poses an additional challenge, Wu said, as many project management professionals don't yet have the skills needed to understand, identify and mitigate AI-related risks. Wu also cited the risk of AI's potential to fabricate results, a phenomenon known as [hallucination](#).

Given these challenges and risks, Montgomery said, enterprise and project management leaders will have to decide where and how much to trust AI-generated information, as well as the extent to which human intervention is needed.

"AI tools can make decisions for you right now, so the company has to decide whether to verify those decisions or whether to execute on them," she said. "But I think we want to be cautious with AI tools. They're not decision-making tools -- they're decision-informing tools. They distill, they predict, but they shouldn't be the decider."

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