# AI in Project Management
## Artificial Intelligence for Mega Projects

In these times, where the world is at our fingertips, technology is taking over every aspect of human life. Like other professional entities, project management is deploying emerging innovative technology, which is likely to change project management in years to come. It is becoming clear that there will be an increasing reliance on Artificial Intelligence (AI).

## Open Secrets of Mega Projects

Projects that involve a budget of one billion pounds and last several years, definitely encounter greater risk. Undoubtedly, megaprojects involve huge stakes and resources, which become difficult to manage due to complexity, size and financial encumbrance. Nevertheless, public projects contribute towards the wealth of the nation, but they can turn into disasters.

McKinsey (Garemo, Matzinger, and Palter) quotes Flyvbjerg that 90% of megaprojects go over budget. In a different research, the founder of Thinking Business, David Taylor concludes that around 65% of the megaprojects fail to attain the desired results. Since megaprojects involve such high levels of investment and are subject to high levels of risk, it is imperative to add value to megaproject processes and make them more efficient.

## Why Artificial Intelligence?

Statistics show that one of the primary causes of project failure lies in scheduling and budgeting. So, to minimise failures, it is essential to control the time and budget, as this will impact on project success.

Controlling project duration for megaprojects is not easy because multiple resources and workstreams are involved at different stages of the project. Many of them are interdependent and syncing them in a timely manner is often an uphill task for the project team. This causes delays and ultimately impacts on project cost. Current project management frameworks may creek when controlling multitasking during the project life cycle. So, technological involvement can augment project managers to effectively handle these matters and improve coordination among various stakeholders for megaproject management.

Söderlund, Sankaran and Biesenthal emphasise in their research for the PMI, published in January 2018, that researchers and practitioners need to revisit the tools and techniques to better cope with the failure of megaprojects. They emphasise the application of innovative technology to improve project performance and curtail the risks involved in failure.

AI is revolutionising thinking technology. Even though embryonic in its development, AI dilutes the myth that it can merely perform repetitive tasks and procedures. With its application in diverse businesses, AI flattens incredibly complex issues and plays a significant role in their success. Dmytro Bogdanov, a regular professional project management author, said earlier this year that with the availability of big data and strong processing power, AI can act as a thinking processor. Keeping in view these surprising results, why not utilize AI tools and techniques to handle complexities during different stages of megaprojects and not only make them achieve desired results, but also add more value to the stakeholders.

## AI for Mega Project Management
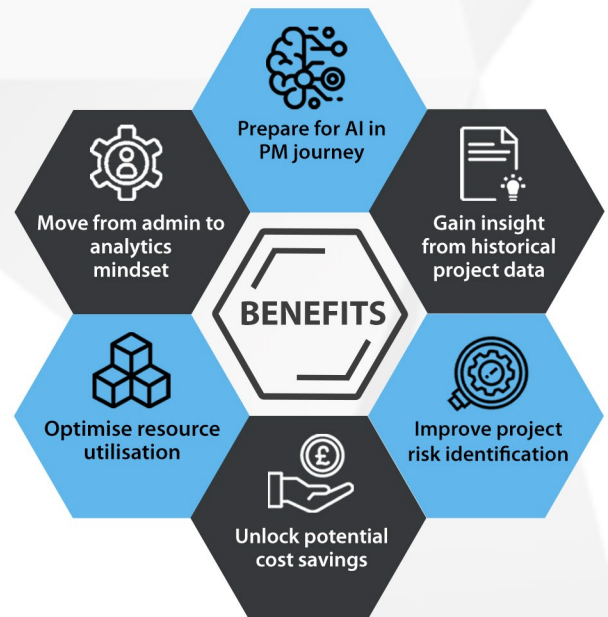


Ron Schmelzer (2019), in his article for Forbes, says that AI is increasingly making its way into project management tools and methodologies. He adds that AI is efficiently handling project management process cycles to analyse the patterns of a working team, offering suggestions and help in determining future trends. These amplified tools make AI an obvious benefit to project managers moving ahead and the predicting capabilities will help project managers as they engage in multiple administrative activities. As AI systems are capable of handling administrative tasks including management of updates, follow-ups, etc., this can relieve project

managers to work on strategic decision-making and buy considerable time to focus on other project complexities.

A further important aspect of AI application to projects is risk identification, evaluation, and mitigation. Megaprojects encounter greater risks and uncertainties throughout the lifecycle and project teams need to be vigilant to identify and manage risks based upon current knowledge and resources. Intelligent and self-learning systems can predict, analyze, and mitigate risks that are occasionally unforeseen. These systems use project data to identify risks and notify vulnerabilities.

Organizations involved in megaprojects create and store a substantial amount of structured and unstructured data. This data is a great source for artificially intelligent systems to learn from and can predict potential impacts for the future stages of the projects. Organizations not only use prior phase data but data from previous projects which is also available to expound future stages. These intelligent systems help in developing realistic estimates and deliverables of megaprojects.

## AI - Project Manager's Assistant

AI can be used throughout the project lifecycle to assist project managers. Project managers are often immense pressure from the sheer volume of data and they could benefit from additional technological support to assist in team management. AI is also able to assist project managers at different stages of the project life cycle.

### Planning
Project planning is critical and it requires detailed exercises and strategy development to smartly utilise available resources. AI application can support these exercises to optimise planning processes. Timelines, budget estimation and other dependencies can be tackled and continuously monitored. AI can highlight vulnerabilities which may otherwise be ignored using traditional means. AI can foresee upcoming requirements with the help of the data provided, more efficiently when compared to traditional tools and techniques.

### Execution
In this phase projects are set into motion, so there is a greater risk of a project going off course. McKinsey (Garemo, Matzinger, and Palter) found that due to poor execution, 73% of megaprojects go over time and budget. AI tools can assist project managers to keep up the track of the project performance by generating status reports and can suggest an intervention if a deviation is noticed. AI systems optimise decision making for diverse segments including workloads, staffing levels, and strategies for minimising inefficiencies.

## Final Thoughts

On reviewing different professional and academic material, one thing seems to be clear - AI can be used to increase the likelihood of megaproject success. It can control megaprojects to be more effective and add value for the end-users. However, AI is not widely utilised; it is still in its infancy but the potential will become an integral part of megaproject management methodologies and frameworks.

## Author

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Lloyd is a project professional with 25 plus years of experience working in multiple sectors and projects in both support and delivery roles. For the last 2 years he has been investigating the use of AI in project management and developing Greyfly.

### About us
Greyfly has experience in successfully delivering full life-cycle, benefits led, multi-million pound transformation projects. We are a preferred supplier to the BBC for programme management. Our underlying drive is to apply AI to Project Management in order to improve delivery, tackle the real project delivery problem and to make cost savings for our clients.

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