

# AI in Project Management

## Improving Project Delivery in Economic Recession

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The Covid-19 pandemic has raised lots of challenges for those working in project management, but the UK's GDP fell by 20.4% in the first two quarters of 2020, therefore potentially there are more difficulties on the horizon. How will this environment affect project delivery and can AI solutions help mitigate some of the challenges?

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## Introduction

The Covid-19 pandemic has already raised a lot of challenges for those working in project management, but there are more difficulties on the horizon. In the first quarter of 2020, the UK's GDP fell by 2.2%, and in the second, it fell by 20.4%. Not only does this put the UK in a recession for the first time since 2008, it also looks set to be the deepest annual slump since 1921.

Unprecedented times call for unique strategies. Project management is an ever-evolving field, and one of the most disruptive developments in recent years has been Artificial Intelligence (AI). Forbes and PMI's the C-Suite Outlook (**Figure 3**) delves into the how disruptive technologies are redefining the role project management - and notes that AI is the third most adopted technology, behind the Internet of Things and cloud solutions. Implementing these technologies has a positive effect. Bringing in AI solutions is one strategy that businesses can implement to help mitigate the recession effects.

## Recession & project performance

Project management teams, already dealing with the initial fallout of the sudden pandemic, need to prepare themselves for the crisis to continue.

Many large projects have stalled - as of June, over 470 infrastructure projects (worth around £6bn) remained on hold. This includes:

- **Battersea Power Station** - London's largest single construction site, this project was put on hold the day after lockdown was announced (24 March). Worth £9bn and having over 4,000 workers before the lockdown, it has been reopening in stages.
- **Aberdeen Harbour Expansion** - This £350m project has ended up with severe delays, pushing completion back from 2020 to 2022 at current estimates. Dragados, the principal contractor, pulled out of the project in June, blaming the coronavirus among other factors.
- **HS2 Rail Projects** - The HS2 rail project has permission to continue, but it looks set to have difficult times ahead. Many of the sites had to pause work - 35% originally, dropping to 25% in subsequent weeks - and there was a lot of renewed discussion around whether the project should go ahead at all.

One key challenge that coronavirus has brought about is managing infrastructure projects with social distancing in place. Substantially less staff can be on site at a time, leading to long delays on project completion. The recession adds additional challenges on top of this - many industries are facing difficulties in supply chain management or gaining new contracts.

### Figure 3: Leaders Win with Disruptive Technologies

*To what extent has leveraging disruptive technologies impacted your organisation across the following measures?*

Source: Project Management Institute (PMI)

	HIGH PERFORMERS	THE REST
Customer satisfaction	72%	46%
Organisational agility	69%	41%
Execution of high-impact initiatives	67%	39%
Revenue generation/profitability	66%	41%
Employee engagement	64%	45%



Barbour ABI has been monitoring Covid's impact on the construction industry. According to their data, there has been a 40% fall in new tenders since mid-March (when compared to the ten weeks before), and a 60% fall in the value of new contracts. They also calculated that around £26bn worth of work has been impacted so far.

Delays, lay-offs, staff rescheduling and supply chain management look set to be the biggest issues for project leads to manage. In addition, keeping up to date with the latest Covid-19 regulations means that management may struggle to stay on top of everything. Project management teams will have to change their usual methods and be readily adaptable for future changes.



## Main Reasons for Project Failure

Even without the additional complications of a lockdown and a recession, many projects are at a high risk of failure. The Association for Project Management (APM) notes that nearly 80% of projects fail to wholly meet their planned objectives, whilst around 1 in 8 projects failed to meet their budget and 1 in 6 didn't deliver on time. The added challenges raised by an economic recession and a pandemic are likely to increase these statistics.

Greyfly reviewed project management reports and academic research, as well as interviewing senior delivery directors and managers to identify the main causes of project failure. From this, we identified seven foundations for success: governance, plan, team, business requirements, finances, benefits, and business change. Each of these foundations could be impacted by the effects of the economic recession.

### Governance

Poor governance often leads to project failure. The economic recession is likely to lead to company restructuring, as they downsize and readjust their priorities. Even projects that originally had strong governance may find themselves under pressure here, as the people they report to change and expectations shift.

### Plan

Projects often struggle due to the initial plans being inaccurate - perhaps underestimating the resources required, or having unrealistic expectations. The combination of a pandemic and a recession will have made even well-thought out plans difficult to achieve, as resources dwindle, lay-offs occur and new issues (like extended sick leave for staff who test positive) have to be factored in.

### Team

This is one of two areas we should expect to see hit hardest. Building a team requires finding the right people with the right skills. The recession means that teams are at risk of layoffs and re-assignments. This can lead to a team lacking in capability, or being too small to complete the project. Combine this with the pandemic, and you have a team that's far more likely to suffer from stress. They may have to work in unusual circumstances, and are at a higher risk of taking extended periods away from work. Not to mention additional sources of worry from outside work such as managing repayments or

family members losing their jobs. Greyfly's research shows that team members' commitment, communication and motivation are factors that influence project success. These are likely to suffer in a recession, and lead to a much higher chance of project failure.

### **Business Requirements**

The project's requirements may well change as we enter a recession, leading to project teams having to quickly scramble to meet new ones. New problems will need new solutions, and things that had not previously been considered may be brought to the forefront. These changing requirements add pressure to the team, and can make it hard to meet goals.

### **Finances**

This is the other area the economic recession will hit hard. As businesses tighten their belts to ride out the recession, projects may find their budgets cut dramatically. This can lead to delays, a worse result or even the total collapse of a project. Even 'successful' projects are likely to have to be descoped - luckily, solutions like AI can help drive efficiency, and allow you to do more for less.

### **Benefits**

A successful project needs to provide benefits to the business. If it doesn't do this - even if it's delivered to time and budget - then it has failed in some way. Unfortunately, many planned

projects will no longer be able to bring in the benefits they expected. Whether that's the implementation of an in-house phone system no longer being relevant due to remote working, or a huge marketing drive failing to bring in revenue due to the recession, businesses should be prepared for projects to underperform.

### **Business Change**

Finally, a successful project should drive business change. With the economic recession looming, many businesses are likely to aim for maintenance, rather than growth. This means projects may be left to stagnate, or cancelled entirely. Even those that continue won't necessarily have the impact expected, and long-term changes will be harder to bring about in the face of job losses, budget cuts and staff changes.

## **Benefits of AI for Project Delivery**

Luckily, there are a lot of ways that AI can help mitigate these problems. Two of these key benefits of using AI in project management are:

### **Predictive Analysis**

AI is much better equipped to analyse large amounts of data than any individual human. Whilst people may get caught up in the small details, or let their own biases about a project weigh in, AI can see all the moving parts and judge them without emotion. Of course, even well programmed AIs are built by humans, so bias can creep in. That said, when monitoring budgets, schedules and external data, the biases are unlikely to affect results.

### **Automation**

For many project managers, much of their time is taken up by busywork - managing administrative tasks like check-ins or updates. The same applies throughout project teams, with large amounts of administrative work



**How many hours a day are managers spending on administrative tasks?**  
(tracking time, responding to emails, submitting expenses, etc.)



taking up time that could be spent on development. AI can automate many of these tasks, freeing up employees to work on more complex or important things.

to socially distance. For a project manager, trying to accurately work out how many people can be on site and how best to assign them for the most productive outcomes can be a challenge. AI can easily resolve problems like this, mapping out the ideal layout of the worksite to maximise productivity whilst following guidelines.

AI is also well equipped for risk management. With the unforeseen event of the pandemic, following by the coming recession, there are a lot of known - and as yet, unknown - risks to business. Real time predictive analysis of all current data allows teams to respond in advance, or as soon as possible, avoiding any long-term effects of new crises as best they can.

**AI & Project Delivery in Recession**

These benefits are particularly well suited to assisting with project management in a recession - especially with mega projects that are facing many unprecedented challenges.

Automation can help mitigate the effects of job losses and redundancies, reducing the amount of work the remaining team members need to do. This can prevent the project from having to drastically increase it's timescale, as well as reduce extra costs.

However, it's AI's ability to gather and analyse large volumes of data that will really benefit companies. There's a tendency for people, when considering the outcome of a situation, to err on the side of things that fit with their own emotional state - for instance, someone who is very stressed may be biased towards the worst possible outcomes, whilst someone who feels secure in the job might be too positive about the future. AI can assess the situation neutrally, giving teams a more accurate overview of what to expect. For instance, let's take another look at Battersea Power Station. One of the main problems caused by the pandemic is the need

**AI & Project Management Maturity**

Implementing AI results in a higher level of project management maturity. If a company operates at a lower level - adhering to basic project practices, but being reactive, rather than proactive - it's likely to struggle in the face of challenges like a recession.

Implementing AI solutions can help improve how a business works. It can help manage and monitor processes and metrics, as well as always working to the same standards. This allows a company to be proactive in it's approach, rather than solely reactive - and this higher level of

will lead to better results overall.

Companies with mature project management processes, combined with a data-driven approach, successfully integrate their data and analyse the content, using the results to predict and prescribe the best actions.

## Conclusion

AI was already poised to benefit projects, and the coming recession looks set to bring it to the fore. The combination of an economic recession and a pandemic is likely to lead to far more project failure, and even successful projects will have had to make a lot of changes.

By implementing AI solutions, teams can begin to deal with the ongoing effects of the pandemic, whilst preparing for the difficult time ahead. Using AI to drive digital transformation increases the capacity of businesses to deal with challenges, both immediate and ongoing.

It's ability to automate repetitive tasks frees up your employees to tackle important issues, and reduces the strain caused by budget and staff reductions. Real time predictive analytics enables businesses to plan ahead, using what resources they do have efficiently. Overall, AI can help improve project delivery and avoid project failure, even in the face of an economic downturn.

## Author



### Lloyd Skinner

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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 an approved Government Cloud supplier and 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.

