

# AI in Project Management

## Increasing Project Success with AI

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## Introduction

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A number of use cases for AI in PM are appearing. In the main there appears to be two key thrusts, i) automate process ii) predict project outcomes. The 2022 Association of Project Management report reveals AI prediction has been used for different phases of project to, for example project scheduling, which can indicate whether the project is performing according to plan. Moreover, more than 76% of respondents say they would utilise AI to analyse a large volume of data in complex projects to improve decision making. AI can be applied to increase efficiency of process, for repeatable tasks whereby the objective is to reduce the reliance on human endeavour or in some cases completely take the human out of the loop.



Forbes estimates AI can save business leaders roughly 360 hours a year via automation. Secondly, and perhaps less open to utopian euphoria, project prediction could be used to assure and validate the likely outcome of a project. This may include risk modelling and mitigation as well as real time predictive analytics.

This paper focuses on prediction, whether it can be applied to your sector, and includes a case study with demonstrable benefits. Ultimately AI should augment the human with greater intelligence with the aim to increase project success.

## Benefits of AI in PM

Ahead of examining the sector dimension and setting out a case study, it is first worth identifying the benefits that may be achievable when AI is applied to project management. In the 2022 greyfly.ai annual survey of the “Adoption of AI in Project Management” there were a number of benefits respondents sought. Above all else project professionals are interested in obtaining reliable evidence to back up decisions by gaining insight and foresight for decision making (80%). Indeed 9 in 10 leaders say AI has improved their confidence levels in their decision (Forbes, 2021). Leaders are also highly interested in knowing the likely outcomes and recommendations (65%). This of course will enhance risk management focus and capability. According to Rao (2022), discussing the benefits of AI in construction, preventing cost overrun and risk mitigation are among top 3 benefits. Automation was a secondary priority, with lower demand for items such as the ability to collect and analyse a large volume of data (45%) and automate tedious tasks (35%) such as creating reporting, scheduling, and allocating resources etc.

## Sector Differences

The application of AI in PM to increase project success does not necessarily differ between industry sectors. As we know the deeper you go into a project the more unique it becomes. Consider the specific types of equipment and/or technology used, the suppliers deployed or method followed. However, at higher levels there may be greater consistency. For example, for many years we have built up project plans and/or risk log templates that are then used and applied to individual projects to get a kick start.

If you take this further and ask bigger questions like total duration, budget or effort you can start matching similar features and patterns may become similar. For example, projects of a certain type or use of a certain supplier may be at risk. This philosophy can even be applied for innovation projects where you may see insights such as the typical time taken for scoping.

Therefore, although projects may differ in detailed tasks, when looking at a higher level, projects are indeed similar, such as they all have a start and end and a budget. The pattern of plan, finance and resource consumption over time all follow a similar path, although this may vary due to circumstances. What differs per sector is the pace of adoption in AI in PM. For example, those sectors with larger specialist control functions that are seeped with data, such as construction, are starting to take a real interest in new ways to tackle project estimation for increasingly complex projects.

## Implementing Challenges

The 2022 greyfly.ai survey also identified clear reasons why organisations hesitate to explore AI in PM. Some of the critical reasons cited were implementation complexity accompanied by

compatibility with existing systems and employee skills gaps. However, given the nascent nature of AI in PM, perhaps it was no surprise that above all, the lack of certainty regarding value added was the reason for 64% of respondents questioned. There is a desire to see demonstrative, credible examples of the return on investment.



## Case Study

greyfly.ai has created an Intelligent Project Prediction (IPP) platform which uses AI to deliver decision intelligence, increase project success and save customers £billions.

Working with one global customer the challenge was to provide greater certainty over delivery outcomes to increase project success and provide Executives with knowledge of where to focus their limited time. The portfolio consisted of over 200 Projects with a significant % failing to deliver on time and cost.

The solution was to provide up-to-date, dynamic predictions of individual project outcomes and compare these to planned estimates and actuals being reported; and identify core drivers for project and portfolio success / failure.

**Implementation Process**

**(1)** Project data sources and tailor common data model whilst benchmarking data quality and providing project controls transformation recommendations.

**(3)** Bespoke Insight dashboards based on IPP benchmarks and common data model.

**(5)** Review lessons from project and consider next steps.



**Data Discovery**



**Configure**



**Review**



**Infrastructure Build**



**Handover**



**Support**

**(2)** Develop underlying system including data pipeline creation, cloud environment configuration and machine learning model amendment.

**(4)** Communicate and train use of systems and how to identify the insights. As required, implement project controls transformation.

**(6)** Undertake regular data quality health checks and update data trends

The outcome for the customer was an operational prediction platform that drives enhanced data quality and assured project outcomes by providing the list of projects at highest risk when compared to what was being reported. Insights showed predicted levels of exposure and the features driving project and portfolio risk. Furthermore, for individual projects at risk, similar projects are identified to provide increased planning confidence. Data trends comparing predictions to actuals over time showed how IPP provided initial estimates that were **>100%** more accurate.

**Practical considerations**

Irrespective of budget or plan to start an AI in PM journey the most important task to undertake is to specify your operating model from a data first

perspective. greyfly.ai has set out the steps involved in implementing a Data First Strategy where at the heart there needs to be production of consistent data. Addressing questions of data quality such as where data is stored, clarification of data meaning with no duplications.

However, to accelerate implementation the most practical step is to obtain executive buy-in to support benchmarking your current position and delivering a project prediction pilot that demonstrates potential benefits.

Implementation can be a transformation of a company's PM capability, whether that be the relationship with increasing PM maturity through enhanced data quality or the transformation requirements resulting from presentation of the Insights presented.

## Conclusion

At the highest level, projects are more similar than we think. Any organisation, in any industry, can start to benefit from predicting the outcomes of their projects early on. Although organisations are wary of potential benefits, the project management profession recognises that change is coming. High quality data is advantageous, but this can be built up over time. By taking a top-down approach greyfly.ai have found that organisations are more likely to hold consistent data at this level. The IPP platform can connect to any existing data sources and generate predictions with a relatively small number of projects.

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## Author



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Lloyd is the CEO of greyfly.ai and leads the company's board and all major strategic initiatives. His working career started as a planner ahead of leading teams of planners, Project Offices and PMOs. He has 25+ years' experience in programme management and has led full life-cycle, multi-year, major change and transformation projects with a value of £000ms.

## About greyfly.ai

greyfly.ai was born when the two founders reunited following a 25 year, post-graduation anniversary, from London School of Economics. greyfly.ai has experience in successfully delivering full life-cycle, benefits led, multi-million pound transformation projects. We are approved Government suppliers and preferred suppliers to the BBC for programme management. Our focus is applying AI in Project Management to improve project success and reduce the cost of delivery. We have moved from concept to Minimum Viable Product and have now built an Intelligent Project Prediction platform that uses AI to deliver decision intelligence, increase project success and save customers £billions.