AI in Project Management

Lessons for Implementing AI in Project Management

Managing a project has many challenges - primarily to keep it in scope, on budget, and on time. These challenges only grow for PMs who are responsible for multiple projects and teams. Luckily, there's a method to make this easier and enable better outcomes. What's that method? Implementing artificial intelligence (AI).

Introduction

Managing a project has many challenges - primarily to keep it in scope, on budget, and on time. These challenges only grow for PMs who are responsible for multiple projects and teams. Luckily, there's a method to make this easier and enable better outcomes. (Schmelzer, 2019). What's that method? **Implementing artificial intelligence (AI).**

Rather than relying on human input, AI allows project managers to take a step back and leave some of the repetitive tasks to the "bots" and other tools. Whether that's automating basic tasks, making predictions based on previous data, or providing insights into the current state of a project, AI can take some of the pressure off PMs and make delivery run more smoothly.

Successful AI implementation

Riter (2020) provides some great examples of successful implementation. One such example is a company that uses gamification (using game elements to encourage particular outcomes) in its PM system, and combines this with a built-in AI workcoach. This AI work coach is responsible for analyzing team productivity and suggesting improvements, as well as reminding employees about overdue tasks and upcoming events.

Another example of successful implementation is an assistant with natural language processing (NLP) capabilities. This assistant sorts out emails, separating out project-specific communication from everything else in the inbox. NLP means this is done in a far more sophisticated manner than a standard inbox filter.

As well as helping with practical tasks, AI can also help with forecasting and estimation. It can learn from the history of past projects, and build predictions of budget and task duration. Other

solutions may be more risk-focused, helping to identify and minimise risks before they occur.

How to succeed at implmenting AI

Of course, you can't just plug in some code and assume all your problems will be fixed. Implementing AI requires strategy, planning and a little bit of technical know-how. There are four key things to do in order to succeed:

- Check that your company is ready
- Have a realistic budget
- Prepare your data
- Create a proof of concept

Implementing AI will only succeed if you're ready for it. That means having the right mix of talent and training, as well as a willingness to make use of it. It's no use having the programs available if your team won't use them.

Working with AI requires particular skills (Hupter, 2020), and this will affect how you assign roles. As well as planning out where you want to make use of AI, you'll also need to estimate each team member's effort and cost of labour (Ideamotive). Don't forget to factor in potential training costs here, either.

Readiness isn't just about your employees - you need to assess your infrastructure. Do you have the time and resources available to implement

new systems, ones that may require a dedicated data centre? Are you willing to invest in the infrastructure for AI workloads? If the answer is no, then you need to take a step back and review.

In parallel to validating the team and the infrastructure, you need to assess your PM maturity - in particular, your processes. To successfully apply AI in PM requires standardised, efficient processes, and if your business is at a low level of maturity this will need to evolve in parallel to implementation. If you're not at the point where you have standardised processes in place, as well as regular monitoring and reviews of them, you're unlikely to be readily implement AI successfully. That means it's time to take a step back, reassess and work on increasing your PM maturity.

When considering your readiness, it's important to ask yourself some key questions:

- What are you trying to achieve?
- What are your current capabilities?
- How willing is the company to invest resources in new technology?
- What additional resources will you need to be AI ready?
- What is the benchmark or project maturity in the organisation?

By acknowledging the gap between where you are and where you want to be, you can start strategizing. Do you have all the technical resources, but no knowledge? Then getting ready might look like hiring experts and trialling a pilot project. Perhaps you're lacking in infrastructure, so your first steps need to be investing in the right hardware.

Whatever you do, it's important to start small and have clear goals in mind. If you're new to the world of AI, bringing in AI consultants can help you get to grips with it quickly (Marvin, 2018). A way to do this is by experimenting with the use

of AI in PM, for example, by running a proof of concept.

What is your budget?

Readiness is nothing without investment. Having an accurate budget and an awareness of potential concerns is an important part of the process (Sprina). Some issues to expect include:

- Lack of talent
- Data quality
- Security risks
- Lack of infrastructure
- Small budget
- Immature projec processes

Herrick goes into more detail on this, highlighting the fact that a small business might simply not have the budget available for what they need. For instance, if you run a lean company you might struggle to hire an experienced data scientist as their salary would exceed your budget.

Of course, there are ways around this. Forbes (2020) discusses some of the ways around having a small budget. One key step is getting support from your team. It's important that everyone involved supports the project - the more they're invested, the smoother the process.

Once you have this support, it's time to consider proven use cases. From studying these, you'll be able to see evidence of other company's successes and failures. This can help you develop

your own strategy and decide what amount you're willing to invest. Part of this strategizing should involve risk management. With a small budget, you'll want to focus on cases with a high success rate, as this reduces the risk and increases the chances of a positive outcome. You want to aim for maximum risk reduction and minimal investment.

As well as looking at proven use cases, review your past and present projects. Consider what risks and go-aheads they have, and if there are any patterns. By understanding this, you can invest wisely and implement AI at the most relevant points, rather than taking a too broad (and too expensive!) approach. (Kennedy, 2020).

Many people see AI as "Hollywood stuff" - something that's far too expensive and exclusive for them. Dahlin notes that this seems to be changing, highlighting companies in Sweden that are heavily involved in the development of AI. From chat bots based in machine learning, to fraud predictions in banking and insurance, AI is no longer a sci-fi concept. Instead, it's a realistic and popular solution for many businesses.
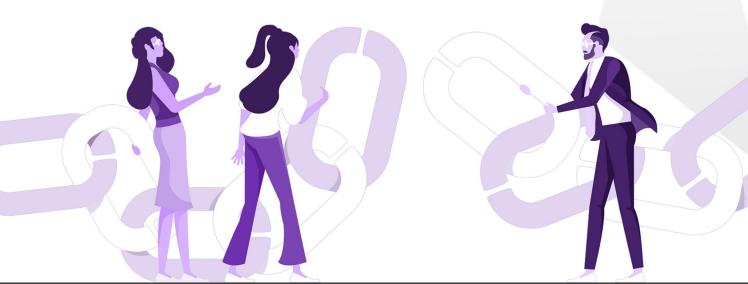
Prepare your data

Once you've got your company ready, and the budget planned out, it's time to start thinking about the practicalities. There's one last hurdle

to jump here - you need to have high-quality, relevant datasets. Without these, AI on day 1 has nothing to work from.

As Riter points out, these datasets need to be as large as possible and varied. While there are limited project management datasets available online (for instance, at the ISBSG), you'll need some specific to your company. It's vital to have trust between the team and management here in order to gather accurate data. The example Riter gives is regarding time tracking. If you want to predict how long tasks will take, you need to know how long current tasks are taking. One way to do this is to monitor user's activity during their workflow and to keep an eye on screen content. Alternatively, you could gather data from your PPM tools, which should have accurate planning data within them

Having well-defined data and rules in place can help ensure your data will be handled in the best possible way (Forbes, 2020). Machine learning can assist with prediction, data classification and organization. However, for this to really succeed, you'll need to have your own or a third party's data scientists and analysts involved at the start - after all, you don't want your AI to run off faulty data! Companies need to validate data and understand the process. It's important to be familiar with the data they own (Dahlin), in order to understand what their AI solutions are

building from and to ensure compliance with data protection laws. One thing to look out for is bias. If your dataset is biased, anything your AI produces will be too. This is key if you're using data from other sources - for instance, if a client has provided you with a dataset. Helpfully, there are AI solutions that can help with the organisation and validation of data.

Create a Proof of Concept

It can be tempting to jump straight in to a large project at this point, but instead, take the time and undertake a proof of concept (Intel) by choosing a small trial project, and invest your efforts and resources there. There are two key reasons for doing this:

- Resolve any issues at a small scale, rather then letting them impact a large project
- Garner support and potential investment from stakeholders

A proof of concept can be key to ensuring a larger project runs smoothly. You don't want to set up an AI solution across the whole company, train up your staff, only to find out there's an error in it. That's a waste of both time and resources. By running a smaller test, you can ensure that it works as expected and gather feedback from the small set of test users to improve it. That way, when you do launch it can be shown to be fully robust and working before going company-wide (Gonfalonieri, 2019).

If you've been struggling to win the support of stakeholders or the full backing of your team, a proof of concept can help to get support. Concrete evidence of how AI can enable benefits may enable the investment required to scale your AI plans.
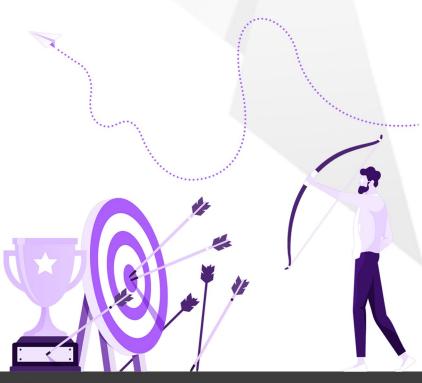
Conclusion

AI is no longer an exclusive solution for high-tech companies - it's starting to be far more accessible to all. With the increased application of it, development is becoming open to all business, even in the case of project management (PM) (Ideamotive). Of course, we shouldn't expect AI to replace everything in PM. Instead, focusing on a collaboration between AI capabilities and human skill has the potential to bring about great success (Riter).

By considering these four key points - readiness, budget, data preparation, and proof of concept - implementing AI can be a realistic solution for increased success in your projects and in all industries.

Intelligent Project Prediction (IPP)

Greyfly Intelligent Project Prediction tool leverages predictive data analytics and machine learning to forecast the outcome of live and future projects. We work with clients to undertake a Proof of Concept.
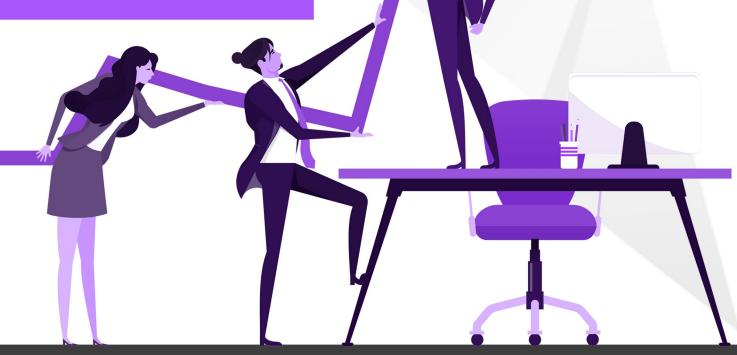
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Lloyd is a project professional with 25 plus years of experience working in multiple sectors and projects in both support and delivery roles. For over 2 years, he has been investigating the use of AI in project management and developing Greyfly.

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 a preferred supplier to the BBC for programme management. Our focus is AI driven Project Management to tackle the real project delivery problem, improve project success and reduce costs for our clients.

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