

AI in Project Management

Barriers and Benefits of AI in PM

Artificial Intelligence no longer seems like a distant science fiction concept, but that doesn't mean it's in everyday use. Despite the many economic benefits, there are unfortunately technical barriers to consider, leaving many businesses uncertain of where to start. One area that benefits hugely from the implementation of AI is project management.



Introduction

Artificial Intelligence no longer seems like a distant science fiction concept, but that doesn't mean it's in everyday use quite yet. Despite the many economic benefits, there are unfortunately quite a few technical barriers and social aspects to consider (Cubric, 2020), leaving many businesses uncertain of where to start. One area that benefits hugely from the implementation of AI is project management

Examples of AI's benefit to PM

Project Management is a lot like spinning plates - you're managing staff, keeping an eye on risk, ensuring everything runs on time, and much more. When implemented well, AI can help stabilize these plates, making life easier and projects more effective.

Reduced costs

While investing in AI can increase your immediate costs, it reduces costs in the long run. In a period of 12 to 18 months, businesses found a 15 - 20% cost reduction through the use of AI and related technologies. (McKinsey).

Projecting accurate outcomes

AI can help accurately predict project outcomes based on your previous project history and up-to-date information about the current state of affairs. This allows you to take the most efficient route to your goal, saving unnecessary expenses.

Accurate scheduling

Taking the most efficient route to your goal can also ensure you meet your schedule. This is a huge benefit - especially given how often projects overrun. For instance, in a study of 1800 software projects only 30% finished on time. Predictive analytics can ensure this doesn't happen by ensuring your schedules are accurate to begin with. By drawing on data about team productivity,

available budget, and other factors, AI can provide an accurate estimate of when a project will be completed.

Reduced risk

No matter how skilled your team is, you can't predict every possible problem. While AI isn't a silver bullet to this problem, it can help. As long as you have sufficient data available, machine learning technology can be used to pick out patterns that you might otherwise never see - and to show you potential risks before they're a problem.

Keeping track of project progress

In the construction sector, unexpected changes can lead to huge delays and massive losses. By using AI to manage risk, you can quickly react to new challenges (for instance, the pandemic impacting the amount of staff you can have on site at any given time). As Ferma notes, AI is both predictive and can act in real-time, making it easy to respond quickly to new and immediate crises. Project managers are no longer reliant on their own intuition - instead, they can turn to data-driven solutions.

Barriers from adopting AI?

Even with the above benefits, many companies are wary of adopting AI. There are many reasons for this - some are scared to embrace the unknown, while others don't have the right staff. Some of the most common barriers are as follows:

Lack of data

We discuss the importance of data in our guide, 'Implementing a Data First Strategy', but let's take a quick look at the key points. As noted earlier, AI relies on data. Machines are only as good as the data they learn from, and if this data is poor, the results will be too. An example of this is Amazon's recruitment tool, which was biased against women due to the data sets it was trained on.

In order to succeed a company needs:

- A broad range of data
- Accurately labelled and organised data
- Bias-free possible information

Obtaining and maintaining these data sets can be a huge barrier in the path to AI adoption.

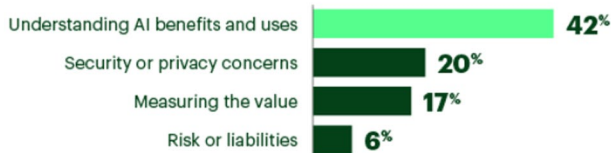
Top 3 challenges to AI/ML adoption

Sum of 1 to 3 rank

Enterprise maturity



Fear of unknown



Finding a starting point



Vendor strategy



gartner.com/SmarterWithGartner

© 2019 Gartner, Inc. and/or its affiliates. All rights reserved. CTMKT_754603



Poor technical infrastructure

It's not just about data quality, AI is a complex technology, and without a sufficient infrastructure in place, companies will struggle. Storage, security, and access are just some of the questions you'll need to answer. Do you want it to run in the cloud or on-site? How will systems be integrated? How many people require access? Businesses need to answer these questions before they can reap the benefits of AI in project management.

No skilled staff

Teams need to be prepared to use new AI tools. There are two key problems that can arise here - a lack of understanding, and a lack of willingness to adopt. The former can be resolved with training, bringing in consultants, or dedicating time to hiring. The latter is harder, as it's a cultural problem and a change plan will be required.

No set processes

Even with a prepared team and extensive data, businesses can still struggle to implement AI. A common cause of this is a lack of project processes. If there are no set processes in place for tasks, they cannot be accurately recorded or repeated - meaning they can't be transferred over to an AI.

Risks of being left behind

As with any new technology, there will be early adopters, those that get in as the wave passes over them, and those that are left behind.

Think about companies that adapted to ecommerce, compared to those that didn't - the story of **Sears** should be a warning to any companies that avoid new technology. Sears avoided embracing ecommerce, and lost their competitive edge in doing so. Their competitors quickly took the lead. You should expect to see the same happen to companies that reject AI. For example, if you're bidding on a contract, you're likely to be at a disadvantage compared to teams with AI in place.

Additionally, businesses that don't invest early are likely to see increased costs and delivery times as they need more staff and work to lengthier project schedules. That's not even accounting for the higher chance of mistakes - for instance, through missing certain risks - that can cost a lot to resolve.

Overcoming these barriers

Luckily none of these barriers are insurmountable, and there's still plenty of time to get ahead of the curve. The first thing to do is to assess your current situation. Consider whether you have:

- High levels of project & process maturity
- A data first strategy
- Skilled, capable staff with the right culture
- Excellent system and technical infrastructure



Figure 1: Greyfly Prepare Solution

By identifying which of the barriers you're most likely to encounter, you can target solutions accordingly. Let's take a look at the appropriate steps to take, depending on which barriers you're facing.

Lack of project and process maturity

If this is your main problem, you need to invest time in improving how you manage projects. Low Project Maturity Even with the above points resolved, there's no guarantee a business is suited to AI implementation. Having a high level of project maturity is key. At the top levels of maturity, as business has:

- Embedded project processes
- The right staff

- Investment from the C-Suite
- Clear policies about data management & security
- An understanding of data quality and bias
- Sufficient infrastructure in place
- Long term goals and strategies
- A commitment to continued improvement

Missing any number of these can be a hurdle in the race to full adoption. Take a look at whether you have set processes in place, and if not, ask your team how they do things. It's important to document everything. Once you have existing processes documented, you can start trying to improve them.

On a broader scale, consider how the business as a whole approaches new projects. Do they have records of the successes and failings of previous ones? Or is each one begun from scratch. As with the more granular level of process management, it's time to document existing methods, and then look for ways to improve them.

Implementing a data-first strategy

In order to accomplish this, you need a two-pronged strategy: boosting staff skills, and improving infrastructure. The former might come through training or new hires. The latter is somewhat reliant on the first - in order to have the right technology in place, you need people who understand it. Once you have these foundations in place, you can start looking into the particulars, such as how you organise data, who is responsible for it, and what you keep or discard.

The right business culture

Of all the barriers, this is the one most likely to slow you down. Without the right business culture, none of the other steps you take will succeed. You need investment from the C-Suite, willingness from management, and understanding from staff. Changing the existing culture can be challenging, but it's not impossible. By running a trial project with a set of early adopters, you'll be able to show tangible results to the C-Suite and management.

And, if you've picked these early adopters correctly, they should be able to act as ambassadors, spreading the AI revolution throughout your business.

So what now?

Before you rush out and invest in the latest AI solutions, take the time to assess the current state of the company. Consider which barriers you might find yourself facing, and take steps to resolve them. While avoiding AI will leave you lagging behind your competitors, investing without adequate preparation can lead to more complications than benefits. With time and proper planning, you'll be able to create a culture where AI can bring all of these benefits, taking your business to the next level.

Author



Lloyd Skinner

Chief Executive Officer, Greyfly.ai

Lloyd is a project professional with 25 plus years of experience working in multiple sectors and projects in both delivery and support roles. He has managed full life cycle, large £multi-million transformation programmes with infrastructure at their heart. For over 3 years, as CEO of greyfly.ai, he has been investigating and developing products that use AI in project management to increase the likelihood of project success.

About us

Greyfly.ai has experience in successfully delivering full life-cycle, benefits led, multi-million pound transformation projects. We are an approved Government Cloud supplier and preferred suppliers to the BBC for programme management. Our focus is AI driven Project Management and how it can be applied to improve project success and reduce cost of delivery.

