

AI in Project Management

Implementing a Data First Strategy

The benefits of incorporating AI into project management are many, but your business will only reap them with the right strategies in place. One critical aspect of these strategies is data. By starting with a Data First strategy and building upon it, you'll set your business up with the best possible base for succeeding when implementing AI in project management.



Introduction

The benefits of incorporating AI into your project management are many, but your business will only reap them with the right strategies in place. One critical aspect of these strategies must be data.

In this article, we'll take a look at:

- Why companies need to focus on developing a data first strategy
- What types of data are required
- What is data maturity and how it impacts the implementation of AI in project management
- What are the barriers and how to implement a Data First strategy

By starting with a Data First strategy and building upon it, you'll set your business up with the best possible base for succeeding when implementing AI in project management.

Why data first strategy?

Gartner state data is the number one reason that hinders AI success. Without mature, wide-ranging, and accurate data, AI will flounder. Machine learning technologies need a solid foundation. If you want to use AI to assist with risk management or future planning, you need the right information for it to work from - imagine trying to plot out your next project with absolutely no information about the last one!

What types of data are required?

In order to work out what data is required, you first need to work out what your goals are. Some examples of goals and related data are:

| AI Use |
|------------------------------|
| Project completion estimates |
| Budgeting |
| Project resources |

Relevant Data

| |
|-------------------------------------|
| Time logs from previous projects |
| Business budgets and actual costs |
| Effort required to deliver projects |

As well as categorising by use, we can break data down into three main types: numerical, textual, and visual(Labeeuw, 2020).

Numerical

Unsurprisingly, numerical data involves numbers. Anything that can be measured or monitored numerically fits in here - that includes things like time logs and budgets. This is the type of data most likely to be used by project managers and AI, so it's vital businesses have a strong understanding of what data points and the best ways to store it.

Textual

Textual data covers everything written. That can be scans of physical documents, or copies of digital ones. If a business has access to NLP and transcription software, it can also include the transcriptions of phone calls or meetings. Projects create many documents and data is often hidden with them, never to see the light of day again.

Visual

Visual data is exactly what it sounds like: visual images. It's commonly used in machine learning applications designed to tag certain aspects of images as relevant - for instance, Optellum relies on visual data to assess potential lung cancer cases. Currently this type of data is less likely to be used in PM than the other two, and only highly specialist software can manage.

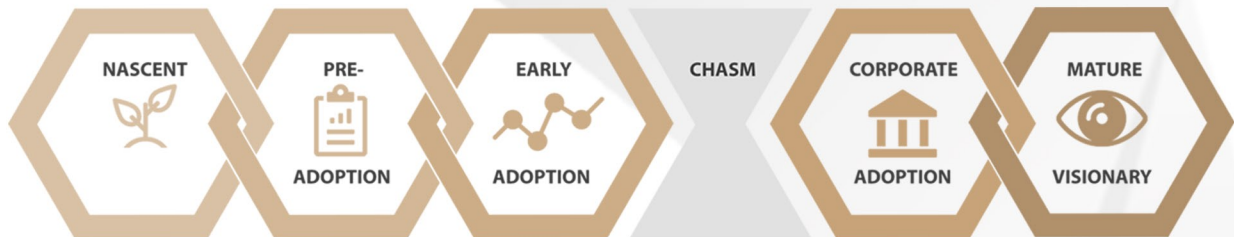
Data maturity impact

As we mentioned earlier, AI flounders without solid data to ground itself in. Companies with low data maturity won't have this foundation, meaning

their implementation of AI will be patchy and lacking in depth. Only 1 in 10 companies get 75% or more of their AI projects into production, according to Gartner. Three key barriers to this are data volume and complexity, data scope or quality problems, and data accessibility challenges. All of these problems fall under the concept of 'data maturity', so let's take a look in more depth at just what data maturity is, and how it impacts AI and project management.

What is data maturity?

Data maturity isn't just about the quality of the data itself. It's about how advanced the company's overall relationship with data is, especially in terms of data analysis. There are multiple models for measuring a company's maturity level, but one well-known and respected model comes from TDWI's levels of data maturity:



Nascent

At this level, businesses don't understand the benefits that data may have, and there is no support for anyone who wants to make use of it. They might have some understanding of the value of analytics, but haven't made the connection between this and managing their data properly. Companies in this stage may still have a data warehouse, but the data might be in multiple formats, without a set naming system or structure. Data might be lost or discarded, and there is no long term plan on what to do with it. Additionally, technology is seen as a distinct thing, rather than integrated into their systems and processes throughout. An organisation at the nascent level would really struggle to implement AI, as the data is poorly managed, and they don't have solid infrastructure in place.

Pre-adoption

Similar to the nascent stage, but the company is now actively looking into ways to use big data and analytics. Understanding and application is still poor, but research is ongoing and new hires are likely to have been made. Teams are likely to be looking into existing problems and beginning to resolve them, rather than looking towards the future. New infrastructure may be put in place, and steps taken to organise pre-existing data storage. However, it's still likely to be lacking in an overarching structure and tackling the issues has only just begun.

Early adoption

This stage comes right before the 'chasm'. The chasm is the gap from small-scale to company-wide adoption, and it can be a huge challenge for many businesses. It's important,

therefore, that businesses in this stage really drill down into their long term goals, and build strategies on how to get there. At this point, at least one executive-level staff member is on board with the plan. Money, resources, and staff are made available to the teams working on company data. While this should be beneficial, it often brings in new problems - for instance, conflicting goals between the C-Suite and project managers, or between project managers and their data analysts. Beyond this, there are changes in the technology available too. New infrastructure may have been built, or teams might be taking advantage of the cloud. Data starts to be given structure. Standard naming systems and metadata start being used, and there is discussion over which formats should be used. Importantly, data is no longer lost or discarded yet.

Corporate adoption

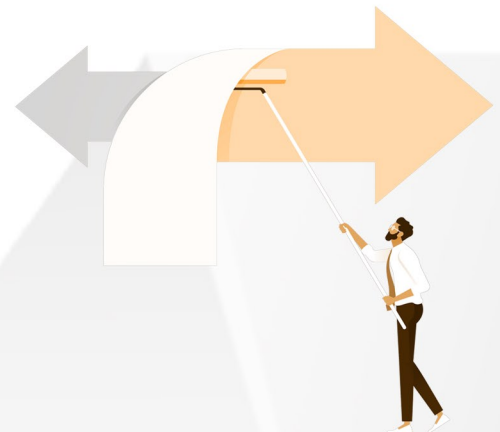
Companies in this phase have successfully crossed the chasm. They've met the challenges of:

- Having the right staff, with the right skills
- Getting buy in from executives and other staff
- Communicating the importance of data quality, security and management
- Building a universal, company-wide structure for data
- Setting clear goals and creating a plan to meet them

Past this point, it becomes feasible to implement company wide AI. The company is on it's way to being data-first across the board. There is a company wide culture shift, and end-users begin to get deeply involved. Data is stored in a unified, organised way - whether on site or in the cloud - and there are enterprise-wide standards that govern the infrastructure and architecture. There are strong data governance policies in place, a defined data life cycle, and an active search for more data to build upon. The data is also no longer just stored, but used in every day operations. Analytics become a key part of day-to-day work, and are easily implemented into new projects. Project managers will have company-wide data sets and trained data analysts and engineers available to them. Data-driven strategies become commonplace, and PM can also mature alongside it.

Mature/visionary

Not many companies reach this stage, but it's a worthwhile goal. Data and analytics become a key aspect of the business, with buy-in from staff at all levels. There is a defined structure, set policies, and all of the other aspects of the previous stage are in place - but amplified. One key differentiator between the corporate adoption stage and the visionary stage, is continuous improvement. Mature companies strive towards new and innovative strategies, such as capturing real-time data.



Risks of low data maturity

Having low data maturity comes with a number of risks, impacting any aspect of the business that uses data or the analytics drawn from it. These risks include:

Financial losses

According to Gartner's Data Quality Market Survey, poor data quality can cost businesses annually \$15 million on average. This can be through bad decisions, security breaches, or having different teams repeat things multiple times due to a lack of centralised infrastructure.

Bad decisions

If you have AI in place, and are relying on it for predictions - for instance, for project length, risks, or budget - it needs accurate data. Low data maturity increases the chances of having biased or incorrect data, as well as potential gaps. This means any analysis involving this data will be incorrect, potentially steering your business into bad (and costly!) decisions.

Security issues

Low data maturity means a lack of organisation - and a lack of organisation increases the chances of poor security. When you don't understand your data, you won't know how best to store it or make use of it. This increases the chances of accidentally breaching data laws (such as GDPR), or leaving exploits open for hackers to steal important information.

Inefficiency

Low maturity leads to an increase in poorly-optimised processes. Project managers may have to repeat work that was previously done, due to a lack of storage or information available to them. If a business does employ data analysts or engineers, they're likely to have to spend time validating and fixing errors, rather than assisting with the project they're involved with.

Barriers prevent data maturity

- **A lack of understanding from upper management and executives.** This can lead to a lack of resources, projects being stopped early, or an unwillingness to change current practices.
- **Misunderstanding what is relevant.** This can go both ways: either in under or over-collecting data.
- **Fragmentation.** Having no central storage or infrastructure in place for data, meaning it's spread unevenly throughout teams and prevents a bigger picture being formed.
- **Low adoption rates.** Only a few people within the company are invested in a data-first strategy, meaning the culture shift needed to reach corporate adoption or a visionary level never happens.
- **Not enough knowledgeable staff.** As Ron Schmelzer notes, "this methodology and technology can't assemble itself". A data-first strategy requires the right employees, and the right training.



Implement a Data First strategy

As you can see, before you can implement AI in project management, you need to implement a Data First strategy. Depending on which level you're currently at, you might have a lot more (or a lot less) work to do. Here are the key steps to take in order to successfully shift to a data first culture.

1. Ensure buy-in from upper management/ C-Suite

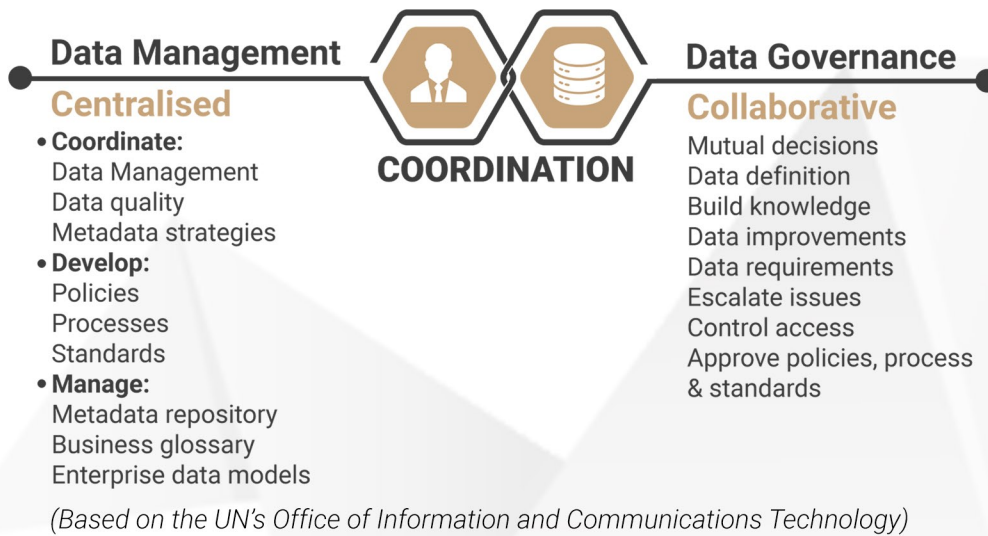
Change often comes from the top, so you need at least someone in the upper echelons of the company on your side. As Piyanka Jain notes, the CDO (Chief Data Officer) should be responsible. However, if this role doesn't exist in the current C-Suite, responsibility may fall elsewhere and perhaps sit with the functional corporate lead of project management.

2. Create a Data First Strategy, Plan and Budget

You can't just jump straight in – that's how you end up with siloed data, and different teams having different approaches. Instead, spend time creating a dedicated plan (with a dedicated budget). This might involve bringing in representatives from each department that'll be interacting with the data, or making use of an external consultant's expertise. constantly strive for improvement. Start off by laying out your goals, and then work out what you need to do to achieve them. Ideally, your plan should act as a roadmap – with set markers to hit as you implement it. Make sure to factor in extra budgeting for any bumps along the way.

3. Build a dedicated team

There are two key aspects to a strong data first strategy - management and governance. In order to achieve a high level of data maturity, you'll need experts in both. This should come through a combination of bringing in new talent, and training up existing staff. In the initial stages, it's likely the team will be spending time fixing existing problems,



rather than implementing new ideas, but that's a vital step. It is sensible to start by establishing the capability with the corporate PMO. Have the right mindset Implementing a data-first approach isn't a one-off event. It's a journey – an ongoing process where you transform the business. It requires a culture shift. Having the right mindset is vital to success, as you need to constantly strive for improvement.

4. Invest in the right infrastructure

No matter how good your team is, they can't work without the right infrastructure in place. There should be a central location for data storage, with strict security measures and a set method of organisation.

5. Set up company wide Data Quality policies and standards

With the right core team and the right infrastructure in place, it's time to push for company-wide adoption. In order to make sure everyone starts on the same page, company-wide policies and standards need to be put in place. This includes things like: data definition management, information security management, a data quality framework and document and records processes to enforce what data to keep and what to discard.



6. Provide ongoing training to all end-users

From here, you need to provide training to all end-users. Everyone who interacts with data and/or analytics within the business should have a comprehensive understanding on data maturity and how to maintain it.

Conclusion

While many businesses are starting to realise that implementing AI will help Project Management success, it's important to remember AI needs a solid foundation. Bringing AI into project management without high data maturity can further risk your project capability - with bad decisions and inefficiency. However, by spending the time building that foundation, you can bring AI in and get off to an exceptional start.

Author



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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.

