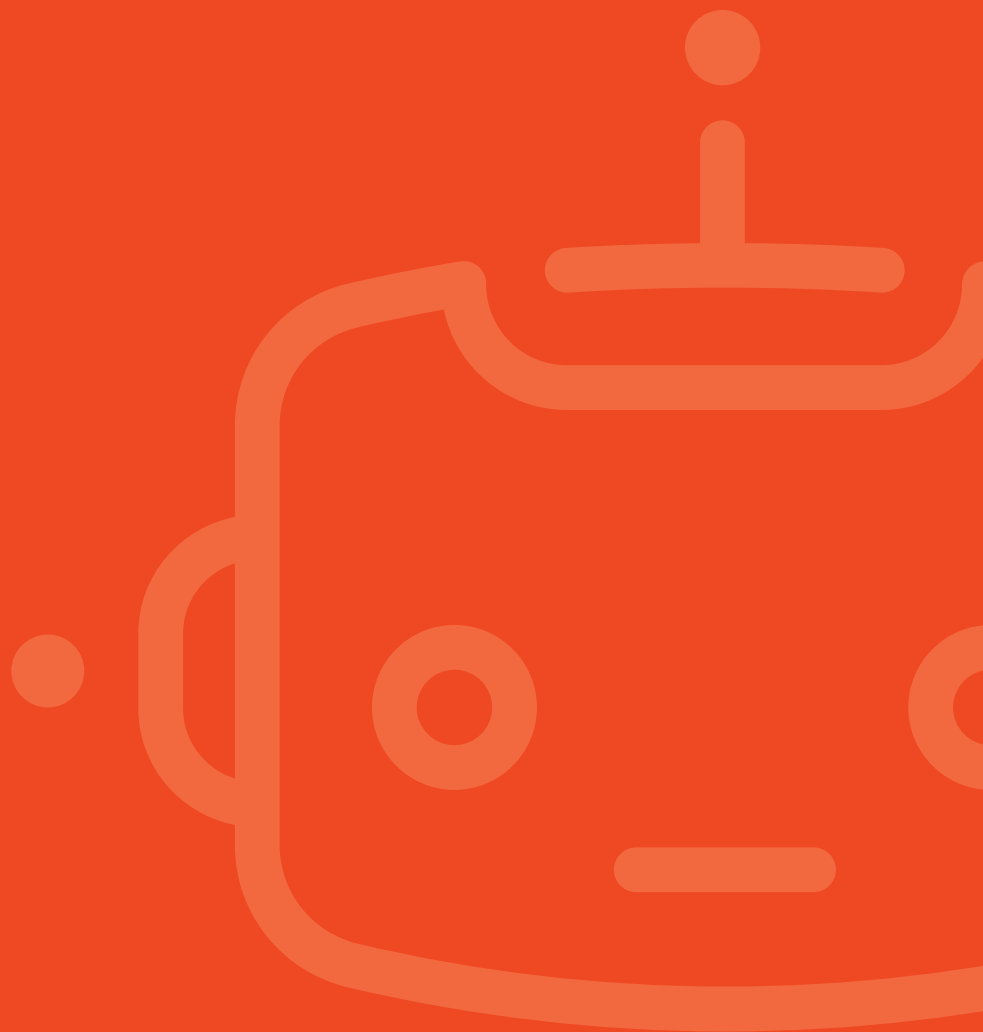# TALOS

# Enterprise PowerBI

## Enabling self service analytics

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# Executive Summary

Realising the benefits of an enterprise-wide self-service analytics capability remains a challenging activity for many businesses. Advances in technology have significantly reduced the cost to build and deploy such solutions. However, the internal capability to realise the benefits is often an invisible constraining factor.

This paper calls out the key issues and how to address them.

> Through 2022, **only 20%** of analytic insights will deliver business outcomes.[1]

1    Our Top Data and Analytics Predicts for 2019 (Gartner)

# 1. Are you drowning in reporting chaos?

## The following issues are common throughout modern businesses despite the means of eliminating them being readily available.

- Does your business run on high risk, ungoverned spreadsheets that nobody apart from their original creator really understands? (Boldly assuming they are still with your organisation).

- Do you frequently clash with your peers over who has the right version of the numbers?

- Is there a team of analysts and number crunchers beavering away to produce figures each month?

- Is that team duplicating effort by other departments? Do you even know if they might be?

- Do your peers readily share their data?

There are of course **huge benefits to be obtained by becoming a data driven organisation.** This is why many industries invest significantly in being able to use their information to improve their business.

### Figure 1: Key benefits of data and analytics[2]



**79%**
Analysing with greater speed

**59%**
More sophisticated/ granular insights

**65%**
Identifying insights that would otherwise have been missed

**58%**
Cost-savings due to improved efficiency

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Getting its house in good order allows an organisation to quickly realise the benefit of simply having reporting happen automatically, instead of being a panicked, last-minute activity for already overburdened analysts. This frees up the analytical capability of the business to use analysts to add greater value by identifying the opportunities and risks that data can reveal. Leaders then can realise the benefits of having a 360-degree view of the organisation – from sales through to productivity – and change the direction of the business in real time, instead of waiting for a report with data from the last quarter and trying to correlate that with others in a mental juggling act.

Finally, the improved window on data quality allows the data to be improved to the point where it can support **automation** within the business – another key pillar for **Efficient Decision Making**. Leaders are often uncertain of how to quantify the benefits from undertaking these often-challenging activities, but if you simply look around, the Financial Services sector is a heavy investor in this space, and let's face it, banks aren't going to be investing if there isn't a good ROI.
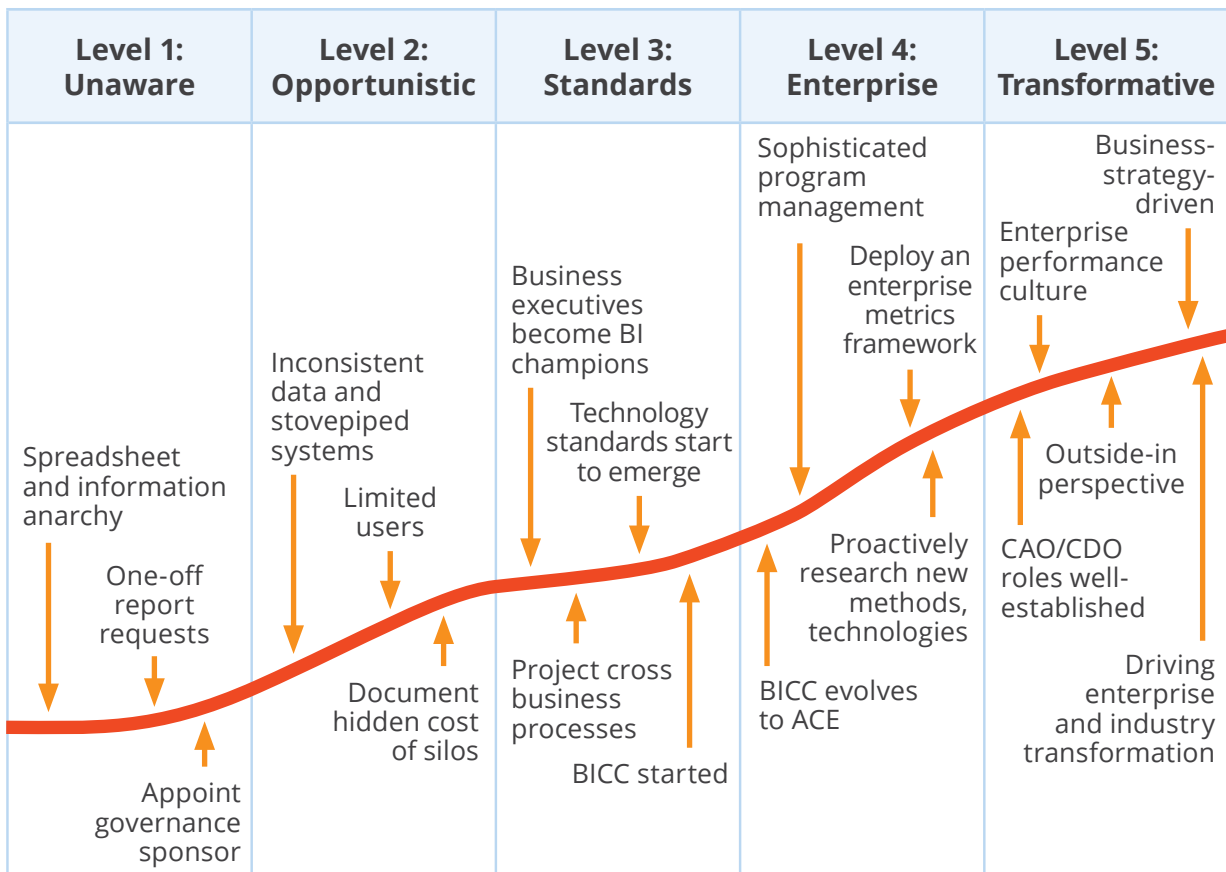
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2    KPMG: Going Beyond Data and Analytics (2014)

**Efficient Decision Making** is crucial to modern business success. It means having the right data in the right hands and the right time to make a decision.

Data and analytics veterans can often express a degree of frustration that we are still trying to solve the same problems we were decades ago. However, most of us have come to accept this is how businesses grow and mature in their information usage. Some of these steps are virtually inevitable as an organisation grows in capability, complexity, and capacity. Gartner's Information Management Maturity Model has been in existence for 20 years describing exactly this journey.

## Figure 2: Information Management Maturity Model

| Level 1: Unaware | Level 2: Opportunistic | Level 3: Standards | Level 4: Enterprise | Level 5: Transformative |
|---|---|---|---|---|
| Spreadsheet and information anarchy | Inconsistent data and stovepiped systems | Business executives become BI champions | Sophisticated program management | Business-strategy-driven |
| One-off report requests | Limited users | Technology standards start to emerge | Deploy an enterprise metrics framework | Enterprise performance culture |
| Appoint governance sponsor | Document hidden cost of silos | Project cross business processes | Proactively research new methods, technologies | Outside-in perspective |
| | | BICC started | BICC evolves to ACE | CAO/CDO roles well-established |
| | | | | Driving enterprise and industry transformation |

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There are few shortcuts, but the difficulty level has been decreased in recent years. So, what has changed to make these problems more solvable? Simply, the evolution of user friendly, cloud based, pay by usage data & analytics technologies has massively lowered the barriers to entry. The ability to start an enterprise grade journey has stopped being an expensive up-front expenditure and is now – in theory – something any organisation can do.

# 2. So why is it still so hard?

There are a range of issues that result in history repeating itself.
Much of it comes from how an organisation grows.

Setting the time aside to address the nascent issues is not important in a business's early life, nor is the impact of them apparent enough to make them worth addressing. For less experienced executives there are the pitfalls of not even knowing there are issues building up. Often gaps can be patched with a bit of human ingenuity, effort – and of course – Excel.

In our view there are four key issues that converge to lead to common mistakes and wasted costs.

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| **ACCESS** | **QUALITY** | **DISCOVERABILITY** | **GOVERNANCE** |

First is **access**. Working with data is often viewed to be something best left to specialists, propeller head techies or the "number crunchers" in finance. Workers are left data illiterate and dependent on someone else to do the work – and thinking – for them. Scary, weeks long self-study technical courses reinforce this idea. What is usually needed is content and training targeted to the audience. An executive may just need 5 minutes of focused education on a dashboard pertinent to them, and only the analyst will need the weeks long course.

Second is **quality**. Systems have improved significantly in their ability to filter their front-end input so that the correct types of data are captured, but still users find a way to enter data in the wrong place, format or not at all if it doesn't help them complete their task. More challenging in modern environments is the array of systems involved that simply don't relate to each other at scale. A frontline worker may remember all the different codes that relate to a given customer or product, but a bulk data analysis system does not and is unable to relate them. Good data quality is recognised in the literature as one of the key factors in ensuring a successful implementation[3] alongside governance of that quality.

Third is **discoverability**. Even in only moderately complex organisations data is used, reused & recycled with next to no traceability. This leads to duplicated effort and inconsistent definitions that then drives contention within the business as people disagree over what is the right way or measuring progress. Access is also often siloed, with line of business or system owners being protective over what they see as their data, wary of how others may interpret it.

Last is **governance** – a polite way of saying ownership and management of data. People in the organisation need to care for, manage and nurture their data – KPMG state that "Data is now the most significant asset many organizations possess[4]" – and as such needs to be cared for – but like all intangible things it is easily forgotten about. Businesses that are prepared to put a value on that asset are few and far between, and most often only realise its value when a core system experiences an outage.

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3    Self-Service Business Intelligence success factors that create value for business (Sinaj, 2020)
4    Data as an asset (KPMG, 2019)

# 3. Will technology save us?

## Yes. And no. Technology cannot fix an absence of data culture, but it can grease the wheels of building one.

Reverting to the themes above, Enterprise PowerBI can support improvements in each area, especially when combined with a Modern Data Platform. As with all technology deployments without strong executive sponsorship[5] to drive it and change management to enable it will result in a less successful than intended outcome.

If we look at **access**, modern tooling has made leaps and bounds in terms of putting reporting and analytics capabilities in the hands of end users.
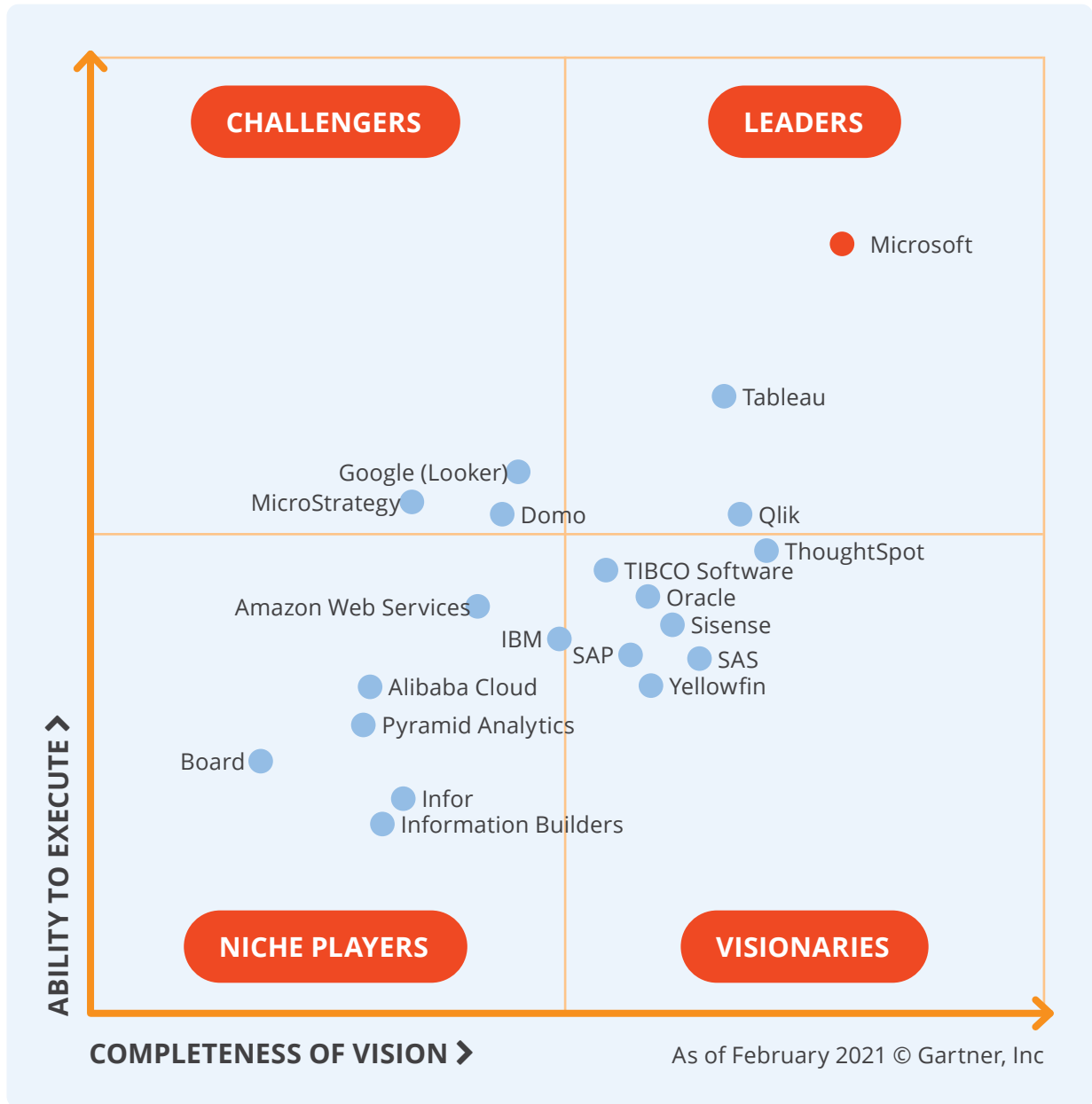
### Figure 3: Where are we?
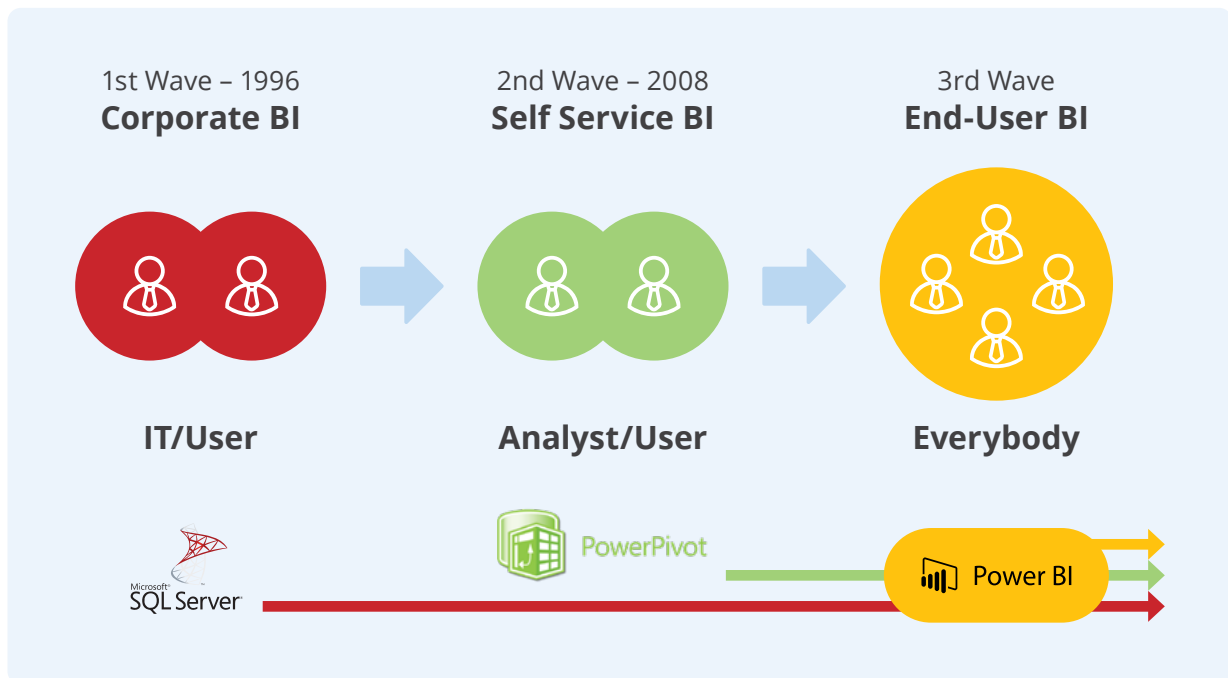


Microsoft's view (above) shows the evolution from Corporate BI – where IT handed down reporting as the business requested it, a slow and fraught process, through to Self Service BI, where analysts had more direct access to data to produce content, and finally to End User BI where any user has the capability to create reports. We strongly endorse PowerBI as a cheap and efficient platform to enable End User BI in any organisation. As it is also backed by a raft of capabilities in the broader Azure stack around Data Management and Artificial Intelligence, it is hard to ignore as an option.

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5     Data-Driven Success Rests On The Shoulders Of A Strong Executive Sponsor (Forbes, 2016)

**Figure 4: Magic quadrant for analysis and business intelligence platforms**



Figure 4: Magic quadrant for analysis and business intelligence platforms

- CHALLENGERS
- LEADERS
- NICHE PLAYERS
- VISIONARIES

Microsoft
Tableau
Google (Looker)
MicroStrategy
Domo
Qlik
ThoughtSpot
TIBCO Software
Oracle
Amazon Web Services
Sisense
IBM
SAP
SAS
Yellowfin
Alibaba Cloud
Pyramid Analytics
Board
Infor
Information Builders

ABILITY TO EXECUTE

COMPLETENESS OF VISION

As of February 2021 © Gartner, Inc

**Quality** remains one of the biggest challenges. Data professionals have long fought against correcting data quality in reporting systems as it is simply a poor band aid that temporarily glosses over bigger problems. Greater access to data by end users more readily exposes these issues to them, incentivising correction – but there is no technical magic wand that can fix poor process. This must be addressed by good governance that supports strong ownership of data at source.

Finding data is however much improved with tools that enable **discoverability** with search engine like capabilities. Core capabilities are baked into PowerBI with the ability to locate datasets and reports and even query them using natural language. However, by extending into Modern Data Platform you can leverage data catalogs such as Purview or Alation, which allow the assignment of experts, capture of knowledge around data and of course all-powerful search capability to find what has been done before and avoid duplication of effort.

# 4. How do we navigate to success?

## Let's take a journey together, from reporting chaos to self service excellence.

For any navigator, a map is an essential part of their toolkit. After all, you'll never reach your destination if you have no idea where it is. For many organisations however, the destination is often never clear – the journey to **Efficient Decision Making** ends up being a constant battle to just get over the next hill where this data is finally right, or this urgent report is out in time to placate management. The first step is always to take a deep breath, look at your businesses needs and decide on what data is going to be delivered and when. Note technology isn't mentioned here – not because it isn't important – but because the business needs data in a way it can consume more than it is concerned about what tool to consume it with. All the PowerBI licences in the world won't overcome the limits bad data will put in place. Thus, the first step is drawing up your Data and Analytics Strategy for what you are going to deliver, and a Roadmap for delivery so you can manage expectations of who gets what, when.

Once you have your map, you need a vehicle (It's a long road, you aren't going to want to walk). That vehicle is good governance. It's a family car, unexciting but practical and well made. Don't get excited by the sexy Data Science motorbike that's also on the lot – it will be wrapped around a tree before you know it[6], along with your credibility to deliver analytics projects . **Governance** comes in to play here, and is very much a people and process exercise, not a technology driven one. You need to govern the data – who "owns" it – which is a polite way of assigning the accountability for fixing it when it's bad and enhancing it when business demands it. The platform itself needs governing as well – it's going to hold one of your organisations most precious and sensitive assets and if it's not secure, used by trained people and monitored by hawks you are opening yourself up to sending a large amount of data out the door.

Thus the first stage is to plan , and step away from knee jerk decisions around data. Simply knowing where you are and where you are going – and how – is a critical piece to drive success, especially if your business is very reactive and will struggle to maintain focus otherwise.

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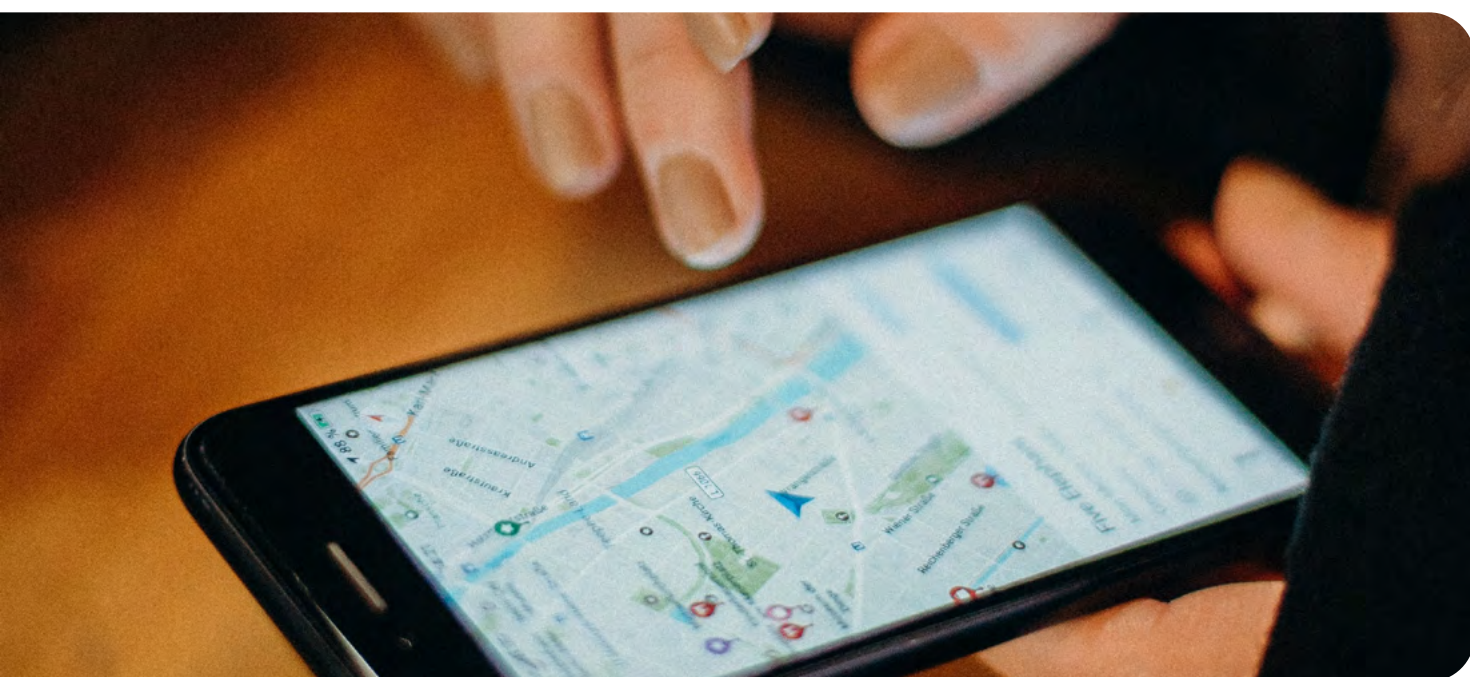
6   Why do 87% of data science projects never make it into production? (Venturebeat, 2019)

# 5. Once we are on the road, how do we succeed?

One of the core challenges with getting data infused throughout the organisations decision making processes is that data literacy is not an innate skill throughout the workforce.

Half your workforce will have grown up in world where the internet was only in a few select places. Some of your younger team members will have grown up steeped in data. Bringing the team up to a common level of capability is essential. The age of solely relying on the gut is past but these new skills don't magically appear when you put a new tool in front of the users.

Hence an important second stage in any approach is **enablement** – getting the educational tools in place to meet the needs of the business. Improving access to data is not simply a function of allowing someone to use a tool or dataset. That individual needs to be skilled up in the use of the tool, but also needs to have the ability to understand what the data means. Part of this process needs to take the form of training. It is also important to acknowledge that not everyone is a rocket scientist – nor needs to be – so training must be tuned to the right level of capability.



Data Visualisation is the art of presenting information in a way that can be readily consumed and acted on by our powerful human visual processing capabilities. While our visual systems are powerful, they are easily distracted – as expert Stephen Few notes, the wrong colours and styling can pull our attention away [7].

This is one of the baby steps towards establishing a better data culture. Gartner state that "The data can only take an organization so far. The real drivers are the people."[8]. However, it's a chicken and egg situation – you cannot build a data culture without data, but without trying to establish a data culture your investments in data will go to waste. Organisational change is always a slow process, and incremental in nature. With these on the ground components, backed by support at an executive level, the chances of success increase.

At this early stage more advanced steps such as deploying data catalogs and discovery tools can be a bit premature. However, documenting what has been built – and why – is critical in both educating users but also in capturing that business knowledge. Updating data catalogs can come a bit later (although not too much later!) to drive the discoverability of organisational data and knowledge.

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7    Uses and Misuses of Color (Few, 2005)
8    The Key to Establishing a Data-Driven Culture (Gartner, 2015)

# 6. How about a little push?

Now we have taught the business to drive, we discover that our car often hasn't got a proper engine. Just some cobbled together bits and pieces that function in isolation but don't work together well.

Enthusiastic internal resources have often championed building components of the overall solution. Unfortunately developing the skills required to build an individual report do not directly translate to those required to build a coherent solution for the entire business. This is a common trap in the growth process where enthusiastic resources internally try to build out a capability, but unfortunately then fall short because they haven't been exposed to the challenges of creating an enterprise ready capability before. This can lead to disillusionment from executive sponsors who see the project consuming resource but not delivering value. This can be an easy pitfall where the roadmap is adhered to by technical resources, but the broader business engagement has been neglected.

This is where the next component of a successful approach comes in – the focus on providing deliverables for the business quickly and to a high standard. The next step in improving access is giving the end users something they can work with and understand. As with many abstract ideas, conceptualising what benefits good reporting or self-service analytics can do to help people in an organisation is often challenging until hands on experience is gained. As per research into learning, abstract concepts require more promptings and yield more errors than concrete concepts[9]. Building starting data sets and reports that are intuitive and easy to use is critical in getting that early user buy in. It also supports the change management process as users get hands on with data they understand and can relate to their daily roles, as opposed to generic training data.

Doing it right first time requires a little guidance, and so organisations should be comfortable in looking externally to seek this support. Using the methods and tools built up over many engagements, specialists have made sure that the analysis process is carried out thoroughly and in a way that frames the outcomes the business can expect. Then by following practices and standards laid down based on many implementations experience they ensure a high-quality deliverable is provided to the end users in a form they can understand.

The time invested by the business in the early stages as the developers and the business work together to understand each other, the data, the rules, and the way the output will effect change in the business is priceless.



Adult learners rely heavily on their experiences when they engage in learning, and they benefit from training programs that understand this. Content that draws from real-world examples, relatable scenarios and builds on direct experience will lead to a more meaningful understanding of the subject[10].

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9    The learning and generalization of abstract and concrete concepts (Reed, Dick, 1968)
10   Adult Learning Principles (Valamis, 2020)

# 7. Confidently moving forward

Organisations should be mindful when bringing in outside help of what their long-term strategy is around support. Data knowledge is business knowledge and delivers most value inside the organisation. Being dependent on external parties is a risk and so thought needs to be given to how the support acquired sets you up for success[11].

If done well, early close support allows the internal resources to grow in capability rapidly, whilst giving them the tools they need to deliver consistently and to a high standard. The aim should be to empower the business to be not only self-service in consumption but also delivery. This element is critical in embedding data experts within your business. Having a deep understanding of what data your organisation has and how it works is essential to the what is often the next stage in the data journey – building a Modern Data Platform to securely host and manage the asset which is now delivering so much value, and then finally being able to ride the Data Science motorbike that will really power your business to the next level of juicing that data for the value it can deliver, across opportunity identification and intelligent decision making in process automation.

What this means in practice is empowerment minded capability development within the team. From a people perspective this means a process of building or acquiring skilled team members who can deliver on the work needed. This needs to be supported by strong process, enabled by use of tools that mean delivery is consistent and importantly, knowledge is captured in a way that reduces dependency on individuals.

One important element in delivery of reporting and data projects is following an Agile approach – and while we don't have any strict position on which flavour of the agile methodology is followed, what matters is that the principle from the Agile Manifesto – "Individuals and interactions over processes and tools" is followed as a priority. Regardless of methodology the most important component is close and constant communication with the end users. This drives better quality – as much as a 250% increase in quality can be expected[12].
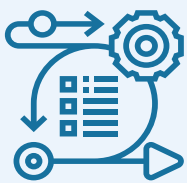
> There is no longer a business strategy with an IT strategy based on it. Technology should be part of the strategy, truly embracing digital. The Agile way of working allows for those silos between business and IT to be broken down, encouraging a new way of working that is cross-functional, collaborative, human, and technical.[13]

11   Six Key Success Factors for Outsourcing (Allied Digital, 2010)
12   The Impact of Agile. Quantified. (CA Technologies, 2015)
13   Agile Transformation (KPMG, 2019)

The business understands the meaning of the data; the tech team know how to store it and surface it – without both teams working in close collaboration failure is inevitable. If the business goes it alone, the solution they build will not be sustainable; if the tech team go it alone, the solution they will build will be unsuitable. We have seen far too often IT taking a "build it and they will come" approach – and everyone acts surprised when nobody queues up to use it. Similarly business build solutions that fall over at critical times and result in panic as they try to patch a poorly built solution. This means in practice the use of DevOps tooling to manage the flow of the project activity, requirements, deployment, and fixes – and absolute transparency around all of it. In projects things go wrong – and a team that works together to resolve the issues is a stronger and more effective one.

The other component goes back to **Discoverability**. Until relatively recently the capacity to search organisational knowledge and data was at best limited, and subject to the vagaries of the quality of project documentation produced when data sources were built or reported on. The tools to capture this knowledge – Data Catalogs – have matured significantly and allow for powerful search capabilities, end user knowledge contribution & capture and identification of business SMEs. Most of these platforms proactively search for data and use intelligence to classify and label what they find. These are often implemented as part of a broader Modern Data Platform program but are equally capable of crawling an Enterprise PowerBI implementation.

Even though data discovery and integrity is important for business, 30 to 50 percent of organizations say they are not where they want to be. The inefficiencies of data intelligence and knowledge is costing organizations $2.3M per year for every 100 employees[14].

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14  Data Professionals Waste 50 Percent of Time on Unsuccessful or Repeated Data Efforts (Alteryx, 2018)

# 8. Closing thoughts

This paper has aimed to highlight the key elements to making your data ambitions realise value by addressing the core challenges of Access, Quality, Discoverability and Governance.

Firstly, planning and **governance** is an essential foundation for success to ensure efforts are allocated in a thought out and directed manner. Secondly, enabling your end users to be able to **access** data and the tooling as part of their roles is a piece of Change Management that cannot be neglected. Once the data is exposed to the harsh light of day, the governance processes kick in to help the teams resolve the **quality** issues quickly and efficiently. Lastly the data and its meaning need to be easily **discoverable**, so users can find and leverage assets to add value to their **Efficient Decision Making** processes.

If you are looking at your organisation's capability with a critical eye, consider these simple starter questions as a quick health check within each domain:

## Governance

❯ Are your data assets being developed to support strategic or operational purposes?

❯ Is there a roadmap for delivery of data assets?

❯ Who champions the delivery of the content?

## Access

❯ Who builds reports in your organisation – IT, analysts or end users?

❯ Do you have an established delivery method and standards?

❯ How do report builders find support to develop skills?

## Quality

❯ If there is a data quality issue, how does it get resolved?

❯ Can you identify the person accountable for the quality of a data item?

❯ Can end users explore and analyse issues with data?

## Discoverability

❯ How would you find a data asset in your organisation today?

❯ Is there a standard approach to capturing data knowledge?

❯ How would you find an SME for a given data asset?

The answers to these questions should help you identify where there are gaps in your organisations capability. This paper should then give you a good idea on where to start in terms of addressing them. Good luck on your journey to **Efficient Decision Making**!

**If your organisation is looking at using its data more effectively, or is struggling to get the outcomes it needs from its current program, Talos can quickly overlay our <u>PEBBLE methodology</u> on to your needs and work out what needs to be done to get you on track and delivering success.**