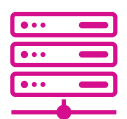


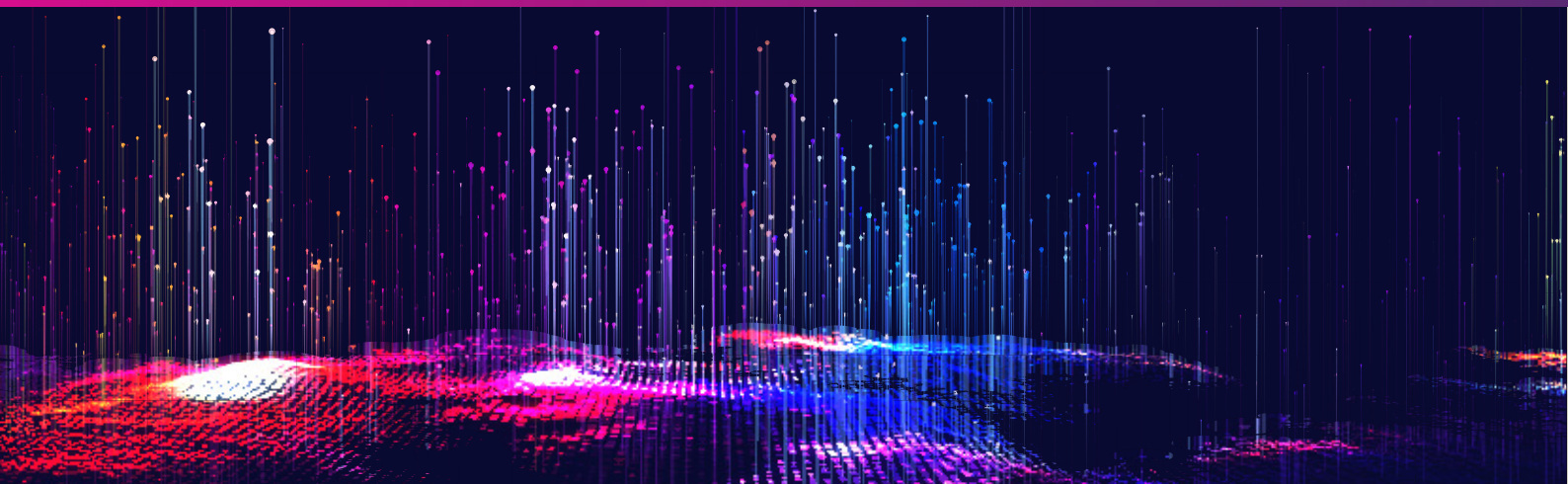
Future proof: Why data modernisation matters



Across every industry, organisations are dealing with growing volumes of structured and unstructured data. The organisations today that can leverage this data for strategic decision-making are tomorrow's leaders.

A whitepaper by Insight





Introduction

Does the data in your enterprise deliver true value? If you lack the ability to extract timely insights from your business data, then the answer is probably no.

Don't worry. You're not alone. While more than 85% of firms say they have started programs to create data-driven cultures, only 37% report success thus far.¹ Interestingly, technology is not the main roadblock. Rather, management understanding, organisational alignment and general resistance are holding them back from success.

The challenge today is in aligning technology, governance and security into a cohesive data modernisation framework that delivers tangible business benefits.

A legacy of fragmented data

For most enterprises, data estates are a patchwork of legacy solutions, multiple line-of-business applications, cloud-hosted systems and partially-integrated data stores. Across the enterprise, different departments 'own' different data that resides in vastly different systems. The majority of the data likely sits in spreadsheets. Some may be captured in social media. Some more may be streaming in from millions of intelligent sensors – with the intention of building business intelligence, but sitting there unanalysed. It's often extremely fragmented; it's why organisations today are data-rich but insight-poor.

Indeed, for many organisations, the data estate is so fragmented that analytics and the task of extracting insights from the data is nigh on impossible. When data is splintered like this, organisations find it hard to use data – and the invaluable insights that it could deliver – to improve operations, enhance business processes or gain a competitive advantage.

Data modernisation equals data monetisation

Data modernisation is about turning the massive volumes of data in your business into bottom-line results. It's about developing systems and processes that use the vast volumes of data in your business to drive decision-making, cut costs, save time and more.

As we will see in this whitepaper, there are compelling arguments for data modernisation. Yet many businesses are being held back. We'll look at the risks of not engaging in a data modernisation program, and what the future looks like for those that get it right.

“ Those businesses that can best utilise data are the ones that can better serve their customers, out-compete their competitors and increase their operational efficiency.

However, to be data driven, you need to be able to access, manage, distribute and analyse all of your available data while it is still valuable; and to understand and harness new potential data sources.² ”

1. <http://newvantage.com/wp-content/uploads/2017/01/Big-Data-Executive-Survey-2017-Executive-Summary.pdf>
2. <https://www.datanami.com/2017/12/06/embracing-future-push-data-modernization-today/>

What is data modernisation?

Data modernisation is the process of designing a data estate that copes well with today's data demands; and has the ability to evolve seamlessly to meet tomorrow's data needs.

The key pillars for a successful data modernisation initiative are:

Accessible information

Data is only valuable if it is accessible. With timely access to clean, integrated information, stakeholders across the business can more readily make informed, fact-based decisions. In a modern environment, to truly enable a data-driven culture, information should be easily (but securely) accessible to a range of audiences on any device.

Mature platforms

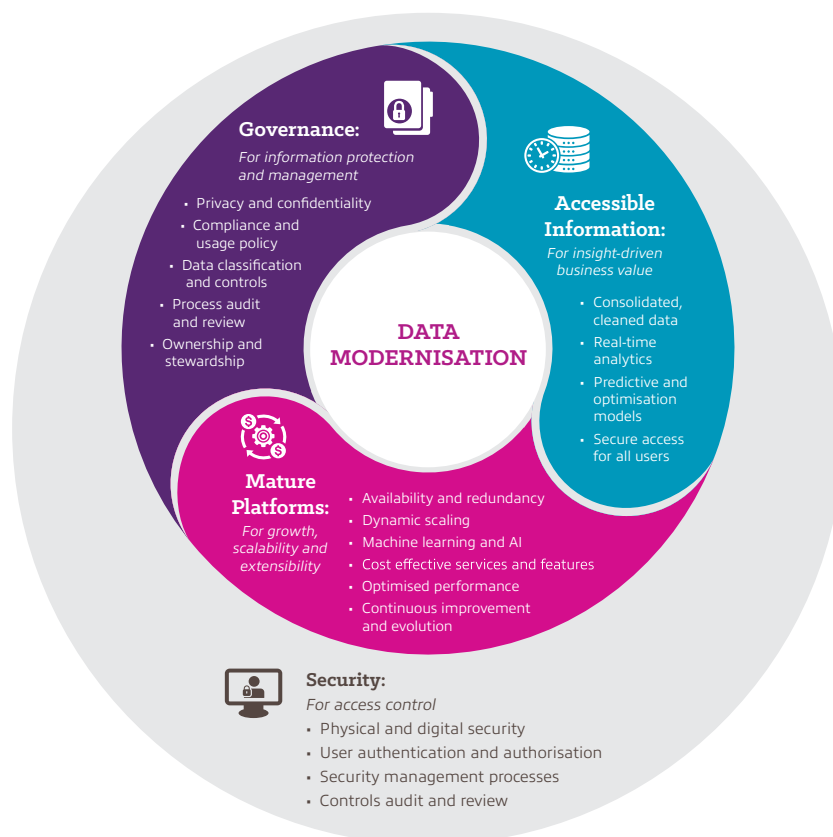
Platform maturity encompasses a broad range of factors, which in combination reflect an organisation's ability to seamlessly leverage data in scalable, secure and extensible ways. A consistent user experience, cost-effective scaling, performance on-demand, access to AI and advanced analytics features – all these and more characterise the modern environment. It's an environment that supports, rather than limits, operational efficiency and innovation.

Governance

A modern environment still requires active management and controls for the administration, use, protection and integrity of corporate data. Good governance breaks down silos, encourages innovation, unlocks efficiency and promotes a culture of data-driven activity.

Security

Data is one of your organisation's most valuable assets – it should be secured and protected accordingly. It includes not only the digital protections for data in motion and at rest, but physical security, business processes designed to prevent unauthorised disclosure, special handling for Personally Identifiable Information (PII) and incident response measures should the worst happen. Whether people, processes or technology, security of data assets should be always at the core.





Creating the modern data estate



The goal of data modernisation is to create a modular platform that is extensible, flexible, secure, cost-effective and well-governed; and is ready and able to embed new data innovations like AI and machine learning. To get there, technology, governance and security combine to manage data efficiently and scalably.

Dealing with all your data

Through data modernisation, you arrive at a place where your data estate can cope with data of all forms, both structured and unstructured data – databases, files, video, audio and image files, social media, real-time sensor telemetry and more. What's more, your modern data estate has the ability to scale and cope with very large datasets, processing them in real-time to deliver insights when you need them.

A future-proofed platform

A data modernisation platform should readily and cost-effectively accommodate today's various workloads, as well as those which may become necessary tomorrow, without substantial rebuild or additional investment. It's no longer enough to build an excellent platform for today's known or predicted use cases and types of data – rather, the platform has to be able to cope with the unknowns that may emerge even only a few months into implementation.

Look at artificial intelligence and machine learning. These are gaining

traction in the marketplace at astounding rates – in one survey, an overwhelming 97.2% of executives report that their companies are investing in building or launching big data and AI initiatives.³ An inflexible data estate that was implemented 12 months ago is unlikely to cope with the workloads demanded of these new technologies.

Changing more than technology

Data modernisation requires more than simply flicking the switch on new technology platforms. It often requires a shift in thinking across the business; the re-engineering of processes and governance.

Here's why. If you move your data estate to a modern technical platform like Azure, you're on a platform that delivers new features and capabilities on a regular basis.

To remain competitive and to extract the most business value from the platform, your business needs the ability to quickly adapt. An innovative test-and-learn approach that gives your business the ability to rapidly take advantage of new features is critical.

“ For the first time, large corporations report that they have direct access to meaningful volumes and sources of data that can feed AI algorithms to detect patterns and understand behaviours ... [producing] a range of business benefits from real-time consumer credit approval to new product offers⁴ ”

3. <https://sloanreview.mit.edu/article/how-big-data-and-ai-are-driving-business-innovation-in-2018/>

4. <https://sloanreview.mit.edu/article/how-big-data-and-ai-are-driving-business-innovation-in-2018/>



Responding to rigorous compliance rules

A data modernisation platform provides assured ways to respond to new rules like the GDPR or any other industry-specific compliance framework.

The process of undertaking a data modernisation project gives you the opportunity to re-evaluate data privacy, security and classification – all essential elements to ensure that governance and security policies are enforced.

The right platform, such as Microsoft Azure, provides built-in security and governance functions to ensure you keep up with changing compliance rules from both internal and external forces.

The science of data

Within a modern data landscape, your data scientists are empowered to extract real value from your data. The place they play in? The data science exploration sandbox – a test environment where they can explore data correlations to uncover algorithms or patterns, which in turn lead to data-driven decisions that reduce costs, improve customer interactions or streamline operations.

Thanks to data modernisation, data science is increasingly accessible. Whereas previously, data was captured, stored and reported on – and then analysed after the event – the real-time

aspect of a modern data estate enables powerful exploration and ad-hoc analysis at scale and across multiple data domains.

As an example, look at the power of predictive maintenance. In manufacturing or on a minesite, the cost of downtime can run into the millions. Using data science, companies can analyse data in real-time to make strategic decisions around when to repair machines, or how to make things work just that little bit faster. It all translates into more revenue for the business.

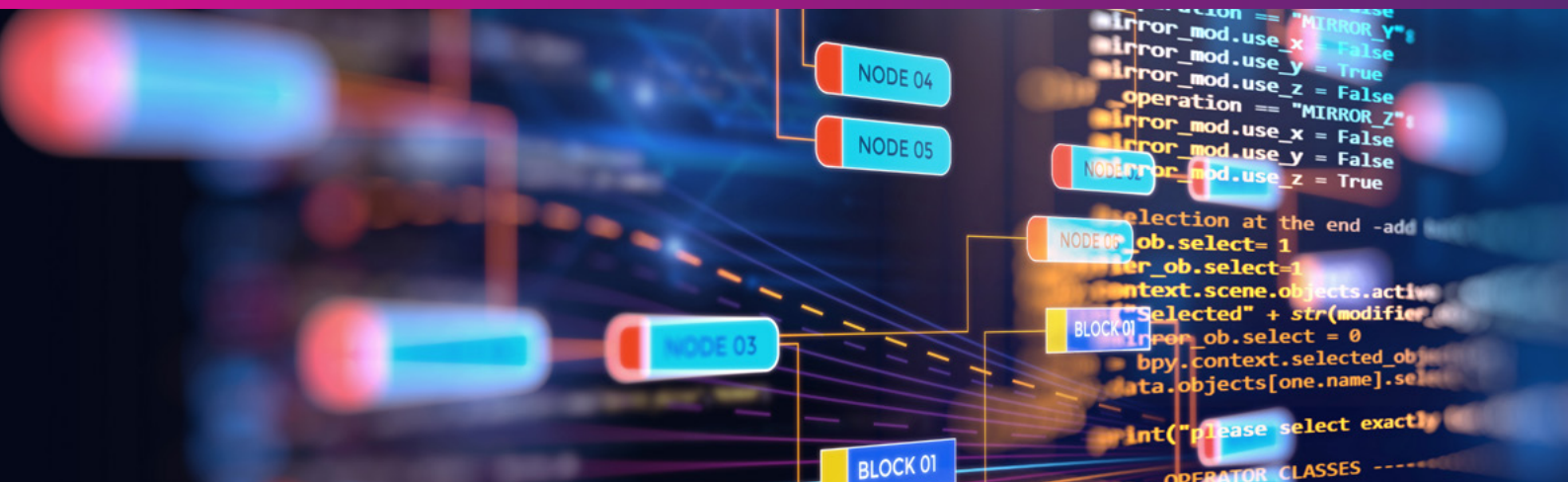


Perpetual uses big data to drive new revenue streams

As the leading corporate trustee of Australia's securitisation market, Perpetual had accumulated 15 years of data on \$310 billion of Australian mortgages, comprising 180 million loan records from 54 lenders.

A cloud-based data modernisation initiative – architected by Insight and built on Azure – has given Perpetual a platform to process incredibly large data sets while meeting stringent privacy and security demands. It has dramatically reduced the cost of running data warehouses; opened the door to new revenue streams; and is allowing banks and financial institutions to perform their own risk analysis at a fraction of the cost.

3. <https://sloanreview.mit.edu/article/how-big-data-and-ai-are-driving-business-innovation-in-2018/>
 4. <https://sloanreview.mit.edu/article/how-big-data-and-ai-are-driving-business-innovation-in-2018/>



The risks of not modernising your data estate

The risks of remaining idle are becoming too great to ignore. The growing cost of maintaining legacy systems, coupled with the inability to extract true value from data, is driving change.

1. Technology reaches end-of-life

If you don't modernise your technology, it's inevitable that it will reach end-of-life. In legacy on-premise systems, software and hardware eventually become unsupported by vendors – leading to security and compliance risks, as well as performance issues. Upgrading on-premise infrastructure becomes expensive.

2. Performance is constrained

Without a modern data estate, your business will struggle to take advantage of the new services and workloads – like machine learning, Microsoft Cognitive Services or even streaming data from sensors – that are giving other businesses the edge.

3. Compliance tightrope

The longer you stick with manual data handling, particularly in the face of exponential growth in data, the harder it will become to meet your compliance requirements. As regulations like the GDPR come into force, compliance is more topical – and risks being more costly – than ever.

4. Lack of insight

Legacy systems make it difficult to put the right data into the right hands at the right time. Without a modern data estate, it is difficult for employees to access the data they need for strategic decision-making.

5. Storage woes

As data piles up, the need to move historical information to more cost-effective storage becomes urgent. And, in the face of tighter compliance, how do you identify which data should be kept and for how long?

6. Shrinking budgets

With IT budgets shrinking – yet with greater demand on IT to be innovative and do more with less – the cost of legacy systems quickly adds up. From data duplication to storage, handling data the old way becomes unjustifiable when modern, cost-effective solutions are at hand.





Building a future-proofed, modern data estate

There's more to data modernisation than technology. It requires a shift in business mindset and, often, a change in governance. Get it right and you will reap huge business benefits.

There are five key characteristics of a best-practice, future-proofed data modernisation platform. These characteristics are native to Microsoft Azure, with services designed for scalability, security and extensibility. All that's left is for your organisation to become agile and adaptable, so that you can take advantage of new features as they are released.



1. Cloud-oriented architecture

The technology platform should be cloud-based, leveraging the huge range of capabilities and services provided by cloud platforms like Azure, with integrations into on-premise systems as required.

Benefits

- Rapidly and continually mature your capabilities and add new workloads (e.g. AI)
- Save money by switching off non-production environments when not in use, dynamically scaling services in periods of high load, and moving to a pay-per-use model
- Simplify the deployment of new environments and solutions, integrating into Continuous Integration and Continuous Delivery activities and supporting a full DevOps model



2. Scalability across the system

The solution should be designed to scale in multiple ways – such as storage capacity, performance and throughput, user access (concurrent usage), or even regional deployment (implement services in global regions close to business locations).

Benefits

- Start small and scale up/out seamlessly to increase the performance tier of individual services
- Automatically increase the sizing of services during peak periods, and dial back at other times to reduce costs
- Deploy services regionally to provide solutions which are close to the data sources and users, to minimise latency and ensure that data remains within the relevant country or location for compliance purposes



3. Strong governance

A data governance team should be set up to manage processes for the infrastructure/services, applications and data. This team will work to abolish previous fragmentation of data, and ensure ownership and quality of data.

Benefits

- Opportunity to redefine governance processes to align with modern data estates and the changing needs of the business
- Promotes ownership and a focus on data quality (in all its aspects)
- Data is treated as a corporate asset, with tangible value and appropriate protections and controls



4. Tight security

Data modernisation requires a consistent and pervasive focus on security, including multiple control measures and dedicated services to mitigate risks that data may be compromised, deliberately or inadvertently disclosed, or modified (either maliciously or accidentally).

Microsoft invests \$1 billion annually on cyber security, much of this focused on Azure services.⁵

Benefits

- Meet industry-specific compliance frameworks and broader legislative obligations, with auditable controls and processes in place
- Encryption as a standard for all data, assuring security both at rest and in motion

- With Microsoft's massive, ongoing investment in Azure security services, monitoring, response measures and AI-driven threat detection, you get more comprehensive security than is generally practical with legacy environments
- Multi-factor authentication to mitigate against the risk of password compromise and provide an additional layer of security
- Redundancy, fail-over and other measures to ensure continuity of services and avoid downtime in the event of disaster or failure within the relevant country or location for compliance purposes



5. An 'innovation' mindset

To get the most from your investment in data modernisation, teams should be empowered to leverage emerging technology to drive innovation within the business. For example, if on the Azure platform, teams could continually review the latest features released by Azure – such as AI or machine learning – and look to regularly assess, trial and deploy new functionality, services and capabilities.

Benefits

- Leverage the thoughts, ideas and inspiration of your entire user base
- Maintain a competitive edge
- Drive ongoing cost reductions
- Improve analytics and decision making

5. <https://www.reuters.com/article/us-tech-cyber-microsoft-idUSKBN15A1GA>





Insight's roadmap for data modernisation



Our holistic, low-risk pathway will help you prioritise and build out a scalable solution that addresses current and future data processing needs.

Insight recommends a phased, ROI-driven approach to data modernisation. The first initiative that we implement in your business will unlock capital – through cost savings, performance gains and so on – to invest in the next step, and so on.

Our data modernisation roadmap – while flexible to meet the unique needs of every business – looks like this:

1. Understand your goals and business drivers

As part of this, we evaluate your pain points, compliance requirements and environmental constraints. This gives us a planning blueprint to work with.

2. Define a suitable data platform architecture

Once we know what you want to achieve with your data, we recommend a technology design that's fit-for-purpose now and robust enough to provision anticipated growth in data volumes in the future.

3. Tackle high-value activities

Responsiveness and agility are key in tackling complex data modernisation initiatives. Insight specialises in helping organisations identify and prioritise high-value initiatives that rapidly provide tangible business value, both in terms of operational benefit to users and in delivering a clear ROI to senior stakeholders. Newly-unlocked capital then drives a further phase of modernisation to deliver additional efficiencies and financial return, leading to an ongoing cascade of activities that gradually address all critical aspects of the data estate.

Modernisation is a stepwise process. Insight leads organisations along the curve from manual and reactive analysis, through real-time and predictive models, and beyond into simulations and complete process automation. Our 'Opportunity Catalogue' approach maps out the primary business drivers in data and analytics, accommodating the varying levels of maturity across different departments, processes and solutions, and defining a roadmap of initiatives and projects centred on ROI and operational maturity.

4. Ongoing support

Governance is a critical component of your data modernisation program. We can work with you to ensure the right frameworks are in place to support a data-driven culture within your business. We can also work with you to pursue emerging technologies on your modernised data platform – to help you gain a competitive advantage.





Why Insight?



Insight is a leader in helping Australian organisations to digitally transform their business and gain a competitive advantage. We assess, architect and implement leading-edge digital solutions; and have proven expertise in building innovative capabilities in cloud and hybrid data platforms, 'Big Data', IoT and advanced analytics. In all that we do with data, we help clients gain deeper insights that deliver material benefits to their business.

We work with clients across a broad range of industries – including financial services, manufacturing, mining, utilities, education and more – to modernise their data estates using best-practice technologies and solutions. As a Microsoft Gold Partner, we have an in-depth understanding of, and proven capabilities in, the Microsoft Azure platform and Data Services. We have great success stories, having helped Australian organisations achieve multi-million dollar savings and discover new revenue streams as a result of their data modernisation initiatives.

Find out more

If you want to find out more about data modernisation and how Insight Services can help, please get in touch on **+61 8 9365 8400** or at **marketing.apac@insight.com**

Insight Enterprises globally

- Fortune 500 company founded in 1988
- Generated \$6.7 billion sales in 2017
- 6,600 teammates worldwide
- Operations in 20 countries

Insight Services in Australia

- 135+ teammates nationally
- Microsoft Gold Partner
 - Gold Cloud Platform
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 - Gold Data Analytics
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2018 Industry Awards:



Sitecore®
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Microsoft Partner
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