



How data drives business value

Make data simple and accessible

The journey to AI

It's inevitable that industry disruption—due to newer technologies and customer expectations—will affect many businesses. To stay ahead of the competition and thrive, businesses are investing in data analytics and AI-driven insights to improve operational efficiencies, provide better services for new and existing customers, and identify innovative business models. This allows companies to rapidly scale insights to drive business value.

However, those insights are only made possible when data is accessible. For years, we've heard about the untapped potential of data and how it's the foundation for the next disruptive force that will impact the global business landscape. But many organizations struggle just to gather their data, organize it and make it useful.



80%

of all data created is stored by enterprises, but only 0.5% is being analyzed.¹

Key insights

- The journey to AI
- Determining your data management strategy
- A path to accelerated innovation

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Don't let bad data compromise your intelligence

Analyzing data for competitive advantage

Organizations often fall short of their data use potential. For a typical Fortune 1000 company, a mere 10% increase in data accessibility can result in **\$65 million of additional income**.¹ That's a small increase to arm businesses with greater insights to ward off potential disruption by competitors.

Businesses know that to remain competitive, they need to expand the scope and speed of their analytics.

Yet ease of access to data remains a major obstacle. For many companies, data remains locked in silos. As a result, data analysts and data scientists suffer from a lack of free-flowing information, and businesses lose their capacity to make insight-driven decisions. Companies that want to maximize the impact of analytics under-

stand the need for improved data accessibility. That starts with a focus on information architecture and data management strategy.



Whitepaper

Making sense of big data: A day in the life of an enterprise architect

Determining your data management strategy

How an organization approaches its data management strategy will define its ability to scale insights to meet business demands. There are multiple options for different data types. Yet, for any given strategy, three attributes must exist.



The ideal data management strategy:

1. Provides fast access to all data types, workloads and consumption models—regardless of where the data is located.
2. Simplifies the management of an organization's unique data landscape and provides flexibility.
3. Ensures fast analysis, enabling a business to stay ahead through confident decision-making.

Faster access to all data

As data's importance has grown, so have the methods of storing, managing and organizing it. An effective data management strategy will allow organizations to access, manage and make information actionable in every form. But choosing and implementing that strategy is rarely clear cut.

Data warehouses have been the traditional option for central repositories of data and are used for business intelligence and reporting derived from structured data. They are ideal for managing structured data and can provide rapid insights, but with the large influx of unstructured data sources, other management sources, such as data lakes, have become an integral part of many businesses' data management strategies.

Data lakes should be considered for large-scale, low-cost management of unstructured, semi-structured and structured data. They are attractive to businesses because of ever-changing data needs and are central places for a variety of data to be accessed to gain a comprehensive view for insights. While there lies the risk of a data lake becoming a data swamp—due to a lack of proper governance—many companies can leverage machine learning and automation to cleanse their data to ensure quality, speed of insight and regulatory compliance.

NoSQL databases have emerged to support the storage of massive amounts of unstructured data. They are typically open source and require less management and administration due to the use of simpler data models. However, there are accessibility challenges with this type of storage solution since NoSQL DBs offer few facilities for ad-hoc query and analysis.

Across an organization's IT infrastructure, data can live in many different places. To make the most of this data, businesses need to reconcile and leverage information from different data systems securely and accurately, and make it easier for users who need access to put that information to work.

In considering this process, speed matters. The opportunity to act on insights can sometimes be extremely short. Data users will need to query multiple data sources in real time. One option is a data management solution, such as IBM Cloud Private for Data, that provides easy access to multiple sources of data through a single platform to provide insights on demand.

IBM Hybrid Cloud

How data drives business value

Supporting a flexible data landscape

The emergence and prevalence of cloud computing has changed data management strategies tremendously. Cloud solutions give businesses unprecedented flexibility and agility, making it easy for organizations to deliver data to the people who need it most. But many companies are cautious storing sensitive data on a public cloud. Fortunately, modern deployment methods provide the flexibility to switch cloud platforms or database systems without having to worry that all dependent applications will require costly rewrites.

Private and hybrid cloud data solutions offer a middle road. These strategies, combining on-premise infrastructure with cloud-like capabilities, can deliver the flexibility of the cloud and the security of private data storage. It also makes it easy to scale insights up or down depending on the needs of the business. Users can scale services to fit their needs, customize applications and access services from anywhere. Enterprise users can get applications to market quickly, without worrying about underlying infrastructure costs or maintenance. This level of agility can give businesses a real advantage over competitors.

To be ready for the future of data-driven analytics, businesses need a data management solution that tackles a number of difficult jobs. It must reconcile disparate sources, function across multiple environments and allow insights to be extracted quickly from all data types. Businesses need a hybrid data management solution.



Whitepaper

Adapting to the cloud for new data and analytic demands

Rapid analysis

Your data management strategy should facilitate the rapid analysis of your data—so users can glean insights quickly. Technologies such as in-memory or columnar processing have made it possible to run rapid analysis on huge amounts of data, greatly accelerating the time to insight. Additionally, companies are leveraging streaming analytics solutions that deliver real-time insights from data in flight.

Hybrid solutions are scalable enough to accommodate growth, flexible enough for different deployment environments and fluid enough to provide rapid and seamless access to all data types. Hybrid cloud technology helps organizations store data resources where they make the most sense—whether on premise or in a public cloud—to balance security, accessibility and resiliency.

This kind of architecture will maximize the value of data while improving ease of access and rapid retrieval. As insights arrive in real time, teams are ready to respond and innovate.

With an effective data management strategy, organizations can overcome data fragmentation, reconcile disparate data sources and gain the ability to quickly find insights from every data type.



IBM Cloud Private for Data

For enterprises working to build an optimal data environment to accelerate business growth, this cloud-native platform provides a single integrated environment for data management, data integration, governance and leading analytics.

A path toward accelerated innovation

Data accessibility is just part of the journey to realizing an insights-driven business future. Also critical to success are governance and scaling data analysis.

To be valuable, a data management strategy needs **governance** to give users context, establish trust and ensure data consistency.

The optimal data environment will support automatic cataloging and cross-program integration, allowing for greater governance and facilitating the use of all data. And it will enable data visualizations and real-time insights that support smarter decisions.

Tackling these requirements paves the way for advanced analytics and delivers an edge over the competition with more efficient insights in real time.



\$1.2T

Insight-driven businesses will grow to **\$1.2 trillion by 2020.**²



Don't let bad data compromise your intelligence



Analyzing data for competitive advantage

1. <https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=ASB12369GBEN>

2. <https://www.forrester.com/InsightsDriven+Businesses+Will+Take+12+Trillion+A+Year+By+2020/-/E-PRE9365>



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