



# Mitigating risk and discovering new data-driven value in a changing world

5-point guide to building a resilient data and AI platform

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The digital transformation we've all been anticipating is now being tested at a global level. Industries, from retail and financial services to manufacturing, have almost overnight been forced to evolve modern technologies to drive new business value. Technical and operational leaders specifically struggle to efficiently make sense out of the increased amount of data as most people shop, conduct transactions and work from home online.

## Shifting priorities in times of disruption

Transitioning to a digital world at warp speed is creating a fundamental shift to [modernize data warehouses](#) into high value cloud-based architectures. In fact, an estimated [75% of all databases](#) are already predicted to move by 2023 to a cloud platform.

## A guide to help your business emerge stronger

This guide provides practical advice about building a data and AI platform to help you confidently move away from legacy environments that hinder progress. It outlines five key attributes that will drive the greatest value for your organization:



Cloud economics



Scalability



Modernizing technology



Collaborative data workspace



Speed to respond

“Companies that have neglected [digital transformation](#) may find that the next recession makes those gaps insurmountable.”

“By 2022, [50% of cloud buying decisions](#) will be based on data assets provided by the cloud service provider rather than on product capabilities.”

# 5-point guide to building a resilient data and AI platform

## #1 Find the silver lining in cloud economics

Organizations often get stuck in a sustain and run rather than innovate mode with on-premises data warehouses. As a result, they continually invest large amounts of money every three years for hardware, then pay for licenses for users who need to access the system

When it comes to cloud return on investment, comparing capital expenses (capex) to operational expenses (opex) reveals the cloud is a viable way to switch IT spending to a pay-as-you-go model and reduce capex costs.

While cloud data platforms help reduce or eliminate capital and fixed costs, they are not all the same. There are varying levels of simplicity and cost savings across suppliers, so it's important to check out the operational costs of each data warehouse in relation to its performance and tie its purpose to tangible business outcomes.

**Tip:** Transition from bulk technology purchases to a pay-as-you go Lego® building mentality.

### Case Study

## Data warehouse in the cloud transforms operations

Walgreens is a 118-year-old drugstore chain, with more than 9,200 retail locations.

**Challenge:** Walgreens first expanded its own data warehouse by adding storage to the physical datacenter, which could take between three and six months and require capital investments. As its data grew over time, its on-premises solution couldn't support the speed or amount of data being added to the system.

**Solution:** Walgreens identified three possible cloud solutions. One solution would have cost significantly more than Azure. The other solution scaled appropriately, but lacked the security, operational and integration benefits that *Microsoft Azure Synapse Analytics* provided.

With *Azure Synapse*, Walgreens was able to migrate its entire on-premises data warehouse in three months. Data flows into the cloud through **Azure ExpressRoute** and into **Azure Blob storage**. Users can consume the data through a web app developed in-house, direct query to the database or through visualization tools such as Microsoft Power BI.

**Results:** Walgreens has seen annual maintenance costs for its data warehouse solution drop significantly, while performance is at least three times faster.





## #2 Power business growth with flexible scalability

On-premises infrastructures limit an organization's ability to grow, scale and make iterative changes. In response, some organizations have invested in more servers, often at multiple locations. Some have migrated to the cloud, treating it like the same datacenter now hosted in the cloud.

The first evolution of data warehousing in the cloud separated storage from computing, which increased the flexibility to scale either one separately. The next generation integrates both storage and computing while retaining the flexibility of a decoupled cloud architecture.

With the latest advances, the ability to quickly and efficiently store, analyze and use data managed in the cloud is a critical consideration for organizations that want to grow.

**Tip:** Building a company private cloud is not enough to scale and sustain operations.

Large amounts of data, both structured and unstructured, can be quickly captured and translated into next best actions for increased customer retention and a better experience.

### Remember when a 'cloud' meant something white and fuzzy?

Many organizations, particularly those that grew up in an age of large on-premises data warehouses, understand how "a never in the cloud" mindset has changed to a "cloud-ready" outlook. The shift in perception has primarily changed due to the speed, rate and size of data that the cloud makes it possible to process and manage.



## #3 Modernize technology without disruption

IT often began for companies as a mainframe. Then it turned into a cluster of mainframes. Then personal computers (PCs) began talking to mainframes. Then PCs began talking to servers talking to mainframes and then a move to the web. In the meantime, some newer technologies emerged while rumors persist that COBOL code from the '70s still runs somewhere deep down in the system.

Using a cloud platform as a service (PaaS) allows organizations to move away from owning aging technology and this can be done without disruption. Cloud-based technologies abstract the data infrastructure away from the application, so software applications and devices are constantly being updated without a slowdown in productivity or operations.

In addition, traditional complex software often has a series of relationships, called dependencies, with other lines of code, requiring big rewrites for even trivial changes.

**Tip:** To be digital everyone must master the use of data to compete, win and create new business models.

Cloud native software approaches stress ease of use and low-impact alteration of components of any given software application.

Massive applications can be subdivided into a series of “microservices” that can be tweaked with little effect on a running piece of software. As a result, it’s possible to manage an application globally, from a single location, with relatively little hassle.

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“When developers are [assessing potential jobs](#), programming languages and frameworks came a very close second only to total compensation and benefits as a consideration factor.”







## #4 Create a shared data workspace for innovative collaboration

A technology workbench is designed to empower teams of people to move nimbly with speed and ease, come up with new solutions and help capitalize on potential new revenue streams faster.

Using a shared workbench, data engineers can use a code-free visual environment for managing data pipelines. Teams can work within the same platform no matter the preferred programming language of choice.

Developers can also use their preferred language. Database administrators can automate query optimization and data scientists can build proofs of concept in minutes, while business analysts securely access datasets.

**Tip:** The [agile method](#) can help connect the dots between business and IT organizations that are not always aligned in order to help make businesses more flexible, responsive and competitive.





## #5 Translate data in record time

A critical component of any built-for-the-cloud data platform is the ability to rapidly make sense out of unlimited amounts of data and deliver an immediate and correct response. By enabling high performance computing frameworks , along with flexible on-demand scalability, anyone with a question can get an answer quickly, at any time.

Traditional databases are fundamentally incapable of maintaining consistent high-speed performance as the needs of the enterprise continue to grow in the modern era. Over the cloud, data queries, relational and non-relational, can be done quickly at petabyte-scale using familiar SQL language.

Adaptive caching for tables also increases the possibility that self-service user queries can be satisfied from the cached data which improves performance significantly. For mission-critical workloads, performance is optimized across all queries using intelligent workload management and workload isolation without restricting the number of queries made.

**Tip:** Query data on your terms, using either serverless on-demand or provisioned resources.

### Case Study

## Gaining insights through high-quality data and information

Rockwell Automation is a world leader in industrial automation and information.

**Challenge:** Rockwell leadership initiated the setup of a business intelligence center of excellence to provide the enterprise with meaningful business insights through high-quality data and information.

**Solution:** Rockwell Automation embarked on a journey from on-premises, with a stopover at IaaS, and then arrived at its PaaS solution. Throughout the entire pipeline, Azure Data Factory manages all orchestration of data ingestion, and Azure Databricks is used for computation and transformation. For the company, the key is not just Azure, but how with the use of Azure Synapse Analytics all the pieces are truly connected.

**Results:** The work accomplished has delivered multiple results that include creating a unified platform for all analytical needs, offering advanced analytical features to meet critical business requirements including optimizing storage, improving scalability and reducing total cost of ownership across the analytics platform.



# Leading in today's marketplace demands outside-in thinking

At Avanade, we help you realize results in a digital world through [business technology solutions](#) and [managed services](#) that combine insight, innovation and expertise focused on Microsoft technologies. It starts with the Microsoft analytics and AI stack. Experience the best of both worlds with Avanade: the reliability of a traditional systems integrator and the agility and creativity of a digital agency – and the industry knowledge to bring it all together. We provide proven methodologies, deep expertise and leading-edge technology, and we have been the Microsoft Alliance SI Partner of the Year for 14 years.

## Avanade at a glance



3,500 analysis professionals



1,000+ data scientists



100+ big data consultants



7 offshore-delivery centers



# Get started today

## Data Value Workshop

Our Data Value Workshop (DVW) ignites the engagement ensuring the investment in Azure yields the desired business results. The engagement is facilitated through workshops and targeted interview follow-up. The DVW is the first step to unlocking the value of data in the cloud, realizing the promise of AI and making your enterprise end-to-end processes and experiences “intelligent.”

## Virtual Azure Data Studio

The two to four-hour Virtual Azure Data & AI Studio event accelerates the enablement of an end-to-end data transformation journey on Azure ensuring you maximize the business value of your data and investment in Azure. Avanade's global experts bring market tested perspectives to walk through topics of your choice. A session is customized to your journey and business and technology ambitions.

## Contact us to learn more about these workshops.

Avanade is the leading provider of innovative digital and cloud services, business solutions and design-led experiences on the Microsoft ecosystem. With 38,000 professionals in 25 countries, we are the power behind the Accenture Microsoft Business Group, helping companies to engage customers, empower employees, optimize operations and transform products, leveraging the Microsoft platform. Majority owned by Accenture, Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation.

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