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executive brief

Turning Data Promises into Business Realities

Next-generation analytics require a modern data estate and AI at scale

Conventional wisdom holds that organizations can achieve significant business benefits by using artificial intelligence (AI) and machine learning to help analyze the vast amounts of digital data now available to them. Before they can capture those benefits, however, they must first get their data houses in order.

Today's organizations share many common data-related challenges. Numerous data silos make it difficult to integrate and analyze data holistically. Some organizations have attempted to unify their data repositories into data lakes, but without proper governance and management, those lakes can quickly devolve into impenetrable swamps. For some organizations, simply taking inventory of existing data and identifying the most valuable data across the business presents significant hurdles.

Complicating matters further is the unavoidable fact that data and analytics projects must be tightly coordinated with three other pillars of data transformation: business, technology, and processes. That said, because the data pillar directly influences how organizations build their entire IT architecture, it often makes sense to pursue a data-first strategy.

Digital transformation begins with data estate modernization

Such strategies broadly fall under the "data estate modernization" moniker. Data estate modernization is best thought of as an all-encompassing approach that, from a

technical perspective, addresses everything from front-end data selection, acquisition, cleaning, and transformation to activated data.

Given the fragmented and fragile state of the data landscape within and around many organizations today, the first steps of any data estate modernization initiative often involve tackling the problems associated with data silos and unruly data lakes. The shortcomings of these aging data elements and architectures become readily apparent when organizations try to exploit the numerous sources of meaningful data that exist today. Those sources go beyond traditional corporate applications - on-premises or cloud-based - to include Internet of Things devices, smartphone apps, social networking platforms, and a wide range of additional data generators.

As companies tried to extract business value from this wealth of data sources, they have deployed many innovative pilots and point solutions. All too often, however, these have been difficult to scale across the enterprise. For many companies, the shift from innovation to industrialization is a significant hurdle.

To deliver AI-based analytics capabilities at scale, organizations should consider a next-generation data strategy built upon five core pillars:

- **Platform foundation:** An infrastructure built on a hybrid cloud platform implementation, with end-to-end provisioning and infrastructure management

- **Data trust foundation:** Accelerators, frameworks, and services to define and implement data lifecycle management
- **Data foundation:** Capabilities for data preparation, transformation, and storage
- **AI and analytics foundation:** Capabilities to design and deploy AI/ML services supported by a data-centricity foundation
- **AI and analytics execution:** Capabilities to deploy and execute custom AI and BI applications in production at scale.

Turbocharging analytics with AI and machine learning

This foundation will enable organizations to deploy advanced AI and machine/deep learning capabilities at scale, to detect patterns and other hidden information in both structured databases as well as unstructured data such as documents, emails, and audio-visual recordings.

The information and insights hidden in this sea of digitized data can help organizations improve a broad range of business objectives, including customer engagement and loyalty, sales and marketing effectiveness, factory productivity, and IT operational efficiency.

Consider the realm of customer relationship management, for example. Company employees may be able to consider 10-15 key performance indicators (KPIs) that could be relevant to any individual customer interaction. By comparison, AI-powered analytics can track hundreds, even thousands, of KPIs, and identify which subset is the most important in any given instance.

Even better, by leveraging deep learning capabilities, such intelligent solutions can continue to improve and produce ever-better outcomes. And better business outcomes are the end game of any data modernization initiative.

Data estate modernization and analytics via Microsoft Azure

Cloud-based services can deliver data estate modernization and analytics capabilities that individual companies would be hard-pressed to deploy on their own. Capgemini is tapping the wide portfolio of services provided by Microsoft's Azure cloud for many of its data-centric customer engagements.

Azure's data-related services include:

- **Azure Data Factory**, to collect, integrate, and transform data from multiple sources
- **Azure Databricks**, for building AI-based solutions using a variety of languages and development tools
- **Azure Cognitive Search**, which uses natural language processing and pattern-recognition technologies to find data in documents, videos, audio recordings, and other unstructured sources.

At the heart of the Microsoft Azure data portfolio is **Azure Synapse Analytics**. An evolution of the proven SQL Data Warehouse, Azure Synapse merges enterprise data warehousing and big data analytics capabilities, delivering unlimited scalability and the real-time performance that many of today's applications require.

By leveraging these and other Azure services, Capgemini's thousands of professionals around the world are helping organizations use AI-enabled data modernization and analytics to realize a wide range of business benefits that, until now, have been more promise than reality.

The Capgemini-Microsoft Partnership

With more than 270,000 employees working out of nearly 60 countries, Capgemini has partnered closely with Microsoft for more than two decades. That longstanding relationship includes a joint strategic partnership for developing and deploying Azure Databricks and solutions based on that Apache Spark environment.

Capgemini, designated as a Microsoft Azure Expert Managed Services Provider, boasts one of the world's largest Microsoft Data & AI practices, with more than 2,500 Azure Data & AI specialists and one of the world's largest Spark practices, featuring more than 150 Microsoft Azure Spark experts in North America alone. The company is a participant in Microsoft Azure Advisory Councils and counts thousands of Microsoft Certified Professionals, Microsoft Azure Certified Architects, and Microsoft Cloud Solution Architects among its employees.



[Learn more](#) about creating modern data and AI platforms to deliver trusted AI solutions in production and at scale.

