

Today, three-quarters of organizations lack a unified data control plane. Without a unified data control plane, there can be no DataOps or data products — a prerequisite for pervasive deployment of AI at scale.

The Role of Data Products in Maximizing ROI from AI Initiatives

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Why Is AI Not Just Another Technology?

Lest you still think that artificial intelligence (AI) is all hype and no bite, consider the following comments from executives interviewed by IDC analysts:

- » "We continue to drive technological advancements, applying artificial intelligence and machine learning more deeply in high-value knowledge-based services, including an expanding suite of information technology and data analytics offerings." — Major healthcare insurance provider
- » "We made additional investments in marketing automation and AI, and as a result, every month, we are gaining better customer insights and are putting this knowledge to work to activate and engage different segments of our customer base." — Multinational restaurant chain
- » "We began leveraging machine learning recommendations to better match our customers with the right products and options. This has led to better consumer outcomes, more premium product sales for our partners, and ultimately higher value transactions for us." — Major travel services company

These three quotes illustrate today's real-world application of AI and machine learning (ML) across industries. What's new and exciting is that these comments are not from CIOs; they are not even from chief data or analytics officers. These are quotes made by CFOs and CEOs of Fortune 1000 companies during quarterly earnings calls over the past 12 months. These are the top business executives, not technologists, communicating to the market that AI and data matter and that these resources and capabilities create value for their organizations, their customers, and their ecosystems.

AT A GLANCE

WHAT'S IMPORTANT

The transformative power of AI and ML is altering economies and global society. This innovation is being applied to accelerate order fulfillment, precisely tailor product offers to match customer needs, enable comprehensive knowledge transfer across organizations, optimize pricing strategies, advance assortment planning, improve fraud detection, and refine supply chain risk management.

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These activities represent merely the dawn of an AI-driven era. The impending surge in innovation, characterized by the onset of generative AI integrated into large-scale enterprise production, heralds more profound changes for the future.

The potential of AI is expansive. According to IDC's December 2022 *Future of Enterprise Intelligence Survey*, 78% of organizations said that AI-driven projects have had a significant impact on business outcomes such as improved customer experience, increased employee efficiency, and increased innovation.

However, the implementation of AI also brings about challenges. Among the most formidable barriers to enterprise AI are securing access to data and the absence of a consolidated data ecosystem. If these issues aren't addressed, the remarkable opportunity presented by AI could swiftly morph into a considerable threat. It's therefore essential to approach AI's future with a balance of eager anticipation for its vast potential and pragmatic caution to confront the challenges it presents.

AI Challenges

Adoption and successful deployment and operationalization have become key differentiators in the era of digital business. Yet only 20% of organizations that participated in IDC's 2023 *Future of Intelligence Global Sentiment Survey* reported having widely adopted AI. Equally concerning is that almost a third of AI projects were deemed failures by the same representative sample of organizations.

The reasons for AI's unfulfilled promises are frequently due to a staff lacking in relevant skills and challenges with data. Data, especially an organization's proprietary data, is needed to train, validate, and derive value from AI models. In other words, AI challenges are largely data challenges. Operationalization of AI requires operationalization of data — treating it as a product or any other asset, such as cash or equipment. Few organizations can claim that they are treating data as a product.

Data Challenges

Most data challenges can be attributed to the prevailing ad hoc nature of data projects, where siloed data engineers work with siloed data. Too often data engineering teams are disconnected from data science teams, which in turn are insufficiently collaborating with business users. IDC research shows that 43% of North American organizations have mostly decentralized data management practices and that only 45% of data management technology funding is centralized at these organizations.

This lack of coordination and collaboration across data, AI, technology, and staffing has real consequences. Failure to treat data as a product through a unified data strategy, architecture, and enabling technology results in:

- » **Data decay:** 75% of decision makers say that data loses its value within days.
- » **Data waste:** 33% of executives say they often don't get around to using data they receive.
- » **Data disconnect:** 61% of executives say data complexity has increased compared with last year.

These issues documented in IDC's 2022 *Data Valuation Survey* must be addressed not only by technology leaders but also by their analytics and AI and business counterparts.

Ultimately, most of the data challenges that affect AI projects' success come down to a lack of DataOps processes and what IDC calls a *data control plane*. Whether it is called a data control plane, a data products platform, or a data fabric, this technology solution can productize data to better serve AI, analytics, and business teams by utilizing the following capabilities:

- » **Data intelligence** for data location, lineage, context, classification, semantics, and profiles
- » **Data governance** for data controls, policies, and observation
- » **Data engineering** for data movement, cleansing, matching transformation, and virtualization

The combination of these capabilities can enable provisioning of data products. As such, data products should have product managers who usher ongoing CI/CD for data and lead ongoing data transformation, governance, cataloging, access rights, and usage monitoring management. Having data products also requires their cataloging and development of service-level agreements (SLAs) with the rest of the organization that relies on data products to enable AI, analytics, and decision making.

Today, 75% of organizations lack a unified data control plane, according to IDC research. Without such a solution, there can be no data productization or pervasive deployment of AI at scale.

Addressing the Challenges to Successful AI Initiatives

Organizations looking to effectively scale their data pipelines and develop data products should consider the following:

- » Develop a holistic data strategy with buy-in from data engineering, data science, and business constituents.
- » Define and fill the chief data officer role. Although titles for persons in charge of data initiatives vary, there is a need for a data leader, whose focus, unlike that of a CIO, is solely on ensuring rapid availability of high-quality, trusted, and secure data to data scientists, analysts, and business decision makers.
- » Architect and implement a unified data control plane to enable better access to data, repeatable processes, improved interoperability (such as the integration between model development and production systems), improved data security, and agile experimentation and rapid iteration.
- » Treat data as a product just like software CI/CD that has version controls, automated builds, continuous integration, testing, continuous deployment, monitor and logging, infrastructure as code, and collaboration/communication. By adopting CI/CD practices in data pipelines, organizations can benefit from increased agility, faster time to insights, improved data quality, and reduced manual effort. It enables teams to iterate and deliver value more frequently while maintaining reliability and quality in data-driven processes.
- » Future proof your data control plane by ensuring it adheres to open standards.
- » Foster a data culture, including an appreciation for the opportunities and challenges of AI.

Succeeding in the Era of Digital Business

To succeed in today's digital era, organizations must be focused on accelerating decision velocity using AI and other enterprise intelligence technologies.

The goal should be to view data as a product — one that requires ongoing development, innovation, packaging, and support to ensure satisfied customers, meaning the data scientists, AI/ML engineers, and enterprise application developers, who are embedding these advanced analytics into a new generation of applications for greater automation and insights.

As the rapid adoption of data-hungry AI applications continues, the need for highly scalable, highly governed, and highly adaptable data pipeline development and orchestration technology will continue to gain in importance. The benefits of such a solution in enabling collaboration among data engineers, data scientists, and business decision makers will serve as the foundation for differentiation and success in the age of digital, AI-driven business.

To succeed in today's digital era, organizations must be focused on treating data as a product to accelerate decision velocity using AI.

About the Analysts



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Chandana Gopal is research director for IDC's Future of Intelligence market research and advisory practice. Her core research coverage covers factors that influence enterprise intelligence, including technologies such as artificial intelligence, business intelligence, and data intelligence and cultural elements such as data literacy and knowledge sharing. Based on her background in integration and analytics, her research includes a particular emphasis on how organizations can build enterprise intelligence and use it as a competitive differentiator and growth accelerator.



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