

AI and ML technologies are transforming business processes and work in general. Accelerated analysis and decision making increasingly require using advanced methods of handling data as well as using ML to analyze, recommend, and predict actions needed for business decision makers.

Unified Analytics and Data Platform to Drive Success in the Era of AI

August 2023

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Introduction

Will artificial intelligence (AI) drive unprecedented value generation throughout society, or will it destroy the current social and commercial fabric? There is no shortage of opinions on either side of this argument.

Current models of the foreseeable future suggest that with the right investment and appropriate guardrails, the opportunity to leverage AI and data is not only vast but necessary for society to progress. While short-term market volatility and uncertainty persist, productivity must improve to keep pace with the long-term trend of an aging global population. "IDC research estimates the worldwide economic impact of generative AI across all lines of business functions by the end of 2033 to be close to \$10 trillion," says Ritu Jyoti, group vice president, AI and Automation Market Research and Advisory Services at IDC. "The impact will encompass increased revenue, lowered expenses, and improved productivity." This is an opportunity that is being unleashed by the application of AI (both generative and classic AI) and the data needed to train it.

Yet, according to IDC research, of all the structured enterprise data created in 2022, only 38% was analyzed and even less (25%) was done using machine learning (ML) and AI. The utilization of unstructured data (the text, images, and video that are the domain of generative AI) is even lower. For any organization, whether commercial or public sector, to benefit from AI will require significant increases in data activation by establishing an enterprise intelligence strategy, fostering a strong data culture, initiating programs to raise employees' data literacy, and creating long-term partnerships with leading AI, BI, and analytics data platform technology providers.

The task at hand is not easy, as CIOs, CDOs, and heads of AI and analytics are charged with doing more with less in an environment of greater economic uncertainty and increased data and AI regulations globally. Organizations able to overcome today's AI, analytics, and data business and technology challenges stand to gain greater share of the expected

AT A GLANCE

KEY STAT

According to IDC, annual spending on AI will exceed \$300 billion by 2026. IDC's Global DataSphere forecasts the enterprise data generated will grow at a CAGR of 28% from 2022 through 2027 to reach 222ZB.

WHAT'S IMPORTANT

Organizations need to leverage AI with a combination of their enterprise and external structured and unstructured data to increase decision velocity in response to market uncertainty and organizational, technology, and data complexity.

multitrillion-dollar opportunity by increasing decision velocity across customer, supply chain, risk, innovation, employee, and operational processes for years to come.

Challenges of Activating Enterprise Data with AI and Analytics

Despite years of investment in various data management, BI, and advanced analytics technology, most organizational leaders feel that data in their organizations remains underutilized. One of the primary culprits of suboptimal return on such investment is the lack of a unified and coordinated enterprise intelligence strategy and an accompanying technology architecture and platform. A typical large or midsize organization can have dozens or hundreds of discrete technologies at different levels of its data and analytics technology architecture. IDC research indicates that 55% of organizations have decentralized data management technology funding. Technology silos have the effect of increasing ongoing technology management and maintenance costs, slowing the ability to address business users' requests for insights within their workflows, and hampering innovation. In IDC's 2023 *CEO Survey*, 61% of North American CEOs and 78% of European CEOs said there is an expectation to reduce the "run" part of their IT budgets to fund the new "build" initiatives in 2023.

But it's not only technology silos that afflict most organizations. They also have silos of data, analytics, and AI, which lead to decision-making silos. Examples include a lack of coordination between demand and supply plans, pricing decisions disconnected from inventory decisions, or risk management decisions based on incomplete views into risk exposure across product lines or business groups.

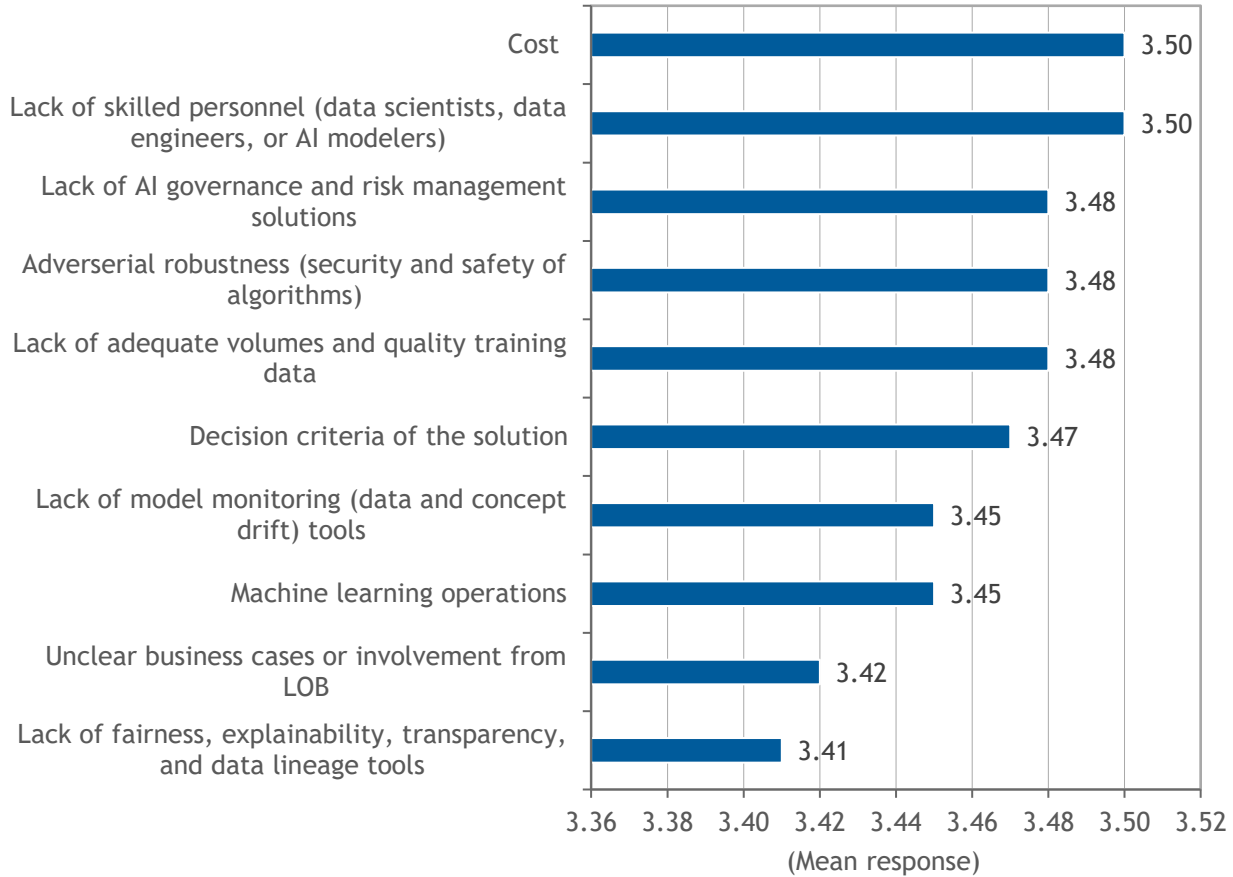
In the face of growing complexity across data, analytics, AI, and decision-making vectors, a unified enterprise intelligence technology platform becomes imperative for better utilization of data for productive purposes. According to IDC's *Data Valuation Survey*, the failure to embrace a unified enterprise intelligence strategy, its enabling architecture, and a platform that is scalable, secure, and utilizes open data, analytics, and AI standards leads to issues such as the following:

- » **Data decay:** 75% of decision makers say that data loses its value within days.
- » **Data waste:** 33% say they often don't get around to using data they receive.
- » **Data disconnect:** 61% say data complexity has increased compared with last year.
- » **Data neglect:** 70% say that data is being underutilized.

Similar challenges arise with respect to AI adoption, especially for more established organizations using legacy enterprise applications. It can be challenging for any company to successfully leverage cutting-edge technology such as AI or to experiment with newly available GenAI software to solve real-world problems across business operations and use cases. As shown in Figure 1, some of the top challenges organizations face when putting AI/ML into practice are unexpected project costs, insufficient data science and ML development skills, and lack of volumes in and quality of training data.

FIGURE 1: *Top Challenges in Implementing AI/ML Solutions*

Q How challenging are these for implementing AI technology at your organization?



n = 2,053

Note: Results shown as mean response on a scale of 1 = least challenging to 5 = most challenging.

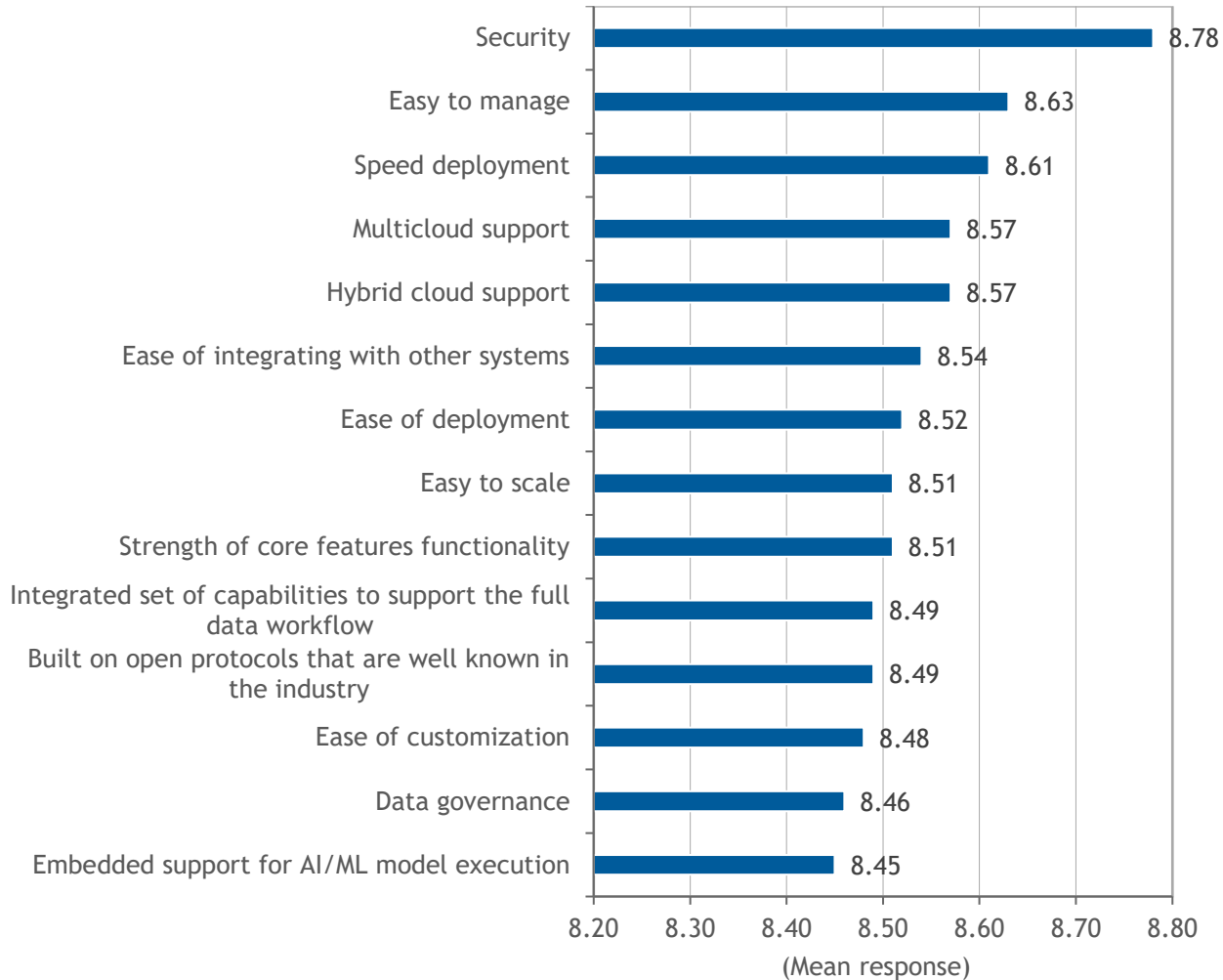
Source: IDC's AI StrategiesView 2022, May 2022

Requirements and Expectations

Organizations that will thrive in the era of AI are already embracing enterprise intelligence as a competitive differentiator, which is evident from their technology selection criteria (shown in Figure 2) on RFPs and RFIs. To address AI, analytics, and all the necessary underlying data engineering and management requirements, decision makers are looking for secure, scalable, and manageable platforms that support open standards and extensibility, the latest GenAI and classic AI/ML, and flexibility in deployment options.

FIGURE 2: **Data Cloud Selection Criteria**

Q How important are each of the following factors in selecting a public cloud-based data platform for your organization?



n = 833

Note: Results shown as mean response on a scale of 1 = not at all important to 10 = extremely important.

Source: IDC's Worldwide Google Data Cloud Survey, November 2021

While decision makers identify security as the top selection criteria, the low variability in responses indicates that all these criteria are important. For example, the importance of having embedded AI/ML capabilities (8.45) is almost as important as support for open protocols (8.49) or ease of integration with other systems (8.54).

An often-mentioned requirement we hear from decision makers involved in data, analytics, and AI technology section and deployment is the need for data validation functionality as a core feature within a set of integrated capabilities. After all, AI models might need to be trained on a wide variety of data that requires preparation, cleansing, and transformation.

Since there are many data types that go into building an AI/ML solution, an extensive range of capabilities is needed to collect, organize, and manage that data:

- » 44% of organizations are developing AI/ML solutions based on transactional data (e.g., journal entries, purchase orders, and invoices).
- » 41% are developing AI/ML solutions based on master data (e.g., customers, partners, suppliers, products).
- » According to Morgan Stanley's research, AI-infused applications are now the third highest priority for investment (up from ninth) across hundreds of CIOs.
- » 35% are developing AI/ML solutions based on social media data such as Twitter, Facebook, and LinkedIn.

Benefits

The signs of the real impact of AI have already emerged at organizations across industries. Early adopters report 35% improvement in innovation and 33% improvement in sustainability by investing in AI over the past three years. Similarly, customer and employee retention metrics have been reported to show 32% improvement each by investing in AI. Advancements in ML, deep learning, natural language processing (NLP), and computer vision are at the forefront of business resiliency, innovations, operational efficiency, and transformative customer experiences.

Organizations that have embraced complexity and simplified their data assets with a unified platform are reaping the benefits of advanced analytics and AI technology.

AI and the intelligent automation it provides is being applied as much to the function of DataOps, MLOps, and AIOps as to business functions, where business leaders are seeing improved accuracy in forecasting demand and optimizing complex supply chains. They also are seeing greater agility in scenario planning and more dynamic pricing strategies. All of this is occurring in an environment of rapidly changing regulations affecting data privacy, AI ethics, and environmental sustainability.

There are two types of benefits that organizations report regarding the effects of investments in enterprise intelligence platforms and practices. First is a set of metrics used to assess the level of enterprise intelligence. These include:

- » Quality of decision making (including timeliness and impact of decision making)
- » Availability and use of business performance measurement methodology, such as objectives and key results
- » Data-driven culture at all levels of the organization
- » Delivery of actionable insights to everyone in the organization
- » Responsiveness to changing market dynamics
- » Capturing/sharing institutional knowledge across the enterprise

A higher level of these enterprise intelligence indicators leads to more positive business outcomes. According to IDC's June 2023 *Future of Enterprise Intelligence Survey* of about 900 global business and technology decision makers, the top reported benefits of greater enterprise intelligence are:

- » Increased operational efficiency
- » Improved customer satisfaction
- » Revenue growth
- » Improved employee productivity
- » Increased profits

Survey respondents said that as a result of investments in enterprise intelligence, these benefits, on average, improved 16% over the previous year.

Considering Google Cloud and SAP

SAP and Google Cloud have come together to provide customers with integrated technology solutions to derive insights from data with advanced analytics and AI to support innovation initiatives with the latest generative AI and data fabric capabilities. As two of the top 10 largest software technology providers, SAP and Google Cloud have partnered to address the requirements of enterprise customers looking for AI, generative AI, advanced analytics, and data management technology. Given the size of their combined customer base, the impact on the market is expected to be far-reaching across industry sectors and regions.

Via SAP's and Google's integrated data fabric, enterprises can now leverage market tested enterprise-grade security, ease of deployment, scalability, and breadth of functionality to address the needs of data engineers, data scientists, developers, and AI experts for accelerated value realization by working under the construct of this partnership. Furthermore, as clients start their journey into generative AI, the partnership between Google Cloud and SAP offers a starting point where enterprises can leverage critical internal and external data sets from various sources to train large language models for addressing firm-specific processes.

» Google Cloud:

- BigQuery is a fully managed, cloud data warehouse with engines to support workloads such as streaming and batch data ingest, business intelligence, geospatial analysis, and ML.
- Vertex AI is an AI platform with tools, workbenches, and functionality to support the needs of data scientists, ML engineers, and AI developers. Vertex AI includes Vertex AI Workbench, Model Garden, Vertex Data Labeling, and Generative AI Studio.
- Google Cloud Cortex Framework provides a foundation of content that includes reference architectures, templates and building blocks for organizations to rapidly design, build, and deploy analytics and AI solutions.

» SAP:

- SAP Business Technology Platform (BTP) brings together data and analytics, AI, application development, automation, and integration in one unified environment. Some key products and capabilities within SAP BTP include SAP Analytics Cloud, SAP Datasphere, SAP Integration Suite, and SAP Build Automation.

- RISE with SAP is an offering of ERP software, including SAP BTP, industry practices, and outcome-driven services for migrating an organization's SAP ERP to the cloud.

The partnership between Google and SAP enables organizations to speed time to deployment. For example, Google Cortex Framework includes predefined BigQuery models for SAP data. Once SAP data is in BigQuery, data engineers, data scientists, and data analysts can benefit from Vertex AI's native integration with BigQuery and use tools such as BigQuery ML to create and run ML models by using GoogleSQL queries. Another use case allows exporting of data from BigQuery to Vertex AI for the use of Vertex Data Labeling to create model training data. In this same scenario, SAP BTP application developers can integrate these Google AI cloud capabilities into SAP applications user interfaces enabling a seamless experience and faster decision making in areas including supply chain, sustainability, and finance.

The platform combining capabilities from both Google Cloud and SAP can enable organizations to:

- » Ensure that data modeling can be leveraged across the complementary technologies of each vendor.
- » Combine SAP's operational data from Ariba, SuccessFactors, S/4HANA, and other enterprise applications with third-party application and IoT data as well as Google's Trends, Ads, Maps, Analytics, and YouTube video content.
- » Provide data analysts and data scientists with appropriate BI and AI tools to accelerate insights identification and subsequent actions.
- » Provide business users with more advanced planning capabilities using SAP Planning application with AI-based forecasting from Vertex AI as well as additional data signals from BigQuery.
- » Provide developers with access to data engineering and AI tools and services to develop new custom analytic applications.
- » Eliminate needs for data duplication across multiple disconnected data, analytics, and AI systems.
- » Encourage collaboration among data engineers, data analysts, data scientists, and customer-facing as well as operational business staff and management on a common data-to-decisions platform.

Challenges

As always, IDC recommends all organizations to perform appropriate due diligence when selecting any technology. Both Google and SAP are operating in competitive and fast-moving technologies markets, especially when it comes to the latest generative AI technology. However, both companies are in the top 10 of the largest technology vendors in IDC's big data and analytics software tracker and have hundreds of joint customers worldwide.

Conclusion

The goal of all organizations is to produce quality, high-performing products or services that lead to great customer experiences. To meet this goal, companies need to understand and transform their business processes and manage their enterprise data to take advantage of new AI and ML capabilities to help drive greater productivity and decision velocity. Leveraging a unified data, analytic, and AI platform that can analyze both structured enterprise data, unstructured data, and third-party data with a broad range of BI and AI methods enables organizations to make better decisions, respond more effectively to changes, and grow over time. In pursuit of a unified enterprise intelligence technology platform, technology and business decision makers should consider the following IDC recommendations:

- » Develop an enterprise intelligence strategy.
- » Design an enterprise intelligence architecture that encompasses data lakehouse, data intelligence and integration, business intelligence, and AI capabilities.
- » Ensure availability of needed skills either through hiring or outsourcing across the above technologies.
- » Identify decision making needs across different users and use cases within the organization.
- » Identify opportunities for decision augmentation and decision automation.
- » Identify data needs for developing and training AI models. Consider the need to combine internal structured enterprise application data with unstructured and structured data from external applications and services.

In addition, when evaluating technology partners to support an organization's data management, analytics, and AI requirements, look for a platform that supports the full data-to-decision workflow and consider that any one technology vendor will be unlikely to support all required functionality. Thus evaluate complementary solutions as well as support for open standards and protocols.

It is also important to develop a deep understanding of the core competencies of each technology vendor being considered.

Finally, take an incremental approach to deployment, especially when it comes to use of AI, as early wins will help garner internal support and budget for subsequent deployments across use cases throughout the organization.

Leveraging digital technologies such as AI enables organizations to make better decisions and respond more effectively to changes.

About the Analysts



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Dave Schubmehl is Research Vice President for IDC's Conversational Artificial Intelligence (AI) and Intelligent Knowledge Discovery research. His research covers information access and artificial intelligence technologies around conversational AI technologies including speech AI and text AI, machine translation, embedded knowledge graph creation, intelligent knowledge discovery, information retrieval, unstructured information representation, knowledge representation, deep learning, machine learning, unified access to structured and unstructured information, chatbots and digital assistants, and rich media search in SaaS, cloud and installed software environments. This research analyzes the trends and dynamics of the Text and Audio AI software markets and the costs, benefits and workflow impact of solutions that use these technologies.



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Dan Vesset is Group Vice President of IDC's Analytics and Information Management market research and advisory practice, where he leads a group of analysts covering all aspects of structured data and unstructured content processing, integration, management, governance, analysis, and visualization. Mr. Vesset also leads IDC's global Big Data and Analytics research pillar. His research is focused on best practices in the application of business intelligence, analytics, and enterprise performance management software and processes on decision support and automation, and data monetization.

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