

AI-ready data is essential for a successful pivot from GenAI experimentation to production. Organizations need help to create and execute data-enablement strategies with speed, governance, and business outcomes at the forefront.

Data Enablement to Scale Generative AI Effectively

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Introduction

Awareness of generative AI (GenAI) has surged in the past two years; the technology will likely become fundamental to enterprise intelligence architectures and business strategies. In 2023, potentially transformative enterprise GenAI use cases dominated conversations across industries; this excitement contributed to the technology rapidly gaining C-suite attention and investment support. In 2024, many factors inhibited organizations' efforts to scale GenAI initiatives, such as internal skills gaps, excessive implementation difficulty and cost, misalignment of use case priorities and stakeholder needs, and poor data access and quality.

Effective GenAI adoption and scaling require addressing various business and technology challenges. A strong foundation of AI-ready data is critical for a technology-operating model that enables an AI-fueled business. As organizations look to become data driven, they will need comprehensive enterprise intelligence strategies and architectures to ensure data delivers business value when combined with GenAI models.

However, given the rapid rate of change in AI technology capabilities, organizations cannot afford to wait years to complete data modernization projects before embarking on their GenAI journeys. Professional service providers that combine data strategy and architectural expertise with AI-enabled delivery capabilities and assets can help organizations accelerate the creation of AI-ready data and become more innovative and adaptable in using GenAI to improve business outcomes.

AT A GLANCE

KEY STATS

- » 41% of worldwide organizations will focus on AI-ready data in their efforts to move from GenAI experimentation to production in 2025.
- » 51% of worldwide organizations perceive external service providers' use of AI (including GenAI) in their delivery of services as a value-add.

KEY TAKEAWAY

Professional service providers bring expertise in enterprise intelligence architecture and AI-enabled delivery capabilities to accelerate their clients' data enablement for GenAI initiatives.

How Enterprise Intelligence Architecture Enables AI-Ready Data

As complexity grows across data, analytics, AI, and decision-making paths, an enterprise intelligence architecture guides the management of data like a product with a focus on value-driven shaping of the information estate. It supports continuous and collective learning and delivery of insights at scale, enabling data literacy and promoting data culture. IDC conceptualizes the enterprise intelligence architecture on four planes underpinned by enabling infrastructure: data, data control, data synthesis, and business activity (see Figure 1).

FIGURE 1: *Enterprise Intelligence Architecture for AI-Fueled Businesses*



Source: IDC, 2025

In detail:

- » **Enabling infrastructure:** AI-ready data storage platforms deliver data usability and security while enabling data intelligence and business leverage.
- » **Data plane:** Today's data landscape demands an organizing framework and data management technologies that enable access and integration to highly distributed, diverse, dynamic, and dark data.
- » **Data control plane:** Intelligence about data informs policies for stewardship, movement, and qualities of domain-specific data products assembled using data engineering. Observability watches for data drift and shift.
- » **Data synthesis plane:** Domain-specific data products created in the data control plane integrate with analytics and AI models to create business-focused data products and to tune external AI models to business needs.
- » **Business activity plane:** The full value of data is realized in business activities that collect and apply business-focused data products to business problems for trusted outcomes, with a feedback loop to monitor performance and justify investments in GenAI use cases.

Each plane aligns with personas within an organization who must collaborate to achieve common goals rather than only optimize for peak performance within their plane:

- » **Enabling infrastructure:** Data owners and data protection officers; compliance and security leaders; CIO, CTO, CISO, ITOps, and SecOps
- » **Data plane:** Database administrators, data engineers, data architects, and system administrators
- » **Data control plane:** Data governance steering committee members, data leadership, data architects, data engineers, and data stewards
- » **Data synthesis plane:** Business analysts, data scientists, AI modelers, data engineers, and application developers
- » **Business activity plane:** IT and business leaders, frontline and desk-based workers, agents, advisors, and assistants

How Professional Service Providers Help Design and Implement an AI-Ready Data Foundation

No single technology vendor delivers all the necessary technology components of enterprise intelligence architecture. However, IDC research suggests that organizations are most interested in preconfigured technology solutions. According to IDC's 2024 *Enterprise Intelligence Services Survey*, 46% of worldwide respondents prefer to purchase technologies related to enterprise intelligence initiatives as a "unified stack of data, analytics, and decision-making technology." We also see organizations gravitating toward service providers that can help them strategically rather than implement siloed technologies. The same survey found that 38% of respondents prefer to work with a primary service provider to develop and execute their enterprise intelligence strategies. Therefore, the ability to deliver integrated solutions customized to customers' business needs and IT environments is a core value proposition for professional service providers.

These providers bring technology, industry, and functional expertise, as well as technology partner ecosystems, to help organizations define their business objectives and goals for enterprise intelligence investments. They help organizations identify compliance requirements within applicable regulatory frameworks, navigate and make the right tool and platform decisions to plan and execute their enterprise intelligence transformations, and create and implement architectures that connect the various technology components. Providers can address common service needs across the four architectural planes (e.g., automation, knowledge management, security, integration, governance, collaboration, administration, monitoring, and management) through managed services and delivery platforms that leverage various proprietary and partner tools. Providers can also align key stakeholder personas across IT, business, and data teams, helping organizations uncover business issues, examine what decisions they need to make to reach their goals, and identify any missing data from decision-making models and where to source it internally or externally.

Professional service providers increasingly use AI and GenAI tools to accelerate and improve their service delivery and enhance their value stream. While disrupting some aspects of the traditional services delivery model, AI technologies allow the services industry to increase efficiency and streamline processes, deliver innovative solutions more efficiently, reduce costs by automating routine and time-consuming tasks, and meet the evolving demands of its digital-native customers. As agentic AI capabilities rise in prevalence, providers increasingly orchestrate workflows across teams of human employees and AI agents, mapped to key roles and personas across the data value chain.

Benefits

No one-size-fits-all technology solutions for data enablement exist, and it can be unclear which tools or methodologies will meet organizations' particular business and technology needs to scale GenAI effectively. Professional service providers that leverage AI and GenAI in their delivery models play critical roles in accelerating the solution design phase and unlocking new business value from data.

IDC observes four cornerstones of GenAI-powered services transformation:

- » **Productivity:** GenAI can automate repetitive and tedious tasks, such as data mapping and migration, to create more efficiency, consistency, and speed in delivery. By integrating GenAI-based delivery tools into frameworks and accelerators for data enablement, professional service providers can shrink the cycle times of solution development activities and deploy solutions faster.
- » **Personalization:** GenAI leverages data to craft tailored experiences, customized recommendations, and targeted strategies for organizations' business contexts. Professional service providers can improve solutions by weaving GenAI capabilities into data foundations for business function- and industry-specific applications and workflows. With these data foundations, clients can offer more personalized, data-driven experiences for their customers, end-user employees, and other stakeholders (e.g., partners, suppliers, and regulators).
- » **Value realization:** GenAI analyzes large amounts of data and predictive models to provide insights and guidance that help improve processes and operations and quantify and optimize business outcomes, such as cost optimization, efficiency, agility, and speed to market. By using GenAI with data graphs to power intelligent knowledge network creation, professional service providers can synthesize organizational knowledge and proactively offer tailored insights.
- » **Innovation:** GenAI can generate new ideas, concepts, and solutions that support differentiation and value-added services delivery. By using data, AI, and GenAI in new ways, professional service providers can better evolve to meet clients' changing business needs. Providers that have invested in building partnerships with technology providers, start-ups, and research institutions can give clients early access to innovations created within their ecosystems.

Trends

IDC research finds several indicators of the importance organizations attach to working with professional service providers on GenAI implementation projects. In surveys throughout 2024, IT consulting and systems integration partners were frequently mentioned as organizations' most strategic technology partners for GenAI initiatives and were involved in critical activities spanning business transformation and establishing the data and infrastructure foundations for GenAI. IDC's January 2024 *Future Enterprise Resiliency and Spending Survey, Wave 1*, found that the top 3 technology-focused areas of AI initiatives for which respondents needed external services support were "security, privacy, and trust of data and AI systems" (42%), "data or intelligence architecture design and engineering" (34%), and "infrastructure modernization and implementation" (33%). The top 3 business-focused areas were "AI strategy, maturity assessment, and operating model" (37%), "responsible AI policy development or refinement" (35%), and "staff reskilling and change management" (33%). According to IDC's April 2024 *Future Enterprise Resiliency and Spending Survey, Wave 4*, organizations that achieved high levels of success with their GenAI projects most often attributed that success to strategic

support with project prioritization, effective coordination between IT and LOB teams, and access to the right developer skills and effective tools.

Our research also shows that most IT leaders recognize the inevitability and benefits of AI-enabled service delivery, and most expect their service providers to offer them an experience that includes proprietary, AI-infused software assets. According to IDC's January 2024 *Future Enterprise Resiliency and Spending Survey, Wave 1*, 51% of worldwide respondents said they perceived external service providers' use of AI (including GenAI) in delivering services as a value-add. IDC's April 2024 *Future Enterprise Resiliency and Spending Survey, Wave 4*, found that respondents largely expect to engage directly with their service providers' AI software, most preferring "workflows — orchestrated, AI-enabled business or IT processes" (31%), "platforms — access to our provider's array of proprietary AI assets and frameworks" (23%), and "personas — collections of AI-enabled tools that align to job roles" (18%).

As we move through 2025, our research indicates that data enablement is a key investment imperative for organizations looking to scale GenAI effectively and that all types and sources of data are being used with AI. According to IDC's July 2024 *Future Enterprise Resiliency and Spending Survey, Wave 7*, 41% of worldwide respondents cited "AI-ready data: enabling value-driven use of the entire information estate" as a top 3 focus area for 2025 to move from GenAI experimentation to production. The same survey found that the most important data types for use in AI efforts through 2025 will be operational or event stream data (e.g., IoT data or log files); master data about people, companies, places, and things or products; and semistructured business documents (e.g., invoices, purchase orders, or bills of materials).

IDC predicts that by 2027, a third of new AI applications will contain a diversified set of chained traditional and GenAI models and business rules, outpacing the development of new singular AI model applications. But to realize the full potential of these applications addressing complex business processes and decisioning with a mixture of models chained together into logical sequences, organizations must address challenges within the enterprise intelligence architecture, such as data format incompatibility, model output integration and formatting issues, performance bottlenecks, many tools and frameworks to manage and orchestrate, and challenges in explaining, interpreting, and debugging the applications.

Considering Deloitte

Deloitte's AI and data practice combines a business value-led approach with a portfolio of repeatable tools, frameworks, and methods to help clients achieve sustainable business outcomes through AI and data-driven transformations. The firm's approach to data enablement for scaling AI and GenAI spans the strategy, implementation, and operations life cycle. It includes assisting clients with the following: establishing a clear vision and road map, designing a strong data platform, creating rich data for AI models, designing and implementing controls for risk, and operationalizing AI. In Deloitte's view, the transition from traditional software development to AI agent development calls for a new approach in how the firm builds and manages intelligent systems, as well as new considerations for organizational structure, governance frameworks, and ethical implications. As such, Deloitte continues to evolve its data-enablement approach as part of its internal strategy to introduce agentic capabilities into all of its assets, including its AI and data assets and accelerators.

Deloitte's offerings focus on seven key areas for scaling data for AI and GenAI:

- » **Modern data architecture readiness:** As part of designing a strong data platform for advanced AI and analytics capabilities, this offering includes GenAI use cases around vector databases, memory stores, knowledge pipeline, semantic retrieval, and hosted or API access for LLMs and continuous LLMOps.
- » **AI-enabled trustworthy data management:** Deloitte aims to improve clients' data maturity for GenAI by focusing on trusted data for LLMs and enhancing data quality and governance. This includes ethical, transparent, and compliant AI solutions addressing data privacy, bias, and accountability, leveraging the firm's asset-based capabilities such as its Intelligent Business Glossary.
- » **Master data management:** This enhances the analytics and insights capabilities of an organization's data platform by implementing comprehensive management for data about customers, clients, counterparties, vendors, products, and other segments, ensuring data consistency and accuracy.
- » **AI-enabled data engineering and modernization:** This aims to transform an organization's data engineering and operations by using GenAI-infused tooling to achieve automated extract-transform-load pipeline builds, BI platform migrations, and AI agent integrations.
- » **Data integration with broader ecosystem:** This ensures a cohesive and agile data environment by integrating unstructured data, front- and back-office applications, virtualization, and AI agent setups to enhance dataflow, operational efficiency, and real-time insights across disparate sources within an organization's broader ecosystem.
- » **Multimodal data enablement:** Deloitte seeks to drive enablement across traditional (structured or unstructured) data, multimodal or content (images, video, audio) data, vector databases, and inferencing functions. This includes strategy, solution design, and setup of embedding, chunking, and model gardens (i.e., synthetic data generation, vector database, and data support for fine-tuning models).
- » **AI/MLOps and AI agents:** Deloitte aims to transform data-related activities using agentic AI capabilities. These offerings include AI agent/multiagent systems (MAS), modern data management with agents, modern data quality with agents, and Convo AI with agents, which provides the capability for business users to "talk" to their data.

Deloitte addresses these areas with various assets, capabilities, and solutions, including its technology alliance ecosystem. Its AI and Data Assets Hub includes more than 400 assets in services delivery, organized into three categories (capabilities focused, alliance partnered, and industry specific). The firm has developed IP-based insight capabilities for AI, such as a multi-agent system, Deloitte ASCEND, Digital Content Management, Business Process Mining, and Trustworthy AI & Data, to enable its clients to drive and better understand business performance. It also offers sector-based solutions that embed GenAI and other data and AI capabilities. They are tailored for specific use cases within targeted domains and built on key technologies or in collaboration with strategic alliance partners. Solutions include Banking Data as a Service, ConvergeHEALTH, ConvergePROSPERITY (financial services), Trellis (retail-focused accelerator on Databricks), and Polaris (revenue management). The firm maintains alliances with technology partners such as Amazon Web Services, Google Cloud Platform, Snowflake, Databricks, and Informatica.

Deloitte designed its approach to make it easier for organizations to invest in GenAI capabilities while the technology continues to mature. Its GenAI assistance tools and frameworks help improve efficiency across the data engineering and analytics life cycle, highlighting potential efficiency gains by activities within processes. Benefits are also shown for

business analysts, solution architects, data engineers, DevOps engineers, test automation engineers, and operations managers. Deloitte also advises on steps that will improve GenAI's impacts on organization and culture, such as building organizational knowledge and expertise, raising awareness, fostering adoption, and iterative improvement of outcomes to build trust and acceptance of the technology. This approach matches Deloitte's vision of the future of work with human and AI integration, which includes AI and GenAI enablement of people (i.e., a digital workforce of humans and AI agents), technology (i.e., GenAI-infused agents, capabilities, and solutions for AI and data), and process (i.e., complex, AI-orchestrated workflows).

To help organizations realize this vision, Deloitte offers a future state architecture that integrates AI models and a data fabric to infuse operational applications with analytical capabilities. Components of this architecture include a data fabric; an AI fabric; front-, middle-, and back-office applications; business process orchestration; common tech capabilities such as security, infrastructure, and business continuity; and a technology-operating model. As Deloitte continues infusing AI agents into its data-enablement offerings, the firm has considered how agents reshape workflows of data professionals, such as data stewards, data platform engineers, and business analysts, and incorporated that thinking into its AI future state architecture.

Challenges

While the drive to automate is relentless, with or without the added pressures of building AI-driven business models or implementing AI-driven workforce transformations, the ROI of GenAI implementations is not yet high enough to create a virtuous cycle of savings and further investment. IDC predicts that up to 30% of organizations will reduce their GenAI investments unless they see ROI improvements. Professional service providers such as Deloitte will need to work closely with clients to define KPIs that are impactful yet achievable in a short time frame.

Though GenAI investment has become an imperative for many organizations, most have limited budgets. According to IDC's 2024 *Enterprise Intelligence Services Survey*, 22% of worldwide respondents expect to shift budgets from data management initiatives to fund GenAI investments. Professional service providers such as Deloitte may need to convince some budget decision-makers within client organizations that data enablement is worth investing in alongside, and as part of, GenAI technology initiatives. This is where providers' stakeholder alignment skills can prove useful, particularly if IT budgets are tapped out and business units need to buy-in to fund data-enablement projects.

Alongside the challenges they already face with data enablement, organizations have concerns regarding using external service providers to help with their enterprise intelligence efforts, some of which may be exacerbated by AI-enabled delivery models. According to IDC's 2024 *Enterprise Intelligence Services Survey*, among the top challenges respondents cited in using a third-party provider for enterprise intelligence services were "fear of becoming too dependent on provider over long term" (25%), "fear of losing control over critical information" (24%), and "impact on employee morale" (21%). While delivering on short-term data-enablement needs with AI, professional service providers such as Deloitte will need to manage clients' concerns around the long-term impact on their organizations.

Conclusion

Creating an AI-ready data foundation and managing data as a product will be critical to scale GenAI initiatives in 2025 and beyond. Enabling data for GenAI is a daunting task, but it can be simplified with the advice and execution support of professional service providers, particularly those that effectively use AI and GenAI to drive efficiency and add value to their service delivery. If they haven't already, organizations should start building GenAI maturity and experience, taking an architectural view to manage and govern data, models, applications, and business activities to improve business outcomes.

Enabling data for GenAI is a daunting task, but it can be simplified with the advice and execution support of professional service providers.

About the Analyst



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Jennifer Hamel is a senior research director for IDC's Worldwide Services team, responsible for the Enterprise Intelligence Services research program. In this research, Ms. Hamel covers the life cycle of project-oriented, managed, and support services related to the deployment of technologies, such as data management, analytics, artificial intelligence (AI), and automation, as part of enterprise intelligence initiatives. Her research focuses on how service providers work with organizations to ensure investments in enterprise intelligence technologies result in improved business outcomes.

MESSAGE FROM THE SPONSOR

This white paper explores the pivotal role of data enablement in scaling generative AI across enterprise operations, highlighting strategies for building an AI-ready data foundation and the value of professional services providers.

Deloitte's AI & Data Assets Hub is a unified storefront offering a diverse portfolio of AI and data assets, many with generative AI capabilities. The hub streamlines asset discovery, standardization, and deployment, enabling teams to accelerate project delivery and respond quickly to market needs. With containerized assets for compatibility and flexible deployment, the platform supports pilots, proofs of concept, and scalable solutions for any engagement.

Use these insights to align your data strategy and optimize AI investments.

To learn more, please visit: [Artificial Intelligence & Data | Deloitte](#).



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