Activating Enterprise Data with AI and Analytics

MAXIMIZING THE VALUE OF DATA WITH ADVANCED TECHNOLOGIES

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

This IDC InfoBrief is based on ongoing market research in AI, automation, data, and analytics technology demand and supply trends from sources such as:

- IDC AI, data management, and analytics market forecasts
- Surveys of business and technology personas across industries and geographies
- In-depth interviews with business and technology personas
- Technology supplier briefings
AI Is Maturing Rapidly and Is Seen as a Strategic Differentiator

Over 70% of organizations adopting AI are building their own AI solutions.

Stages of AI Adoption

- **25%** In production
- **20%** Pre-launch / in proof of concept
- **19%** Advanced development / in plan over next 6 months
- **18%** Early development / in plan over next 2 years
- **18%** Discovery / investigation / exploration

Organizational Approach of AI

- **73%** We build and develop AI solutions for our business.
- **62%** We have a consultant/systems integrator (SI) build AI solutions for us.
- **52%** We buy finished AI solutions from a vendor.
- **35%** We are a service provider that builds or develops AI solutions for other businesses.

n = 2,053; Source: IDC’s AI Strategies Buyerview, May 2022
Generative AI: Use Cases and Opportunities

Generative AI (GenAI) is already having a significant impact on business processes and use cases. Organizations are rapidly investing in GenAI, hoping to get a jump on their competition and transform their businesses to create more value for their customers and improve ROI.

In which two business areas do you think Generative AI could make the most impact in the next 18 months?

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software development</td>
<td>32%</td>
</tr>
<tr>
<td>Product development/design</td>
<td>24%</td>
</tr>
<tr>
<td>Customer engagement</td>
<td>21%</td>
</tr>
<tr>
<td>Marketing/PR</td>
<td>18%</td>
</tr>
<tr>
<td>Sales</td>
<td>16%</td>
</tr>
<tr>
<td>Supply chain</td>
<td>16%</td>
</tr>
<tr>
<td>HR</td>
<td>13%</td>
</tr>
<tr>
<td>Finance</td>
<td>13%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>9%</td>
</tr>
</tbody>
</table>

What Generative AI use cases do you anticipate having the most promise for your organization?

- Knowledge management applications: 52%
- Marketing applications: 42%
- Code generation applications: 41%
- Design applications: 39%
- Conversational applications: 37%

Note: Managed by IDC's Global Primary Research Group. Data weighted by IT Spend (500+ employee size). Use caution when interpreting small sample sizes. Multiple dichotomous table; total will not sum to 100%. n = 952; Source: IDC's Future Enterprise Resiliency & Spending Survey Wave 2, March 2023.
AI Adoption Depends on Data

Combining Internal and External Data for AI Models

Organizations are quickly adopting AI and ML. A growing number are evaluating or significantly investing in GenAI.

The challenge is to find and use the right types of data to build and operate effective AI models. Both structured and unstructured data are necessary. However, most organizations continue to struggle with accessing the right data to build AI models.

Of all the structured enterprise data created in 2022, only 38% was analyzed, and even less (25%) was analyzed using AI and ML. The use of unstructured data (the text, images, and video that are the domain of GenAI) is even lower.

What’s your organization’s current approach to Generative AI?

- Investing significantly in Generative AI in 2023: 32%
- Initially exploring potential use cases: 48%
- Not investing yet: 21%

n = 348, Base = North America; Source: IDC’s Future Enterprise Resiliency & Spending Survey, Wave 6, July 2023 | For an accessible version of the data on this page, see Supplemental Data in the Appendix.
Challenges of Enterprise Data Activation

Most organizational leaders feel their company’s data is underutilized.

![55%](image)

IDC research indicates that 55% of organizations have **decentralized data management technology funding**. Technology silos can increase ongoing technology management and maintenance costs, **slowing the ability to address business users’ requests for insights** within their workflows and hampering innovation.

The failure to embrace a unified enterprise intelligence strategy, its enabling architecture, and a platform that is scalable, secure, and uses open data, analytics, and AI standards leads to issues such as:

- **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 to last year.
- **Data neglect**: 70% say that data is being underutilized.

Source: IDC’s Data Valuation Study, 2023
Business and Technology Benefits

Signs of the impact of and returns from AI and data initiatives have already emerged across industries.

Leading organizations are experiencing improvements in value drivers and business outcomes:

- **35%** improvement in innovation
- **33%** improvement in sustainability
- **32%** improvement in both customer and employee retention metrics

### Value Drivers

- Quality of decision making
- Data-driven culture
- Delivery of actionable insights to everyone
- Responsiveness to market changes
- Capturing and sharing institutional knowledge

The capabilities measure the development, access to, and sharing of contextual insights and the actions they drive.

### Business Outcomes

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

As a result of investments in data, AI, and analytics, these benefits, on average, improved 16% over the previous year.
Challenges of Deriving Value From AI

To thrive in the era of AI, organizations must overcome challenges around the implementation and deployment of AI/ML within their business functions as well as handle all enterprise data issues.

### Top Challenges in Implementing AI/ML Solutions

Rate how challenging these aspects are for implementing AI technology at your organization.
(On a scale of 1 = Least challenging to 5 = Most challenging)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of skilled personnel (data scientists, data engineers, or AI modelers)</td>
<td>3.50%</td>
</tr>
<tr>
<td>Cost</td>
<td>3.50%</td>
</tr>
<tr>
<td>Lack of adequate volumes and quality training data</td>
<td>3.48%</td>
</tr>
<tr>
<td>Adversarial robustness (security and safety of algorithms)</td>
<td>3.48%</td>
</tr>
<tr>
<td>Lack of AI governance and risk management solutions</td>
<td>3.48%</td>
</tr>
<tr>
<td>Decision criteria of the solution</td>
<td>3.47%</td>
</tr>
<tr>
<td>Machine learning operations</td>
<td>3.45%</td>
</tr>
<tr>
<td>Lack of model monitoring (data and concept drift) tools</td>
<td>3.45%</td>
</tr>
<tr>
<td>Unclear business cases or involvement from LoB</td>
<td>3.42%</td>
</tr>
<tr>
<td>Lack of fairness, explainability, transparency, and data lineage tools</td>
<td>3.41%</td>
</tr>
</tbody>
</table>

n = 2,053; Source: IDC’s AI Strategies Buyerview, May 2022
Essential Guidance/Key Takeaways

Develop an **enterprise intelligence strategy**.

Design an **enterprise intelligence architecture** encompassing a data lakehouse, data intelligence and integration, business intelligence, and AI capabilities.

Ensure the **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.
Appendix: Supplemental Data

The table in this appendix provides an accessible version of the data for the complex figure in this document. Click “Return to original figure” below this table to get back to the original data figure.

### SUPPLEMENTAL DATA FROM PAGE 6

**What’s your organization’s current approach to Generative AI?**

<table>
<thead>
<tr>
<th>Approach</th>
<th>June 2023</th>
<th>February 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investing significantly in Generative AI in 2023</td>
<td>32%</td>
<td>21%</td>
</tr>
<tr>
<td>Initially exploring potential use cases</td>
<td>48%</td>
<td>25%</td>
</tr>
<tr>
<td>Not investing yet</td>
<td>21%</td>
<td>54%</td>
</tr>
</tbody>
</table>

n = 348, Base = North America; Source: IDC’s Future Enterprise Resilience & Spending Survey, Wave 6, July 2023

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About the IDC Analysts

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, visualization, and monetization. Dan also leads IDC's global Big Data and Analytics research pillar.

More about Dan Vesset

Dave Schubmehl is Research Vice President, Conversational Artificial Intelligence and Intelligent Knowledge Discovery, IDC.

More about Dave Schubmehl
Message from the Sponsor

Google Cloud

Extracting the full value of data for modern analytics and AI use cases is challenging. We believe that companies need a data platform that helps them unlock the value of their data no matter where it lives, with centralized governance and seamless access to easy-to-use AI development tools, frameworks, and open-source large language models (LLMs). We believe that such a data platform must be:

- **Open** Customers need integration with open source standards, LLMs, and APIs to ensure data portability and extensibility.
- **Unified** Firms need to manage and govern their data while maintaining its context and currency. [Learn about BigQuery](#).
- **Intelligent** Customers need a GenAI toolset to build AI-powered apps with customized LLMs. [Learn about Vertex AI](#).
- **Easy** The platform should speed the customer’s time to value with outcome-focused accelerators. [See Google Cloud Cortex Framework](#).
- **Secure** The platform should be built for security with a shared-fate model, and never use customer data in its models.

[Learn more about Google Cloud's enterprise data analytics and AI solutions.](#)
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