



The AI-First Data and Analytics Organization

6 strategic shifts D&A leaders must
make by 2030



How can organizations shift to AI-first data and analytics, and why is this essential for achieving sustainable business success by 2030?

The rapid evolution of AI is transforming data and analytics (D&A), creating urgency and opportunity for organizations. To remain competitive, leaders must move beyond traditional methods and adopt six essential shifts: AI-first strategies, human-AI collaboration, context as infrastructure, connected engineering at scale, trust as a priority and a focus on value compounding over ROI. This roadmap guides D&A leaders through these shifts to ensure organizational success in an AI-driven future.

6 shifts D&A leaders need to make through 2030



Source: Gartner

What approach can organizations take to successfully transform data and analytics for the future?

Organizations can meet the AI challenge by aligning D&A strategies with their level of AI ambition. The AI ambition continuum, illustrated here, outlines the progression from cautious adoption to full transformation. Assessing current capabilities and setting clear goals enables leaders to drive innovation and impact. This roadmap provides practical steps for building AI-ready foundations, enabling human-AI collaboration and scaling trusted, context-rich solutions. Embracing this journey positions organizations to capture new opportunities and succeed in an AI-driven world.

D&A 2030 archetype AI ambition continuum

	AI-cautious	→ AI-opportunistic	→ AI-first
AI ambition	Defend	Extend	Upend
Leadership	Expert-led	Collaborative	Pioneer, reimagine business
People and teams	Human, specialist-led	Upskilled, augmented fusion teams	Tiny, broad-skilled teams of agents and “questioners”
Intelligence	Traditional ML and dashboards	Task-specific agents and AI-augmented analytics	Multiagent systems, autonomous decisions, perceptive and vibe analytics
Information	Mostly structured, traditional data management	Structured and unstructured data, data fabric, augmented data management, data products	Multimodal, streaming and synthetic data, multimodal data fabric, enabled information layer
Context	Metadata for humans	Context for augmenting AI	Context for agents, context graph, digital twin of business
Governance	Control for compliance	Adaptive and distributed	Embedded, contextual, policy as code
Outcomes	Technical outcome-focused, “do more with the same”	Technical and business KPIs, ROI, “do more with less”	Beyond ROI, value flywheel

Source: Gartner

Some of the top questions of the AI-first data and analytics 2030 initiative are:

- 1

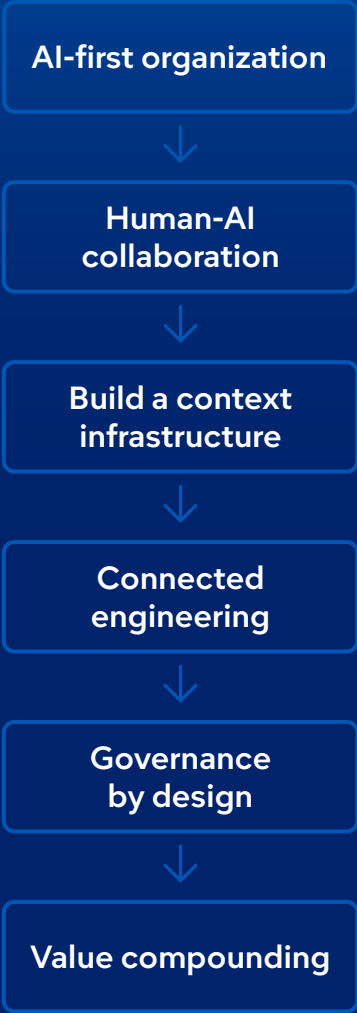
How can D&A leaders build AI-first capabilities to meet the enterprise’s AI ambition?
- 2

How should organizations redesign teams for human-AI agent collaboration at scale?
- 3

What foundations — data, context, trust and engineering — are required to realize AI value?

What are the key shifts?

This roadmap outlines the sequence of shifts required for D&A leaders to achieve their AI value ambition through 2030. The stages synthesize insights from organizations that have successfully scaled AI by investing in foundational data quality, context, governance, engineering and human-AI collaboration. Key milestones and recommended actions are highlighted below, while the full roadmap provides detailed steps and resources for each phase of transformation.





Shift 1

Build toward an AI-first D&A organization

Shift your enterprise toward an AI-first ambition to transform — not tweak — business models.

Actions to take:

Identify your current AI ambition and build a strategy to move toward an AI-first posture.

Prioritize high-value use cases that demonstrate business reinvention with AI.

Evolve leadership behaviors toward pioneering, collaborative and outcome-driven decisioning.

Sample of associated Gartner resources includes:

Insights

- AI Agent Adoption Transforms Data and Analytics Strategy and Operations
- How AI Agents Impact D&A Leadership, Governance and Data Management
- Go Beyond Data-Driven to Become an AI-First Enterprise

AI-first organization



Human-AI collaboration



Build a context infrastructure



Connected engineering



Governance by design



Value compounding



Shift 2

Redesign your organization for human-agent collaboration

Reimagine team structures, workflows and roles around human-AI partnerships.

Actions to take:

Redesign D&A operating models to create “tiny teams” of broad-skilled humans and AI agents.

Automate delivery workflows using agentic augmentation across data, analytics and operations.

Develop human capabilities, including questioning, decision making, critical thinking and ethical oversight.

Sample of associated Gartner resources includes:

Insights

- How AI Agents Will Impact Analytics and Data Science
- AI Agents Disrupt Data Science and Machine Learning
- AI Agents Augment the D&A Governance Team
- D&A Leaders Need to Transform Their Teams to Address the Impact of AI
- How Will AI Agents Impact Data Management Solutions?

Analyst Consultation

- How should I organize my teams and operating model to realize the organization’s AI ambition?
- How do AI agents impact how teams operate and the skills needed?

AI-first organization



Human-AI
collaboration



Build a context
infrastructure



Connected
engineering



Governance
by design



Value compounding



Shift 3

Establish context as critical infrastructure

Make semantics and context the foundation enabling AI agents to function autonomously and safely.

Actions to take:

Build an AI-ready multimodal data fabric with real-time data, semantics and metadata.

Engineer a context layer (knowledge graph, ontologies, semantic layer) as critical infrastructure.

Upgrade architecture to support streaming, autonomous data products and GraphRAG retrieval.

Sample of associated Gartner resources includes:

Insights

- Rethink Semantic Layers to Support the Future of Analytics and AI
- Identify and Select Key AI Agent Platform Capabilities
- Predicts 2026: AI Agents, MCP and Governance Are Transforming Analytics
- 2025 Strategic Roadmap for the Data Fabric Architecture
- A Journey Guide to Deliver AI Success Through AI-Ready Data

Analyst Consultation

- What is a context layer, why do I need it, and how can I evolve my D&A architecture and practices to deliver context for AI and AI agents?

AI-first organization



Human-AI collaboration



Build a context infrastructure



Connected engineering



Governance by design



Value compounding



Shift 4

Scale connected engineering practices

Integrate data, AI, software and agent engineering into a unified delivery model.

Actions to take:

Shift from siloed DataOps to connected AI engineering with reusable agentic components.

Create fast-cycle innovation labs with independent approvals and rapid experimentation.

Integrate data, model, agent and software engineering for scalable, reusable AI solutions.

Sample of associated Gartner resources includes:

Insights

- Reference Guide for AI Engineering
- Your Software Engineering Teams Need More AI Engineers
- Gartner Hype Cycle™ for Artificial Intelligence, 2025

Analyst Consultation

- How do I put in place connected engineering practices to scale my data, analytics and AI initiatives?

AI-first organization



Human-AI
collaboration



Build a context
infrastructure



Connected
engineering



Governance
by design



Value compounding



Shift 5

Establish trust as a catalyst of value and innovation

Embed trust-by-design into all data, AI and decision workflows to enable responsible scale.

Actions to take:

Evolve governance to dynamic, embedded, automated controls: “policy as code.”

Implement continuous monitoring for agentic behavior, privacy, bias and decision tracing.

Build enterprise AI literacy and transform stewardship into a high-impact governance role.

Sample of associated Gartner resources includes:

Insights

- How to Future-Proof Data and Analytics Governance in the Age of AI
- A Journey Guide to Manage AI Governance, Trust, Risk and Security
- Implement an Adaptive Assessment to Manage AI Use-Case Risks
- AI Policy Must Be Translated Into Governance Controls

Toolkit

- AI Controls for Governance of Models, Frameworks and Agents

Analyst Consultation

- How do I set up an AI governance practice and what capabilities do I need? How do I extend a data and analytics governance program to AI?

AI-first organization



Human-AI collaboration



Build a context infrastructure



Connected engineering



Governance by design



Value compounding



Shift 6

Move beyond ROI to value compounding

Shift from measuring ROI to creating a continuous value flywheel that reinvests efficiency into growth.

Actions to take:

Embed value management across the full use-case life cycle from assessment to production.

Adopt forward-looking value metrics, such as return on integrity, ingenuity, individuals and future impact.

Implement AI FinOps and cost-control practices for agents, data, governance and people investment.

Sample of associated Gartner resources includes:

Insights

- How to Calculate Business Value and Cost for Generative AI Use Cases
- With AI Agents, You Need a New Way to Calculate Cost and Value
- How to Calculate the Value and Cost of AI Agents

Analyst Consultation

- How do I realize value from AI?
- What new metrics and approaches are needed?
- What are the highest value use cases?

AI-first organization



Human-AI collaboration



Build a context infrastructure



Connected engineering



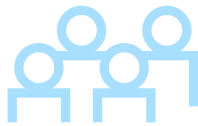
Governance by design



Value compounding

Who needs to be involved?

The most successful organizations establish cross-functional teams to realize an AI-first data and analytics strategy. Explore the recommended functions and roles to include for the best chance of success.



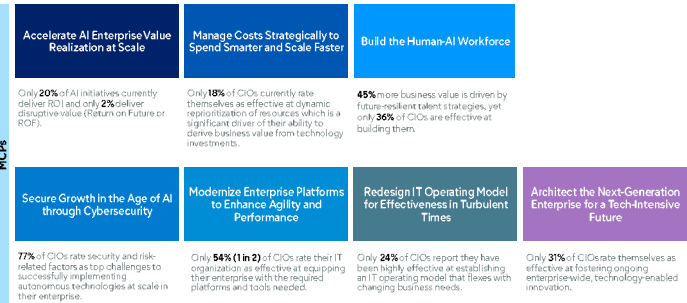
How Gartner supports your priorities

In addition to guidance on building an AI-first data and analytics strategy, Gartner also supports the priorities of chief information officers and chief data and analytics officers.

Gartner for Chief Information Officers



CIO Mission-Critical Priorities (MCPs)



Gartner for CIOs empowers technology leaders to navigate complexity, make informed decisions and achieve stronger outcomes. Insights, guidance and tools are tailored to the mission-critical priorities of CIOs and their teams.

Whether the goal is unlocking AI value, optimizing costs or driving organizational change, Gartner for CIOs helps leaders act quickly and demonstrate value from strategy through execution.

Gartner for Chief Data & Analytics Officers



CDAO Mission-Critical Priorities (MCPs)



Gartner for CDAOs enables D&A leaders to turn data into business value, elevate analytics-driven decisions and accelerate organizational impact. Guidance, insights and tools are tailored to the evolving priorities of CDAOs and their teams.

Whether advancing responsible AI, scaling data-driven innovation or maximizing the business impact of analytics, Gartner for CDAOs provides the support needed to lead with clarity and deliver measurable outcomes from vision to execution.

Actionable, objective insights

Explore these additional complimentary resources and tools on AI governance or for D&A:

Roadmap



Enhance Your Roadmap for Data and Analytics Governance

Learn how your peers are executing effective data and analytics governance initiatives.

[Download Now](#)

Webinar



The Gartner 100+ Data, Analytics & AI Predictions Through 2031

Discover why this Gartner most-liked, highest-rated webinar drew thousands of viewers as it revealed 100+ predictions shaping data, analytics and AI through 2031.

[Watch Now](#)

Roadmap



AI-Ready Data

AI-ready data is a must to capture the promise of AI efforts. Be clear what it is — and take these five steps to prepare.

[Download Now](#)

Conferences



Gartner Data & Analytics Summit

Save the date for the premier event where data, analytics and AI leaders uncover the latest in data trends, generative AI and governance to drive business value.

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