

A woman with dark hair and glasses is shown in profile, looking towards the right. She is wearing a dark green zip-up top. In the background, a large screen displays various data visualizations, including a globe, a line graph with multiple colored lines (green, red, blue), and a bar chart with yellow and cyan bars. The overall scene is dimly lit, with the screen providing the primary light source.

Gartner®

The Future of Decisions

The people, machines, data and analytics that leaders prioritize to gain competitive advantage

Turn decision making into a competitive advantage

It's no secret that the past two years have been challenging thanks to the COVID-19 pandemic. For most midsize enterprises, it forced some pretty profound changes into how we conduct business. But what if our business decisions weren't forced upon us, and our responses didn't broadly assume the status quo? What if we were able to drive scalability, sustainability and impact on our terms?

These aren't just hypothetical questions anymore. When a midsize enterprise can harness the power of data and analytics to help lead business growth and innovation, these questions become a reality.

For most, decision-making complexity has increased, but upstream and downstream considerations are still poorly addressed. Decisions often don't consider all relevant variables, don't adequately consider the future effects and impacts, and don't happen on a cadence that positions the organization to respond to opportunities and mitigate risks.

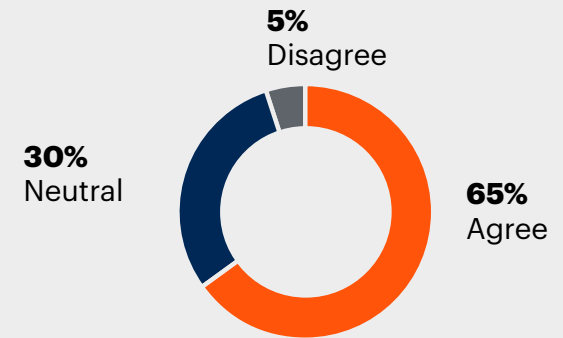
Our decision making must become more connected, contextual and continuous. Data-driven decisioning gives us the ability to scale our operations in a way that delivers the most impact for our stakeholders and drives sustainability within our midsize enterprises.

The quality of the decisions made by data-driven organizations is giving them a competitive edge, especially on digital initiatives. Don't wait to do the same.

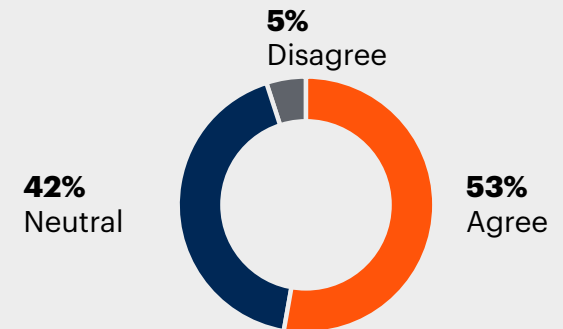


Patrick Long
Principal Analyst

The decisions I make are more complex (stakeholders, choices) than 2 years ago



There is a higher expectation for me to be able to explain or justify my decisions



Source: Gartner

Strategic, tactical and operational decisions are converging

Traditionally, decisions have been vertically aligned, with strategy driving tactics — which drove operations. Operational feedback would validate tactics and tactical feedback would validate strategy. Each type of decision had its own process, its own set of stakeholders and its own dynamics. Now, those decisions are converging — and decisions often last only until the next disruption.

1 Convergence of the tactical and the strategic

- Make an acquisition to learn about digital markets.
- Create a digital sublabel to a brand to test new business models.
- Require higher-level management sign-off for initiatives and policies.

2 Convergence of the tactical and the operational

- Start an influencer service program to manage brand reputation.
- Hire scarce staff, such as data scientists.



3 Convergence of the strategic and operational

- Quickly scale up (or down) parallel supply chains, based on local needs.
- Expand into a new geography or product category on an e-commerce platform.

4 Convergence of the tactical, operational and strategic

- Implement crisis management.

What good modern-day, future-fit decisions look like



Connected

No decision stands alone. Decisions by one actor affect other actors in the enterprise and ecosystem, and vice versa.

Decision making becomes much more connected, on all levels — not just hierarchically (strategic > tactical > operational), but also in a networked sense.

It's critical to share data and insights across organizational boundaries.

Today's decisions must take **stakeholders** into account.



Contextual

Customers, employees and other stakeholders expect to be recognized. Decision making — particularly in digital, operational processes — becomes hyperpersonalized.

Decision alternatives need to be evaluated in a context-sensitive manner, beyond the scope of the individual event or transaction.

Internal and external data sources should be combined to get a more complete and richer situational awareness, enabling more accurate decisions.

Today's decisions must take **situational relevance** into account.



Continuous

Organizations must be as responsive as possible to opportunities and disruptions.

Decision making is becoming a much more continuous process, in which organizations need to keep their options open.

Where feasible, decisions should be automated, or at least augmented, creating a synergy between human and artificial intelligence — and enabling more timely and accurate decision making despite the added complexity.

Today's decisions must **take place when it matters most.**

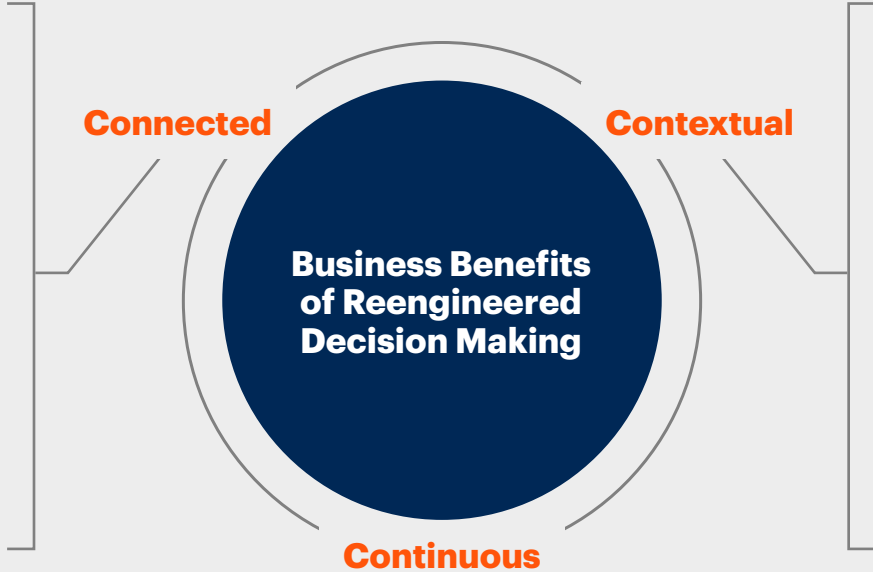
Business benefits of reengineered decision making

More inclusive

- Gather and optimize outcomes for multiple stakeholders throughout the ecosystem, bridging competing objectives and recognizing ethical dilemmas.
- Consider a wide variety of data perspectives.
- Diagnose how decisions affect each other.

More transparent

- Make decisions auditable and explainable for others.
- Establish clear accountability.



More trustworthy

- Automated and composable decisions are potentially more consistent and repeatable.

More accurate

- By including more data and more advanced modeling capabilities, decisions align closer to complex realities.

More personalized

- Particularly on the operational level, decisions require personalization, taking the specific circumstances of cases or people into account.

Faster

- Reengineered decisions capture a larger window of opportunity and are more responsive.

More scalable

- Automated decision making allows for scaling the number of decisions by extending the management span of control.

More flexible

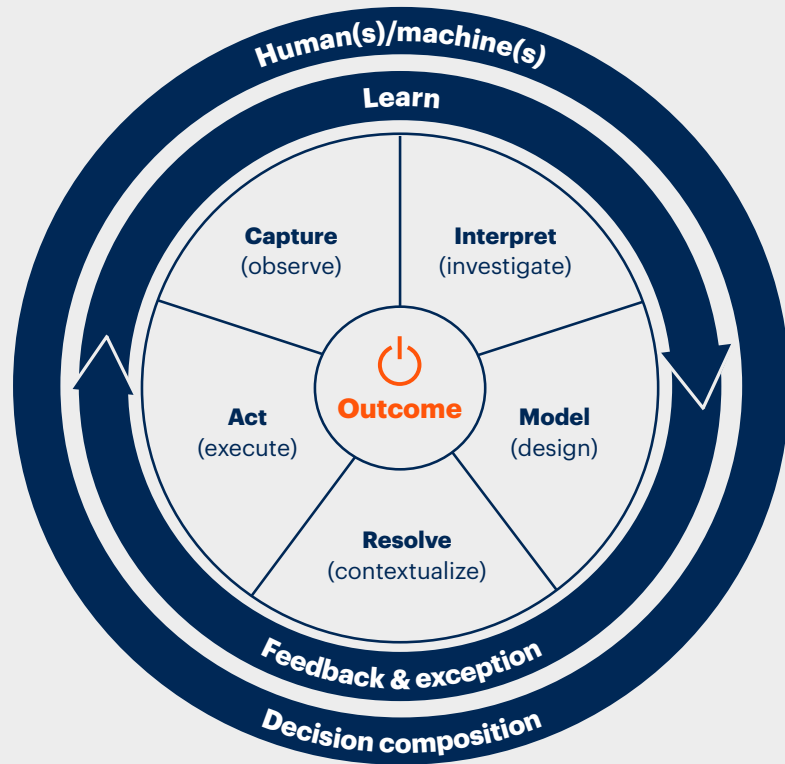
- Reengineered decisions keep future options open because they work out in multiple plausible futures.
- Composed decisions, strategic to operational, are designed to respond as the context changes.

Source: Gartner

Characteristics of good decision making

Gartner decision intelligence model

Every decision can be described with five stages and good decisions share key characteristics (shown right).



Highly optimized

Complex decisions increasingly affect a variety of stakeholders and must incorporate their input — and achieve positive outcomes for all affected stakeholders. Decisions shouldn't be optimized for a single entity (usually one's own organization).

Make decision making a collaborative process.



Highly automated and augmented

Humans excel at elements of decision making — e.g., context, ethics — that are complex but may not be rational. Machines excel at logical, complex problem solving at scale.

Automate more deterministic decisions. Combine advanced analytics and human insight for more complex decisions.



Highly future-fit

Based on a wide variety of data, model multiple scenarios. Make sure that the final decision is future-fit — that the decision works out in multiple plausible scenarios. Keep your options open and take decisions in multiple steps.

Build decision making that adapts to change. Use decision modeling and scenario planning.

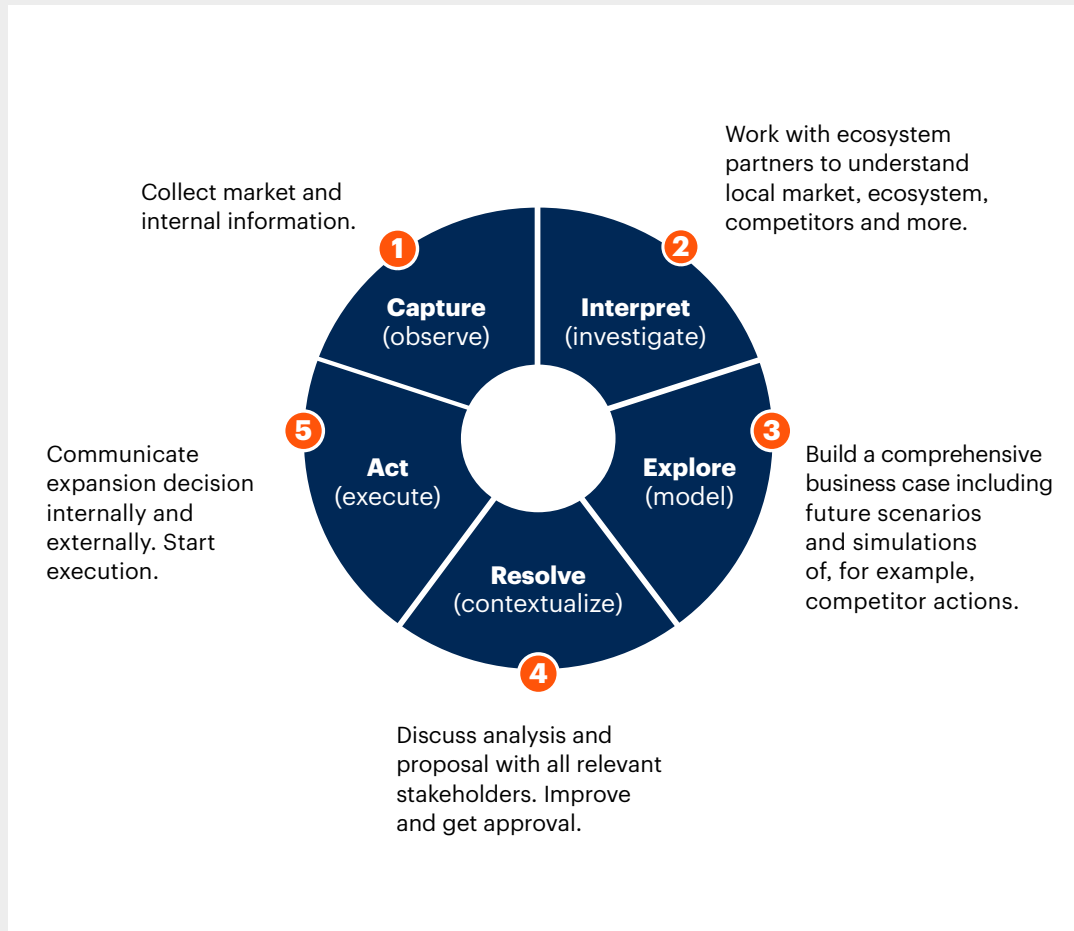


Highly composable

More context-sensitive decisions require flexible components parts, such as smaller decisions, decision process steps, range of participants, and different technology and data sources.

Build decision making that is fit for purpose, rather than sticking to predefined, static decision making.

Example: New view of geographical expansion decision



What's suboptimal in traditional decision making

- Personal preferences have weight.
- Politics may outweigh data as a consideration.
- Rationale for decisions can be hard to track.

The process can be geared toward making the decision that the decision maker implicitly had in mind upfront.



Rigor in value-driving decisions

- Uses decision components and an explicit process.
- Drives trustworthy, transparent, data-driven, inclusive decisions.
- Still incorporates the human factor.

Decision: Stakeholders together decide to wait three months, because the decision-making team receives data showing that while ecosystem partners are ready for geographical expansion, their experience tells them hiccups are likely.

Outcome: The scenarios show that this decision still clears the desired profitability threshold — but at a lower level of risk.

What reengineered decision making means for IT leaders



By 2023, organizations with shared ontology, semantics, governance and stewardship processes to enable interenterprise data sharing will outperform those that don't.



By 2023, 30% of organizations will harness the collective intelligence of their analytics communities, outperforming competitors that rely solely on centralized analytics or self-service.

Source: Gartner

The role of IT and business leaders in decision making



Business leaders seeking to accelerate their digital business aspirations will need to consider how they (and their organization) make decisions. Digital aspirations will be scaled when the organization can take advantage of the ability to make more connected decisions that are more contextualized and operate in a continuous manner.



CIOs need to set the strategy for a new style of business solution delivery and further collaboration between the CDO and CIO teams. The CIO, along with the CDO or other top D&A leaders, should advocate for this new paradigm and drive the organization to pursue it.



Application leaders need to take a data-centric approach to implementing the composable business and composable applications. The application leader and D&A leader must work together to blend composable applications and reengineered decision-making practices.



CDOs/D&A leaders need to ready themselves for the next evolution in D&A. The first evolution elevated D&A from a service center to an enterprise competency with the realization that D&A is central to digital business and innovation. This led to the creation of the CDO role. The next evolution reinvents how we manage and utilize data, and it redefines D&A's fundamental purpose as part of decision making — and more broadly, redefines how an enterprise operates. D&A leaders need to internalize this major shift and work with their business peers to enable radical new forms of decision making.



Enterprise architects collaborate with leaders from D&A, application, risk and security, and I&O to rethink reference architectures that incorporate new concepts, such as data fabrics, decision models and composable decision components.



Risk and security leaders need to set up secure spaces in which multiple stakeholders can safely share data for decision making.



Leaders throughout the business and across IT need to work together — each bringing their unique competencies to support the breadth and depth of the art and science of decision making.

Key actions for D&A leaders wanting to reengineer decision making

01

Identify what decisions to reengineer and why.

02

Prioritize decisions, analytics and data.

03

Consider the degree of augmentation required from advanced analytics and AI.

04

Understand the role of a data fabric.

05

Build decision-making skills, habits and competencies

01

Identify and revisit what decisions to reengineer and why

Set the vision

Consider how you expect reengineered decision making to move your organization forward. For example, will it drive digital transformation or provide competitive advantage?

Articulate how decision making in your organization should look in 2025 or later.

Create the business case

Ask which decision-making processes should be reengineered first and create some targeted use cases and business cases.

This approach enables you to master the art of reengineered decision making before you scale it.

Make
this an
iterative
process

Understand your stakeholders' decision making

Establish your starting point by diagnosing the current state of decision making in your organization. Identify decisions where complexity has become unmanageable, where data is abundant and insights are few, and where opportunity exists to bring multiple silos of decisions together. Observe meetings in which decisions are made, document rules for operational decisions, interview stakeholders and ask them to walk you through some examples of decisions.

Take the lessons and break them down into decision components (see the Gartner decision intelligence model on p.6). Define decision-making principles and identify decision-making habits.

Assess capabilities and deficits

For each of the decision components, assess how well you are doing, and to what extent you would be able to create a repeatable approach.

Where weaknesses exist, ask if those capabilities are critical to decision making. If so, build those skills or technological capabilities.

02

Prioritize decisions, analytics and data

Strategically, D&A leaders can inspire the other business leaders to recognize the opportunities of creating and acquiring new kinds of data to infuse into decisions — positioning data and analytics as assets that can create value. Operationally, D&A leaders play a key role in prioritizing the actions around decisions.

Decisions

- Start identifying and assessing which decisions are insufficiently connected, contextual or continuous. This is your starter set.
- For each of these decisions, understand their connectedness; what internal and external context is important; and the need for a more continuous process.
- Model these decisions using decision intelligence technology.

Analytics

- Inventory your current analytics solutions.
- For each solution, determine the extent to which it is used, how effectively it is used and — importantly — why it is used:
 - Do insights offer sufficient context to the decision?
 - How do behavioral or social aspects impact decision making?
- Start improving analytics solutions, for instance by adding augmented, diagnostic or predictive analytics or by improving data literacy skills among decision makers.

Data

- If you haven't done so already, start initiatives to improve data quality, master data consistency and metadata management (including data catalogs, and business glossaries or ontologies).
- Apply data virtualization to improve (unified) access to data warehouses, data lakes, or other internal or external data sources.
- Complement data management with streaming data capabilities, enabling continuous intelligence.

03

Consider the degree of augmentation required from advanced analytics and AI



Human



Machine

Decision Support

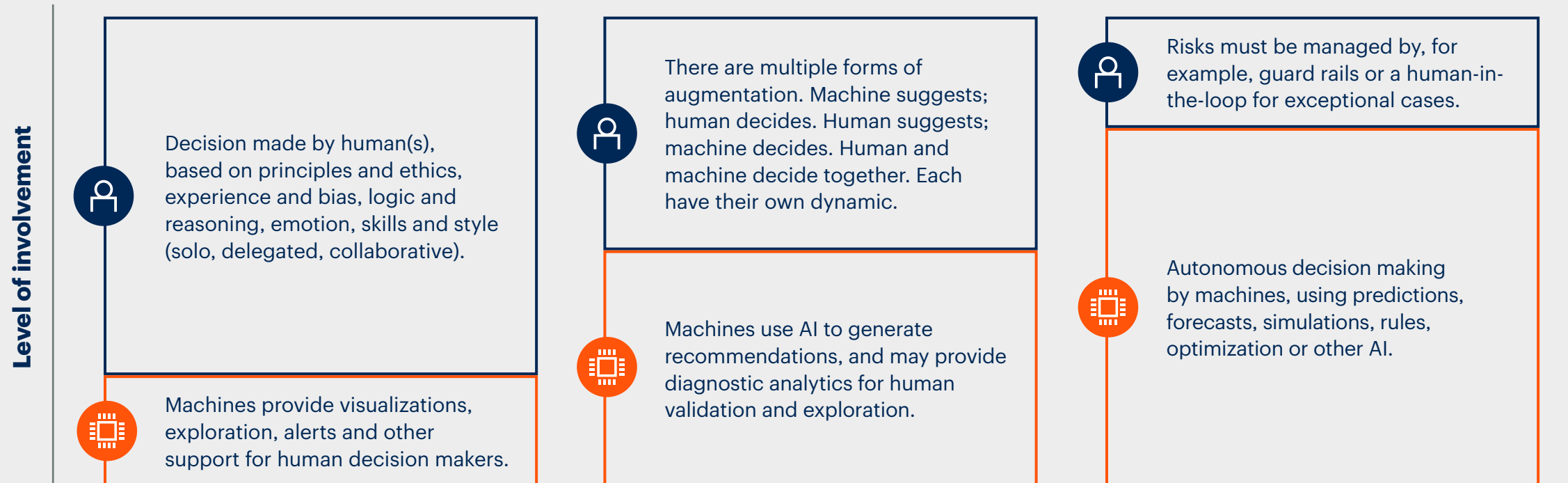
Example: Medical diagnosis

Decision Augmentation

Example: Financial investment

Decision Automation

Example: Next best action for digital ordering



04

Understand the role of a data fabric

To free data from silos and combine the best of humans and machines in decision making, you must assume that all data will be reused in multiple scenarios — and you'll need an infrastructure that supports this “integration always” approach.

Data fabric provides that kind of flexibility. Data fabric is an AI-enabled data management architecture that continuously applies analytics to your data to define metadata relationships and to find associations that power analytics, business applications and decisions.

It can find connections among data — and not just data you brought together deliberately. It dramatically changes the economics of data management and starts to build insights autonomously.

Data fabric can scan the actual use of data for new patterns, new types of metadata and new forms of data orchestration, enabling machines to infer and impute, as well as report, data.

The data fabric presents D&A leaders with an opportunity to replace separately deployed and maintained data management technology and infrastructure. Data fabrics can remove a lot of human effort and error, leaving humans with more time for the creative inputs to decisions at which they excel.

What Good Decision Making Looks Like: Connected, Contextual, Continuous



By 2023, artificial intelligence in the data fabric will be capable of reducing the costs of data quality and data mastering ongoing operations by up to 65%.



By 2024, more than 25% of data management vendors will provide a complete framework for data fabric support through a combination of their own products and partners, up from less than 5% today.

Source: Gartner

05

Build decision-making skills, habits and competencies

Data isn't the only driver of good decision making. D&A leaders also need to foster organizational and analysts' skills and competencies to improve decision making. Four things to focus on:

- 1. Increase data literacy throughout the business.** To make good decisions, all stakeholders must be able to read, write and communicate data in context.
- 2. Create new decision-making habits.** For example, systematically use logic to make rational trade-offs, channel emotions productively and build experience in extrapolating the consequences of decisions.
- 3. Consider decentralizing decision making.** One option is to establish a D&A center of excellence (COE) to collaborate with multiple decentralized teams and communities and the centralized office of the CDO.
- 4. Position some analysts as “decision engineers”** tasked to diagnose and rethink decision-making processes, optimizing the roles of humans and AI. These specialists can proactively design better ways of making optimal decisions, leveraging techniques such as portfolio analysis, Monte Carlo analysis, simulation, decision modelling, systems modelling, statistics and optimization modelling.

What Good Decision Making Looks Like: Connected, Contextual, Continuous



By 2023, data literacy will become an explicit and necessary driver of business value.



By 2023, more than 33% of large organizations will have analysts practicing decision intelligence (including decision modeling).

Source: Gartner

Closing words

Data and analytics is no longer a stand-alone discipline; it has become a catalyst for digital strategy and transformation. This is broadening the mandate for D&A leaders, including chief data officers, to conceive data-driven business opportunities and orchestrate enterprise action.

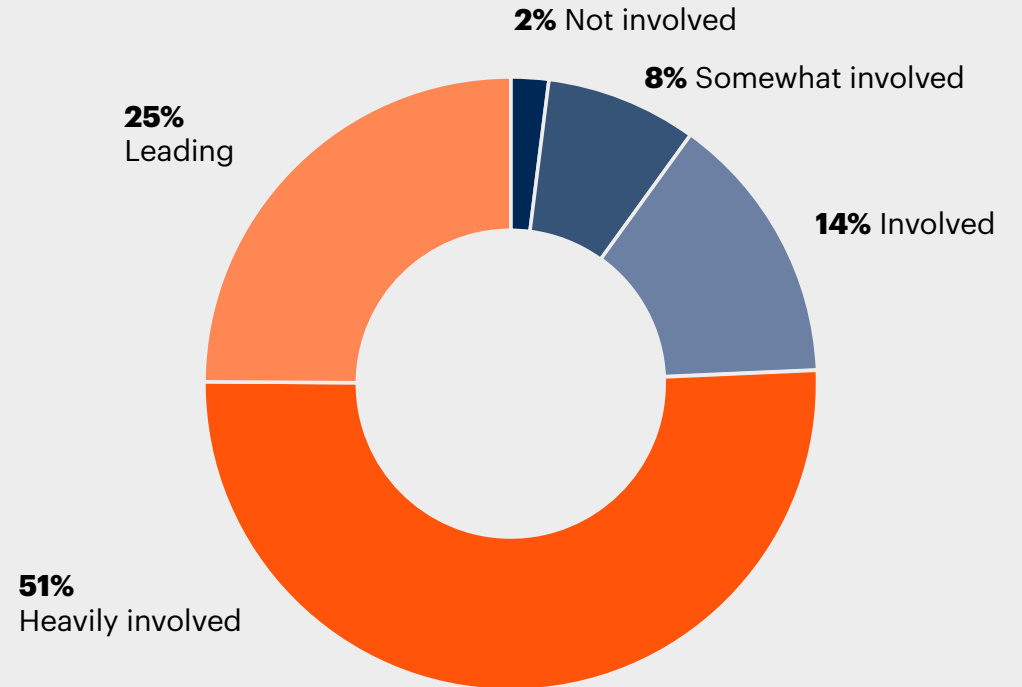
This means you'll need to:

- Drive business conversations about what data will be useful, whether and where previously unsurfaced data could be exploited, and what insights will drive better business outcomes.
- Involve more stakeholders from across the business and determine which collaborations are critical, rather than which you can manage.
- Diagnose what portions of decision making should be preserved for humans and what is best for machines.

The result will be contextual, connected and continuous decision making — a new core competency enabling your organization's ability to anticipate, respond and drive competitive advantage.

D&A leaders have a leadership role in digital transformation initiatives

At organizations with a digital transformation initiative underway, D&A leaders are often heavily involved or leading those initiatives.



Source: Gartner

Actionable, objective insight

Explore these additional complimentary resources and tools for midsize enterprises:



Roadmap

Emerging Technology Roadmap for Midsize Enterprises

Benchmark your plans and make confident investment decisions.

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eBook

Top Strategic Technology Trends for 2022

Avoid pitfalls and lead smart, effective digital transformations.

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