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Predicts 2024: Chief Data and Analytics Officers Must Lead Change

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4 December 2023

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4 December 2023 - ID G00805532 - 36 min read

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Initiatives: Chief Data and Analytics Officer Executive Leadership; Lead a World-Class Data and Analytics Organization

The only constant is change. It can take many forms: cultural, technical or economic. Chief data and analytics officers often confront an environment that is volatile, complex and ambiguous. To be successful, they must act as organizational champions, value drivers, change agents and innovators.

More on This Topic

This is part of 2 in-depth collections of research. See the collections:

- Field Guide for Leading Data-Driven Change Management
- What Supply Chain Executives Need to Know About Data Management Strategies

Overview

Key Findings

- The CDAO office is evolving to become culturally and organizationally federated. It is moving away from corporate centricity toward better alignment with decentralized functions and regional drivers.
- The most successful CDAOs are those who proactively engage and build strong collaborative relationships across multiple levels of the organization.
- CDAOs must update and innovate their data and analytics (D&A) strategies to address the opportunities and risks presented by innovations such as generative (GenAI). Otherwise, they risk becoming obsolete.
- Decisions are the link between D&A and business value. The decision is the place where data-driven insights lead to desired organizational outcomes.
- CDAOs who actively address talent shortages, change management and data literacy are accelerating their success, pulling ahead of their peers.

Recommendations

- Create a multitiered organizational model by setting up a centralized team (hub) that collaborates with several decentralized teams (spokes) and communities.
- Set up the CDAO role for success by defining accountabilities as if the role reported to the CEO. If the CDAO doesn't report directly into the business, aggressively pursue relationships and business outcomes with business leaders.
- Closely track GenAI and other innovations to drive both D&A strategy and consequent changes to stakeholders' desired business outcomes.
- Facilitate highly accurate and contextualized decisions by leveraging decision intelligence practices to combat increasingly ineffective, complex and traditional decision making.
- Explore the cultural barriers to organizational change. Engage senior business and technology executives to support an updated data literacy and change program as a fundamental driver of value realization.

Strategic Planning Assumptions

By 2027, 60% of multinational corporations will adopt franchise models for their regional chief data offices that address local maturity levels and regulatory environments.

By 2026, 75% of CDAOs who fail to make organizationwide influence and measurable impact their top priority will be assimilated into technology functions.

By 2027, more than half of CDAOs will secure funding for data literacy and AI literacy programs, fueled by enterprise failure to realize expected value from generative AI.

By 2028, 25% of CDAO vision statements will become “decision-centric,” surpassing “data-driven” slogans, as human decision-making behaviors are modeled to improve D&A value.

By 2026, the CDAO’s ability to deliver data and AI literacy, culture change, and a skilled workforce will be a top-three determining factor in supporting business strategy.

Analysis

What You Need to Know

Chief data and analytics officers (CDAOs) face a working environment that is volatile, complex and ambiguous.

D&A has innovated for decades, and the current hype around GenAI and ChatGPT only strengthens this drive. D&A is now everywhere, and the expectations of D&A leadership have reached new heights. To be successful, the CDAO must lead change in an uncertain world. But how do CDAOs set themselves up for success? These predictions outline four themes underpinning the CDAO's evolution to a change leader (see Figure 1):

- **CDAO as an organizational champion:** With more advanced options emerging from the use of artificial intelligence (AI) technologies such as GenAI, effective organization design has become an even greater imperative for CDAOs to pursue.
- **CDAO as a value driver:** Data and analytics strategies must shift from focusing on technology to delivering measurable value. CDAOs are more successful when they can support their business stakeholders in both:
 - Achieving measurably improved business outcomes, such as revenue growth or cost savings
 - Defining leading nonfinancial- and financial-influencing outcomes for a complete value story
- **CDAO as an innovator:** Based on the Gartner Chief Data and Analytics Officer Agenda Survey for 2023, promoting data-driven decision making through data literacy programs is a key characteristic of high D&A performance. ¹ A shift to decision-centricity necessitates specialized data literacy programs, introducing roles like decision analysts (which evolve from business analysts), decision scientists and decision engineers.
- **CDAO as a change agent:** Skills and staff shortages, lack of resources, and cultural resistance to change are the top three obstacles to the success of D&A teams, according to respondents of Gartner's 2023 CDAO Agenda Survey. ¹ CDAOs need to promote cultural change and orchestrate "leadership moments" in which they act as role models, exemplifying new cultural traits at critical points. Central to their success will be the ability to guide the workforce by addressing both data literacy ("skills") and data-driven culture ("will").

Figure 1: Four Themes Underpinning CDAO Success

Four Themes Underpinning CDAO Success



Source: Gartner
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Strategic Planning Assumptions

Strategic Planning Assumption: By 2027, 60% of multinational corporations will adopt franchise models for their regional chief data offices that address local maturity levels and regulatory environments.

Analysis by: Julian Sun, Tatsuya Ichsi, Rita Sallam

Key Findings:

- Seventy-five percent of all countries have implemented data localization rules, significantly impacting the IT presence, data governance, data security and D&A architectures of companies, as well as their interactions with local regulators. ²
- To better adapt to local culture, markets and regulations, leading multinational corporations often adopt a franchise model for operating in specific regions. Similarly, data and analytics initiatives can also embrace this strategy.
- Geopolitical tensions have restricted the ability to standardize D&A solutions at a global level, causing multinational corporations to prioritize regional, localized D&A ecosystems.
- D&A maturity and preferences vary significantly across regions. Thus, organizations fail to adopt a standardized approach when establishing a chief data office.

Market Implications:

By adopting culturally localized franchise models, corporations indicate that they will customize their D&A organizational structures and processes to align with the specific cultural nuances and business practices of each region they operate in. This approach recognizes the importance of understanding local markets and adapting accordingly to ensure successful implementation and compliance with regulations.

By factoring in local maturity levels, multinational corporations aim to address varying stages of development across each region. They recognize that some regions may have more advanced technological infrastructure or higher digital literacy rates than others. By tailoring their franchise models based on these factors, companies can optimize resource allocation, enhance operational efficiency and better serve the unique needs of each region.

Considering regulatory environments is crucial for multinational corporations as they navigate complex legal frameworks across borders. Different regions have distinct data protection laws, privacy regulations, technology landscapes and industry requirements that must be adhered to. By adopting culturally tailored franchise models for their regional chief data offices, companies can ensure compliance with local regulations while maintaining global standards.

This strategic shift reflects an increasing recognition among multinational corporations about the significance of localization in managing data operations effectively. It demonstrates a commitment to building stronger relationships with local stakeholders, such as customers, partners and government authorities, by embracing cultural diversity and respecting regional differences.

Recommendations:

- Treat the D&A initiative like a business by instituting a franchise model to serve regional data consumers. Establish regional chief data and analytics offices to research D&A usage and behavior. Provide tailored analytics experiences through cross-functional teams, including business functions such as HR, finance and legal.
- Gain a comprehensive understanding of the operational dynamics and change management strategies employed by regional businesses operating under a franchise model. Ascertain which strategies you can effectively apply to the D&A initiative to enhance its adoption.
- Evaluate the composability of the global D&A architecture. Assess how seamlessly it can integrate into the regional D&A ecosystem to improve regional D&A delivery.
- Deliver “just enough” self-service analytics into the region based on its maturity while gradually improving data literacy via the regional chief data office.

Related Research:

[How to Create and Optimized Organizational Model for Data and Analytics](#)

[Rethink Self-Service by Establishing Analytics Franchises to Drive Adoption and Break Bottlenecks](#)

[Case Study: Digital Models for Localized Supply Chain Decisions \(Ericsson\)](#)

Where to Best Organize Data and Analytics

Hype Cycle for Data, Analytics and AI in China, 2023

Strategic Planning Assumption: By 2026, 75% of CDAOs who fail to make organizationwide influence and measurable impact their top priority will be assimilated into technology functions.

Analysis by: Sarah James

Key Findings:

- CDAOs are struggling to maintain relevance within their organizations. According to Gartner's 2023 CDAO Agenda Survey, only a third of organizations report that the CDAO function is well-established and successful, and only 44% report that it is effective at providing value. ¹ In 2018, 30% of CDAOs reported to the CEO; by 2023, that number had dropped to 15%. ¹ Moreover, the 2023 Gartner Generative AI Impact on D&A Survey shows that ownership of the GenAI conversation is largely defaulting to the CIO, not the CDAO. ³ Combined, this evidence suggests that CDAO influence outside of IT is plateauing.
- The C-suite still wants and needs to get value from data — the CDAO has a significant outstanding opportunity to become a powerful partner to the executive. In the 2022 Gartner CEO and Senior Business Executive Survey, CEOs cited data and analytics as the No. 1 digital- and IT-related capability for enabling growth in 2022 and 2023. ⁴
- The mission and function of the CDAO role are still not clear. Respondents to Gartner's 2023 CDAO Agenda Survey reported that a broad spectrum of capabilities and responsibilities is required, and that no particular "must-have" areas stand out. ¹
- Companies often seek CDAOs primarily for highly technical skills, ⁵ including SQL and Python coding and skills in machine learning and computer science. Many of these skill sets are highly automatable — a target for cost-saving and assimilation.

Market Implications:

CEOs are citing data and analytics as a top capability for enabling growth. According to the 2023 Gartner Executive Leadership Team Dynamics Survey, executive leadership teams in high-performing companies are more likely to use data as an information source when confronting a new situation or making an unfamiliar decision. ⁶ These are key opportunities for CDAOs to establish partnerships with the executive, as executive leaders.

However, the CDAO role appears to be entering a challenging phase. Gartner's 2023 CDAO Agenda Survey shows that the responsibilities of the role are not universally agreed upon, and only a minority of organizations report that the CDAO function is successful. ¹ A Gartner analysis of skills and competency requirements for chief data officers shows that the majority of the skills being sought for the position are still technical. ⁵ Many of these technical skills are becoming automatable. For example, GenAI is already better at coding than some developers. If CDAOs position themselves as technical leaders, assimilating the role under technology leadership is an obvious next step. This is the concern.

GenAI has enabled the C-suite to see the powerful potential of data, resulting in some "land grabbing." All executive leaders need to demonstrate value, and they're rapidly realizing they can find it in data and AI. CDAOs must demonstrate the value of data and position themselves as a leading voice in the AI conversation, clearly connecting the two.

Data is akin to renewable energy — an unlimited resource that is valuable only when converted into power. With technologies, CDAOs provide the tools to convert data. With data literacy, they address the skills. What they often do not address is the motivation.

It's easy to motivate anyone to focus on data when they want to, instantly and without persuasion. When people book a holiday, they immediately check weather data, travel costs and times, accommodation costs, maybe tide charts, etc. Why? Because the data is available, they know how to apply it, and they really want a nice trip.

Why should an organization want to leverage data? CDAOs must empathize with their stakeholders, understand their most important priorities, and then clearly demonstrate how applying data and AI to those will make them more successful. When this step is missed, the path to value and influence is left to chance.

If CDAOs do not target data at the problems their organizations want to solve, the data quickly becomes irrelevant. The way to fight back is organizationwide influence. CDAOs need to create power out of this renewable resource to become and remain relevant to their organization.

Recommendations:

- Get to know your organization and the people in it deeply by creating a stakeholder map, having conversations and building connections.
- Identify the most important priorities for the success of the organization. Understand value levers and pain points end to end, and become business literate.
- Connect with the mission-critical priorities, and offer data solutions for them in a way that is easily consumable. Do not expect people to come to you. Meet people where they are, and then bring them on the journey with you — collaborate and co-create. Lean into culture and behavior change creating value for — and with — your organization.
- Own data and analytics success, take credit, and publicize the benefits and the value in recognizable business language by, for example, using the Gartner Enterprise Value Equation.
- Position yourself as a leading voice in the AI conversation, elevating the profile of data and clearly connecting it to AI. Embrace AI as an opportunity to advance your position as CDAO.

Related Research:

Tech to Exec: From Operational Data Leader to Influential CDAO

3 Steps to Establish a Foundation for CDAO Success

Maverick Research: Data and Analytics Roles Will No Longer Be a Priority

Quick Answer: How to Establish a Strong Brand for the CDAO Office

How to Optimize Enterprise Value From Data and Analytics

The Chief Data and Analytics Officer's Journey to Business Success

Strategic Planning Assumption: By 2027, more than half of CDAOs will secure funding for data literacy and AI literacy programs, fueled by enterprise failure to realize expected value from generative AI.

Analysis by: Alan D. Duncan, Pieter den Hamer

Key Findings:

- AI is poised to change every industry and, consequently, most jobs. Adding to the disruption, D&A overall is at an inflection point, and CDAOs are expected to deliver on the promise of establishing an enterprisewide data culture. In ranking the top enablers of D&A success, respondents to Gartner's 2023 CDAO Agenda Survey identified data literacy as third and culture as an equal fourth with analytics and AI/ML. ¹ (This ranking is based on respondents selecting their top three critical enablers; see CDAO Agenda 2023: Presence, Persistence and Performance. ¹) Meanwhile, in the same survey, corresponding business demand for data literacy and culture change capabilities ranked ninth and 11th in priority, respectively. ¹ (Again, this ranking is based on respondents identifying their top objectives, as demanded by their stakeholders. ¹) The gap between the expectations and business prioritization of these capabilities is stark.
- Improving data and AI literacy is also critical to identifying relevant and value-adding AI use cases. In the 2023 Gartner CEO and Senior Business Executives Survey, respondents named AI as the new technology that will most significantly impact their industries over the next three years (AI ranked first at 21%, with digitization second at 12%). ⁷ Yet, turning the general promise of AI into concrete business impact demands strong collaboration between business stakeholders and AI experts. Such collaboration requires a common ground in terms of understanding the main AI concepts and having realistic expectations about what AI can and cannot do.
- While GenAI is further accelerating the case for executive committees to invest, AI literacy is nascent at best, with few organizations planning or implementing programs. The skills and capabilities of AI are currently concentrated within specific, highly technical roles. However, this status is rapidly changing as industry and public sector executives begin to realize the importance of a workforce knowledgeable in data, analytics and AI. To build such a workforce, organizations require data literacy and AI literacy as core competencies. Human intelligence comes first, not machine intelligence. For instance, critical-thinking and problem-solving abilities may decrease as AI natives depend more heavily on AI for information and decision-making, diminishing their need to analyze situations independently. Additional legal and ethical risks include overreliance on technology, potential bias in algorithms and training data, and GenAI's tendency to be error-prone or to hallucinate. ^{8,9,10}

- The industry is also noticing that GenAI is already getting “dumber” than expected (and hoped for, given the hype). Solutions are less trustworthy, with less reliable outputs. This devolution is partially due to the complexity, opaqueness and intrinsically probabilistic nature of the current algorithms and models. However, it is also occurring because the corpus of information used to fuel the models is not being adequately curated. Thus, the training data is causing hallucinations and unreliable, toxic or biased output. This is a particularly difficult challenge to address, given the complexity and often unreliable provenance of source data being used in GenAI scenarios. ^{11,12,13}
- The net result is that organizations must invest in their people to have strong data, analytics and AI skills. Education must emphasize critical thinking and the ability to understand, interpret and act upon AI-generated insights. Without these mitigations in place, investments in AI will, at best, fail to deliver the expected business value and, at worst, introduce additional failure points.

Market Implications:

- The market will see an increase in the number of third parties offering data/AI literacy education and training programs, new delivery models, and new platforms. These providers will underpin the success of GenAI investments for those organizations that engage them.
- GenAI platform vendors will need to significantly invest in upskilling their teams for data management, data and AI governance, data quality, and AI risk management capabilities.

Recommendations:

- Assess the AI readiness of your workforce for both data and AI literacy. These are complementary learning areas, so plan to educate on both themes depending on business need and emphasis. Be brutally honest as to whether the workforce has the necessary skills to leverage AI techniques for context-specific use cases.
- For any area of planned investment in GenAI technology or AI use-case implementation, fund corresponding data/AI literacy education as a core workforce capability.

Related Research:

Quick Answer: How Are AI Literacy and Data Literacy Related?

How CDAOs Must Lead Data Literacy and Data-Driven Culture

CDAO Field Guide for Data Literacy and Data-Driven Business Transformation

CDAO Field Guide for Leading Data-Driven Change Management

Partner With Data Literacy Providers to Accelerate the Time to Value for Data-Driven Enterprises

9 Social and Cultural Implications of Generative AI

Strategic Planning Assumption: By 2028, 25% of CDAO vision statements will become “decision-centric,” surpassing “data-driven” slogans, as human decision-making behaviors are modeled to improve D&A value.

Analysis by: David Pidsley, Gabriela Vogel

Key Findings:

- Historically, D&A leaders emphasized a data-driven vision focused on data collection, storage and quality, while recognizing the importance of information as a strategic, authenticated, secure and legally compliant resource. Despite the buzz around being data-driven, the majority of respondents to the 2023 Gartner Data & Analytics Strategy and Operations Model — Live Webinar Poll prioritized other themes in their D&A vision. ^{1 4} Just 22% prioritized a data-driven vision, behind actionable insight (32%) and business outcomes (26%). ¹⁴
- Furthermore, in the 2022 Gartner Reengineering the Decision Survey, we asked, “How would you describe your organization’s view of being data-driven?” The majority of respondents report minimal success at becoming “data-driven,” with 26% reporting no actual change (despite common use of the term), 21% noting uneven interest and adoption in being data-driven, and 11% lacking any official discussion of being data-driven. ¹⁵ Data-driven decision making is not a reality today, according to a survey of 14,250 participants in January 2023. ¹⁶ Sixty-five percent of respondents said their organization uses D&A to justify a decision that’s already been made and often puts the highest-paid person’s opinion ahead of data when making decisions. ¹⁶

- Complexity and unpredictability have shifted the CDAO's focus to valuing outcomes over data alone. The emphasis is on utilizing data and analytics to enhance operational and tactical decision making, ranging from everyday to strategic decisions. In (re)designing a decision-making process, the C-suite is usually responsible. The C-suite, legal, finance or strategy is most often accountable. IT, finance or legal is most likely consulted, according to the 2023 Gartner Decision Intelligence Survey.¹⁷ But while the majority of IT leaders and CIOs report collaborating with IT teams when redesigning decision-making processes, only 41% reach out to consult with D&A colleagues.¹⁷
- CDAOs leveraging a decision-centric vision ensure optimal value creation via D&A assets. They emphasize improved business results and transcend rigid data-driven dogma. A decision-centric vision applies "a practical discipline that advances decision making by explicitly understanding and engineering how decisions are made and how outcomes are evaluated, managed and improved via feedback."¹⁸ (See Video: How Decision Intelligence Improves Business Outcomes.)
- There is a growing trend toward decision-centric approaches — intertwining human behavioral science and D&A for agile, informed decisions. In the past year, Gartner client inquiries about "decision intelligence" surged, but only 37% were from end users.¹⁹ A notable percentage of vendors in the following markets are now labeling themselves on their website homepages as enablers of "decision intelligence":²⁰
 - 2023 Gartner Decision Intelligence Vendor Identification Survey²¹ respondents (26%)
 - Market Guide for Augmented Analytics (18%)
 - Magic Quadrant for Analytics and Business Intelligence Platforms (15%)
 - Market Guide for Analytics and Decision Intelligence Platforms in Supply Chain (15%)
 - Tool: Vendor Identification for Decision Management Suite Providers (14%)

- Data-driven approaches often neglect the human influence on decision making, whereas decision-centric models prioritize these behavioral elements, encompassing factors like team dynamics, biases and fears. Decision styles should be sometimes wholly data-driven (decision automation), sometimes moderately data-driven (decision support), but most often somewhere in between (decision augmentation). Because CDAOs have historically aimed to nurture a data-driven culture, leading the conversation about the impact of human behavior on the decision-making styles used across their organization becomes paramount to their success.
- GenAI speeds up decision automation, presenting risks like bias amplification. Unforeseen behaviors, such as malinformation, emerge rapidly. Organizations' struggles with AI decision-making surge. Trust and risk management are often insufficient. Multiple AI agents and humans interacting can destabilize sociotechnical systems. Full causal explainability of AI systems will not be possible, thus requiring "neurosymbolic" approaches to create a bridge between human and AI communication. Risk mitigation demands integrating AI decision making with behavioral modeling. (See Generative AI Will Impact the Design and Control of Sociotechnical Systems.)

Market Implications:

- Data alone doesn't change decision-making behaviors, unless it is used in deciding. Without a decision-centric vision, CDAOs risk veering away from key stakeholder needs and the imperative of driving better decision making, not just better data.
- A shift to decision-centricity necessitates specialized data literacy programs, introducing roles like decision analysts (which evolve from business analysts), decision scientists and decision engineers. Despite an increasing focus by decision intelligence platform (DIP) vendors, organizations have yet to identify jobs and roles necessary to exploit these tools. Decision/business analyst is the most frequently involved role in decision intelligence (69%), but only one in seven organizations involves DIP managers or decision engineers.¹⁷ Key performance metrics for people will pivot around decision-centric principles as decisions are explicitly modeled, measured and audited.

- As DIP vendors gain traction, providers of analytics and business intelligence platforms must underscore how their decision-centric user interface (UI) keeps them relevant to buyers. Early adopters of these UIs are operationalizing their D&A strategies with DI. Capabilities for monitoring decisions, especially decision tracking, are viewed as most important, followed by capabilities for executing the decision with a decision flow. ¹⁷
- Adopters will transition beyond solely data-driven decision support (dashboards and reports for descriptive analytics) . By applying GenAI, they will enable decision augmentation through natural language query (NLQ) of data about their decisions and more prescriptive analytics for recommending courses of action (via large action models) .
- Data silos threaten collaborative, cross-functional decision making. Without AI-ready data, decision augmentation may incur substantial costs and risks. Accountabilities for decision outcomes might become ambiguous, leading to perceptions of resource wastage and to challenges in assessing data ROI.
- The market is leaning toward increased data democratization, with growing investments in mechanisms to provide feedback to decision-making tools. In addition, enterprises are onboarding behavioral (psychology) or decision scientists — although, just 4% of respondents to the 2023 Gartner Decision Intelligence Survey have these roles involved in decision intelligence in their organization today. ¹⁷ In the longer term, “neurocentric D&A” will merge human behavioral science with analytics and data sciences, signifying how data’s maximum value can be achieved by embracing the best of machine and human cognition. (See Building a Neurocentric Organization Is the Next Gamechanger.)
- Humans will shift from executing lower-order processes and tasks to specifying decisions and outcomes. This shift will place greater emphasis on how people engage with GenAI systems and overcome the dilemma of aligning AI decisions. Increasingly, workers will not be judged on how they execute decisions. Rather, they will be judged on how well they can frame decisions to provide the environmental context for AI agents as part of human-in-the-loop dialogues.

Recommendations:

- Clarify that common benefits of decision intelligence are decision alignment with organizational goals and objectives, reduction of inconsistencies, better collaboration with stakeholders, and increased acceptance of the decision by the organization. Do not overemphasize the potential positive impacts of mitigating bias or reducing time to react resulting from following a more formal decision-making process.¹⁷
- Identify critical decision points within the organization where the CDAO can start transitioning to and piloting a decision-centric approach comprising decision intelligence practices and platforms. Use decision frameworks, such as Gartner's Decision Intelligence (GDI) framework, for these high-value decisions. Enhance or develop prescriptive analytics models to add actionable insights to critical business moments and strategic decision points by, for example, developing and validating decision simulations.
- Uphold the principled, ethical and legally compliant use of data for decision automation in line with organizational values and emerging regulations. Implement trust, risk and security management (TRiSM) systems. This adaptation involves:
 - Revising D&A strategy vision statements and legacy slogans
 - Augmenting manual dashboard development and delivery
 - Automating data storytelling capabilities
 - Enhancing data literacy programs with the insights of robust behavioral sciences
- Establish or refine decision ownership protocols, roles and responsibilities in harmony with these decision frameworks. Embrace training and development initiatives that focus on blending D&A with practices that reengineer decisions and incorporate human behavioral sciences. This approach ensures that the workforce is equipped to navigate the shift propelled by GenAI.
- Encourage vendors to ramp up research and development and align their platforms with prevailing decision-centric trends as leading industries and lines of business adopt them. They must distinguish their products and services by spotlighting their contributions to human-centric decision support, decision augmentation and action frameworks, and the ethical automation of decisions.

Related Research:

Tool: Getting Practical With Decision Intelligence — A Step-by-Step Approach

The Future of Data and Analytics: Create Competitive Differentiation Through Better Decision Making

Infographic: Let's Start Tracking the Impact of Our Decisions

Tool: Gartner Decision Intelligence Framework to Reengineer Decisions

What Are the Must-Have Roles for Data, Analytics and AI?

Building a Neurocentric Organization Is the Next Gamechanger

Case Study: The Role of Behavioral Science in Leading Analytics Teams (Canada Energy Regulator)

Client Webinar: The Future of Data & Analytics: Create More Value Through Decision Intelligence

Strategic Planning Assumption: By 2026, the CDAO's ability to deliver data and AI literacy, culture change, and a skilled workforce will be a top-three determining factor in supporting business strategy.

Analysis by: Donna Mederios, Sarah James

Key Findings:

- Top priorities of CEOs, as indicated by the 2023 Gartner CEO and Senior Business Executive Survey, are growth, technology and workforce.⁷ In 2022, CEOs cited data and analytics as the top digital- and IT-related capability for enabling growth for 2022 and 2023.⁴ Data, analytics and AI — and the necessary skilled workforce — hold immeasurable value for enterprises, as described in Gartner's Hype Cycle for Data and Analytics Programs and Practices, 2023. Yet, the talent shortage in tech continues.

- Data literacy matters for business success as an explicit and necessary driver of business value and growth. According to Gartner's 2023 CDAO Agenda Survey, it is one of the top three critical enablers of D&A Success. ¹ Based on the prior year's survey, CDAOs who align their D&A strategies with overall business strategy and operations are 2.3 times more effective in delivering business value (see CDAO Agenda 2022: Focus on Value, Talent and Culture to Pull Ahead). ²²
- By empowering employees to skillfully use data and analytics for decision making and ideation, data literacy fosters a culture of data for decision making and data for innovation and GenAI.
- Data-driven initiatives have become an imperative part of digital transformation for many. Enterprises must infuse the business strategy with D&A and establish a data and AI culture by promoting data and AI literacy across the entire workforce.

Market Implications:

- As enterprises advance their D&A maturity and AI hype grabs more executive attention, data and AI literacy will become foundational to the data-driven enterprise.
- CDAOs must make data and AI literacy a core aspect of their D&A strategies as a people and culture pillar.
- CDAOs will need to maximize engagement across the C-suite, obtaining business leader investment and ongoing buy-in to achieve scale.
- Demand for data and AI literacy services/vendors and change management services/vendors will increase. These procured services will inform behavior change strategies and foster a culture of trust in data. Such services may need alignment with data governance initiatives.
- Delivering on data literacy means also undertaking a change management initiative. It involves establishing a data culture and mindset shift where data is valued, trusted and utilized. Such a shift involves understanding and changing behaviors, often in a phased approach, by establishing a coalition of the willing and building on success through quick wins that demonstrate credibility and develop a critical mass of support. Executives will need to focus on how to tackle enterprise change management — indeed the company's culture — by involving other C-suite executives, HR, data governance experts, service providers, and vendors specializing in understanding and changing behaviors.

- Data literacy and culture change are an ongoing organizational process and journey, mapping to employees' processes and workflows, as described in Gartner's CDAO Field Guide for Leading Data-Driven Change Management.
- As data and AI literacy adoption increases to serve business goals, employee job descriptions will include data, analytics and AI as standard capabilities and competencies across all enterprise roles and levels, technical or otherwise.
- As competition for tech talent continues, companies will look at additional ways to entice workers, including upskilling and wages based on D&A skills. In particular, the public sector will need to have creative practices for filling positions from within, hiring outside talent and managing talent on a continual basis.

Recommendations:

- Include data and AI literacy as a core pillar of D&A strategy, mapping directly to the organizational strategy for business outcomes enablement. Secure executive buy-in and investment to achieve scale. Develop a value proposition by mapping business value and outcomes to data literacy, working with business leaders to co-create and mark successes along with way, use case by use case.
- Collaborate with HR, business leaders, key stakeholders and partners to plan data and AI literacy initiatives. Make culture change an objective to gain buy-in, scale up across the enterprise and deliver business value.
- Measure the business value/ROI and outcomes of data and AI literacy initiatives and work with the business lines to establish KPIs in advance of launch.
- Help retain talent, onboard new employees and even recruit by adding employee journey maps for data literacy to your overall talent management strategy. Address the employee value proposition with reward mechanisms, such as certifications, projects and organizational champion roles.

Related Research:

CDAO Agenda 2023: Presence, Persistence and Performance

The Chief Data and Analytics Officer's Journey to Business Success

2023 CEO Survey: Culture Change Expectations for Executives

3 Ways to Measure and Communicate the Value of Data Literacy

Create GenAI Business Value With Digital Products

Hype Cycle for Data and Analytics Programs and Practices, 2023

Quick Answer: How Are AI Literacy and Data Literacy Related?

Improving Decision Making Starts With Data Literacy

A Look Back

In response to your requests, we are taking a look back at some key predictions from previous years. We have intentionally selected predictions from opposite ends of the scale – one where we were wholly or largely on target, as well as one we missed.

This report is too new to have on-target or missed predictions.

Evidence

¹ **Gartner Chief Data and Analytics Officer Agenda Survey for 2023.** This study was conducted to explore the business impact of the CDAO role and/or the office of the CDAO and understand the leadership traits of the most successful CDAOs that distinguish them from their peers. The research was conducted online from September through November 2022 among 566 respondents from across the world. Respondents were required to be the highest-level data and analytics leader in the organization: chief data officer, chief analytics officer, chief data and analytics officer, the most senior leader in IT with data and analytics responsibilities, or a business executive such as chief digital officer or other business executive with data and analytics responsibilities. Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

² **Localization of Data Privacy Regulations Creates Competitive Opportunities**, McKinsey and Company.

³ **2023 Generative AI Impact on D&A Survey.** This study was designed to understand how CDAOs view the implications of generative AI for their roles and the D&A function. The research was conducted online from 28 August through 8 September 2023 among 48 Gartner client respondents. Qualified respondents were from companies that are actively assessing, piloting or using generative AI. Respondents were targeted based on their role in data and analytics. Disclaimer: Results of this study do not represent global findings or the market as a whole but reflect sentiment of the respondents and companies surveyed.

⁴ **2022 Gartner CEO and Senior Business Executive Survey.** This survey was conducted to examine CEO and senior business executive views on current business issues, as well as some areas of technology agenda impact. The survey was conducted from July 2021 through December 2021, with questions about the period from 2021 through 2023. One-quarter of the survey sample was collected in July and August 2021, and three-quarters was collected in October through December 2021. In total, 410 actively employed CEOs and other senior executive business leaders qualified and participated. The research was collected via 382 online surveys and 28 telephone interviews. The sample mix by role was CEOs (n = 253); CFOs (n = 88); COOs or other C-level executives (n = 19); and chairs, presidents or board directors (n = 50). The sample mix by location was North America (n = 176), Europe (n = 97), Asia/Pacific (n = 86), Latin America (n = 40), the Middle East (n = 4) and South Africa (n = 7). The sample mix by size was \$50 million to less than \$250 million (n = 58), \$250 million to less than \$1 billion (n = 81), \$1 billion to less than \$10 billion (n = 212), and \$10 billion or more (n = 59). Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

⁵ **Analysis of Skills and Competency Requirements for Chief Data Officers.** This analysis is taken from a random sample of 50 CDAO-level job descriptions, across a range of geographies and industries, assessed by Gartner Secondary Research Services in July 2023.

⁶ **2023 Gartner Executive Leadership Team Dynamics Survey.** This survey was conducted to discover how executive leadership dynamics affect business value from 5 May 5 through 28 June 2023. Qualified respondents were CEOs or direct reports to the CEO and came from companies with at least \$1 billion in annual revenue. In all, 140 executive leadership team members from North America (n = 69), Europe (n = 41) and Asia (n = 30) participated. Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiment of the respondents and companies surveyed.

⁷ **2023 Gartner CEO and Senior Business Executive Survey.** This survey was conducted to examine CEO and senior business executive views on current business issues, as well as some areas of technology agenda impact. The survey was fielded from July 2022 through December 2022, with questions about the period from 2022 through 2024. One-quarter of the survey sample was collected in July and August 2022, and three-quarters was collected from October through December 2022. In total, 422 actively employed CEOs and other senior executive business leaders qualified and participated. The research was collected via 382 online surveys and 40 telephone interviews. The sample mix by role was CEOs (n = 277) ; CFOs (n = 95) ; COOs or other C-level executives (n = 19) ; and chairs, presidents or board directors (n = 31) . The sample mix by location was North America (n = 169) , Europe (n = 105) , Asia/Pacific (n = 102) , Latin America (n = 29) , the Middle East (n = 11) and South Africa (n = 6) . The sample mix by size was \$10 million in revenue to less than \$50 million (n = 3) , \$50 million to less than \$250 million (n = 51) , \$250 million to less than \$1 billion (n = 102) , \$1 billion to less than \$10 billion (n = 190) , and \$10 billion or more (n = 76) . Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

⁸ Impact of Artificial Intelligence on Human Loss in Decision Making, Laziness and Safety in Education, Humanities and Social Sciences Communications, Nature Portfolio.

⁹ Generative AI Could Help Solve the U.S. Mental Health Crisis, Psychology Today.

¹⁰ What Do We Do About the Biases in AI? Harvard Business Review.

¹¹ ChatGPT's Accuracy Has Gotten Worse, Study Shows, Popular Science.

¹² L. Chen, M. Zaharia and J. Zhou, How Is ChatGPT's Behavior Changing Over Time? Stanford University and UC Berkeley.

¹³ GPT-4: Is the AI Behind ChatGPT Getting Worse? NewScientist.

¹⁴ **2023 Gartner Data & Analytics Strategy and Operations Model – Live Webinar Poll.** This poll was conducted during a webinar held on 8 March 2023 with 108 data and analytics leaders attending. Respondents were a mix of Gartner clients and nonclients from a range of industries and in a range of job roles. Disclaimer: Results of this live poll do not represent Gartner's clients or the market but reflect the sentiments of those who chose to respond.

¹⁵ **2022 Gartner Reengineering the Decision Survey.** This survey was conducted online from 27 September 2022 through 7 October 2022 to understand the role of data and analytics in organizational decision making. In total, 161 IT and business Leaders and CIO Research Circle members participated. Members from North America (n = 73) , EMEA (n = 58), Asia/Pacific (n = 20) and Latin America (n = 9) responded to the survey.

¹⁶ **Global Study: 70% of Business Leaders Would Prefer a Robot to Make Their Decisions, Oracle.** This global sample of 14,250 people were surveyed in January 2023. In each country, the sample represented employees and business leaders, including titles such as president, CEO, chairperson, C-level executive, CFO, CTO, director, senior manager, HR manager, and other select leadership roles, confirmed by consumer-matched data accessed via the global insights platform Prodege. Employee samples were calibrated, where possible, to reflect the age and gender demographics of the nation's workforce. Oracle partnered with DKC Analytics and New York Times bestselling author, Seth Stephens-Davidowitz, to conduct and analyze this survey with a sample procured using the Pollfish survey delivery platform, which delivers online surveys globally through mobile apps and the mobile web along with the desktop web. No poststratification has been applied to the results.

¹⁷ **2023 Gartner Decision Intelligence Survey.** This poll was conducted online from 18 October through 2 November 2023 to gain an understanding of how mature organizations are at decision intelligence and the benefits they believe come from a more disciplined approach to decision making. In total, 141 IT leaders and CIOs involved in executive decision making within their organization participated. Of these, 110 were from the Gartner Research Circle (a Gartner-managed panel) , and 31 were from an external sample. Participants were primarily from North America (n = 73) and EMEA (n = 52) ; other respondents came from Asia/Pacific (n = 10) and Latin America (n = 6).

¹⁸ See Hype Cycle for Data and Analytics Programs and Practices, 2023, for the definition of "decision intelligence."

¹⁹ **Analysis of Gartner Client Inquiries About Decision Intelligence.** Gartner Secondary Research Services analyzed the inquiry data from 1 November 2022 through 1 November 2023 and deduced the end-user percentage.

²⁰ **Analysis of Vendor Homepages.** In November 2023, Gartner Secondary Research Services analyzed the website homepages of the vendors in the aforementioned markets for the phrase "decision intelligence."

²¹ **2023 Gartner Decision Intelligence Vendor Identification Survey.** From April through June 2023, Gartner analysts surveyed vendors (76 respondents) on the topic of decision intelligence platforms.

²² **Gartner Chief Data Officer Agenda Survey for 2022.** This study was conducted to explore and track the business impact of the CDO role and/or the Office of the CDO and the best practices to create a data-driven organization. The research was conducted online from September through November 2022 among 496 respondents from across the world. Respondents were required to be the highest-level data and analytics leader in the organization: chief data officer, chief analytics officer, the most senior leader in IT with data and analytics responsibilities, or a business executive such as chief digital officer, or other business executive with data and analytics responsibilities. The survey sample was gleaned from a variety of sources (including LinkedIn), with the greatest number coming from a Gartner-curated list of over 4,519 CDOs and other high-level data and analytics leaders. Disclaimer: Results of this study do not represent global findings or the market as a whole but reflect sentiment of the respondents and companies surveyed.

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CDAO Agenda 2023: Presence, Persistence and Performance

Creating a Modern, Actionable Data and Analytics Strategy That Delivers Business Outcomes

Design and Implement an Effective Data and Analytics Operating Model That Delivers Business Outcomes

CDAO Effectiveness Diagnostic

How Successful CDAOs Can Overcome Top Roadblocks

A Generative AI Playbook for CDAOs

How to Optimize Enterprise Value From Data and Analytics

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