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# Address Both 'Skill' and 'Will' to Deliver Data-Driven Business Change

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## Address Both 'Skill' and 'Will' to Deliver Data-Driven Business Change

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Initiatives: Chief Data and Analytics Officer Leadership

Becoming a data-driven enterprise requires explicit and persistent organizational change management to achieve measurable business outcomes. Chief data and analytics officers must address both data literacy (“skills”) and data-driven culture (“will”) among the workforce.

### Overview

#### Key Findings

- Chief data and analytics officers (CDAOs) are still not addressing cultural and data literacy challenges within their strategies and programs.
- “Culture challenges to accept change” is consistently cited as one of the most prevalent roadblocks to the success of data and analytics teams.
- “Lack of resources” and “poor data literacy” are other major roadblocks.

#### Recommendations

To successfully account for human factors in their change management initiatives, chief data and analytics officers, should:

- Sell the desired business change by communicating aspirational and inspirational SMART (specific, measurable, actionable, realistic, time-bound) benefits for both the organization as a whole and for individual stakeholders.
- Educate stakeholders by providing specific and targeted data literacy training in the capabilities that the workforce needs to be successful (“skill,” relating to aptitude).
- Deliver the changed business state by executing programs of data and analytics, while adapting the messaging for stakeholders according to their cultural readiness to engage (“will,” relating to attitude).

## Strategic Planning Assumption

By 2023, data literacy will become an explicit and necessary driver of business value, demonstrated by its formal inclusion in over 80% of data and analytics strategies and organizational change management programs.

## Introduction

There are significant barriers to success with data and analytics. Respondents to the 2022 Gartner survey <sup>1</sup> find below to be the top three internal roadblocks for chief data and analytics officers (see Note 1):

1. Skills and staff shortages
2. Cultural resistance to accepting change
3. Lack of resources and funding to support the programs

The message is clear: CDAOs must address skills, cultural and resourcing challenges by applying data literacy and change management within their strategies and delivery programs. If they do not do so, they will continue to fall short in terms of delivering measurable business outcomes. Contributing factors commonly stated by Gartner clients include:

- The CDAO has not been in the role long enough to effect change.
- Line of business (LOB) managers and staff have been in their positions for a long time and do not respond well to change.
- Data is seen as the responsibility of the IT function.
- There is no understanding of how change is going to benefit the individual.
- There is a lack of demand for data within business units.
- The link between data and business outcomes is missing or insufficiently explained.

CDAOs need to take immediate and sustained action to mitigate these factors. Realistically, this kind of lasting and meaningful change takes time, because it requires learning new skills and behaviors. Rather than treating these factors as constraints, CDAOs can emulate their higher-performing peers by putting much more emphasis, energy and effort into the change management requirements for their data and analytics strategies. They must deliberately and purposefully act as agents for change, addressing both data literacy (“skills,” also expressed as “aptitude”) and data-driven culture (“will,” alternatively expressed as “attitude”).

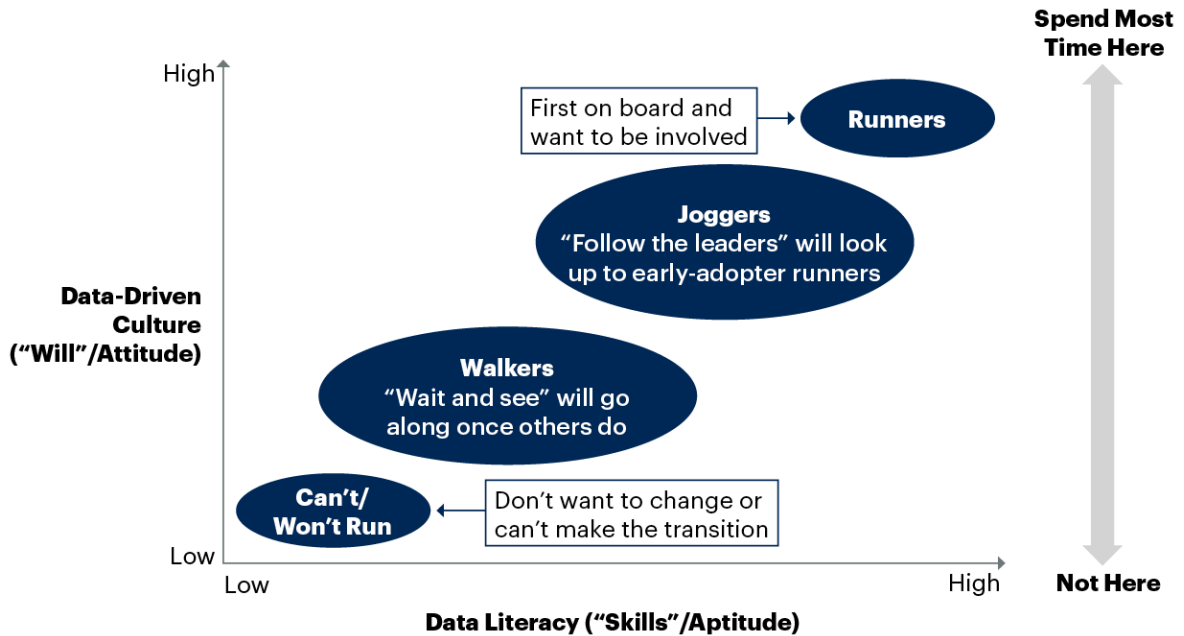
An often-ignored but vital aspect of change is that individuals change at different speeds. The vast majority of change programs assume that change will happen at the same time and the same speed for everyone involved. Even when your employees start from the same position at the beginning of your change program, some employees will eagerly embrace change and take the initiative, while others will fall behind or even be reluctant to start.

Segmentation of stakeholders is therefore crucial to the success of data and analytics programs (see Figure 1 and Note 2).

Figure 1. Change Management for CDAOs: Segment Stakeholders by Both “Skill” and “Will”

**Change Management for CDAOs**

Segment Stakeholders by Both “Skill” and “Will”



Source: Gartner  
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CDAOs must engage with each segment in a different way and at different times. To be successful with their data and analytics strategies, CDAOs must be deliberate in their approach to stakeholder communication and influencing, based on three broad phases: *selling, educating, and delivering*.

**Analysis**

**Sell: Communicate SMART Benefits to Both the Organization and the Individual Stakeholders**

Ensuring data and analytics initiatives are adopted is a consistent challenge for CDAOs. In order to achieve this, they must “sell” the overall vision and strategy for data and analytics and the measurable business benefits, while also overcoming any stakeholder objections and underlying change resistance challenges. Benefits need to be expressed in SMART terms (see 6 Steps to Obtain Buy-In and Sell Data and Analytics to Stakeholders and Note 3).

People make decisions with a combination of intellect and emotion, although many are unaware of or even deny the role of emotion in decision making. The questions that they ask, whether consciously or not, are:

- How will this benefit me personally?
- Will this help my team?
- Will this help my career?
- How much will this cost me in terms of time and effort? Is it something that interests me?
- Do I have the ability to learn this?

CDAOs must answer these questions in order to present positive outcomes that benefit both individual stakeholders and the organization as a whole. They must also have concrete proposals that allow people to gauge the time and effort required and the difficulty of learning the new skills (see Table 1).

**Table 1: Examples of Communicating Collective Benefits and Personal Benefits**

Collective Benefit (“What’s in It for Us?”)	Personal Benefit (“What’s in It for Me?”)
Project delivered on time and budget	Promotion to a higher grade
Increased revenue from raising the sales penetration of new product lines	Chance to attend end-of-year sales event, the “Winners’ Circle”
Improved graduation rates and test scores, which help the school system and budgets	Satisfaction for teachers, who feel able to improve the lives of students for years to come
Opportunity to hold an end-user conference that attracts new sales prospects	Presentation of a case study that is covered in social media and raises personal profile
A new version of the online self-service customer website launched to market ahead of schedule, reducing operating costs by 5%	Recognition from the CEO in the company’s end-of-quarter newsletter

Source: Gartner

CDAOs need to identify the answers to the questions: “What’s in it for us?” in terms of improved and measurable team and corporate outcomes, and “what’s in it for me?” in terms of personal/professional impacts for the individual (see [How Data and Analytics Leaders Must Address Emotional Impacts to Foster a Data-Driven Culture](#)).

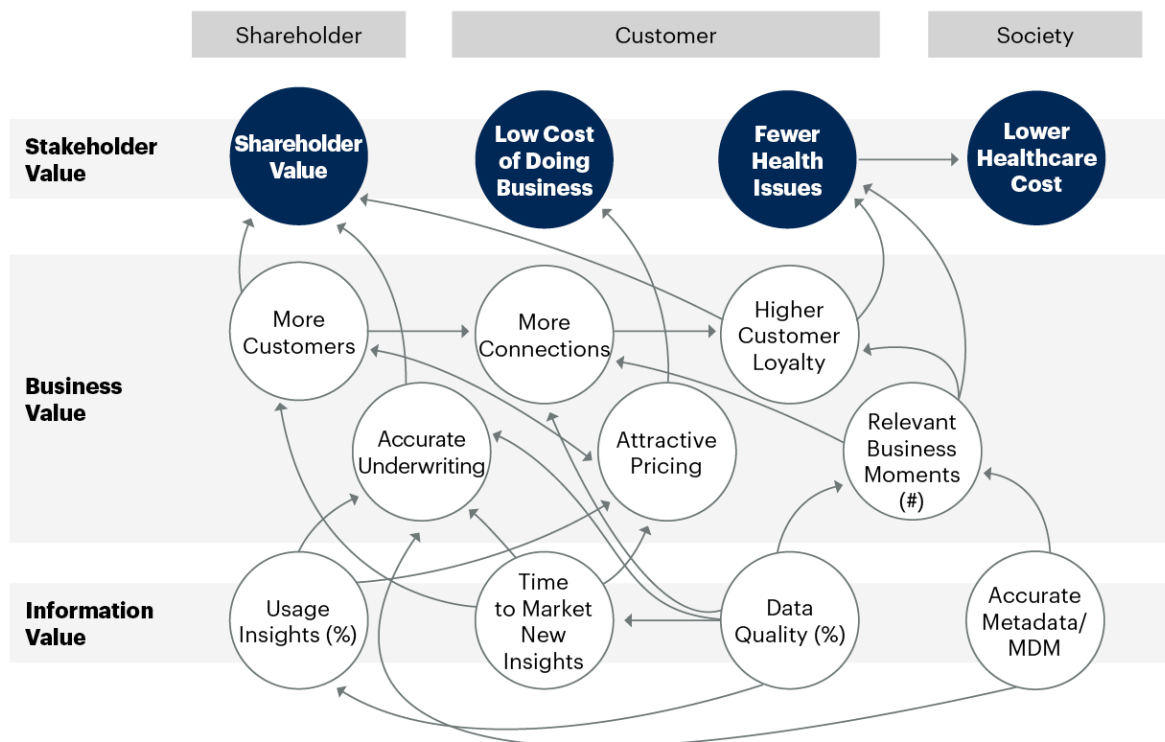
The data and analytics vision has to be aspirational and inspirational in equal measure, setting a positive and specific view of the desired end state (see [Use the ESCAPE Model to Develop Change Leadership](#)). This must also focus on the business impact and outcomes arising from an analytical approach, rather than any details of project delivery. Use examples from case studies and use cases to illustrate the expectations and opportunities (see [Tool: A Catalog of Real-World Data and Analytics Success Stories](#)).

Change initiatives often fail because employees don’t know how or why they must change their behavior, and inconsistent messages create distrust and cause change resistance. IT leaders can maximize their initiatives’ chances of success by creating a “From/To/ Because” model for each identified benefit (see [Start Organizational Change With a From/ To/Because Model](#)).

Any underlying improvements in culture, process or behavior can have a significant impact on the overall performance of an organization. However, any “soft” benefits should be analyzed further to trace them through to “hard,” SMART benefits. “We’ll make better decisions” is not a compelling or measurable outcome (see 3 Clear Value Propositions for Your Data and Analytics Strategy, Defining Metrics to Track the Success of Your Strategy and Figure 2).

**Figure 2. CDAOs Must Communicate Hard Benefits for Both the Organization and the Individual Stakeholders**

### CDAOs Must Communicate Hard Benefits for Both the Organization and the Individual Stakeholders



Source: Gartner  
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Note that the contribution to business outcomes may not necessarily be directly causal.

For more information, please see:

- How CDOs Engage With Their Stakeholders to Foster Data Literacy and Deliver Measurable Business Value
- Engage and Influence Business Stakeholders Using a Data-Enabled Storytelling

- CDO Success Factors: Culture Hacks to Create a Data-Driven Enterprise

## Educate: Provide Specific and Targeted Data Literacy Training in Capabilities Vital to Success

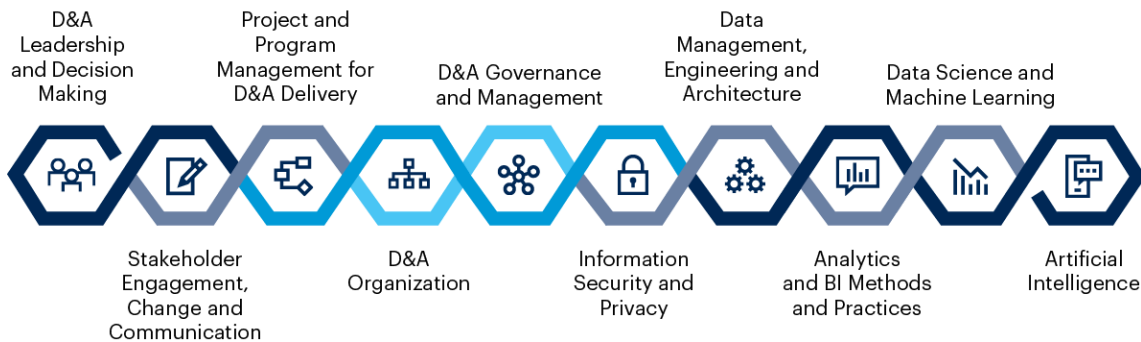
Gartner defines “data literacy” as:

“The ability to read, write and communicate data in context, including an understanding of data sources and constructs, analytical methods and techniques applied, and the ability to describe the use-case application and resulting value.”

Digital transformation, and the need for businesses to create a digital workforce, means that we now see increased recognition of the role that the data literacy of employees plays within overall digital business success (see Figure 3).

**Figure 3. Data Literacy Capabilities and Competencies**

### Data Literacy Capabilities and Competencies



Source: Gartner  
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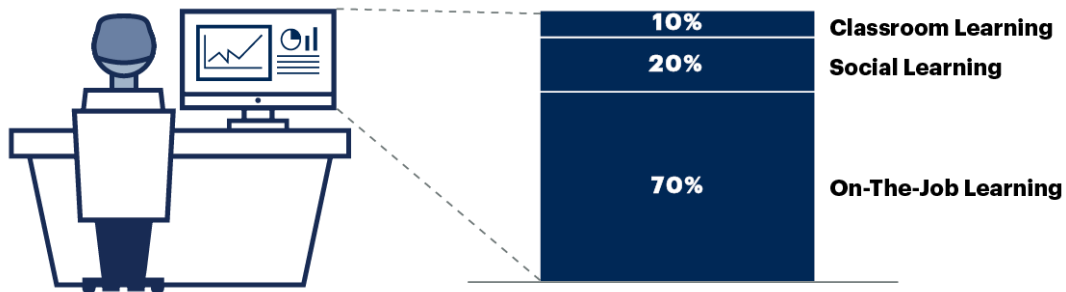
Creating a data-literate and analytical workforce is an ongoing and long-term initiative because of constant changes to the business environment (new process, new data type and source), staff (new hires, transfer or promotion) and data and analytics technologies.

Digital data and analytics skills are critical, including an understanding of the application of sensors, robots, digital twins, mobile, cloud and seamless collaboration. The fundamental element that flows through all of these things is data. The need to understand how insight can be derived from data through analytics and artificial intelligence (AI) is foundational to how every employee engages with it and, in so doing, adds value.

A well-designed and adaptive training program for data and analytics skills is critical for enabling improved data literacy. One further necessary consideration for the data literacy roadmap is to scale the training in the area of content and size of audience over time. CDAOs should work with their colleagues from the human resources function (HR) to modernize their employee development programs and objectives. This will include individual development planning, incorporating a mixed and balanced portfolio of training models and adopting a forward-leaning design for adjacent competencies (see Figure 4 and How to Design an Effective Data and Analytics Training Program to Improve Data Literacy).

**Figure 4. Balance Your Tactics to Develop Data Literacy**

### Balance Your Tactics to Develop Data Literacy



Source: Gartner

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CDAOs should work in partnership with their colleagues in the HR function and LOB leaders to design holistic data literacy training and hiring plans. Methods that may be applied include:

- Assessment and evaluation of the current skills of the workforce (for example, by using Toolkit: Data Literacy Organizational Assessment and Tool: Individual Data Literacy Assessment)

- Identification of core competencies
- Highlighting of the importance of including data literacy development in employee development plans
- Coordination of training with skills proficiency, identifying skills gaps and creating necessary training to bridge those gaps
- Selection of the right training format or combination of formats, using multimedia or e-learning resources to disseminate information in a variety of channels
- Job rotations in more junior roles
- Autonomy to experiment with new datasets and technologies
- Cross-functional job rotations that provide exposure to data and analytics efforts, both within digital transformation programs and outside them
- Opportunities to experience being a business customer on a data and analytics project
- Opportunities to experience working on a data and analytics team
- Mentoring programs
- Colocation initiatives

Although all of the above delivery methods can be applied to any training phase, some approaches are more or less suitable to specific phases when personal, situational and environmental factors are taken into account. Training effectiveness and speed of adoption will also depend on individual roles, experience, knowledge levels, technology competency, cultural background and learning preferences. It is important for CDAOs to apply a mix of training delivery methods and technologies that can offer a more targeted and personalized user experience.

For more information, see:

- Toolkit: Data Literacy Organizational Assessment
- Tool: Individual Data Literacy Assessment
- Tool: Job Description for a Data and Analytics Translator

## Deliver: Adapt Communication With Stakeholders According to Their Cultural Readiness to Engage

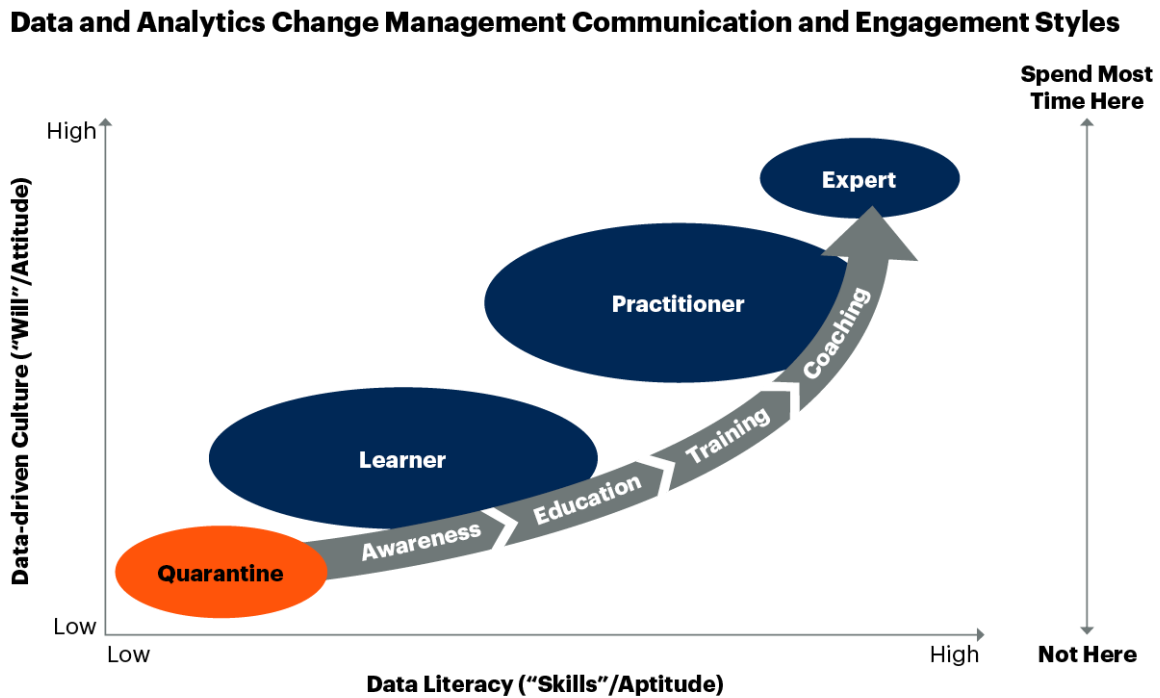
Digital business depends on successful data and analytics, and the major barriers to success are largely cultural and behavioral. Decision making is also undermined by a host of decision biases to which humans are subject, caused by data itself. <sup>2,3,4</sup>

- Humans are “wired” with multiple mechanisms that inhibit their ability to engage with facts.
- Initial human responses tend to be emotional, rather than rational.
- When people are presented with evidence that contradicts existing beliefs and values, their positions can become more entrenched, even when they can derive benefits from change.
- Organizations often present business benefits as benefits to the business only, rather than considering their effects on the beliefs and motivations of individuals.

In short, humans are tripped up by error, prejudice and the characteristics of datasets themselves. We must make conscious efforts to overcome these biases, which are nearly universal in humankind. Most of us, even analytical thinkers and very experienced decision makers, are largely unaware of our biases. Overcoming them requires specific training, and even then, no one is fully successful in eliminating all bias from their own thinking.

CDAOs must go beyond traditional operational and functional delivery of data and analytics programs if they are to overcome these emotional and psychological resistance factors and foster a more data-driven culture. Start by carefully planning all communications and matching engagement style to the stakeholders’ readiness to participate (see Figure 5).

Figure 5. Data and Analytics Change Management Communication and Engagement Styles



Source: Gartner  
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The various communication styles can be understood as follows:

- **Awareness:** An internal marketing campaign for the late-following “walkers” – the people that don’t quite “get it” (data literacy “propaganda,” of sorts). Simple messages, told repeatedly: “Your company needs you, and your data.”
- **Education:** Entry-level enablement for “walkers” to participate more fully in simple data-oriented processes. For example, data quality improvement for data entry tasks by frontline staff, or how to read, interpret and act upon standard process monitoring reports.
- **Training:** Targeted techniques, methods and practices to enable candidate citizen analyst “joggers” to be more effective and productive. Support with on-the-job buddying from a “runner.”

- **Coaching:** Techniques aiming to accelerate and enable the “runners” to maximize their success. These are the real experts, the people with both good data and analytics skills, and a real appetite for change. Provide them with the support, coaching and the environment they need in order to excel, then harness them to become your internal champions to work with, engage and encourage the others.
- **Quarantine:** You need to be careful with the most actively resistant members of the workforce. Do not spend time trying to change those who cannot or will not ever “get it.” If and when you identify such individuals and find them deliberately trying to undermine your program, take action. Fortunately, many of them are passive, but more aggressive ones can slow down your efforts and cause real damage.

For more information, see *Culture Change Succeeds or Fails in Leadership Moments*.

## Evidence

<sup>1</sup> 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 2021 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 more than 4519 CDOs and other high-level data and analytics leaders. The study was developed collaboratively by Gartner D&A analysts and the Primary Research Team (see *CDAO Agenda 2022: Focus on Value, Talent and Culture to Pull Ahead*).

*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.*

<sup>2</sup> D. Kahneman. “Thinking, Fast and Slow.” FSG, 2013.

<sup>3</sup> D. McRaney. “You Are Not So Smart: Why You Have Too Many Friends on Facebook, Why Your Memory Is Mostly Fiction, and 46 Other Ways You’re Deluding Yourself.” Avery, 2012.

<sup>4</sup> D. McRaney. "You Are Now Less Dumb: How to Conquer Mob Mentality, How to Buy Happiness, and All the Other Ways to Outsmart Yourself." Avery, 2014.

## Note 1. CDAO Role Definition

Chief data and analytics officer (CDAO) refers to the business leadership role that has the primary enterprise accountability for value creation by means of the organization's data and analytics assets, and the data and analytics ecosystem. Equivalent titles for this role are chief data officer, chief analytics officer (if the CDAO role or equivalent is not in the enterprise), chief/head of data and analytics and other variations.

## Note 2. Segmentation of Stakeholders

Stakeholders can be divided into four categories based on their response to change initiatives:

- **Runners** – Early adopters, and the first stakeholders on board with any change initiative. Enthusiastic and capable. With additional support, they will become expert data and analytics specialists who are able to lead and guide a cohort of other stakeholders.
- **Joggers** – Quick to adopt change, but may lack the knowledge and discipline necessary to be productive. With proactive enablement, they can be upskilled to become effective and collaborative data and analytics "citizen practitioners."
- **Walkers** – Slower to adapt, as they have no expectation or desire for change. Typically, they will ultimately comply when it becomes clear that change is inevitable. They can learn and apply new skills, but expect passive acceptance and low-level participation at best.
- **Can't/Won't Run** – Hopefully few in number, these stakeholders are willfully resistant to change and may even seek to hinder or sabotage modernization efforts.

For more information, see [Leaders Across the Organization: Use Individual Adoption Styles to Bust Through Organizational Change Resistance](#).

## Note 3. SMART Measures

SMART is a mnemonic/acronym (specific, measurable, actionable, relevant and time-bound). It is used to assign criteria to guide in the setting of objectives and the definition of metrics used to assess progress in achieving those objectives. The idea of SMART objectives was coined by George Doran and is commonly associated with Peter Drucker's "management by objectives" concept.

G.T. Doran. "There's a S.M.A.R.T. Way to Write Management's Goals and Objectives." *Management Review*, 70(11): 35-36, 1981.

P.F. Drucker. "The Practice of Management." HarperCollins, 2007.

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## Recommended by the Author

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