

CIO Guide

REWIRING YOUR CULTURE to be DATA-DRIVEN





Introduction

As companies modernize technology infrastructure to capitalize on data-driven decision-making and outcomes, efforts to drive cultural and organizational change often take a back seat to technology and process roadmaps. This approach can undermine the increasingly critical need to fully leverage data for business advantage.

The ability to capture, curate, and store a variety of data at scale is one characteristic of a data-driven business, yet it's hardly the defining factor. True data-driven organizations treat data as a strategic asset, making it widely accessible to users on the front lines and in the back offices of the business. Leaders put mechanisms in place to convert data into actionable insights and make structural shifts to empower users to act on those insights, efficiently and in real-time.

A data-driven enterprise emphasizes data accessibility to ensure that data is safe, compliant, trustworthy, and easily available to users at scale. Data proficiency is a top priority, empowering users with the freedom and flexibility to experiment with data to help drive revenue, optimize costs, improve customer and partner experiences, and resolve unexpected events. Relevant metrics and KPIs help organizations continually evolve these practices and workflows, ensuring data has maximum business impact.

In short, data-driven organizations operate from a fundamental belief that access to the right data, coupled with the autonomy to leverage that information for smarter decision-making, is the engine for robust performance.

"Creating a data-driven culture across the enterprise is essential to moving beyond just a few successful data initiatives and islands of excellence limited to certain business areas," says Ishit Vachhrajani, Enterprise Strategist, AWS. "You can make a tremendous investment in technology, tools, and data, but if you don't have the right culture of transparency, decentralization, and empowerment on the front line, it's like having a high-performing car with no one to steer it."

IT and business leaders who embrace the imperative to rewire culture to meet the moment are already reaping tangible results. [Forrester Research](#) found that organizations that have a system to promote data-driven insights are 140% more likely to create sustainable competitive advantage and 78% more likely to fuel revenue growth.

This e-book explores the challenges organizations face in establishing a data-driven culture and the four critical steps they can take to begin to shift the collective mindset to treat data as a strategic asset that can improve operations and drive growth.

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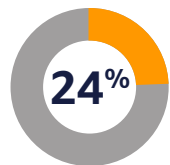
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What's standing in the way of a data-driven culture?

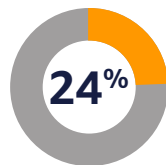
C-suite executives recognize the enormous opportunity ignited by data-driven business. In IDG's [2021 Data & Analytics survey](#), 78% of IT decision-makers said the collection and analysis of data has the potential to fundamentally change the way their company does business over the next three years.

However, while executives understand the value of embracing data-driven business practices, they face a variety of challenges to make good on the mandate. According to NewVantage Partners' [Big Data and AI Executive Survey 2021](#):

- ▶ **While virtually all organizations (99%)** are actively investing Big Data and AI, less than half are driving innovation with data (49%) or competing on analytics (41%)
- ▶ **Only 39%** are managing data as a business asset
- ▶ **Less than one-third** (30%) have a well-articulated data strategy
- ▶ **Less than one-quarter** have forged a data culture (24%) or created a data-driven organization (24%).



**of organizations
have forged a
data culture**



**have created a
data-driven
organization**

Source: Big Data and AI Executive Survey 2021, NewVantage Partners

Among the biggest obstacles to creating data-driven business practices and culture are:

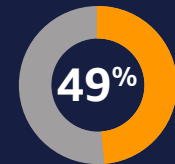
- ▶ **Poorly articulated direction** and a defined place to start
- ▶ **Lack of focused leadership** and executive engagement to help change organizational structure, establish new roles, and embrace new ways of working
- ▶ **Outdated data governance** and data management policies
- ▶ **A lack of data proficiency** across the organization, which impedes the true “democratization” of data
- ▶ **Persistence of data silos**, supported by cultural silos that discourage shared access to business-critical information.

“Cultural silos feed the data silos, and they are difficult to overcome,” Vachhrajani says. “They incentivize individual functions to guard their data to control the narrative.”

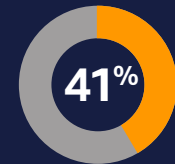
Yet another roadblock: Too many companies still operate from a “data-forward” playbook that concentrates on amassing huge volumes of data, only to regroup after the fact to figure out what to do with it. In comparison, companies that successfully move the needle on data-driven business are embracing a “customer-backwards” model: identifying a specific business opportunity or challenge and then mapping data accordingly to problem-solve or achieve a specific outcome.

Many large enterprises “are drowning in a sea of data and they sometimes aren’t properly focused on what’s crucial for business success,” says Michael Gabriel, a partner with Fortium Partners. “And that can lead to underachievement from the use of data analytics, as they can’t see the forest for the trees—or even find the trees.”

Slow adoption of data-driven business practices



**of organizations are
driving innovation
with data**



**of organizations
are competing on
analytics**



**are managing data as
a business asset**



**30% have a well-articulated
data strategy**

Source: Big Data and AI Executive Survey 2021, NewVantage Partners

Four steps for creating a successful and sustainable data-driven culture

Though challenges are numerous and a lot to unpack, many organizations are making notable progress. While there is no one-size-fits-all playbook that guarantees you will move the needle on culture change, focusing on four key areas can get you headed down the right path.

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CIO GUIDE: REWIRING YOUR CULTURE TO BE DATA-DRIVEN

Step 1: Move beyond executive sponsorship to executive engagement.

Changing culture is a gradual, incremental process, which means it requires a tremendous amount of institutional fortitude, buttressed by unwavering commitment from the top. To shift culture successfully, organizations need to go beyond traditional C-level sponsorship.

Leaders need to engage in their own visible efforts to marry data with core business objectives and showcase the benefits of doing so. Executives also need to take a lead role in promoting data sharing for the good of the collective enterprise, not just to advance the specific objectives of a team, department, or function.

Appointing a “single-threaded” executive to lead the charge and carry the messaging is central to driving culture change. This leader could serve in a new role like Chief Data Officer or Chief Analytics Officer or fall under the existing CIO; the key is that they are laser-focused on how to fully leverage data and have the authority and accountability to drive change across the business. Whoever assumes this role should be well-respected, adept at working across different functions and departments, focused on relationship-building, and, most importantly, be empowered to make decisions that propel organizational change.

This role requires a servant leadership mindset, not an executive looking to build a centralized data function with its own headcounts and budget. “They can’t be interested in building a data empire for themselves, but rather enabling and driving success for the rest of the company using data,” Vachhrajani says. “They are the connective tissue of the company, able to drive and build relationships across the business.”

If the data leader runs a separate function outside of the IT organization, it’s important to forge a strong partnership with IT to facilitate new processes and spearhead a culture makeover. Not only is IT responsible for building the core infrastructure backbone and modern technology capabilities to support transformation, but they are also best situated to have an end-to-end view of business cycles, cross-departmental workflows, and transactional systems.

“The CIO partnership is crucial, not just because you want to consume data for AI models or machine learning, but because you also need to make sure the applications, systems, and integration are in place to capture data,” Vachhrajani says.

What to watch out for

Some organizations establish a data and analytics Center of Excellence (CoE) to help establish a data-driven culture. But a CoE can easily turn into a fiefdom or just another data silo if its mandate and oversight aren’t crystal clear. A successful CoE serves as a way to bring the organization together to share best practices, ideas, and solve problems. It should not become a service bureau where different business stakeholders funnel data-related requests.

Four steps for creating a successful and sustainable data-driven culture

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Step 2: Enable frontline access, insights, and action.

Discussions around democratizing data often center on making data more accessible to users who have the best understanding of the business and are closet to customers. Yet culture change really takes hold when an organization puts the processes and mechanisms in place to democratize not just the data, but also the decision-making that lets workers take action.

To do this, begin with one or two high-impact use cases where a strong hypothesis can be built and where success can have a direct and immediate impact on business outcomes. Continue to iterate and incrementally build data capabilities and the data platform, while leveraging any quick wins to create excitement. Further build momentum by communicating the results to frontline users as part of a broader change management campaign. In that way, the wins are not viewed in isolation, but rather are tied to the big-picture benefits of rewiring culture to be data-driven.

It's also important to create mechanisms that allow this engagement to scale across the entire organization. One approach is to move from "one-way" decision-making to a "two-way" door model. This approach encourages calculated risk-taking because experiments are easy to unwind if they don't meet objectives or deliver value.

Governance and policy also are critical to ensure the right data makes it to the right people to facilitate better decision-making. A robust governance foundation will help to make data accessible and relevant to all stakeholders, inside and outside the organization. People need access to information to make better decisions, so it's important to make data as open as possible and deliver the right mechanisms to find it—while also keeping it protected from misuse.

What to watch out for

There's a natural bias to measure everything possible, but a smarter approach is to establish a few key metrics focused on specific business outcomes, such as reduced wait times in a contact center, improved customer satisfaction rates, or, of course, increased sales. Regularly measuring outcomes along with controllable inputs will enable continuous improvement and ensure you're meeting business objectives. The goal is to consistently make high-quality decisions at high velocity, whether the decisions are related to creating new product lines or customer experiences, or more broadly around growing the business globally.

Four steps for creating a successful and sustainable data-driven culture

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Step 3: Create data stewards, not data silos.

Silos can be fatal to a data-driven business, but they are incredibly difficult to break down. Legacy culture and organizational structures too often reward individuals for their ability to curate, validate, and publish data to promote their own agendas—while restricting how others in the organization use it. This can create several versions of the truth, which impedes informed decision-making rather than enabling it.

Instead of data silos, organizations need data stewards, empowered by a governance structure that moves beyond gatekeeping functions that restrict access to data to an enablement strategy that identifies why someone requires access to data to get their work done, and then creates the proper permissions (with the proper controls) to use the data for that purpose.

“Think about how your data moves across the organization,” says Vachhrajani. “What are the gatekeeping controls? Identifying these controls can help you figure out how hard it is for someone to get access to data to work on or make a decision from. That gives you a good picture of any silos that exist.”

It’s important in this context to understand why different groups feel the need to guard “their” data, and how that approach prevents the free flow of data across the enterprise.

Creating data stewards involves encouraging the people who control data access and quality to become educators

and data champions. They still have input into how data sets are validated and published, but liberal use of automation can free them up for a broader role.

CIOs can play an active role in creating data stewards by building trust among business stakeholders and demonstrating how the willingness to share access to departmental data benefits everyone. IT-driven automation can help streamline manual data-sharing processes to free up stakeholders to focus on the strategic use of data rather than the tactics for accessing it.

“Start with real examples, not just theory, of how data sharing has benefited a particular department [using data] from another area,” explains Gabriel. As part of that communication, “emphasize that without sharing, there can be redundancy of data, redundancy of cost, as well as an inability to see the full picture,” he explains. “That creates a disadvantage to the company as well as an individual department.”

In order to engender that level of trust, CIOs must cultivate strong relationships across the business, from the C-suite down to frontline operations, Gabriel says. “In many respects, a CIO needs to have the understanding of a COO—not from the perspective of running the operations of the entire company, but of understanding those operations and how they are integrated or complementary,” he adds.

What to watch out for

As you modernize your data and analytics infrastructure, don’t overlook the process improvements that are critical to streamlining people’s access to data. If you’re migrating to the cloud, you don’t want to repeat past mistakes—and that includes recreating existing data silos. Use the migration as an opportunity to rethink existing processes and data flows, based on the business outcomes you’re looking to achieve.

Four steps for creating a successful and sustainable data-driven culture

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Step 4: Educate and enlighten.

Organizations can promote data proficiency by cultivating a higher understanding of data as a strategic asset, while implementing processes for putting data to use. Robust training programs and more informal creative activities can spark interest among people across the organization to find new ways to leverage data for their day-to-day activities. Sponsoring competitions, hackathons, and real-world exercises will engage average business users and help them understand the power of data-driven decision-making using scenarios that are familiar.

In other words, it's important to continually look for new ways to empower users—for example, encouraging teams to offer analytical models in a central marketplace so peer groups can leverage them for their own business needs.

"Data proficiency is about building a bridge between the science of data and the people at the front line who are acting on it," says Vachhrajani. "Not just making them data-aware and teaching them to use these great tools, but also changing your business processes to incorporate the data into action at all levels."

It's also important to invest in a variety of functional skills to support the broader use of data. In addition to data scientists and analysts, look to bring on engineering specialists, data visualization experts, and storytellers. These are people who can close the gap between analytics expertise and business expertise so they can communicate in a way the C-suite, salespeople, and operations team members can relate to and understand.

"Most executives are leery of the promises of technology that sometimes create growing costs and unfulfilled success criteria," says Gabriel. "You have to be able to show how it can help the business and how it can be cost-effective in helping achieve and surpass their expectations. It's always about the cost/benefit and risk/reward ratios."

What to watch out for

Data proficiency takes root with clear and consistent communication across the organization about the value of using and sharing data. Without a common language around data, it's impossible to establish the values, beliefs, and ideas that influence the culture and keep everyone on the same page.

SUMMARY

What success looks like

Successful data-driven transformation will vary depending on a company's business objectives, as well as how quickly the entire workforce adapts to cultural shifts and embraces new business practices. The transition can be slow, but there are a few clear signs your organization is making headway on changing culture. They include:

- ▶ **A higher number of innovation projects**, indicating a shift to a culture of experimentation
- ▶ **Reduced bottlenecks** and cycle times across different functions, such as expediting new offerings into the product pipeline, closing new deals, or facilitating customer transactions
- ▶ **Improved recruiting** and retention, as business users are galvanized to leverage data to take action, which can boost overall job satisfaction
- ▶ **Increased data proficiency**, as newly empowered business users embrace competencies and take on roles that didn't exist before.

"Culture is hard to change and sometimes hard to define," says Vachhrajani. "It requires a tremendous amount of will and it takes time." But with the right blend of leadership, empowerment, and technology, organizations can develop a data-driven culture capable of making high-quality decisions, at high velocity, to innovate and grow.

Sponsor viewpoint

Leveraging data as a strategic asset can help your organization meet customer expectations and remain competitive. But the insights and truths data offers must be accessible to every facet of your business.

If you're committed to reinventing your organization into a data-driven one, you can empower everyone to unlock data's potential and innovate in new ways. The move from on-premises and self-managed data solutions to fully managed cloud data services is a critical first step. Teams that are now free from managing complex and expensive infrastructures can spend time innovating and building new applications.

With the right cloud partner, you can make this initial move immediately. Organizations want to be confident their choice of technology will deliver value from their data while keeping it secure and compliant across a broad and everchanging set of regulations. More organizations partner with AWS to do this than anyone else, with over 450,000 databases migrated from on-premises to the cloud using our database migration service. We've also completed this data modernization ourselves: Amazon.com migrated 75 petabytes of internal data stored in nearly 7,500 Oracle databases to AWS databases and reduced costs by over 60%.



AWS provides you with an easy path to increased data access for all, greater visibility of your data, and immediate peace of mind. Migration to fully managed databases, storage, and analytics services on AWS allows you to offload infrastructure management tasks to AWS and focus on building applications. Join the dynamic AWS community of customers and take the first step of your data modernization journey.

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