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## WHY DATA ANALYTICS INITIATIVES STILL FAIL

**STRONG DATA ANALYTICS IS A DIGITAL BUSINESS IMPERATIVE—**  
AND IT ALL BEGINS WITH DATA GOVERNANCE, THE RIGHT STRATEGY AND  
AN EMPHASIS ON DATA-CONSCIOUS CULTURE. **BY MARY K. PRATT**

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WHY DATA ANALYTICS INITIATIVES STILL FAIL

Strong data analytics is a digital business imperative—and it all begins with data governance, the right strategy and an emphasis on data-conscious culture. 14 BY MARY K. PRATT

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# Revving up the customer experience

**Top-notch CX is a digital business imperative. Here's how to ensure your organization's customer and client experience is hassle-free.**

BY BOB VIOLINO



**I**n today's business market, companies need to provide high-quality products and services—and deliver positive experiences for their customers.

One key to delivering a better customer experience is to reduce or eliminate friction wherever pos-

sible. This might include reducing wait times before speaking with a support representative or ensuring client information is entered correctly on an order form.

“Customers are rarely looking to be delighted or wowed by vendors,” says Bill Lee, founder of the Cen-

ter for Customer Engagement, an organization that provides consulting and research services related to strategic customer engagement. “They want hassle-free.”

Here are some suggestions on how IT can help reduce friction and enhance customer experiences.

## **1 Optimize technologies**

Friction can often be a result of technology not working optimally, especially when it comes to conducting transactions.

Healthcare provider Allied Physicians Group recently overhauled its website to enhance user experience,

“When **staff understands** how to use **technology**, this allows them to **better serve patients** as well as show patients how they can leverage technology to make their **experiences** and **interactions better.**”

—**RICARDO SANTIAGO**, CIO OF ADJUVANT.HEALTH, POWERED BY ALLIED PHYSICIANS GROUP

adding services such as the ability to request appointments, pay bills, and access telehealth online. With more than 30 pediatric practices and more than 150 practitioners, this was a significant undertaking.

“It was important to us that there be online scheduling and that patients could do their pre-visit check-ins with data collection [forms] before they arrive,” says Ricardo Santiago, CIO of Adjuvant.Health, powered by Allied Physicians Group. “This allows the patient to go directly to see the doctor upon arrival. This improves efficiency, and patients are seen more rapidly and receive the care that they deserve and expect.”

## 2 Provide training

Employees who deal directly with customers, such as support agents, need to know how to use tools as effectively as possible. If an agent doesn’t fully understand how to access and use data from a customer relationship management (CRM) platform, for example, the technology won’t be of much help for customer service.

“We are strong believers in training. Training is constantly being enhanced, and we work with all practitioners and staff to ensure that they are not only familiar with the technology that we have, but also know how to use it,” Santiago says. “When staff understands how

to use technology, this allows them to better serve patients as well as show patients how they can leverage technology to make their experiences and interactions better.”

## 3 Foster collaboration

A typical customer interaction with a company can involve multiple people, and if everyone in the chain is not informed and up to date, the customer can fall through the cracks.

Professional services firm Grant Thornton uses a variety of technologies to promote better sharing of information and ultimately deliver better customer experience.

“By linking client contacts

directly to our CRM system, client teams are instantly notified and can respond quickly and appropriately, showing the client or potential client that we are responsive, easy to do business with and invested in helping them solve their business problems,” says Nichole Jordan, national managing partner of markets, clients and industry at Grant Thornton.

In the past, follow-up on digital interactions with clients could be inconsistent because the firm lacked a universal process to ensure that information or insights gleaned from interactions were shared with the right people internally.

“Today, we have a technology-enabled process to ensure that follow-up is timely and meaningful,” Jordan says.

## 4 Automate processes

Companies can deploy tools such as robotic process automation (RPA) to speed up processing, resulting in faster response times

for customer interactions.

Two years ago, health insurance provider Laya Healthcare deployed an RPA platform from Blue Prism to automate back-office tasks, with the goal of processing claims more quickly. The RPA software mirrors the activities of employees on a particular system, interacting with as many applications as needed.

“It does a huge amount of the mundane processing, which ensures all processing is done error-free and on time, and also frees up the time of Laya Healthcare employees to focus on more complex cases,” says Ian Brennan, director of IT. “As a result, we’ve drastically improved the patient experience, data privacy and safety.”

## 5 Build a community

Companies have been providing online platforms for customers to meet and share experiences for years, and it’s a tried and true way for clients to resolve issues quickly

**“You can drive your business crazy looking for every possible way to reduce friction—and new technologies tend to introduce frustrations of their own.”**

—**BILL LEE**, FOUNDER, CENTER FOR CUSTOMER ENGAGEMENT

and get the most out of the products they’ve purchased.

Enterprise software provider IFS recently created a community for its customers, offering self-service capabilities, access to how-to content, and the opportunity to share best practices, knowledge, and expertise.

“Our customers told us they wanted a place where they could help themselves,” as well as the ability to have tailored interactions to help them get more value out of the company’s products, says Michael Ouissi, chief customer officer at IFS. “Within a few days, we

had more than 1,000 people registered to the platform, and [we] have appointed a full-time resource to manage the community.”

## 6 Leverage the cloud

Cloud services can provide benefits as well. Financial services company PPS is using a combination of software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS) to add and remove technologies as needed more effectively.

“This means more system stability, scalability on demand,



improved project [return on investment] and elasticity,” says Derik Scheepers, head of IT operations. “These benefits then filter to our customers and members in the form of more cost-effective products, faster claims processing and more innovations.”

The cloud has enabled a current project in which PPS is changing its main underwriting application from being a complex, inefficient process to a more streamlined one that uses microservices. The cloud is also enabling the firm to implement omni-channel capabilities that will give customers the

ability to access its systems from a variety of platforms and devices.

## 7 Listen to customers

Reducing friction is not just about relying on technology to enhance processes and interactions. Sometimes it comes down to hearing what customers want and making changes to accommodate them.

CIOs should partner with marketing, sales, services and other areas of the company that touch customer experience, to map out the customer journey as customers want to experience it, Lee says.

“It’s critical that the CIO understand and speak the language of the customer and the journey [the customer] wants to take,” Lee says.

**“It’s critical that the CIO understand and speak the language of the customer and the journey [the customer] wants to take.”**

—**BILL LEE**, FOUNDER, CENTER FOR CUSTOMER ENGAGEMENT

“You can drive your business crazy looking for every possible way to reduce friction—and new technologies tend to introduce frustrations of their own,” Lee says. “So, start with what your customers value most about their customer journey.”

Otherwise, the CIO is “part of the frequent problem we see of companies throwing too many resources toward [customer experience] initiatives that don’t make a dent in the customer’s actual experience.” ♦

Bob Violino is a contributor to CIO.com.

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# A woman's place is in the boardroom

**Organizations with diverse corporate boards perform better, innovate more, and attract and retain better talent. Women IT leaders are ready and heeding the call.**

BY ESTHER SHEIN

**A**ttention corporate boards: If you're in the market for a new board member, Jaynee Beach wants to talk to you. Beach, director of IT application development at Woodforest National Bank, in The Woodlands, Texas, is ready to obtain her first board position in the not-too-distant future.

A self-described "unashamed geek" who is "constantly curious" and has several years of IT experi-





ence under her belt, Beach says she has a lot to contribute. As a member of senior leadership, she serves on Woodforest's internal board of directors and is a member of its IT steering committee. "There is a massive translation breakdown between business speak and geek speak," she says. Beach doesn't state the obvious, but another important factor making her an attractive candidate for a corporate board seat is the fact that she is a woman.

When prompted, Beach says she offers a strikingly different view of the world than men do.

"For one thing, I think most men make their way into the boardroom via competition—they have to best everyone else," she observes. "Most women I've seen in tech, we have advanced our way by building coalitions, breaking down silos, building collaboration, and what's unique to women is we're less about trying to compete."

Beach's years in a field dominated by men have led her to believe that

they "participate in bad habits, meaning they hoard information or they try to build their fiefdom." Yet, she doesn't know whether this is the case at the senior leadership level "because quite frankly, there's not a lot of women there. There's a lot in entry-level and secondary-level [positions], and then they either switch to something not tech related or drop out altogether."

That makes female IT leaders with long-term experience a "rare find," says Beach, who last fall joined the Digital Directors Network (DDN), a group formed two years ago with the aim of improving digital diversity in the corporate boardroom. Female IT leaders are "going to have more value at the boardroom level even than the senior leadership level," she says.

### **Wanted: Digital and diverse boards**

Even before California became the first state to mandate that every public company in the state have

**"The journey to the top starts with being an outstanding CIO and gaining the credibility, experience and skills that are necessary to make it to the CEO level."**

— DR. RON BABIN, PROFESSOR, TED ROGERS SCHOOL OF IT MANAGEMENT AT RYERSON UNIVERSITY

at least one female director by the end of 2019 or face a \$100,000 fine, companies were starting to see the value in having diverse and digitally savvy boards. After all, technology is a must if they are to remain competitive—and even stay in business.

Yet, a 2019 MIT study of 1,233 U.S. companies with at least \$1 billion in revenue, found that only 24 percent of their boards are "digitally savvy," which MIT defines as having an understanding of how digital technologies such as social, mobile, analytics,

cloud and the internet of things will impact how companies will succeed going forward.

Separate research has shown that "if you have a female CIO and a tech person [on a board], you're getting two for the price of one. It makes a lot of sense," says Stephanie Woerner, a research scientist at the MIT Sloan Center for Information Systems Research (CISR) and an author of the study. Female IT leaders "bring gender diversity and savvy, and boards are lacking both."

In the big picture, there are signs

of progress. In 2019, for the first time, all companies in the S&P 500 included at least one female board member, according to a survey by global financial services firm BDO. The same survey found that only 24 percent of board members are highly familiar with their organization's data breach response plan.

### Digital leadership crisis

The California law, coupled with the women's movement in the past couple of years, has "had more impact [on the] gender diversity issue than digital diversity," says Bob Zukis, founder of DDN and a business professor at the University of Southern California. DDN is working to educate both boards and CIOs and CISOs on cybersecurity and digital oversight.

"The problem is there's a digital leadership crisis in corporate America, and it starts in the board room—you don't understand these issues so how can you drive digital transformation and cybersecurity

risk?" Zukis says. "The last frontier of digital transformation is the boardroom. ... You would have thought they would have figured it out, but they haven't."

Women are well positioned to fill those digital holes on boards, he says. "There's a good number of more than qualified women tech execs in DDN's membership," as many as 100, he says, "who would be ready, willing and qualified."

Female IT leaders are very motivated to join corporate boards and have been for quite some time, agrees Robin Toft, founder and CEO of Toft Group, an executive search firm. The challenge, though, is that "historically, 70 percent of boards haven't gone out to search," and 80 percent hire through their network, she says, adding that 95 percent of corporations are run by men. "So, if it's not mandated, they won't take it out to search; they'll hire what they know."

"If you are a private company, pre-IPO or even a public

**"If you don't have a strategy for building a diverse board, you are falling behind your competitors."**

— MICHELLE BAILEY,  
IDC RESEARCH FELLOW

company and you don't have a strategy for building a diverse board, you are falling behind your competitors and will likely face business challenges," says Michelle Bailey, research fellow for IDC's Social Impact Research. "All our data points to better business outcomes as diversity in the employee ranks grow, especially in senior leadership. And local laws are changing quickly."

The California law has sparked massive change, says Toft. "All of

a sudden, they looked around and realized they didn't know women and started going out to search firms," she says. "We did more board searches across the board in 2019 than we have in 10 years of running this company."

She believes the rest of the country is not far behind California. "Chicago has some sort of directive already, and I do think the Northeast will be the next domino to fall," Toft says. "I think there's no turning back the clock now. ... There's nothing but women on board training initiatives, and women are rising to the occasion."

"The holy grail is women in technology," agrees Zukis, "which is what I've got, so call me and I'll make an introduction to those 100 women. ... It takes a more disruptive mentality focus, and we're shaking. The tremors are starting." ♦

Esther Shein is a frequent contributor to CIO.com.

# EXECUTIVE VIEWPOINT



**Joseph DosSantos,** chief data officer at Qlik, is an expert in data management and data governance. Prior to joining Qlik, he developed enterprise data strategy at TD Bank Group and built and led Dell EMC's big data, master data management and data governance practices.



## Data literacy: The key to unlocking the business value of data

IDG recently sat down with Joseph DosSantos, chief data officer at Qlik, to discuss the challenges of transforming data into real business value.

### Q. What's the biggest challenge in applying data for meaningful impact?

**A.** There is a shortage of data literacy among business users. Business leaders have not been trained to find the data they need in order to create insights that drive business outcomes but, rather, often delegate messy data analysis to operational functions and trained analysts. Qlik is leading efforts to increase data literacy at all levels of the organization to make working with data a normal, comfortable part of the job.

Further complicating the situation is the increasing complexity of data and analytics. Twenty years ago, we might have asked, "How many widgets have we sold?" Today, we need to ask how many widgets we will sell and then determine the next-best action to catch consumers in the act of deciding, which means predicting the future versus responding to it, often with machine learning models. Business users must be comfortable with these concepts to know how to interpret what they see and act accordingly.

### Q. How can a company increase data literacy?

**A.** People are not born data literate but can grow their skills with training and practice. Qlik offers diagnostic tools to assess your organization's data literacy and training and services to improve skills. Creating a culture of data literacy also requires business leaders to value these skills and to emphasize making business decisions based on data and analytics versus relying on a gut feeling.

Availability of data is also key. Imagine that you are a researcher and you go to the library but the shelves are empty. So much for your research skills! Data literacy skills build the researchers, but data democratization stocks the shelves. At Qlik, we embrace a world in which business users can access and explore data in a business-oriented catalog to enable data literacy.

### Q. What are the first steps an organization should take?

**A.** Start by aligning and focusing on the key challenges and opportunities that are relevant at the executive level. Many people start with the data itself, but without a connection to business strategy, executives will quickly lose their enthusiasm.

Data is like a puppy. Everyone loves a soft, cuddly puppy, but once it starts barking and chewing everything, you understand the importance of training and the hard work that is involved. Similar hard work must be put into data to make it easy. People want self-service for data and analytics in the same way that we want self-service in our everyday lives. Implementing a data catalog and building streamlined DataOps processes require effort but will make business value easier to achieve and measure.

To learn more about accelerating business value through data, visit [www.Qlik.com/ExecutiveInsights](https://www.Qlik.com/ExecutiveInsights).

# Making the jump to CEO

New research shows how to navigate the CIO-to-CEO career path.

BY MARTHA ROUNDS



**C**IOs who move into CEO roles aren't the unicorns they once were. In fact, their success can be replicated by those aspiring to advance their career. That's the finding of new research that explores the factors and personal attributes that enable CIOs to make the leap from technology

leaders to senior business leaders.

"The CIO is now widely accepted as a critical C-suite player, and more and more CIOs are becoming leaders who actively participate in strategic business decisions. This is opening up previously unforeseen career opportunities," says Ron Babin, professor at Toronto's Ted Rogers School of IT Manage-

ment at Ryerson University.

Using detailed interviews of 29 CEOs and COOs from the U.S. and Canada, Babin and his Ryerson colleague Ken Grant found a surprisingly high degree of commonality in the career development of the individuals interviewed. As Babin notes, these executives were successful at IT leadership

and demonstrated an increasing understanding of the business environment as well as an ability to take on broader responsibilities beyond IT.

"The journey to the top starts with being an outstanding CIO and gaining the credibility, experience and skills that are necessary to make it to the CEO level," says Babin.

Here is what it takes to make the CIO-to-CEO transition.

### Skills and experience

First, the aspirant must master the CIO basics, Babin says. This means spearheading reliable IT operations and projects that deliver as promised, on time and on budget. Increasingly, this also involves protecting the organization from cyberattacks and safeguarding data integrity and privacy. The CIO must also demonstrate a high degree of skill in handling organizational responsibilities, such as overseeing the successful operations of an ERP or a consistent customer interface across all lines of business. And the CIO must deliver company-wide business value either proactively—for example, by leading through an enterprise-wide digital strategy transformation—or through defensive strategy, such as notable cybersecurity leadership.

“CIOs who are promoted tended

to be from organizations with a mature IT environment and a well-established IT governance framework,” says Babin. “Typically, they’ve demonstrated IT leadership that integrates with overall corporate governance and provides high visibility for technology.”

The research also notes that CIOs are better prepared to make the leap in the C-suite by working in large organizations, such as banks and government organizations, with decades of IT experience and a deep understanding of IT investments, skills development, leadership and governance.

### Leadership traits

CIOs who aspire for promotion must be change leaders, Babin says. They also typically have an adviser or mentor to help guide their career and navigate organizational politics. They also need interpersonal skills, such as the ability to communicate clearly and effectively with senior colleagues

The CIO must **demonstrate strengths in developing people and getting the best performance from the organization.**

and board members, as well as the ability to communicate throughout the entire organization. They must be recognized as relationship builders who work effectively with organizational peers and stakeholders inside and outside the organization, including vendors.

The CIO must also demonstrate strengths in developing people and getting the best performance from the organization. This requires the ability to motivate people from diverse backgrounds and varying degrees of professional skill and

status within the organization. And the CIO must understand the business, Babin notes.

“This includes strong knowledge of who the customer is, what makes them loyal and which competitors are effective in drawing away customers,” he says, adding that business knowledge comes from often decades of experience in the same or similar organization.

Finally, a critical attribute for a CIO who wishes to become CEO is dedication and passion for the job. The CIO must want to become CEO and must be willing to invest the time to get there.

Babin’s advice for making the CIO-to-CEO leap? Build credibility. Develop your personal skills. Demonstrate business leadership. Gain experience and increase visibility. Let your network help you. And think strategically about your career. ♦

Martha Rounds is Research Director for IT executive research at IDC.

BY MARY K. PRATT

STRONG DATA ANALYTICS IS A DIGITAL BUSINESS IMPERATIVE—  
AND IT ALL BEGINS WITH DATA GOVERNANCE, THE RIGHT STRATEGY  
AND AN EMPHASIS ON DATA-CONSCIOUS CULTURE.

# WHY DATA ANALYTICS INITIATIVES STILL FAIL

**D**ata and analytics remain top priorities for organizations in the digital era, with 37 percent of IT leaders saying that data analytics will drive the biggest chunk of their IT investments this year, ahead of security and risk management, according to CIO.com's 2020 State of the CIO survey.

**And with that level of spending going toward analytics, the pressure is on to deliver results. Yet experts in this space say CIOs and their executive colleagues are falling short. “There are challenges in getting these initiatives across the goal line,” says Brad Fisher, a partner and the U.S. leader for data and analytics at KPMG.**

**FOLLOWING ARE FOUR KEY AREAS THAT ARE HINDERING ANALYTICS SUCCESS.**



## **Poor** data foundations

**Statistics from research** and advisory firm Gartner confirm that most organizations believe data is critical, with nearly 80 percent of executives stating in a 2019 survey that their companies will lose competitive advantage if they don't effectively use data. Yet Gartner also found that more than half of organizations don't have a formal data governance framework and a dedicated budget.

The lack of such foundational elements can stymie organizational ambitions.

“You need to be very intentional. And if you're not being intentional, you might not see value,”

says Roy Singh, a partner at Bain & Co. and a member of the firm's Advanced Analytics and Enterprise Technology practices.

Without a fully implemented data governance program, organizations can't expect to have sound data hygiene practices in place. They can't access or integrate the data they have, as it remains locked away in departmental siloes. They might not even know what data they need to be effective.

“They have islands of information, and they have parts of their companies doing some of the same types of things. Others have missed the mark because they have dirty data or they're grabbing the wrong data sets or feeding it to their dashboards incorrectly,” says Edward Matthews, an instructor at Boston University's Metropolitan College and a senior IT security engineer at Partners HealthCare. “These compa-

“[Some companies] have missed the mark because **they have dirty data** or they're grabbing the wrong data sets or feeding it to their dashboards incorrectly.”

**EDWARD MATTHEWS**, SENIOR IT SECURITY ENGINEER, PARTNERS HEALTHCARE

nies think they have decent programs until they look at frameworks and they realize they don't."

Moreover, many organizations don't have the right foundational technologies to enable their objectives, as they chase tools that might promise big dividends yet aren't good fits for their own needs, Matthews says. Or, conversely, they stick with tools that don't enable growth because they didn't devise a solid strategy from the start.

By creating a strategy for their data programs—or, better still, a center of excellence—IT leaders can address the foundational pieces needed for success, including data governance, accountability, ownership of the various data program components, needed infrastructure, training requirements, strategic objectives and leadership.

Matthews points to the approach taken by a charity he once worked for as a good example. The organization committed to appropriately funding its analytics program, created an analytics team and assigned a senior vice president to lead it.

"They were ahead of the curve, constantly researching what capabilities were out there, providing information to the company, which demonstrated their worth. The team grew and adapted; they didn't lock into particular data

sets and ignore other data but were constantly thinking of new ways to check their data, and they were always considering new technologies," Matthews says. "In this case, the CIO had the foresight to get the team created and hire the right person to lead the team."



## The **wrong** strategy

**On the other hand**, organizations shouldn't view analytics as a monolithic undertaking, either. Experienced analytics leaders say they've seen CIOs go big all at once—building data lakes and implementing high-priced infrastructure, for example—to jump-start analytics projects. They deliver their projects but then find the technology is underutilized or ignored.

Like any other tech-driven proposition, it's better to implement targeted solutions that can demonstrate value to the users. "Make sure you're solving business problems," says Dinanath (Dina) Kholkar, vice president and global head of the business process services and analytics units at Tata Consultancy Services.

"[The business units] **want to see results.**

They don't have the patience to wait for large transformational projects, he adds.

**And they're OK not getting 100 percent results."**



**DINANATH (DINA) KHOLKAR,**  
VICE PRESIDENT, TATA  
CONSULTANCY SERVICES



Kholkar started his own firm's data journey by targeting an area where a data project would deliver value and then moved to implement it. This approach allowed the team to clearly define objectives as well as identify the data and tools needed to meet them. In other words, this approach created manageable, achievable goals capable of generating measurable value. "That then could become a showcase for the rest of the organization," Kholkar says.

"[The business units] want to see results. They don't have the patience to wait for large transformational projects," he adds. "And they're OK not getting 100 percent results. If they're getting 60 to 70 percent of outcomes to start, they're OK, and then they can get incre-

mental improvements from there. Because when you deliver outcomes, it gets easier to get the next wave of investments. That's very important to keep in mind."

Similarly, experts advise CIOs to bring an iterative approach to their analytics program rather than going in with a big bang tech project.

"It needs to be an interactive and experimental exercise where IT, business and data all work together in an agile mode, where there's high-velocity interaction between those three groups, where they're able to run experiments and test hypotheses," Singh says.

Brian Hopkins, vice president and principal analyst at Forrester Research, points to a retailer that created a three-year data strategy built on adding investments every year rather than leaping into the program with a single upfront investment—an approach that recognized the need to continually add and improve.

"[This company] discovered that, like digi-

tal, once you start on an analytics program you shouldn't stop. You invest every year in advancing your data strategy," Hopkins adds.

Moreover, these iterative investments need to be driven by evolving business needs—and not by new technology capabilities as they come onto the market. Organizations should build analytics capabilities business case by business case, incrementally expanding their data program by adopting more advanced tools and enabling more users to tackle increasingly complex problems.



"It needs to be an **interactive** and **experimental** exercise where IT, business and data **all work together** in an agile mode."

ROY SINGH, PARTNER, BAIN & CO.

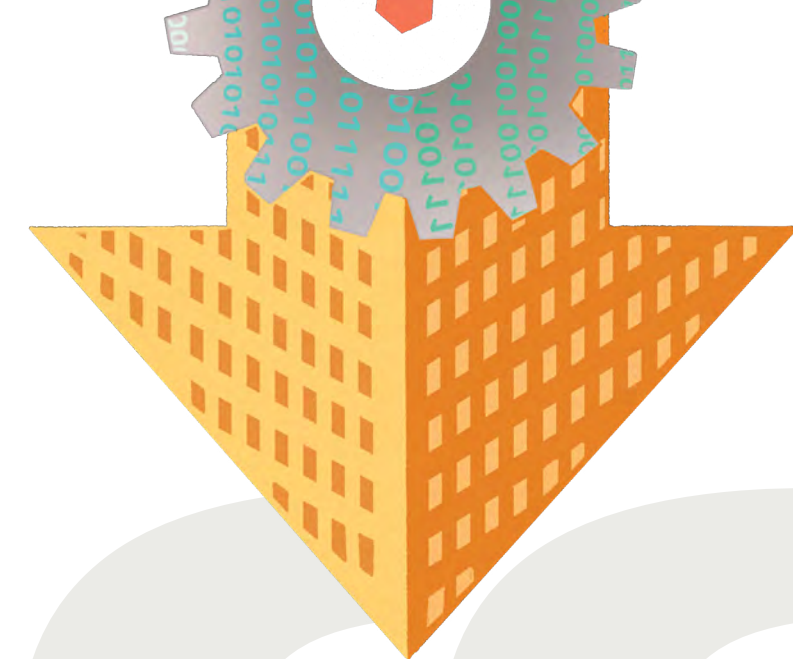
“The CIO needs to think of it as an iteration, in fact, many iterations. They’re going to have to continually check [their data program] against the market and what their company is trying to accomplish, try new tools in parallel to what they’re using to test them out and then to be able to jump into a new tool if they think it can provide new information,” Matthews says.



## Failure to balance freedom and control

**Despite big investments** in analytics initiatives, executives say they’re still falling short in reaping benefits. In its Big Data and AI Executive Survey 2020, NewVantage Partners found that 74 percent of the 70 companies polled see business adoption of big data as a continuing struggle.

Failure to recognize and respect different user needs is one factor driving that high figure, according to Singh, who sees some data leaders allowing every business unit within their organizations to pursue its own data strategy without establishing organization-wide stan-



Other organizations go to the **opposite extreme** by centralizing everything, which prevents savvy business users from scaling up quickly and the organization as a whole from reaching the program’s full potential.

**ROY SINGH**, PARTNER, BAIN & CO.

dards—an approach that creates inefficiencies and leaves many user groups floundering without any support.

Other organizations go to the opposite extreme by centralizing everything, which prevents savvy business users from scaling up quickly and the organization as a whole from reaching the program’s full potential, Singh says.

But IT leaders who recognize the need to create an analytics program balanced between those two extremes—and that can adjust to users’ differing needs within their organization—are the most successful, Singh explains.

“You need a hybrid of being completely centralized and completely decentralized, and the balance between the two will change over time, maybe starting more centralized at first,” he adds.

Singh points to the approach taken by one particular utility company. As its leaders invested in analytics capabilities, they recognized that the energy trading group had extensive experience with data science, so they built a self-service platform that adhered to the organization’s data governance standards and technology requirements. But they also recognized its safety division was less experienced with analytics, so they crafted a strategy for those users that featured more centralized support.



## Shortchanging the need for culture change

**Still, executives need** to devise more than just a holistic data program that's aligned with strategic goals. They also need to change the culture of their organizations so that users embrace the use of real-time data-driven insights and actually view engagement with data as the norm.

“This is a shift in the entire business paradigm, and organizations need to plan for that change,” says Tata Consultancy’s Kholkar.

Most organizations aren’t doing that. According to the NewVantage Partners report, only 38 percent of surveyed companies have created a data-driven organization and only 27 percent believe they’ve built a data culture within their firms. Further, 91 percent said people and process challenges are their biggest barriers to becoming a data-driven organization.

Nassar Nizami, executive vice president and CIO at Thomas Jefferson University and Jefferson Health in Philadelphia, has been maturing



**of surveyed companies have created a data-driven organization and only 27 percent believe they’ve built a data culture within their firms.** SOURCE: NEWVANTAGE PARTNERS REPORT

the data program at his institution by addressing technology needs, such as standardizing data and analytics tools and managing the data warehouse, and aligning the data program’s priorities with the organization’s overall strategy.

But he went further, driving the required cultural shifts in part through the creation of a training program called Jefferson Analytics Community (JAC). Its tagline is, “Trouble getting data? You don’t know JAC.”

“In creating JAC, our vision was to create a federated model of governed self-service analytics driven by operational owners,” Nizami says. He adds that the objectives were to increase user adoption of analytics tools, transition from a “data-rich” organization to a data-driven one and promote self-service

data—goals meant to increase productivity and decrease turnaround time.

Fisher says other CIOs and their executive partners need to follow suit by moving their analytics program from “a great standalone effort that generates insights” into something that’s integrated in processes so that users see it as business as usual.

“Users don’t know or care what all the data sources are or how cool the data science is,” Fisher says. “They need to walk into their office or punch it into their phone and get the information they need to do their job. So it needs to look and feel like an application. That is something that the CIO uniquely understands.” ♦

Mary K. Pratt is a frequent contributor to CIO.com.



# Target's new tech operating model hits the mark

**CIO Mike McNamara's bold bet on product management, agile, DevOps and reskilling has helped turn around the big box chain.**

BY CLINT BOULTON

**C**ompeting for dollars in the digital age is hard for any brick-and-mortar retailer, but sprinkle in some self-inflicted wounds and the task gets tougher. Just ask Target's CIO Mike McNamara, who invested in a new technology operating model, reskilling and innovation to help pull the big box chain out of its funk.

"We did things to change our ways of working by investing in learning and development," Target

CIO Mike McNamara told CIO.com. “When those things come together, it’s a magic combination.”

Magic isn’t a bad word to describe Target’s revival.

When McNamara took the tech helm in 2015, the company was still recovering from a data breach that shook the confidence of consumers, investors and employees.

## **CIO Mike McNamara revamped Target’s tech operations,** implementing a product management model that emphasizes agile delivery and DevOps and shaved development times from several months to weeks.

Its ill-fated launch in Canada was a debacle. The company’s 1,800 physical stores were losing foot traffic and sales. Moreover, the company’s first website didn’t launch until 2011 and it ran on

cloud software from Amazon Web Services, a subsidiary of the very company that has been throttling retail for two decades.

McNamara, who previously ushered U.K. grocer Tesco into the digital era, pulled the technology department, an order-taking function that was 70 percent outsourced, in-house and hired more

than 1,000 new engineers. He also ordered the IT department to cull many of its 800 projects and sharpen its focus on building supply chain applications for assortment planning, digital mer-



chandising, store ordering and other critical software.

### A bull's-eye for products

McNamara revamped Target's tech operations, implementing a product management model that emphasizes agile delivery and DevOps and shaved development times from several months to weeks.

Rallying around point of sale, search and other Target products helped each team, ranging from four to 20 engineers and product developers, take ownership of managing each product. There are no micromanaged feature lists or top-down provisos, McNamara says.

"It gives stability to the teams, whereas when a project used to come along, they'd rush through the requirements because they thought they had one shot at getting it done," McNamara adds.

It sounds sage, if not a bit obvious, but if thousands of engineers under your remit haven't worked in this vein, the learning

curve is steep. In fact, few Target engineers knew how to work in a product management model, let alone how to rapidly write, test and improve software.

### Kicking it in the Dojo

IT staff also hit the Target Dojo, a classroom equipped with long tables and whiteboards, to learn how to deliver products and innovation using agile, lean and DevOps principles. Today, experts tasked with "knotty problems" hit the Dojo to flex their skills, McNamara says.

"We needed to change the way that we work, iterate, test and learn, so that we can work faster and ship product quickly," McNamara says. "It also helps us attract and retain top tech talent."

With Dojo training and agile delivery, a squad of engineers rewrote Target's replenishment systems from scratch in eight weeks, four weeks ahead of schedule.

With its tech operating model

**"We needed to change the way that we work, iterate, test and learn, so that we can work faster and ship product quickly. It also helps us attract and retain top tech talent."**

– **MIKE MCNAMARA**, CIO, TARGET

and platforms in place, Target has ramped up its innovation efforts. In its 50 Days of Learning program, Target's technology and data science team members spend 50 days a year exploring new ideas that could create better experiences for Target's guests or operations. This commitment, roughly one day a week, includes innovation sprints, hackathons and conferences.

Thus far, the program has spurred everything from back-end services that allow teams faster access to supply chain data to dynamic promotions displayed on self-checkout registers (an idea

that surfaced from a hackathon).

Target has also tucked its Cartwheel e-coupon feature into its mobile app, which was upgraded with Bluetooth-enabled location services; added computer-generated imagery to its website; and implemented in-store tech tools that help employees better serve guests.

### The path forward

The sweeping transformation is paying off for the company and McNamara. After a strong performance through the 2018 holiday season, in which digital sales rose

## The trick for Target?

### Cultivating the capabilities to respond to changes, whatever form they take.

29 percent, Target CEO Brian Cornell folded the enterprise data analytics and business intelligence team under McNamara.

This team, which includes roughly 1,000 data scientists, engineers, governance experts and analysts, helps Target leverage data to elevate the guest experience and improve its operations, including applying artificial intelligence (AI), machine learning (ML) and automation. The team also uses algorithms to generate

insights for the company's supply chain, marketing, merchandising and properties teams.

Experimentation with AI and ML could prove pivotal as Target pursues growth in a world where technology is making commerce more seamless. And while the popular refrain is that Amazon.com is eating the retail world, McNamara notes that the e-commerce market remains relatively small compared to its brick-and-mortar counterpart. McNamara fully expects physical retail locations, augmented by digital services, will be critical for Target's future.

The trick for Target? Cultivating the capabilities to respond to the changes, whatever form they take. "We need a great engineering team and flexible adaptive architecture because consumer tastes change and we've got to pivot to respond," McNamara says. ♦

Clint Boulton is a senior writer at CIO.com.

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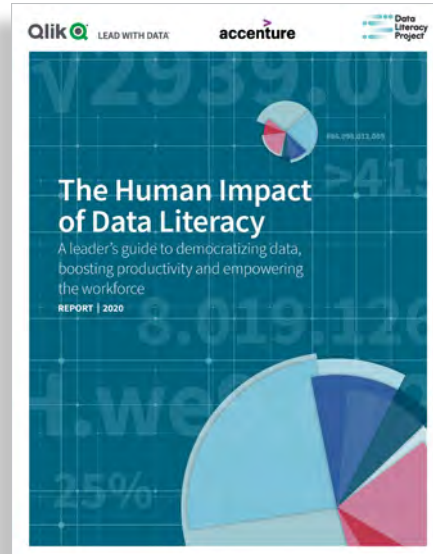
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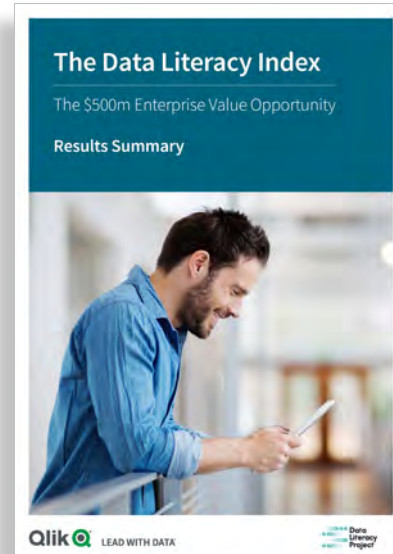
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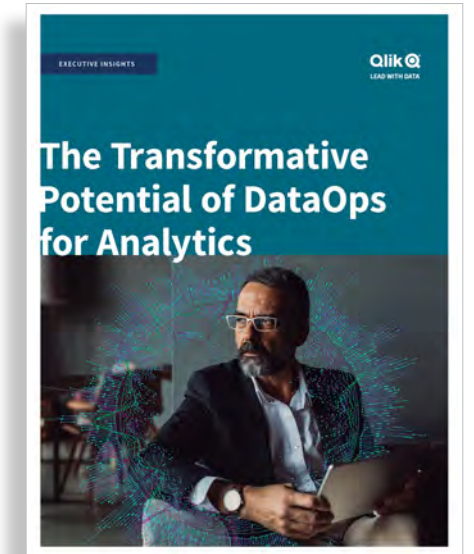
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