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Briefing Paper

OVERCOMING BARRIERS TO DATA IMPACT

New Tools and a New Data Mindset Can Bring About Real-Time Decision Making

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We know that data is the key to success in this digital age, and organizations are struggling to redefine their business strategies around data. For years, the battle—or at least, the discussion—has centered on two approaches: "tearing down silos" and "creating a data-driven culture." Most organizations have struggled on both fronts.

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VP OF PRODUCT MANAGEMENT, CORE PRODUCTS

SPLUNK INC.

Strategically, the silo struggle has somewhat missed the point. Yes, data that is locked in one application or database, inaccessible to other uses, is a problem. The key to innovation and competitive success is in finding insights from the intersection of traditionally isolated data streams, and we must break our data out of solitary confinement. But the solution is not to tear down, or radically reinvent, the organizational structure of our data. Information tends to reside in the location and format relevant to its primary use. That won't, and shouldn't, change.

What needs to change is organization-wide access to that data. We need tools that let us work with data where it resides, where it is organized, without that primary organization encumbering new uses or new ideas. This strategic shift to enterprise-level data strategy has implications for the technology we use to manage our data. It also has implications on culture.

A "data-driven" culture is one in which data is used to inform every decision, in which every action is a strategic choice using the best available insight, and the tools that provide insight lead to the tools, such as orchestration and automation, that drive swift and effective action. You can't use data to drive every action until you give every decision maker hands-on access to data and the tools to act on it. It's not a chicken-and-egg question; the data has to come before the adoption.

We're seeing this transformation take place every day. Our customers are approaching data strategically, in a way that makes it available across departments and business users and that drives the transformation of the decision-making culture. I've seen businesses in which IT has installed TV screens that show the latest dashboards, and executives stand in the hallway to consult them daily. That not only informs how leadership makes decisions, but it sets an example for the entire enterprise.

This combination of an organization-wide data platform and a culture that actively embraces it is how businesses, including Splunk (we've got the dashboard screens up, too), thrive in our increasingly data-rich, ever-accelerating world. We need to guide the evolution of technology and culture in parallel, so that we can use data across our organizations to discover new insights that guide business strategy, ignite innovation, and redefine how we achieve success.

OVERCOMING BARRIERS TO DATA IMPACT

New Tools and a New Data Mindset Can Bring About Real-Time Decision Making

The Big Data Era could just as well be called the Big Opportunity Era given how websites, applications, sensors, devices, and other new sources of data are creating information treasure troves that would have been unimaginable only a few years ago. As the volume and velocity of data increase, so do the variety of ways the data can be used.

Across industries, data is becoming the most valuable corporate asset, playing a central role in every decision and action a company makes and takes. Even so, many companies are prevented from realizing data's full potential because of technological and cultural barriers. A recent survey of 560 business executives by Harvard Business Review Analytic Services found that while 83% of companies stress the importance of turning data into actionable insight, only 22% feel their company is successful at doing this.

A primary issue is that companies have spent too much time and effort in fruitless attempts to eliminate data silos rather than manage their data where it resides and make it widely available for appropriate use. For all the pitfalls of data silos, there's a reality that information crucial to one part of the business isn't necessarily so for others; data often resides in the primary applications and databases where it is gathered and used, and its isolation is intentional. That does not have to lead to "silos" in the usual, negative sense of barriers, leaving data inaccessible to other uses. Companies should accept the data chaos and leverage new tools and platforms that are designed to work with the data reality.

"Companies should treat data as a strategic asset," says Athina Kanioura, chief data scientist, Accenture Applied Intelligence. "The companies that don't will not exist in the next three to five years. It's a matter of survival."

This report will explore five primary data barriers that prevent organizations from using data to fuel real-time decision making to improve efficiencies, drive innovation, and enhance the customer experience.

HIGHLIGHTS

- Companies encounter five technological and cultural obstacles to realizing the full potential of their data.
- The inability to access data affects companies in a variety of ways, many of which are minimized or go unnoticed.
- Instead of fruitless attempts to eliminate data silos, companies should manage their data where it resides and make it widely available for appropriate use.

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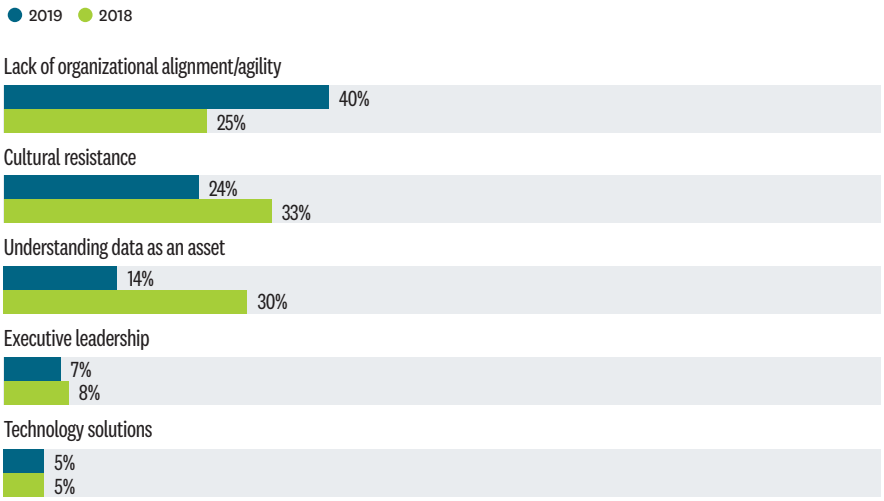
FIGURE 1

BIGGEST CHALLENGES TO USING AI/BIG DATA

Organizational and cultural issues are the major problems



SOURCE: NEWVANTAGE PARTNERS, "BIG DATA AND AI EXECUTIVE SURVEY," 2019

Becoming a Data-Driven Organization

Becoming a data-driven organization requires an intersection of top-level direction and the proper technologies.

A NewVantage study found that 95% of the issues that companies had in implementing a data strategy—managing data to ensure security and compliance and leveraging it as an asset to improve competitive position and profitability—stemmed from organizational and cultural issues. FIGURE 1

To become a data-driven organization, leaders need to understand their data and accept "silos" in terms of organization but learn to overcome obstacles to leveraging data across the enterprise to derive new insights, fuel new innovations, and improve business outcomes.

Obstacles to Realizing Data's Potential

Today, companies encounter five technological and cultural obstacles to realizing the full potential of their data.

First, the sheer volume and variety of data, which, while offering organizations enormous potential, can be an overwhelming information tsunami. Two-thirds of the companies in a Vanson Bourne survey report their organization has so much data that they struggle to make use of it all.

"IoT (internet of things) is driving a lot of companies batty," says Philip Russom, senior manager of research and services at The Data Warehousing Institute (TDWI), a data-intelligence research and education organization. "Suddenly, they have triple the number of data sources."

Data is not only vast and complex but also fast moving, and the constant influx of data presents a second challenge for most organizations.

Third, as business functions experiment to solve unique business cases, they lean on purpose-built applications and data repositories that are complex and costly to integrate. And the adoption of technologies outside IT's managed infrastructure contributes to silos, preventing enterprise-wide data integration.

"Silos are probable when large departments have big budgets that they're willing to spend on shadow IT," Russom says. "For example, at TDWI, we regularly see large marketing departments doing this for heavily data-driven business functions, such as digital marketing campaigns, customer analytics, and the massive data that comes from multi-channel marketing."

Fourth, companies face cultural barriers to realizing their data potential, including a struggle to escape from

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450%

WORKERS AT COMPANIES THAT ARE TECHNOLOGY LAGGARDS ARE 450% MORE LIKELY TO WANT TO LEAVE TO GO WORK ELSEWHERE, AS COMPARED WITH THEIR TECHNOLOGY-LEADER COUNTERPARTS.

With data **trapped in diverse and divergent systems,** companies are unable to capture the full view of their data for real-time decision making.

a status-quo mindset. Entrenched cultures and standard ways of working don't encourage leveraging or sharing data. FIGURE 2

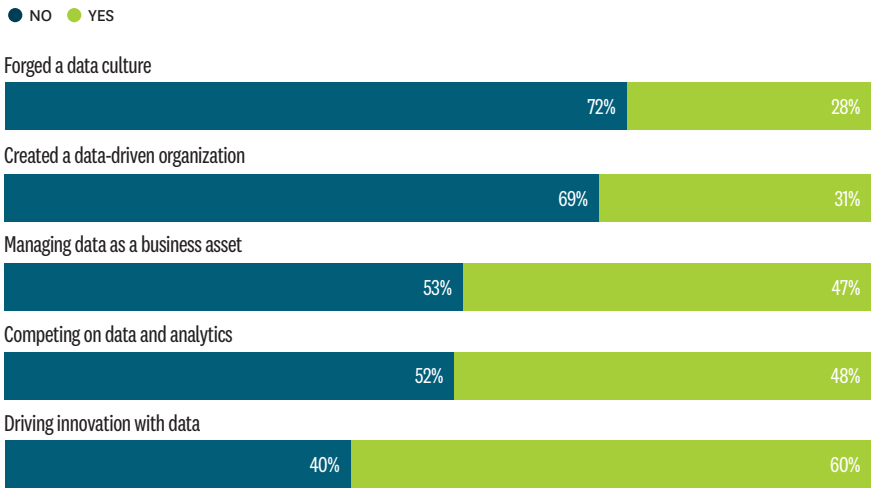
NewVantage Partners found that 72% of companies haven't forged a data culture, and 69% have not created a data-driven organization, indicating that the organizational culture has not yet evolved to prioritize data in most companies.

The last barrier is the difficulty associated with democratizing data. While companies aspire to broad-based data access, tools and technologies are usually built for technical experts. The education and skills development required to turn everyone into a data expert lags behind the needs.

FIGURE 2

NOT DATA DRIVEN

Most companies haven't forged a data culture



SOURCE: NEWVANTAGE PARTNERS, "BIG DATA AND AI EXECUTIVE SURVEY," 2019

Untapped Data: What Is the Cost?

The inability to access data affects companies in a variety of ways, many of which are minimized or go unnoticed.

Companies have spent a huge amount of time and effort on master data management methods and other integration strategies in an attempt to eliminate silos. But business processes and data are evolving faster than these integration strategies can handle them.

"For the last decade, companies have had all these methods for rationalizing data, the most recent being master data management," Davenport says. "None seem to work too well."

With data trapped in diverse and divergent systems, companies are unable to capture the full view of their data for real-time decision making. "The whole meeting can be burned up with arguments about whose data is best or more accurate and whose interpretation is the best," Russom says. "These silos can be very nonproductive and completely bring to a halt the decision-making process."

As a result, "dark data," or uncaptured and untapped sources of potential insight, go unrealized.

In a Big Data Era, when information should be central to every action, companies that don't embrace new tools to tap into data can see both their cultures and reputations damaged. With an intense war for talent, especially in the technology ranks, companies that are information laggards have difficulty recruiting, retaining, and inspiring high performers.

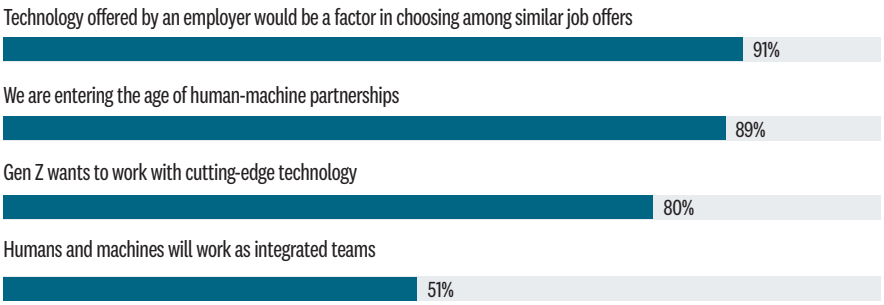
A recent study by Dell Technologies found that workers at companies that are technology laggards are 450% more likely to want to leave to go work elsewhere, as compared with their technology-leader counterparts.

When companies commit to a **data strategy** aimed at overcoming data barriers, the insights that come from new sources of data are surprising—**and create a thirst for more.**

FIGURE 3

WORKERS WANT CUTTING-EDGE TECHNOLOGY

Gen Z workers choose jobs based on it



SOURCE: DELL TECHNOLOGIES, "GEN Z: THE FUTURE HAS ARRIVED," 2018

And this only promises to intensify. Generation Z (Gen Z), current high school and college students who will be the next wave of workers, highly prize employers that use cutting-edge technology. Gen Z workers also believe that having humans and machines working together as integrated teams is the way of the future. FIGURE 3

Overcoming the Data Barriers

A data-driven culture can be boiled down to empowerment and liberation. Every employee needs to feel encouraged to investigate new ideas for business opportunities and efficiencies and have access to the data to vet their ideas.

While employees must be liberated to use data, the data itself must be accessible. Executives should develop a greater understanding of their organizational data stores. Rather than become frustrated with data silos or try to eliminate them entirely, executives should understand the difference between unwanted or unintentional data barriers and the appropriate data repositories that don't necessarily foreclose the use of data in new, cross-pollinating ways.

Once the data is understood, a plan can be put in place to make use of it. Automation, artificial intelligence, and machine learning are providing new ways to make sense of siloed data stores.

Cutting-edge technology platforms are not being designed around the idea of addressing complex and chaotic environments, which is, seemingly, a hopeless task. Historical data governance programs and failed integration initiatives have shown that a clean data set nirvana is impossible. "If you take data and use case requirements seriously, you will end up with multiple data platform types, not to mention an equally diversified portfolio of tools," Russom says.

By adopting the attitude that a "mess is acceptable," companies can begin to find ways to make use of their data stores. Organizations can respond by relying on a platform approach that can deal with the variety of systems and data formats, thus reducing the data inaccessibility problem while leaving sensible, effective organization in place.

And then, once again, the technology circles back to the people. Hiring and training staff to use the new tools closes the circle. "When you implement a data strategy, you need to educate the workforce about using data and the insight it brings," Kanioura says.

Benefits of an Evolving Data Strategy

While data benefits now largely focus on cost efficiencies, companies that break down data barriers can develop a

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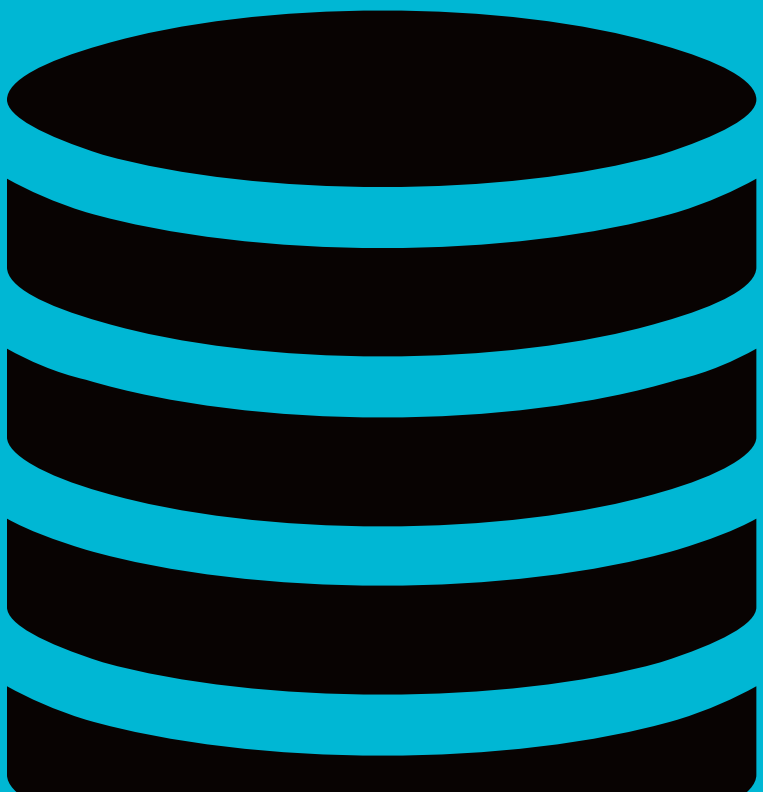

COMPANIES MUST ELEVATE THEIR DATA STRATEGY SO IT IS INTERTWINED WITH THEIR BUSINESS STRATEGY.

strong data strategy with both top- and bottom-line benefits. Top-performing companies—in terms of revenue, growth, and agility—generate 10% more of their total revenues from data, as compared with bottom performers, research from MIT found.

Companies that remove the barriers have unprecedented visibility and can use that information to identify new products, pinpoint customer needs, improve security, and find countless other opportunities. They are able to quickly move from action to insight, leveraging the orchestration and automation provided by new technologies like machine learning and artificial intelligence.

For example, Dubai Airport collects data from what it calls "golden bathrooms." Sensors show which faucets are getting the most use, indicating how often people are washing their hands. If the number drops, the maintenance department knows to dispatch a cleaning crew immediately. Such insights can also help airport managers determine whether restrooms have too few sinks, letting them rethink designs.

The airport also gathers data about what metal objects are likely to trip alarms at security checkpoints. For example, the airport determined that passengers going to cooler locations in winter are more likely to wear heavy boots that can trigger an alarm. The airport can use such insights to change the messaging at security checkpoints about which items passengers need to remove, allowing the facility to operate more efficiently and improve customer satisfaction.

The result of this kind of approach can provide payoffs in numerous areas: improved security, enhanced customer experience, better IT delivery, and faster iteration and innovation with application and product delivery.

Take a multinational manufacturer that leveraged a modern data platform and automation to gain enterprise-wide visibility into its IT operations. By addressing the data barrier issues, the entire organization could work more closely to assist one another. People were not limited to, say, waiting for a network engineer to tell them the network was functioning correctly. Everyone could see for themselves. As a result, business-impacting IT incidents dropped by more than 50%, and the mean time to resolve IT incidents fell 32%.

When companies commit to a data strategy aimed at overcoming data barriers, the insights that can come from new sources of data are surprising—and create a thirst for more. As the power of data becomes more obvious, so does the need to make access to it ubiquitous. Data-driven cultures look for new ways to share information, such as through augmented reality and virtual reality.

Conclusion

In the fast-paced business landscape, success hinges on better collaboration and better access to data to make real-time decisions. Traditional mindsets, and traditional ways of managing data, are rooted in a slower era and cannot keep up with the volume, variety, and velocity of modern data.

"Companies that follow old-school organizational models struggle to become data-driven companies," Kanioura says. "There is a misalignment between analytical processes and business processes. Many business processes were designed by humans many years ago, and they don't align with data processes."

Overcoming—rather than striving to eliminate—the data barriers is the only way a company can truly become data driven and leverage its information stores in a transformational way. Emerging sources of data, as well as dark data, can hold the key to new efficiencies, new products, and competitive advantages.

Companies must elevate their data strategy so it is intertwined with their business strategy. In a world of digital transformation, both strategies need to be given the same weight and importance and become embedded in the culture.

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