Harvard Business Review
ANALYTIC SERVICES

Pulse Survey

AN INFLECTION POINT FOR THE DATA-DRIVEN ENTERPRISE

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To thrive—even to just survive—in today's hyper-competitive environment, businesses need actionable customer insights, faster product innovation, and disruptive business models. These three ingredients are deeply interdependent. Knowing one's customers drives product innovation. Fast-paced product innovation enables disruptive business models. Disruptive business models delight customers in unanticipated ways, change lives, and ultimately produce wildly successful enterprises.

The decline of Radio Shack comes to mind when considering the alternative. The combination of limited (or altogether lacking) business agility, a weak product mix, outdated methods for determining buyer preferences, and clearly a misguided analytics strategy resulting in uninformed decision making sealed the fate of the once go-to brand for all electronics needs. It's unfortunate for "The Shack," but what an incredible lesson across multiple industries on the perils of failure to operate as a data-driven, intelligent enterprise.

Just how does a data-driven intelligent enterprise operate? First and foremost, it enables any member of a business organization to get access to relevant data from any device, at any time, anywhere, in order to achieve the organization's goals. Predominantly, those goals include obtaining better insight into customer needs and expectations, enabling faster and more effective decision making, and improving process and cost efficiency. While these goals may sound familiar, the fact that they remain at the top of the list even as dramatic changes have occurred in the way businesses operate is an indication that effectively managing business fundamentals remains a formidable task.

To achieve these goals, the data-driven enterprise must prioritize and implement analytics, innovate with new technologies, and build core competencies, all with the full support and understanding of key stakeholders, from top leadership down. Challenges include:

- **Modernizing data analytics**—extracting new value from existing data and delivering actionable, customized intelligence throughout the organization.
- **Innovating with new technologies**—leveraging a strong data foundation with transformative technologies, including big data, cloud computing, machine learning and AI, mobile computing, and digital identity and security.
- **Building critical competencies**—investing in developing essential digital and data analytics capabilities, and engaging experts skilled at leading technology innovations based on best practices, with proven results.

How advanced is your organization on the road to the data-driven intelligent enterprise, and how do your challenges compare to those of your peers? We partnered with Harvard Business Review Analytic Services to better understand the challenges that organizations face today on their journey to becoming agile, innovative, data-driven, and truly competitive.

Read on for the latest insights from organizations at various stages of digitizing their businesses and realizing myriad benefits, including faster product innovation, smarter decision making, and delighted customers.

AN INFLECTION POINT FOR THE DATA-DRIVEN ENTERPRISE

All roads today lead to the data-driven enterprise—one that is agile, innovative, and customer-centric enough to survive and thrive in an increasingly complex and competitive environment. Undoubtedly, however, some organizations are getting there faster than others. The key for those racing ahead is data that is accessible, analyzable, and actionable—a critical asset that for many organizations remains locked down in organizational silos and legacy systems, held back by people and processes, misunderstood by corporate leaders, or slowed by inefficient infrastructure.

Boardrooms are abuzz with talk of artificial intelligence (AI), blockchain, the internet of things (IoT), and other promising emerging technologies. While these and other tools have incredible potential to transform businesses, industries, and even the nature of competition itself, companies must first have the right strategy to leverage data and analytics and put a foundation in place to take advantage of them if they are to digitally transform. The ultimate goal will be to create a truly data-driven enterprise—one in which data drives every person, product, and process and is available to every user and on every device.

It's an existential imperative; those companies that do not evolve into data-driven organizations will be supplanted by those that do. "Lots of companies are embracing this now because they're scared to death of being disrupted by digital companies that use data and digital technologies to remake entire industries," says Wayne Eckerson, founder and principal consultant of business intelligence and analytics consultancy Eckerson Group. Data is the fuel for transformation, and analytics is the engine driving the execution of new strategies.

A new survey of 729 business leaders conducted by Harvard Business Review Analytic Services in August 2018, however, reveals that organizations are not prepared for this data-driven future. While some organizations are moving in the right direction beyond manual, ad hoc, and non-standardized data analysis, most have a ways to go in their evolution into data-driven entities. Respondents have a clear understanding of the key competencies and technological capabilities of the data-driven enterprise, but they are not yet reporting high levels of capability effectiveness or emerging technology implementation.

HIGHLIGHTS

32%
OF RESPONDENTS DESCRIBE THEIR ANALYTICS MATURITY AS HAVING STANDARDIZED REPORTING TODAY—LARGELY STATIC AND BACKWARD-LOOKING.

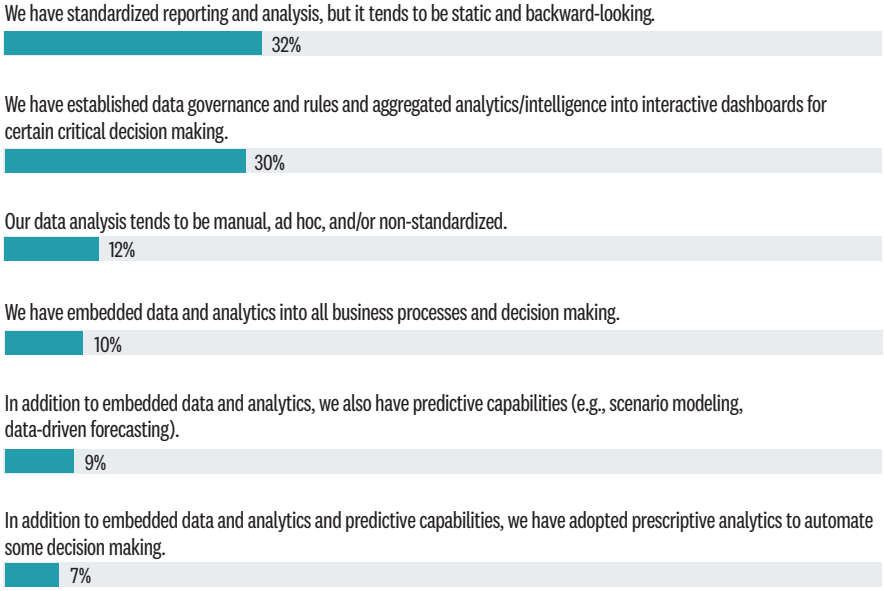
30%
SAY THEY HAVE ADVANCED TO ESTABLISH DATA GOVERNANCE, RULES, AND AGGREGATED ANALYTICS AND INTELLIGENCE FOR CERTAIN CRITICAL DECISIONS.

10%
OF RESPONDENTS SAY THEY HAVE EMBEDDED DATA AND ANALYTICS INTO ALL PROCESSES AND DECISION MAKING.

FIGURE 1

DATA AND ANALYTICS MATURITY

How would you describe your organization's digital data analytics maturity?

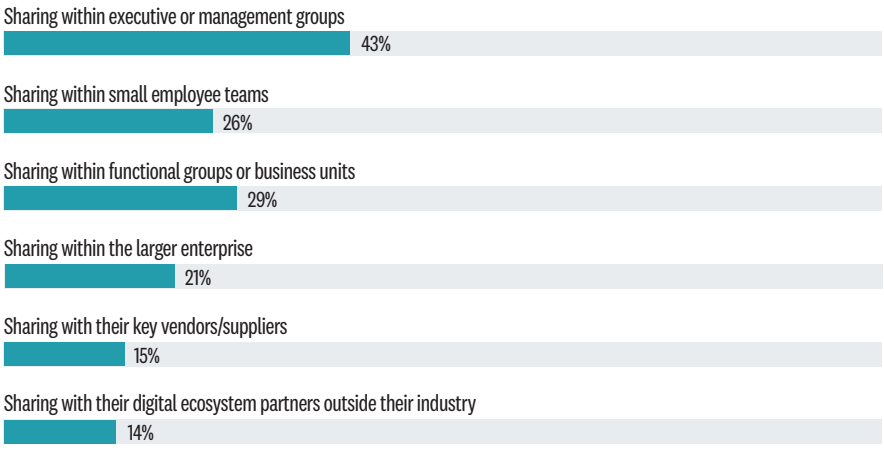


SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

FIGURE 2

DATA-SHARING MATURITY

Percentage of respondents who say their organization is very effective at data and intelligence sharing at various levels of the enterprise



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

Some respondents are beginning to see benefits from their early efforts in key areas such as customer insight, faster and better decision making, process and cost improvements, and streamlined operations. In addition, these early adopters hope to advance their analytics capabilities to include more predictive and prescriptive usage of analytics in the near future and are relatively confident that their organizations will achieve their vision of the data-driven enterprise within the next five years.

While these respondents know generally where they want to go, the question is whether they appreciate what it will take to get there and have the commitment to make those things happen. They are at a critical crossroads in their attempts at data-driven transformation. "Companies have been talking about digital transformation for some time, but now it's time to actually do something," says Stephanie L. Woerner, research scientist at the MIT Sloan Center for Information Systems Research (CISR) and coauthor of *What's Your Business Model? Six Questions to Help You Build the Next-Generation Enterprise*.

This is an inflection for digital transformation, and organizations are entering a critical period of innovation at the dawn of the data-driven enterprise era. It is clearly a challenging time for many, but it is an irrefutable imperative that organizations make the changes necessary to increase their data and analytics maturity to enable new business outcomes and stay competitive. "Companies will have to become more data-driven or they will die," says data and analytics thought leader Ronald van Loon. "The question is: Who will be able to overcome the challenges and benefit from the possibilities?"

The State of Data and Analytics

Nearly one-third of respondents describe their analytics maturity as having standardized reporting today—largely static and backward-looking—while a mere 30% say they have advanced to establish data governance,

rules, and aggregated analytics and intelligence for certain critical decisions. Only one in 10, however, say they have embedded data and analytics into all processes and decision making, and even fewer have advanced to predictive analytics or automated decision making. FIGURE 1 These numbers generally hold true across industries, with some exceptions. Retail, consumer goods, and manufacturing respondents are more likely to report lower digital data analytics maturity levels, while technology firms are clearly ahead of the pack, with one in five reporting the very highest analytics maturity levels today.

When it comes to sharing data and intelligence across the enterprise—the foundation for any data-driven entity—there is also significant room for improvement. While 43% of respondents say they are able to share insight within their executive or management ranks, the numbers drop precipitously when it comes to data sharing throughout the larger organization. Just a quarter of respondents are able to share data and intelligence effectively within small employee teams, and even fewer within functional groups, business units, the full enterprise, or key partners. FIGURE 2

What It Means to Be Data-Driven

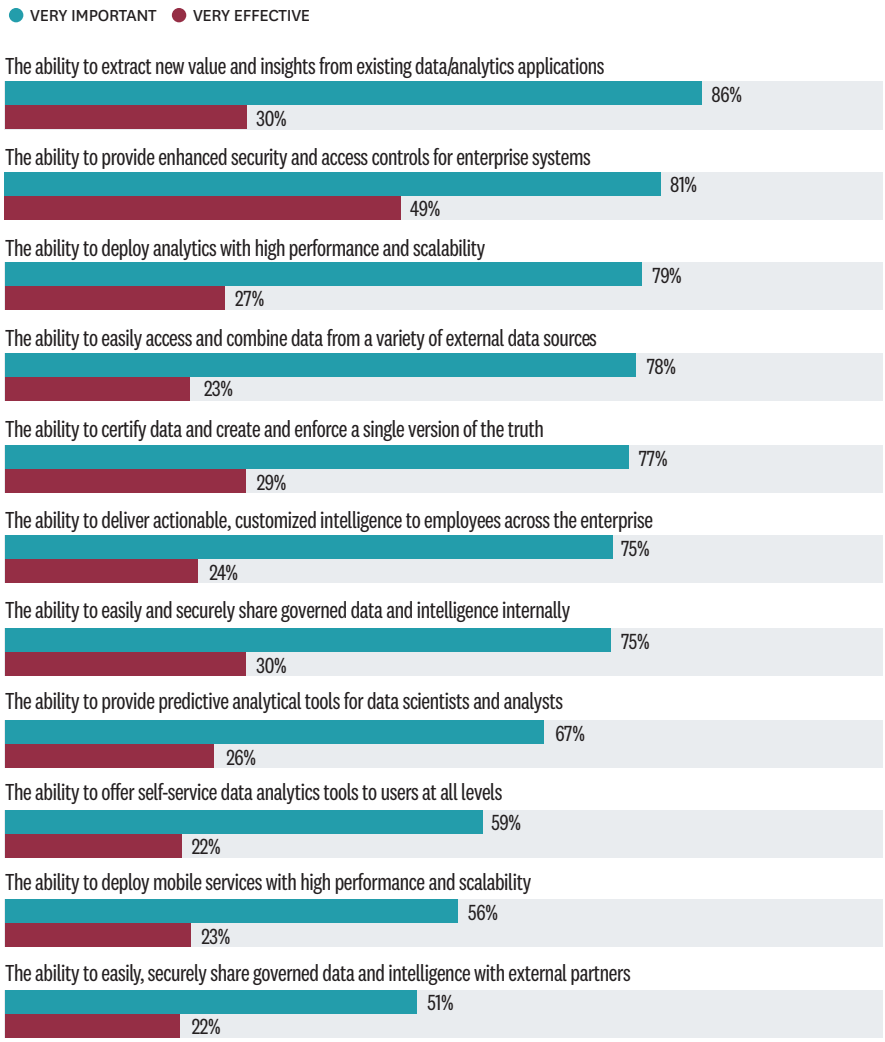
There is clear consensus across industries about the most important competencies of the data-driven organization. The data-driven enterprise, respondents say, should have the ability to extract new value and insight from existing data; to provide enhanced security and access controls; to deploy analytics with high performance and scalability; to access and combine data from a variety of external data sources; to create a single version of the truth; and to deliver actionable, customized intelligence throughout the organization. Achieving this set of capabilities establishes the foundation to enable a data-driven enterprise.

With the exception of security and access controls, however, most companies are struggling to develop these critical capabilities—with less than a third reporting that their organizations are very effective in these areas. FIGURE 3 Technology companies are the exception, reporting higher levels of effectiveness in most categories.

FIGURE 3

KEY CAPABILITIES OF THE DATA-DRIVEN ENTERPRISE

Percentage of respondents who say the following capabilities are very important for the data-driven enterprise versus the percentage who say their organization is very effective in these areas

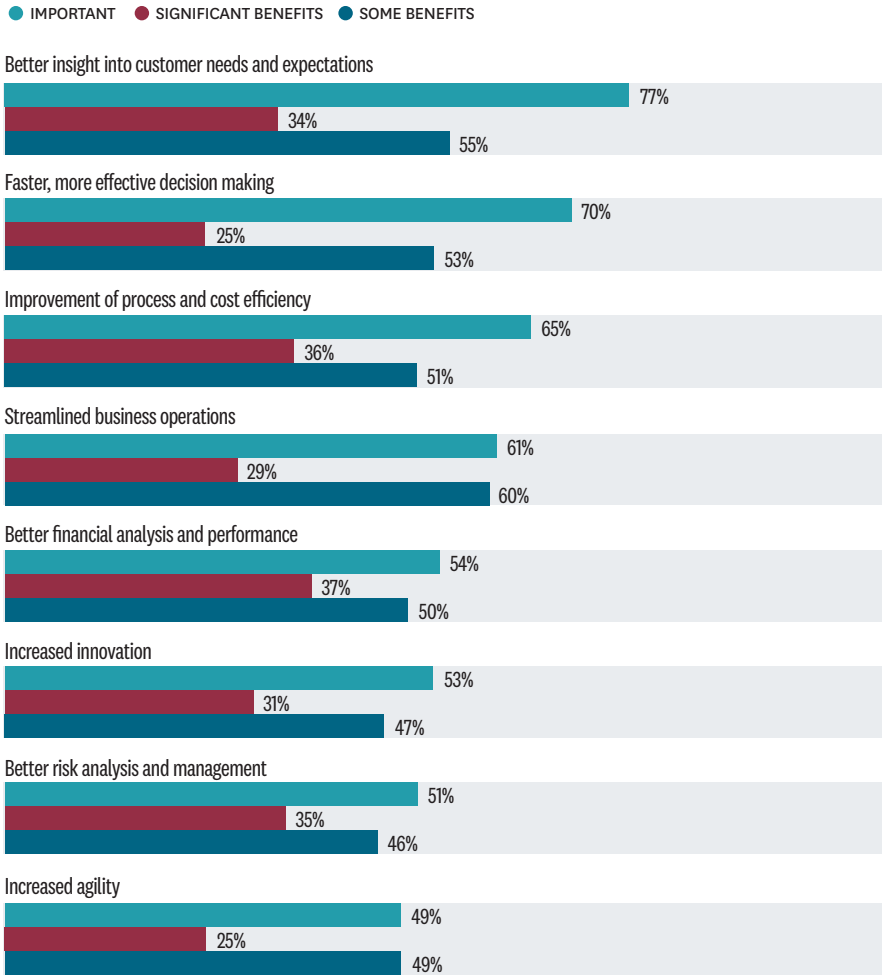


SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

FIGURE 4

TRANSFORMATION GOALS AND BENEFITS

Percentage of respondents who say the following goals are most important to their organization's evolution into a more data-driven, intelligent enterprise, as well as the percentage who say they have seen benefits in each area



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

THE DATA-DRIVEN ENTERPRISE SHOULD HAVE THE ABILITY TO EXTRACT NEW VALUE AND INSIGHT FROM EXISTING DATA.

Goals of the Data-driven Enterprise

The need for better insight into customer needs and expectations is the leading driver for organizations to become more intelligent and data-driven, according to the survey. They also want to enable faster and more effective decision making, increase efficiencies and cut costs, and streamline business operations. The good news is that some companies are beginning to see results, with more than half reporting some benefits in these areas. Just around a third say they have achieved significant customer insight and process and cost improvements, while a quarter say they have seen significant improvements in decision making. FIGURE 4

Business Model Inertia

Just as telling as the goals that respondents say are most important are those that don't rank highly. Only 28% of respondents, for example, say that introducing new business models is a key goal of their evolution into a data-driven organization. That may be holding companies back from achieving real transformation.

"That's a fundamental problem," says Woerner of MIT CISR. "If you're not thinking about the need for new business models or even a new business unit with a new business model, there's no impetus for change. The very best companies are always thinking about how they are going to change their business model. They're always thinking about new ways of gaining revenues. They're always thinking about new kinds of services or the same service or products delivered in new ways." Without that, efforts to transform can be shortsighted or simply fall flat. "If companies think seriously about what business models they want to get to," Woerner says, "it gives them some impetus to look carefully at what their data should look like, what their processes should look like, and what their platform should look like."

A Look at Key Industry Approaches and Pitfalls

The goals of transformation do vary by industry. Financial services firms and retailers/consumer goods companies, for example, are more likely to seek better customer insight (84% and 89%, respectively) as a top priority. "[They] are under great pressure to increase their customer delight, and they've got competitors that are there to take away some market share if they don't," says Woerner. But that singular focus on the customer experience can, in some cases, thwart transformation efforts. "It's a challenge to work on customer experience at the same time as you're working on the automation and process rationalization required for digital transformation. Often what they do is put off what needs to be done [with data] because they've got a greater customer need," says Woerner. "The problem is that they're putting off some needed structural underpinnings, and if they're not careful, it could all come crashing down."

Particularly in industries where there is pressure to change quickly, "companies often start with front-end applications, and they are able to make some first steps," says van Loon. "But it's not the right route to get long-term results." Companies may implement new data and analytics systems in certain customer-facing departments, but such siloed solutions won't yield enterprise change. "If you want to manage real transformation, you need to have a proper end-to-end data management, data security, data processing platform company-wide," van Loon says. "Companies need to start somewhere, but many are realizing that a segmented approach isn't the route to take anymore."

Health care organizations are more likely to prioritize process and cost efficiency, with 73% of those respondents citing that as a critical aim of their transformation efforts. Manufacturers, too, are seeking process and cost improvements (74%) but are also more likely than their counterparts to want to use data to improve their collaboration with key partners. In some ways, manufacturing companies may have a leg up in their evolution as data-driven enterprises.

"If you want to **manage real transformation**, you need to have a proper end-to-end data management, data security, data processing platform company-wide," says data and analytics thought leader Ronald van Loon.

"They have a background in operational efficiency and may have a head start on their platforms," says Woerner. "They may not yet be using their data effectively, but chances are it's in better shape." However, as they look to incorporate more IoT, they will need to make sure they have the appropriate data management layers in place, says van Loon.

Meanwhile, technology firms are more likely than others to seek transformation for the sake of increased agility (54%), the identification of new products and services (48%), and increased speed to market (46%). For these companies, technology is both part of their offerings and an enabler to their transformation. Their ability to embrace new technologies can outpace other industries, but they face the same challenges to transform.

Barriers to Transformation

No matter the industry, companies are coming up against significant, although not unexpected, hurdles in their efforts to advance their data and analytics capabilities. The most significant organizational barriers to data-driven enterprise evolution are organizational silos, legacy processes, lack of key digital or analytics skills, and resistance to change. FIGURE 5 Technology and financial services companies are slightly more likely to wrangle with legacy process issues. Manufacturing organizations struggle with the lack of digital skills, while technology firms are understandably less likely to cite

#1

ORGANIZATIONAL SILOS ARE THE TOP BARRIER FOR ORGANIZATIONS TRANSFORMING INTO DATA-DRIVEN INTELLIGENT ENTERPRISES.

such a problem. Meanwhile, retailers and consumer goods companies are more likely to be thwarted by change resistance and their existing organizational structures.

"Companies that have successfully transformed have had to restructure to address organizational silos, develop a platform mindset to overcome legacy process hurdles, and come up with new ways of working," says Woerner. But they didn't do so without upheaval. "You can't build a new road without making some explosions. But the key is to try to control these organizational explosions," Woerner says. "It's never going to be easy, but if you can anticipate what the changes will be, communicate them very well, and work on getting everyone on board, you can control the impact."

Legacy systems and infrastructure top the list of technology barriers for the evolving enterprise, followed by the lack of a centralized platform, data silos, and data consistency issues. FIGURE 6 Legacy systems are a particular issue for retail and consumer goods companies. Technology companies are more likely to wrestle with data silos. Financial services firms are more apt to cite data consistency issues. However, health care and manufacturing are less likely to suffer from the lack of a centralized platform.

"It's hard to do really good analytics when data is all over the organization and its systems," says Woerner. "Integrating silos is a core capability. It doesn't mean you can't start transforming without integrating data, but it makes it much more difficult, and there's a real chance of actually making things worse for the customer."

Most companies have failed to make necessary changes to their back-end systems, many out of fear of the risk of disrupting core systems used to run the business, says van Loon. "Instead, they introduce new systems and just end up creating more silos." They need to address data consistency, cleanliness, and access and invest in end-to-end data life cycle solutions, says van Loon.

FIGURE 5

ORGANIZATIONAL BARRIERS

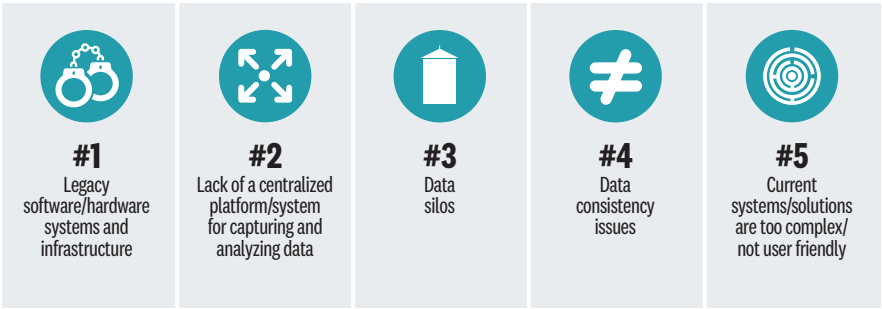
The most significant organizational barriers to respondents' transformation into data-driven, intelligent enterprises

SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

FIGURE 6

TECHNOLOGY BARRIERS

The biggest technology barriers to respondents' transformation into data-driven, intelligent enterprises



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

The C-Level Disconnect

While corporate leaders understand, at a high level, that transformation is needed, they underestimate the work required to become more data-driven and transform into a data-driven enterprise. "The situation in almost every market is that executives realize that they need to transform. They want to start using artificial intelligence, for example," says Ray Wang, founder and principal analyst with Constellation Research. "But they don't realize that these changes happen along a continuum. It's an intensive, multi-year process."

"Boards aren't doing their jobs because **they don't understand** the problem: **they're in a data war**, and data is the weapon," says Ray Wang, founder and principal analyst with Constellation Research.

Most corporate boards are likewise uninformed about the current state of their technology environments and the organizational and systems bottlenecks that prevent them from becoming more data-driven. "This is a top-down strategic business model decision that boards have to address," Wang says. "Boards aren't doing their jobs because they don't understand the problem: they're in a data war, and data is the weapon." While companies invest millions in resources to manage finance or HR or means of production, they are failing to put similar resources behind their most important asset: data. "Every board member and CEO needs to understand that data assets have to be managed the same way they manage any other asset," says Wang. "If they don't, they will be disrupted."

Those companies that do create a data and analytics function may not give it appropriate power or funding. "Companies that realize the importance of being data-driven should have people leading this at the C-level—whether that's a chief data officer or a chief digital officer," van Loon says. Many companies make the mistake of thinking technology alone will solve their data problems, says Eckerson. "What they need to do is buy experience and have those people train the organization, introduce best practices, and remake processes to support the needs of business in a timely manner. They've got to have a robust data infrastructure and architecture, sufficient analytical tools and know-how to use those tools, and—most importantly—top-level sponsorship and data leaders to drive the vision of the data-driven enterprise."

Advancing Analytics and Emerging Technologies

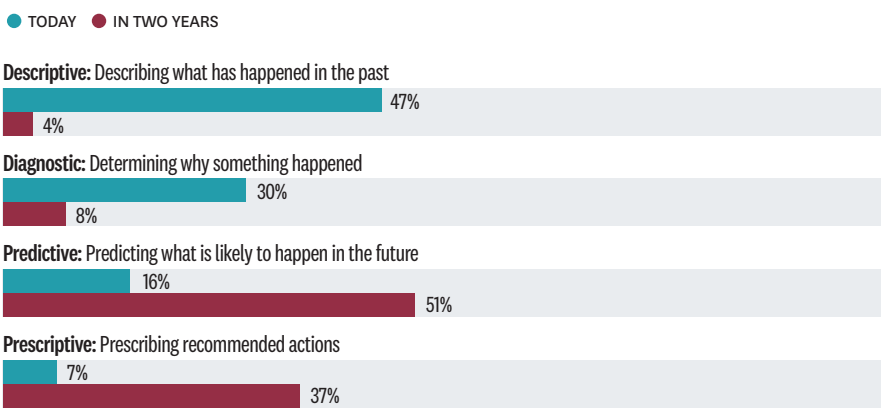
Companies that want to stay on the right side of digital disruption must move fast and get serious about their data and analytics efforts. While much of the data analysis going on today remains backward-looking, the focus is rapidly shifting toward more forward-looking, and even automated, data-driven decision making.

Today, nearly half of respondents say they perform descriptive analytics, and just under a third use diagnostic analytics, while predictive and prescriptive analytics usage remains rare. Within two years, however, respondents expect to do much more of the former and far less of the latter, with half planning predictive analytics usage and 37% saying their organization will perform prescriptive analytics. FIGURE 7

FIGURE 7

FROM DESCRIPTIVE TO PRESCRIPTIVE

Percentage of respondents who say their organization does the following types of analytics today and percentage who say the organization will do so in two years



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

The technology sector is more advanced in its analytics usage, with 27% of those respondents reporting the use of predictive analytics today. Meanwhile, manufacturing is the most bullish on predictive analytics in the near term, with two-thirds expecting to perform them in two years. Nearly half (48%) of technology firm respondents say they'll be using prescriptive analytics in two years—much more than any other sector.

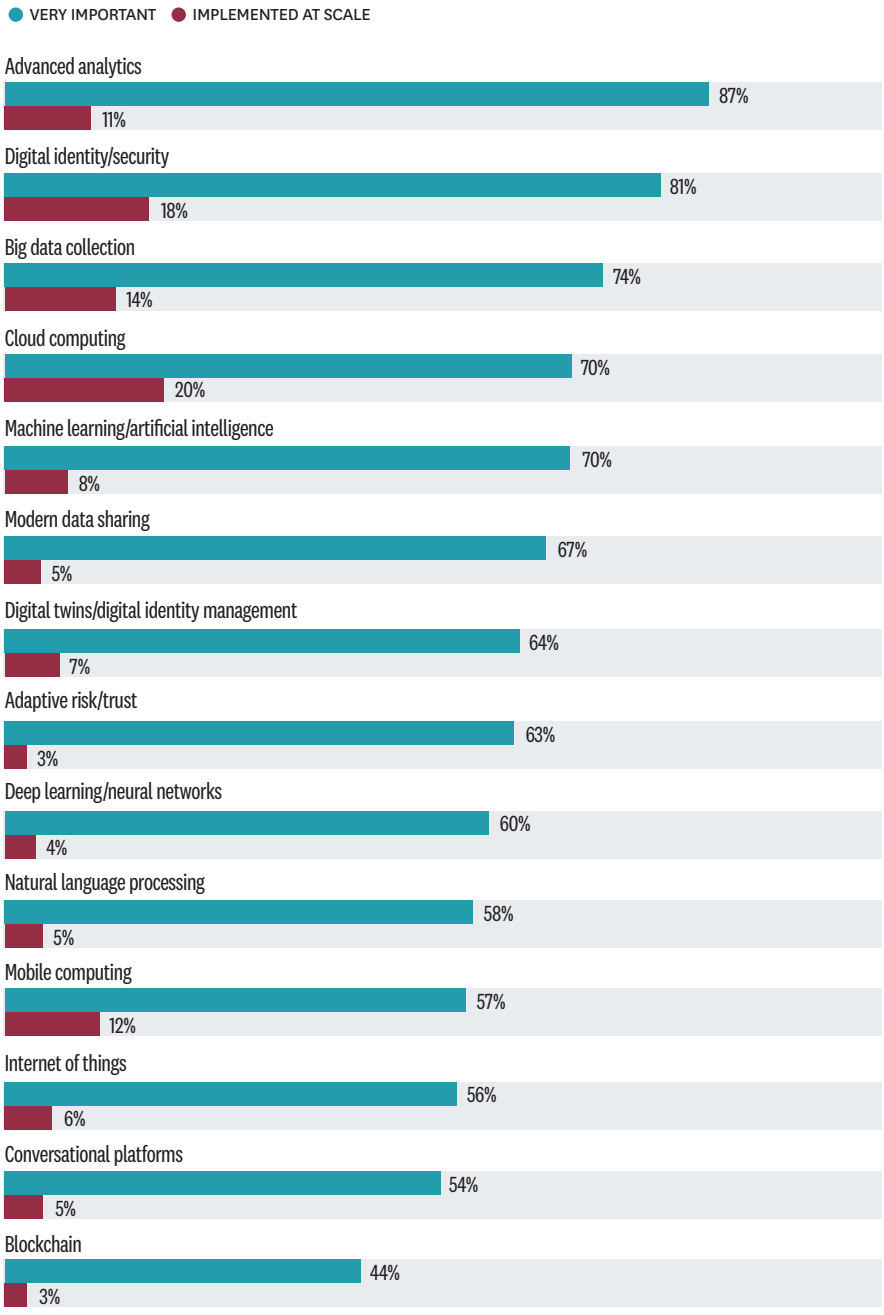
Data and analytics will be the key to driving insight and innovation, better understanding and managing risk, and transforming interactions with customers and suppliers, says Eckerson. "Increasingly, it will be more predictive—using historical data not just to optimize the present but to predict the future—and prescriptive. We're right in the middle of that shift, and the leading-edge companies are already doing that. However, many companies don't know where to begin."

Organizational leaders and boards are also eager to harness rapidly advancing technologies—far beyond just more robust analytics. Digital identity, big data, cloud, and AI top a long list of capabilities respondents say will be critical to their organization's future performance. FIGURE 8 Although around one-third of respondents have either begun implementing or have fully implemented advanced analytics, digital identity, big data, and cloud computing, and a quarter say they've started down the road with AI, very few companies have implemented any of these capabilities at scale. They need to put the right data and analytics foundation in place in order to take advantage of them. "The big challenge is that everybody wants to do AI, but they don't know what that means," says Wang. "They don't know that getting to that is a multi-year journey."

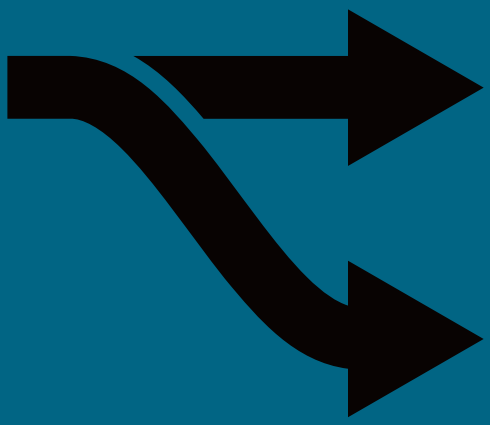
FIGURE 8

KEY TECHNOLOGY CAPABILITIES FOR THE DATA-DRIVEN ENTERPRISE

Percentage of respondents who say the following digital transformation capabilities are very important to the future performance of their organization and the percentage of respondents who say their organization has implemented this capability at scale



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018



"THE MINDSET HAS TO SHIFT TOWARD ITERATION AND EXPERIMENTATION. INTUITION DOESN'T GO AWAY, BUT YOU USE IT DIFFERENTLY—TO DEVELOP A HYPOTHESIS THAT YOU USE DATA TO TEST AND MAKE DECISIONS."

STEPHANIE L. WOERNER, RESEARCH SCIENTIST AT THE MIT SLOAN CENTER FOR INFORMATION SYSTEMS RESEARCH

How to Get There from Here

Despite those challenges, respondents were relatively upbeat about their organizations' ability to get where they want to go in the next five years. Four out of 10 had high confidence that they would achieve their vision of the data-driven enterprise within that time frame. FIGURE 9

For that to happen, however, companies will have to nail down their strategies and invest in the people, process, and technology changes required to get there. Companies also have to know when, where, and how to apply those resources, says Wang.

Now is the time for organizations to take a step back to reassess and realign their data and analytics efforts.

Companies can begin by creating a road map for their specific evolution to the data-driven enterprise—and the goals will be different for each organization. "Companies need to think forward about how to pull this off," says Woerner. "Without that end point in mind, it's really hard to do the disciplined and challenging stuff to get all this data together. Companies that are further along have had a new business model in mind. Those that are stuck tend to be struggling with their vision."

It's important to create a road map, not just for the technology changes required, but for the organizational shifts that will have to happen as well. "You have to give people an idea of where you're going and the steps you're taking to get there because all of these changes can be really hard on people," Woerner says. "But this can also be a very exciting end point for people too. When you lack a platform and data sits in organizational silos, people have to perform heroics to get their jobs done. Giving them real data and analytics can give them more control."

The changes can be harder on those even higher up in the organization who are used to making unilateral, non-data-driven decisions and leading in a command-and-control manner. "The mindset has to shift toward iteration and experimentation. Intuition doesn't go away, but you use it differently—to develop a hypothesis that you use data to test and make decisions," Woerner says. "It's a really different way of working."

The good news is that, once companies create a clear vision for their transformation and invest in it, they can begin moving rapidly in the right direction. "We've seen a lot of companies move fast to take more dramatic actions to get on top of it," Eckerson says. "It all comes down to having strong leadership (both experienced data leaders and executive sponsors), significant resources to implement their vision, and persistence. It's a long process, but with the right leadership and plans, you can make progress quickly."

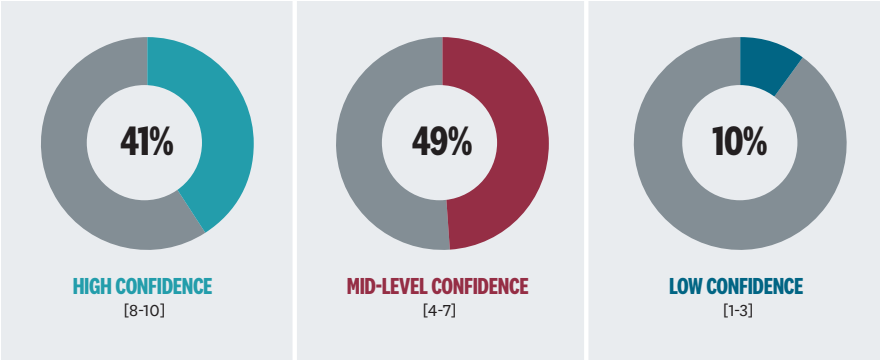
However, it's important to understand that these transformations will take perseverance. "This is not a revolution, although it looks like one because the pressure is so high," says van Loon. "It's a step-by-step approach, and it needs to be long-term and consistent. Companies must focus on the customer, create organizations that are flexible enough to adapt to these changes, put in place a platform to manage data, and have a clear view on strategy."

The years ahead will represent either a huge threat—for those companies that do not evolve into data-driven enterprises—or a significant opportunity—for those that embrace the opportunities that this data-driven transformation can deliver.

FIGURE 9

PREDICTIONS FOR DATA-DRIVEN TRANSFORMATION

How confident are you that your organization will achieve its vision of the data-driven enterprise within the next five years? [ON A SCALE OF 1-10]



SOURCE: HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, AUGUST 2018

APPENDIX

DIGITAL DATA ANALYTICS MATURITY

	TOTAL	FINANCIAL SERVICES	HEALTH CARE	MANUFACTURING	RETAIL/ CONSUMER GOODS	TECHNOLOGY
Our data analysis tends to be manual, ad-hoc, and/or non-standardized	12%	11%	12%	21%	8%	9%
We have standardized reporting and analysis, but it tends to be static and backward looking	32%	35%	34%	39%	42%	18%
We have established data governance and rules and aggregated analytics/intelligence into interactive dashboards for certain critical decision making	30%	30%	34%	25%	33%	30%
We have embedded data and analytics into all business processes and decision making	10%	10%	10%	8%	5%	13%
In addition to embedded data and analytics, we also have predictive capabilities (e.g., scenario modeling, data-driven forecasting)	9%	10%	8%	4%	9%	10%
In addition to embedded data and analytics and predictive capabilities, we have adopted prescriptive analytics to automate some decision making	7%	4%	2%	4%	3%	20%

GOALS BY INDUSTRY

	FINANCIAL SERVICES	HEALTH CARE	MANUFACTURING	RETAIL/ CONSUMER GOODS	TECHNOLOGY
Better insight into customer needs and expectations	84%	68%	71%	89%	80%
Faster, more effective decision making	61%	77%	71%	79%	67%
Improvement of process and cost efficiency	60%	73%	74%	68%	55%
Streamlined business operations	57%	66%	70%	53%	57%
Better financial analysis and performance	56%	62%	51%	64%	44%
Increased innovation	55%	62%	45%	42%	52%
Better risk analysis and management	59%	56%	43%	53%	40%
Increased agility	49%	49%	47%	41%	54%
Improved customer acquisition and/or retention	63%	38%	31%	53%	49%
Improved collaboration within the enterprise	39%	55%	39%	41%	45%
Analysis of workplace and workforce productivity	35%	55%	42%	41%	41%
Identification of new product or service opportunities	46%	31%	39%	41%	48%
Analysis of current product and service usage	38%	39%	33%	42%	42%
Increased speed to market	44%	17%	36%	48%	46%
The ability to monitor and analyze market conditions	30%	28%	38%	48%	31%
Improved collaboration with partners and suppliers	20%	34%	37%	35%	32%
Introduction of new business models	30%	27%	29%	20%	28%

APPENDIX continued

BARRIERS TO TRANSFORMATION

	TOTAL	FINANCIAL SERVICES	HEALTH CARE	MANUFACTURING	RETAIL/ CONSUMER GOODS	TECHNOLOGY
Organizational silos	38%	35%	37%	40%	32%	41%
Legacy processes	34%	38%	34%	29%	29%	38%
Lack of key digital/data analytics skills	33%	30%	34%	50%	44%	22%
Resistance to change	31%	29%	27%	34%	36%	33%
Current organizational structure impedes transformation efforts	29%	24%	31%	30%	38%	29%
Insufficient budget/funding	20%	18%	23%	23%	17%	17%
Lack of vision/strategy	19%	18%	20%	21%	23%	16%
Lack of collaboration/alignment between business and IT function	17%	18%	16%	15%	18%	19%
Data privacy and security concerns	15%	17%	16%	10%	8%	18%
Inability to experiment effectively (i.e., lack of process for iterating, testing, and piloting new solutions)	14%	19%	9%	14%	17%	12%
Inability to get data to the right people at the right time	12%	9%	16%	9%	12%	14%
Regulatory requirements	10%	18%	14%	6%	0%	3%
Lack of executive level support/buy-in	9%	11%	8%	11%	11%	9%

METHODOLOGY AND PARTICIPANT PROFILE

A total of 729 respondents drawn from the HBR audience of readers (magazine/ enewsletter readers, customers, HBR.org users) completed the survey.

SIZE OF ORGANIZATION

55% 10,000 OR MORE EMPLOYEES

30% 1,000-9,999 EMPLOYEES

8% 500-999 EMPLOYEES

8% 499 AND FEWER EMPLOYEES

SENIORITY

23% EXECUTIVE MANAGEMENT/BOARD MEMBERS

41% SENIOR MANAGEMENT

18% MIDDLE MANAGERS

18% OTHER GRADES

KEY INDUSTRY SECTORS

25% FINANCIAL SERVICES

25% HEALTH CARE

25% TECHNOLOGY

16% MANUFACTURING

9% RETAIL/CONSUMER GOODS

JOB FUNCTION

17% GENERAL/EXECUTIVE MANAGEMENT

10% IT/SOFTWARE ENGINEERING

9% OPERATIONS/ PRODUCTION/ MANUFACTURING

8% OR LESS OTHER FUNCTIONS

REGIONS

43% NORTH AMERICA

24% ASIA/PACIFIC

21% EUROPE

6% MIDDLE EAST/ AFRICA

5% SOUTH AMERICA

1% REST OF WORLD

Figures may not add up to 100% due to rounding.

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