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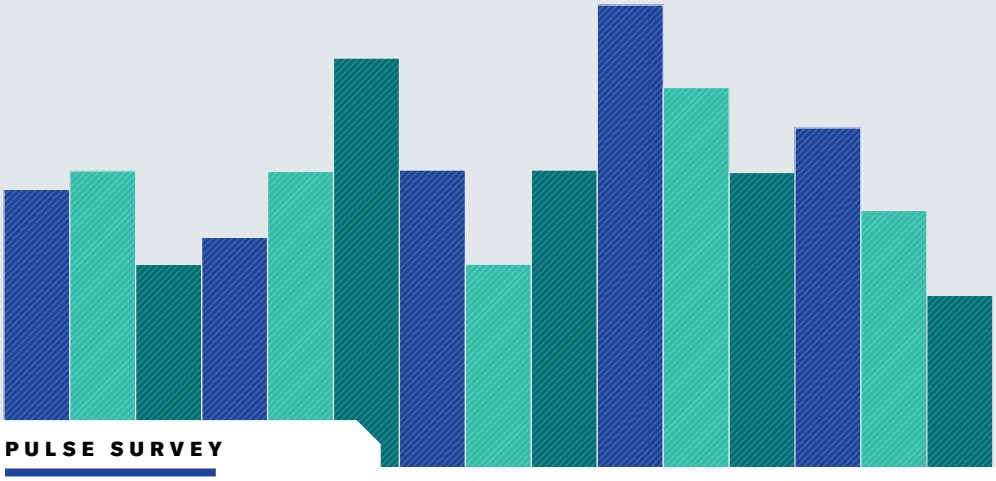

PULSE SURVEY

Transforming Data into Business Value through Analytics and AI

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Over the past few years, organizations have been met with unforeseen challenges that have required a shift in strategy and ways of thinking. Many organizations have relied and continue to rely on cloud technology, data, and artificial intelligence (AI) to help them navigate uncertain times. However, while having data and the right technologies in place is important, the ability to turn data into insights and insights into action is where businesses see value begin to materialize. Additionally, companies that are harnessing the power of AI to augment data decision making are further enhancing their capabilities, driving even more value, and maximizing business impact. In fact, according to data gathered in this report, "57% of leaders have an enterprise strategy for using AI to augment decision making (versus just 17% of others)."

In early 2020, prior to the Covid-19 pandemic, Google Cloud sponsored research by Harvard Business Review Analytic Services to better understand business leaders whose organizations have been the most effective in creating business value with data and to see how they compare to their peers. As the market and industry have evolved tremendously since 2020, from economic upheaval to the advancement of AI technology, this report aims to understand if and how leaders have changed their perspective on and adjusted investment in cloud technologies. Additionally, we sought their perspective in comparison to their peers' on the importance of AI. The report also measures business results for organizations as a result of data and AI investments and how results compare for leaders versus their peers in data and AI.

At Google Cloud, we strive to provide a best-in-class data cloud, offering data, AI, and analytics solutions to our customers to help them solve business challenges, drive value from data, and increase their competitive advantage. Our goal is to pave the way for our customers and give them the ability to leverage data insights layered with AI technology to make intelligent, real-time decisions for their business, spark innovation, improve customer experience, and realize tangible business results.

I hope that the perspective in this report will provide worthwhile guidance as you think about how your organization leverages data and how AI can play a tremendously important role in elevating your data strategy and resulting business outcomes. Wherever you are in your data, AI, and analytics journey, we at Google Cloud are eager to provide our guidance and expertise, and I invite you to get in touch and learn more about how Google Cloud data and AI solutions can help your organization.

Bruno Aziza
Head of Data Analytics
Google Cloud

Transforming Data into Business Value through Analytics and AI

Over the past two years, the business world has been disrupted by the Covid-19 pandemic, a shift to remote work, digital customer experience revolutions, ongoing supply chain turmoil, and an economic slowdown. Data-driven enterprises—those able to make real-time decisions based on high-quality data—were best-positioned to navigate unrelenting upheaval.

Many companies clearly recognize the value of data, analytics, and artificial intelligence (AI) to their business performance in responding to this turbulence. Eighty-one percent of the 366 executives Harvard Business Review Analytic Services surveyed in November 2022 who are familiar with their organization's data and analytics strategies indicate that their companies responded to the disruptions and events of the previous two years by increasing their investment in data and analytics initiatives overall, and 58% increased their investment in AI initiatives. In addition, 53% of respondents say their organizations accelerated previously approved data and analytics initiatives over the past two years, and 33% report an acceleration of previously approved AI initiatives during the same period.

But some organizations were more effective than others at extracting business value from data using analytics and AI. Harvard Business Review Analytic Services has identified 45% of respondents as data-to-value leaders because they rated their organizations' effectiveness at harnessing data to create new business value between 7 and 10 on a scale of 0 to 10 (with 0 being not effective at all and 10 being extremely effective). These truly data-driven companies have made choices that set them apart from all others (whose respondents rated them between 0 and 6) in several ways and fueled better business performance across the board.

"Organizations that were already highly data-driven at the outset of the pandemic actually doubled down and became even more data-driven,

HIGHLIGHTS

91% of survey respondents agree that **democratizing access to data and analytics** is important to the success of their organizations, and **76%** agree that **democratizing access to artificial intelligence** capabilities is.

81% say their organizations have **increased their data and analytics investments** over the previous two years.

75% say having **a data-driven culture is very or extremely important** to their organizations' overall success.

Due to rounding, some figures in this report may not add up to 100%.

"Many organizations still fixate on building more or prettier pie charts and dashing dashboards. These are not the analytic solutions that move the needle on the business," says Doug Laney, innovation fellow in the technology practice at West Monroe.

while organizations that were struggling earlier fell further behind," says Paige Bartley, senior research analyst for data, AI, and analytics at New York-based S&P Global Market Intelligence. "Organizations that were shortsighted and cut back on investment and spending on underlying data management and critical infrastructure related to AI and analytics during economic turbulence are having trouble regaining that ground. Organizations that saw an opportunity to use economic pressure in a highly competitive, shifting environment to dig deeper into their digital transformation efforts pulled further ahead."

Leaders in the survey, for example, invested in and accelerated data, analytics, and AI initiatives at higher levels than did their counterparts. They are more likely to recognize the importance of, have enterprise strategies for, and report maturity in many key data, analytics, and AI capabilities. Leaders are democratizing access to data and analytics tools and AI capabilities, giving employees access to these assets in greater numbers. These companies are also more likely to have adopted a unified data cloud and to report significant value from the approach. Their appreciation for and ongoing investment in data, analytics, and AI are paying off in several areas, with leaders more likely to report increases in important measures of business performance, including new product and service introduction, operational efficiency, customer satisfaction, revenue, and customer loyalty.

Beena Ammanath, executive director of the Global Deloitte AI Institute in San Francisco and author of *Trustworthy AI*, has seen this holistic and ongoing approach to data and analytics play out in her work helping organizations transform using cutting-edge AI insights and innovation. "Companies that are embracing data, analytics, and AI and making strategic investments are realizing successful outcomes," she says. "These organizations typically have better business models, make better decisions, have better relationships with their customers, offer better products and services, and command higher prices."

Data—specifically, how organizations innovate with data—is the ultimate competitive differentiator today, says Doug Laney, innovation fellow in the technology practice at West Monroe, a Chicago-based business and technology consultancy, and author of *Infonomics: How to Monetize, Manage, and Measure Information as an Asset for Competitive Advantage*. Most business leaders recognize this. "They see that digital-native companies replacing traditional ones are among the most valuable in the world. They hear stories of data-driven excellence among those in their own industries and even see pockets of high-value analytic solutions within their own business," Laney says. "But many organizations still fixate on building more or prettier pie charts and dashing dashboards. These are not the analytic solutions that move the needle on the business. Those that are diagnostic, predictive, and prescriptive and enable automation or digital solutions—those are the high-value uses of data and analytics."

There's significant work to be done—for leaders and others. "Over the last 20 years, there's been a significant increase in efforts surrounding the care and feeding of data in large enterprise companies," says Doug Levin, executive in residence at Harvard Business School and lecturer at the Harvard Business Analytics Program. "It has been a big challenge to meet end users' expectations. They are never totally satisfied with the size of the data sets, refresh rates, and quality. While it appears that many companies have their data management acts together, in fact, many don't."

This report describes the increasing importance of data, analytics, and AI to business success and the overall acceleration of and increased investments in data, analytics, and AI. It will explore the state of enterprise data strategy, democratization of analytics tools and AI capabilities, multi-cloud adoption and management challenges, adoption rates of key analytics and AI capabilities and technologies, and the challenges of measuring and reporting on data's business impact. This report will also shed light on how leaders invest, install enterprise strategies, and drive organization-wide efforts in data, analytics, and AI—and the effects that focus has had on business outcomes.

Leaning into Data and Artificial Intelligence

Companies have responded to the disruptions of recent years by accelerating and increasing investments in data and analytics and—to a lesser extent—AI initiatives (which are based on less-mature technologies). Eighty-one percent of respondents say their organizations increased their data and analytics investments, and 58% report having increased

funding for AI initiatives. More than half of all respondents (53%) say they accelerated previously planned data and analytics initiatives, and 33% say they accelerated previously planned AI initiatives.

Leaders leaned into data, analytics, and AI at even higher levels than did their counterparts. For example, 91% of leaders report their organization increased investment in data and analytics (compared to 73% of all other respondents), and 74% increased their funding of AI initiatives (compared to 46% of other respondents). **FIGURE 1** More than two-thirds of leaders accelerated previously approved data and analytics initiatives (versus 41% of all other respondents), and 44% of leaders accelerated previously approved AI initiatives (versus 24% of all other respondents).

Barry Brunsman, who focuses on technology strategy and IT operating model design as principal in KPMG's chief information officer advisory practice, notes that over the next three years, AI and machine learning (ML) will be a top priority for technology spending, second only to customer and user experience.

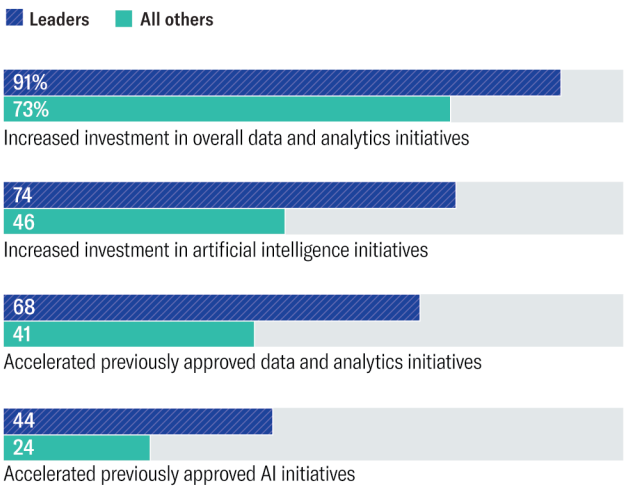
FIGURE 1

Expanding Data, Analytics, and Artificial Intelligence

More leaders boosted spending on and accelerated these initiatives

How has your organization's investment in the following initiatives changed in response to disruptions and events of the last two years?

For each of the following types of initiatives, how has their status changed in response to disruptions and events of the last two years? [SELECT ALL THAT APPLY]



Source: Harvard Business Review Analytic Services survey, November 2022

"While it appears that many companies have their data management acts together, in fact, many don't," says Doug Levin, executive in residence at Harvard Business School and lecturer at the Harvard Business Analytics Program.

The Role of Enterprise Strategy

As organizations increase their spending on data analytics or AI, the focus is shifting to the business outcomes that analytics and AI can deliver. In the past, few data analytics and AI proofs of concept made it to broader implementation, says Kristian J. Hammond, a professor of computer science at Northwestern University's McCormick School of Engineering with research interests in AI/ML integration. "There had been less of a business focus as companies gathered their data, and they ultimately discovered that the data they had was not necessarily the data that they needed," Hammond says. Recently, that situation has begun to change. "Some organizations do better than others, but the ones that are doing the best are driven by business needs," Hammond says.

Most leaders understand the business impact that data analytics and AI can have, says Brunsman, but they're not all taking the necessary steps to unlock that value. Developing enterprise strategies to support and enable organizations to turn data into business value is important.

"There's the old adage 'If you fail to plan, then you plan to fail,'" says West Monroe's Laney, noting that effective data strategy is more than a high-level approach to building data lakes or moving to the cloud. "That's all the technical commodity stuff," he explains. "A data strategy should examine how data can and will change your business, business model, and industry, and how you intend to get out in front of that."

Effective data-to-value strategies, Laney says, address issues such as what new data sources to pursue, emerging opportunities to deploy data and insight, details for digitizing aspects of internal and customer-facing solutions, new roles necessary to drive a focus on data and insight, methods for measuring data's economic cost and benefits, and how

91%

of leaders report their organizations increased investment in data and analytics, and 74% increased their funding of AI initiatives.

"Cultural impediments remain the greatest barrier to organizations becoming data-driven," says Barry Brunsman, a principal in KPMG's chief information officer advisory practice.

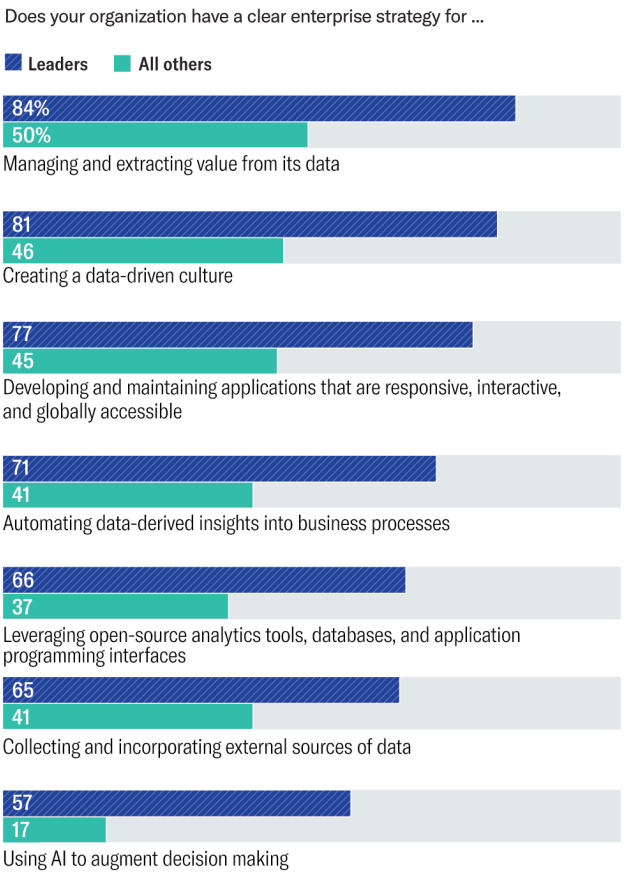
to balance data governance and risk with data availability and innovation.

Leaders in the survey are significantly more likely to have enterprise strategies related to data, analytics, and AI. Eighty-four percent of them say their organization has a clear enterprise strategy for managing and extracting value from their data, versus half of other respondents. More leaders also report their organizations have enterprise strategies for creating a data-driven culture; developing and maintaining applications that are responsive, interactive, and globally accessible; automating data-derived insights into business processes; leveraging open-source analytics tools, databases, and application programming interfaces; collecting and incorporating external sources of data; and using AI to augment decision making. **FIGURE 2**

FIGURE 2

The State of Data Strategy

Leaders' organizations are more likely to have data-related enterprise strategies



Source: Harvard Business Review Analytic Services survey, November 2022

Data Culture, Integration, Visualization: Crucial, but Lagging

Business success is increasingly dependent upon how well-positioned an organization is to derive value from data, but doing so requires a foundational data posture as an organization. "Cultural impediments remain the greatest barrier to organizations becoming data-driven," says KPMG's Brunsman. Indeed, three-quarters of survey respondents overall say that having a data-driven culture is extremely important to their organizations' overall performance and success. The same percentage say the ability to visualize data for decision making and operational intelligence is extremely important.

Leaders recognize the importance of these and other data-related factors in greater numbers and are more likely than other respondents to report maturity in these areas. Yet there are significant gaps between the importance of many key drivers of organizational performance and success and organizations' maturity in these areas. **FIGURE 3** When it comes to three factors that respondents rate as very important to overall success—data-driven culture; the ability to connect data points across a variety of assets, devices, systems, and clouds; and data visualization capabilities—fewer than half of leader organizations report extremely mature capabilities in any of them, and less than 10% of all other responding organizations do.

Seventy-six percent of leaders and 56% of all others say the ability to access and analyze data in real time plays an important role in business performance. But building that capability will take more time: Just a third of leaders and 9% of all others report mature real-time data access and analytics capabilities. More than two-thirds of leaders (and 46% of other respondents) say the ability to automate data-driven insight with machine learning built into workflows or business

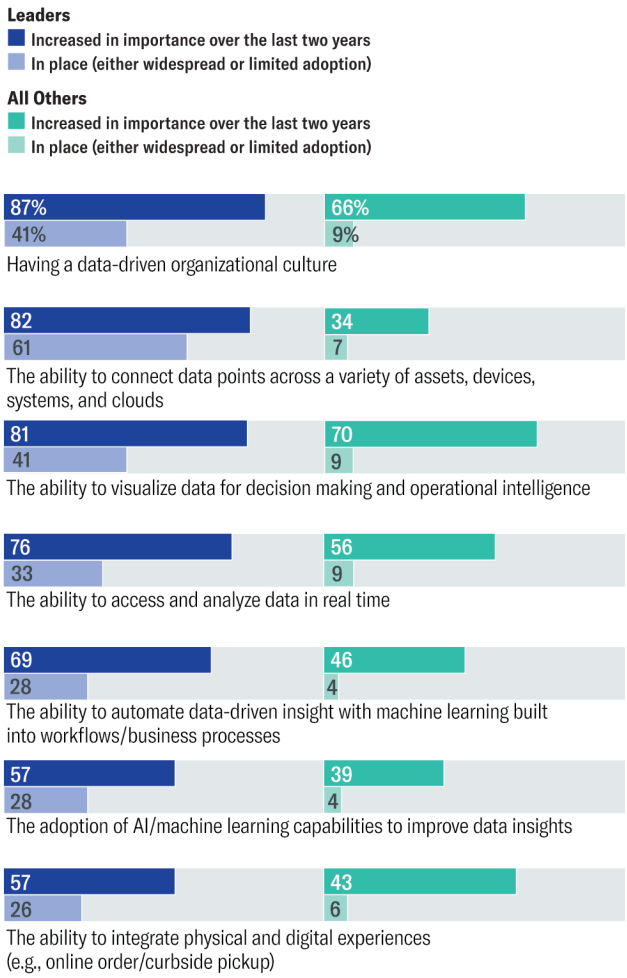
FIGURE 3

Recognizing the Data Maturity Gap

Organizations remain immature regarding data-related factors important to success

How important is each of the following to your organization's overall performance/success?

How would you rate your organization's current capabilities in each of these areas?



Source: Harvard Business Review Analytic Services survey, November 2022

processes is extremely important to performance. Fifty-seven percent of leaders (and 39% of other respondents) say the adoption of AI/ML capabilities to improve data insights is also important. Today, however, 28% of leaders (and 4% of all others) have mature capabilities in the adoption of AI/ML to improve data insights. Similarly, 28% of leaders (and 4% of all others) have mature capabilities in their ability to automate data-driven insight with machine learning built into workflows and processes.

The gaps between importance and maturity in relation to AI/ML are attributable, in part, to the fact that these cognitive technologies are themselves less mature than other analytics approaches, such as basic modeling, data visualization, and data mining, for descriptive analysis or diagnostic purposes.

However, the fact that a subset of respondents (including a majority of leaders) correlate these capabilities with overall success and performance suggests that organizations should seek to accelerate their development. "It's not just about putting existing data in the right place. It's also about collecting and activating new streams of data to expand what's possible for their business," says Deloitte's Ammanath. "It's what you do with the data and learn from it through your AI and machine learning models that produces business value. Companies that turn data into a valuable asset continuously use it as a source of insights about where the business is, where it's going, and what they should do next."

Building the Data Analytics and AI Foundation

Adoption levels over the past two years have not kept pace with the increased importance of many technology capabilities that underpin effective use of data, analytics, and AI. However, leaders are more likely than other respondents to recognize the importance of these capabilities and to have them in place. Some of the biggest gaps between growing importance and adoption exist for real-time analytics capabilities, the ability to unify operational workloads in a single cloud data warehouse, automated machine learning for predictive analytics, common governance across data lakes and warehouses, and the ability to automate infrastructure management. **FIGURE 4**

"Most business leaders understand the business impact and value that come from more sophisticated data and analytics capabilities. The challenge comes in building a strong data foundation that can be leveraged across the organization to extract insights and enhance decision making," says Ammanath. "Technology and digital-native companies are ahead in this area. Companies in traditional industries understand the value but haven't had a 'data-first' orientation, so they often have more work to do to get a strong data foundation in place—particularly when it comes to data collection and data quality."

Leaders have a leg up in most key capabilities, with 72% reporting effective data visualization in place in their organizations, 71% saying the same for the ability to access data across systems/locations, 66% reporting automated data encryption/security in place, and 63% saying the same for the ability to modernize applications and databases and migrate them to the cloud.

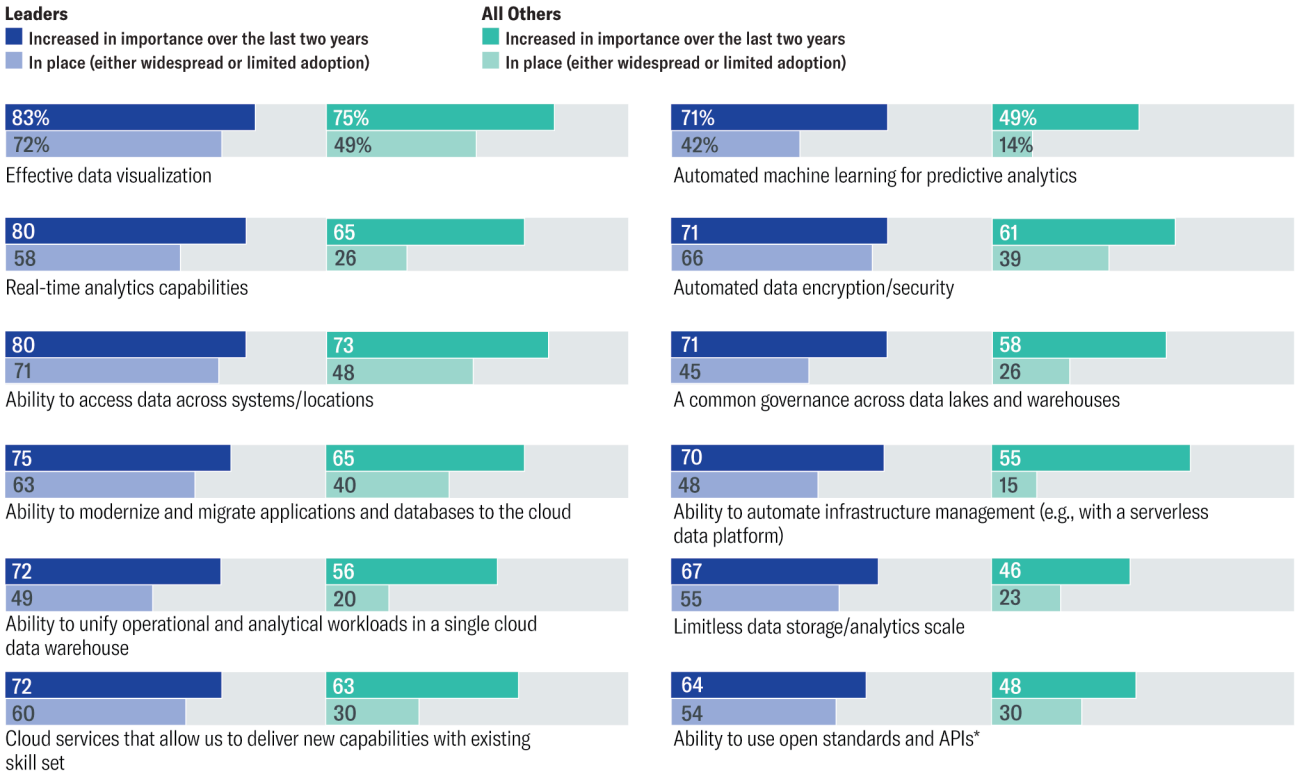
FIGURE 4

A Look at Key Analytics and AI Capabilities

Leaders, more than others, adopt increasingly important analytics and artificial intelligence capabilities

Compared to two years ago, how has the importance of each of the following changed for your organization?

What is the status of each of the following capabilities within your organization?



*Includes open-source databases such as PostgreSQL and MySQL, open source data processing engines like Spark and Beam.

Source: Harvard Business Review Analytic Services survey, November 2022

Grappling with Disconnected Data Sources and Quality

Given the lack of maturity in key data-related approaches and capabilities, it's not surprising that even as organizations have increased their investments in data analytics and AI, they still struggled to extract the full business value of data. The top challenges to doing so, indicated across respondents, are analyzing data across disparate systems/sources (43%) and data quality issues (40%).

"Unfortunately, many companies—particularly traditional or non-digital-native companies—continue to grapple with challenges around data quality and centralization, including understanding where data resides, setting up a data architecture, cleansing the data, and providing the ability to extract insights out of it," says Ammanath. When it comes to scaling AI initiatives, she adds, obtaining the necessary data or input to train AI models remains a key challenge. "In a time of rapid change, having up-to-the-minute data is critical to accuracy," Ammanath says. "So is having data that is clean, integrated, accessible, and ready for both existing and emerging use cases."

Other notable challenges include data governance (29%), lack of data/analytics skills (26%), and lack of resources/budget (25%). Finding people who understand both the functional role that data and analytics technologies play and the business is difficult, says Hammond. Northwestern University's business and engineering schools recently joined forces to launch an MBA-Artificial Intelligence (MBAi)

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Beena Ammanath, executive director, Global Deloitte AI Institute

program, designed to teach students how to unlock innovative business solutions using disciplines like ML/AI, data science, and computational thinking.

Meanwhile, multicloud—the use of two or more cloud computing and storage services—is emerging as a popular model, providing companies the compute power and advanced capabilities necessary to analyze growing volumes of data. However, managing a complex multicloud environment also presents some notable challenges that can thwart data analytics and AI efficacy.

The majority of respondents are on board with the multicloud approach: 48% say their organization has a multicloud strategy, and 22% say their organization is pursuing one. Leaders are more likely to say that their organization already has a multicloud strategy (57%) than are others (40%).

"Multicloud is mainstream," says S&P Global Market Intelligence's Bartley. "There is more awareness of what different clouds are good for, and businesses are becoming much more strategic about where they place workloads and for what purposes." But multicloud environments add complexity to an organization's data analytics and AI efforts. "Multiple clouds mean that more things need to be interconnected," Bartley says. "There can be more data duplicates or conflicts over different versions of data sets. Sometimes that complexity is transferred down to actual workers if an organization is not careful with its infrastructure."

Indeed, the biggest challenges respondents report in managing the multicloud environment are data governance/management (47%), service integration and management (39%), and lack of standardization for cloud management/configuration (37%), with little variance between leaders and others.

"Organizations need to be able to optimize their multicloud environments for continued data growth, and as a result, they are seeking new ways to extract more value from their cloud investments," says Ammanath. In fact, she says, one of the top new use cases for AI across industries is cloud pricing optimization.

Democratizing Insight

Enabling data-derived insight to flow throughout an organization to any employee who can benefit from it is essential to enabling the business outcomes that data analytics and AI can deliver. Yet there is more work to do in providing this access. Previously mentioned challenges related to disparate data systems and sources, data quality, and multicloud environments can hinder the effective flow of good data and insight within an organization.

An overwhelming majority (91%) of all respondents agree that democratizing access to data and analytics is important to the success of their organizations, but only 58% agree that their organizations are effective at giving employees across the enterprise access to data and analytics tools. Leaders are more likely to agree (80%) about their organization's effectiveness in this area than are all other respondents (41%).

Northwestern's business and engineering schools recently joined forces to launch an MBA-Artificial Intelligence (MBAi) program, designed to teach students how to unlock innovative business solutions using disciplines like ML/AI, data science, and computational thinking.

Eighty-five percent of leaders also agree that democratizing access to AI capabilities across the enterprise is important to their organization's success, compared to 68% of all other respondents. Leaders are outpacing others in providing such access, with six out of 10 leaders saying that their organization is effective at giving employees across the enterprise access to AI capabilities, compared to just 15% of non-leader organizations.

A true data culture enables every relevant worker to drive business value with data, says Bartley. Organizations don't necessarily need to provide a self-service model for analytics (though that may be the case in some companies). "But you want to give more and more people the ability to access, leverage, and drive insight from data," she says.

That type of culture requires considering a broad spectrum of skill sets and data/insight needs and then customizing access and tools accordingly. A line-of-business user just beginning to dabble in data visualization with no coding background will have requirements different from those of data scientists. "You have to make sure people are getting the data appropriate for their needs and the right supporting technologies to do what they need to do with that data," says Bartley.

Another challenge is ensuring a healthy data supply chain, Bartley asserts, "making sure the right data gets to the right people at the right time under the right conditions so they have what they need and can work with it appropriately."

The benefits of democratization can be significant. "If data is trusted and easily accessible to the right users, companies can

"You have to make sure people are getting the data appropriate for their needs and the right supporting technologies to do what they need to do with that data," says Paige Bartley, senior research analyst at S&P Global Market Intelligence.

improve business operations, achieve newfound efficiencies, and identify and pursue new revenue streams—that translates into value for the organization," Ammanath says. "Putting the right data into the hands of employees empowers them and enhances decision making. Likewise, involving the users of the AI technologies in the design and development of those systems increases the chances that those users will successfully adopt and use the technology."

The goal, says Hammond, should be democratizing access to information, with the analysis invisible to the average user. "Democratization should mean having systems that can play the role of data scientist so that you can ask a question and get an answer that's valid and communicated in a way that you can operationalize the result it's giving you," he says.

One approach that can address some common challenges organizations face when trying to extract the full business value of data is the implementation of a unified data cloud, defined as a common and open platform for all data and related tools. The majority of respondents (82%) either have or are piloting, evaluating, or planning to build a unified data cloud. Just 18% have no plans for one.

"A unified data cloud can bring a host of benefits, which include providing ease of access to relevant data and efficiency of model development, testing, and deployment," says Ammanath. "These benefits positively impact data flow and data utilization." Improvement in data work productivity can ultimately yield other business benefits, including cost savings, increased revenue, improved rates of innovation, greater business resilience, and better customer and employee experiences.

Leaders are more likely to have a unified data cloud—and report significant value from the approach. Of leaders' organizations, 44% already have a unified data cloud (compared to 17% of other respondents). Of those who have adopted a unified data cloud, the vast majority (87%) report that the approach is very valuable, with 92% of leaders saying so versus 76% of other respondents. Leaders who have not yet adopted a unified data cloud are more likely than other respondents to expect it to be very valuable (82% vs. 64%).

Better Understanding Data's Business Value

While democratization of data and having a common data platform are important elements of a data-driven corporate culture, what they produce from a business value standpoint still can be mysterious. Without definitive metrics, return on investment is often more art than science. To be sure, there is nuance to the ROI of data analytics and AI. "One mistake that companies make is to look at the cost of a single project and, if they don't see an immediate return, pass on it," says Hammond.

Companies need to think bigger. Greater value will often accrue down the line from investment in data infrastructure or the application of learnings from the initiative to future analytics or AI efforts. "You have to pay a bit of overhead for the future," Hammond says. "The cost of the infrastructure is greater than the benefits of a single system."

Trying to figure out how best to calculate the business value and the outcomes of data and analytics investments is a common goal among organizations, but leaders are faring better than others in this regard. Forty-four percent of leaders say their organization is extremely or very effective at measuring and reporting on the business value or outcomes of its data and analytics investments. By comparison, just 8% of all other respondents say their organization is very effective in this area, and none of them indicate that their organization is extremely effective at this.

"It can be challenging for companies to measure and report on their data, analytics, and AI investments," says Ammanath, whose own research has found that difficulty in proving AI's business value is the top impediment in scaling enterprise AI. "There are many reasons for this," she says. "Many companies struggle to deliver and report on measurable business value due to legacy ways of working and measuring progress, siloed technologies and teams, and a stagnant ecosystem of partnerships."

Despite the lack of a concrete calculus for measuring the business value of data, analytics, and AI investments, there does seem to be a clear benefit when it comes to outcomes. Companies that treat data as an asset do tend to build better data supply chains and put in place better data management processes, and they are better able to make true business cases for data analytics and AI projects. What's more, they are better armed to turn off what's not working. "It compels you to look at the cost side," says Laney. "We've seen companies identify data assets they no longer need and dispose of them, saving millions of dollars a year in infrastructure costs. We've also

“You have to pay a bit of overhead for the future. The cost of the infrastructure is greater than the benefits of a single system.”

Kristian J. Hammond,
professor of computer science,
McCormick School of Engineering
at Northwestern University

seen companies look at the cost versus value of their data, determine their data isn't generating enough margin, and look for new ways to generate value from their data."

Organizations that are successful in extracting business value from their data share some common characteristics. "They treat data as a strategic asset and foster a data-driven culture, one that democratizes insights throughout the enterprise, creates a common set of metrics, and leverages data for better decision making," Ammanath says.

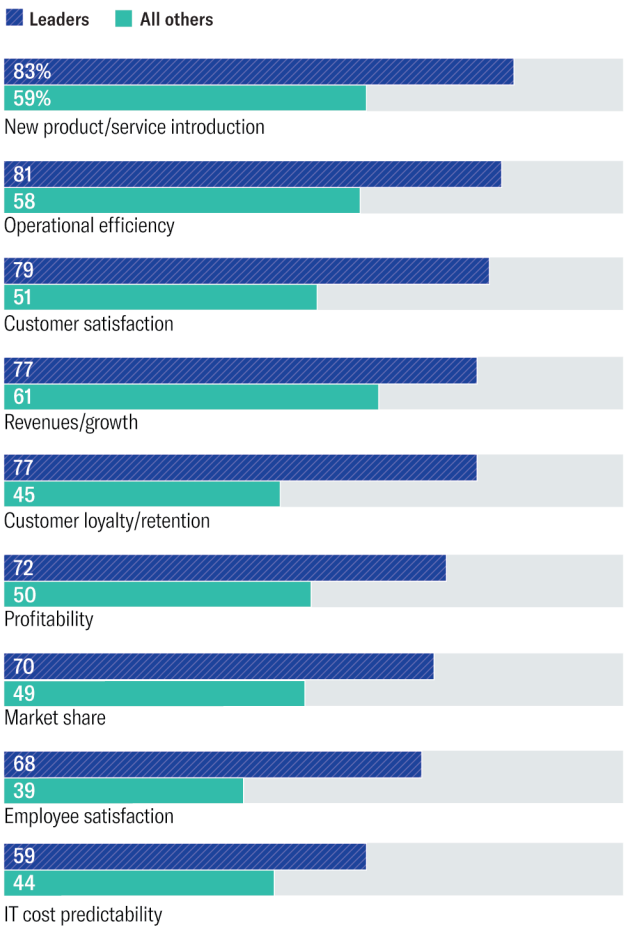
Indeed, the results of the survey show that leaders' organizations are turning data into business value on a number of fronts. They report improved performance for their organizations in multiple key areas over the previous year. Leaders are more likely than other respondents to report increases in new product/service introduction (83% vs. 59%), operational efficiency (81% vs. 58%), customer satisfaction (79% vs. 51%), revenue (77% vs. 61%), customer loyalty/retention (77% vs. 45%), profitability (72% vs. 50%), market share (70% vs. 49%), employee satisfaction (68% vs. 39%), and IT cost predictability (59% vs. 44%). **FIGURE 5**

FIGURE 5

Data Analytics and AI Leaders Outperform Others

Organizations effective at harnessing data see increased performance in multiple business metrics

To what extent has your organization's performance in each of the following areas changed over the last year? [PERCENTAGE OF RESPONDENTS INDICATING THAT PERFORMANCE SIGNIFICANTLY OR SLIGHTLY INCREASED]



Source: Harvard Business Review Analytic Services survey, November 2022

Conclusion

Since 2020, most organizations have doubled down on data analytics and AI. As the correlation between data-driven insight and business success grows ever tighter, the pursuit of data-derived business value will continue. Thus, it's imperative that organizations make moves to address some of the key challenges that continue to prevent them from extracting the full business value of data.

What may be instructive when addressing these challenges is examining how leaders are investing in and thinking about data, analytics, and AI. Emulating some of the steps they are taking—from developing enterprise data and AI strategies and building data cultures to implementing the increasingly important technology capabilities that make up an effective infrastructure for analytics and AI and adopting unified data clouds—can help other organizations unlock the full value of their data. "Organizations with higher data maturity are seeing better business outcomes," says Brunsman.

Naturally, a catalyst is needed to make sure a data-driven culture takes hold and that the proper infrastructure for analytics and AI is provided. That catalyst has to be a management team that understands the broad organizational gain such a culture and such infrastructure can produce. "Leadership is critical to maximizing business value from data. Having an enterprise-wide strategy for data and analytics is also crucial," says Ammanath. "Extracting value from data has become a business imperative, and companies that invest in developing a data-driven culture and implementing an enterprise-wide data strategy are in a better position to succeed with their analytics and AI initiatives and outperform their competition."

METHODOLOGY AND PARTICIPANT PROFILE

Harvard Business Review Analytic Services surveyed 366 members of the *Harvard Business Review* audience via an online survey fielded in November 2022. Respondents qualified to complete the survey if they were familiar with their organization's data and analytics strategies.

Size of Organization

32% 10,000 or more employees

31% 1,000-9,999 employees

11% 500-999 employees

22% 50-499 employees

5% fewer than 50 employees

Seniority

39% Executive management/ board members

38% Senior management

17% Middle management

6% Other grades

Key Industry Sectors

23% Technology

11% Financial services

10% Health care

9% Government/ not-for-profit

9% Manufacturing

All other sectors less than 8% each

Job Function

17% General/executive management

14% IT

8% Operations/ production/ manufacturing

8% Other

All other functions less than 8% each

Regions

44% North America

23% Europe

19% Asia Pacific

8% Middle East/Africa

5% Latin America

2% Other

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

Harvard Business Review
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Harvard Business Review Analytic Services is an independent commercial research unit within Harvard Business Review Group, conducting research and comparative analysis on important management challenges and emerging business opportunities. Seeking to provide business intelligence and peer-group insight, each report is published based on the findings of original quantitative and/or qualitative research and analysis. Quantitative surveys are conducted with the HBR Advisory Council, HBR's global research panel, and qualitative research is conducted with senior business executives and subject matter experts from within and beyond the *Harvard Business Review* author community. Email us at hbranalyticservices@hbr.org.

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