

# Unlocking the Power of Data with AI

Companies are deluged with valuable data that needs analyzing. With the right support, a data strategy that incorporates artificial intelligence can help.

Organizations recognize the inherent business value of their data. But first they must better harness it.

That's the overall assessment of a large-scale global study conducted by MIT Technology Review® including 2,357 IT decision-makers (ITDMs). The study examined how companies view their data, as well as the strategies and tools they're using to unlock the power of their information.

In particular, the study found that organizations see using artificial intelligence (AI) as a way to draw insights that will drive growth, improve processes, increase efficiency, and fuel innovation.

## The Power of Data

There is potent value in data for decision-making, business growth, and innovation—a point well understood by IT and business leaders. For example, the survey respondents agreed that:

- **Data is key to delivering better results for clients and customers** (87%).
- **Collecting data is important to business growth** (87%).
- **Data is the foundation of making business decisions** (86%).

Having data is certainly not a problem. The majority (83%) said they have lots of it. The challenge is critically analyzing it, especially for competitive advantage. Large enterprises have the edge here; 86% said they are already using data in new, innovative ways.

Smaller companies feel the resource pinch: 79% agreed that these organizations feel the pressure to keep up. Yet there is confidence that data will be at the forefront of their growth and that using creative analytics will deliver a competitive edge.

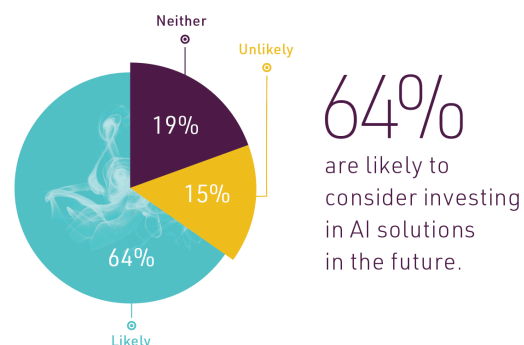
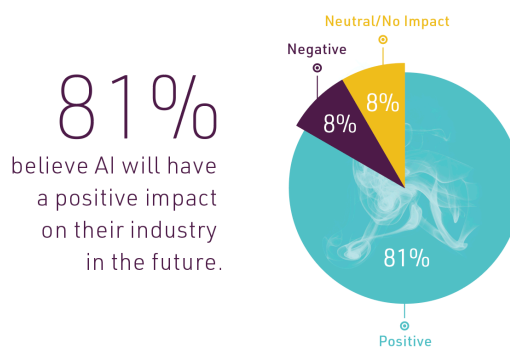
In fact, companies of all sizes are using analytics to drive growth, including the ability to tailor their approaches to customers,

enhance experiences, and ultimately improve customer loyalty. They're also using intelligent data to set business direction and strategy, support new development and innovation, and better manage internal resources.

The key is analyzing data for meaning and context, which 87% of the respondents said is critical. Speed—at which the data is received, analyzed, and interpreted—is essential.

"Ease and speed [are key to obtaining] strategic information that supports senior management decision-making," said one respondent.

## The Future of AI Looks Bright



SOURCE: MIT TECHNOLOGY REVIEW

## The Challenges Involving Data

Although IT decision-makers understand data's importance to business strategy, survey respondents acknowledged some challenges.

For example, they expressed some concern that colleagues underestimate data's importance and they noted a lack of efficiency in using and analyzing data. A healthcare respondent said, "We need to use our data to extract more useful information, like trends."

As noted, there is wide agreement that companies are dealing with high volumes of data. But the quantities present obstacles:

- **Obtaining and analyzing more data at even greater speeds** (81%)
- **Ensuring that business is using relevant and quality data** (79%)
- **Digesting, analyzing, and interpreting the volume of data** (78%)

And all that volume can get loud. Respondents reported difficulty managing different data types and sources—customer inputs (such as subscription data), data purposely gathered from customers (such as via research or marketing efforts), the Internet of Things (such as sensors, mobile phones), and passive data (such as through customer agreements).

### Kick-starting AI: How Pure Storage Can Help

"AI challenges storage systems like no other application ever has," says Rob Lee, Vice President and Chief Architect for Pure Storage.

"That's because the way AI models are built reflects similar qualities to the way human beings learn," he says. "Data must be fed randomly with tremendous parallelism and not in a predictable, sequential way. AI demands storage systems to deliver a tremendous volume of data with randomness. This goes against how legacy storage systems are built."

In other words, organizations that are adopting AI need to modernize storage.

Pure Storage has partnered with NVIDIA® to develop the first integrated infrastructure solutions for artificial intelligence at scale. The AIRI™ and AIRI Mini offer elastic scalability and massive processing power in a complete software stack—reducing complexity and speeding deployment.

Whether you are just starting an AI initiative or are in the midst of AI adoption, Pure Storage can help accelerate the journey. [Find out more.](#)

## AI Plus Data Equals a Process Power Play

Despite being in its early stage, AI is gaining acceptance. Many organizations are already using forms of AI such as robotics or chatbots.

Survey respondents said they see AI as a means of deriving intelligence from their data to drive growth, and they are keen to exploit its potential: 73% are already using some form of AI or are partnering with companies to access their AI capabilities.

Even those companies that have not yet adopted AI said it's quite likely they will do so in the future. And that's because a large majority of ITDMs (82%) believe that artificial intelligence will have a positive impact by potentially enabling greater efficiency, reducing human error, improving process enhancement, eliminating repetitive tasks, and boosting the ability to innovate.

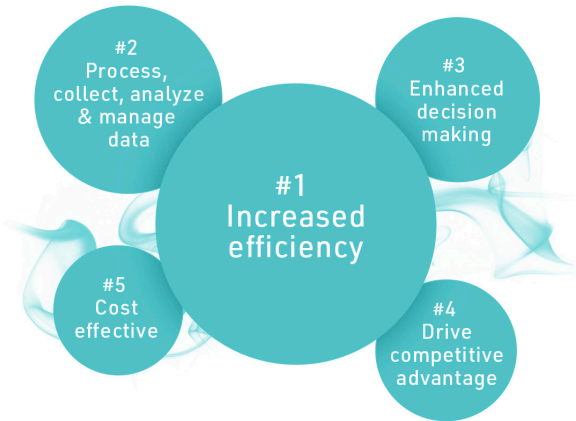
Respondents expressed high expectations for AI:

- **"With the help of AI, our company can improve the customer experience, augment employee performance, automate work processes, and develop intelligent agents to help with a lot of repetitive business processes."**  
-- US technology hardware/software respondent
- **"[AI] will make things repeatable...it will remove human error. If you can get it to work, then it will make things more efficient, there's no doubt about that."**  
- UK financial services respondent
- **"AI will help increase the efficiency of manual processes, as it will help interpret and project scenarios and apply the needed resolution."**  
- Asia-Pacific financial services respondent
- **"As technology in the sector becomes more advanced, the work is becoming less complex and problems that were once hard to solve and that we didn't have time for are now being solved with much greater speed and accuracy."**  
- Brazilian technology hardware/software respondent

The optimism is balanced with a healthy awareness of the AI challenges ahead. As with any technology adoption, ITDMs are concerned about the costs and how they will budget for AI. They also cite data infrastructure and access to resources/talent as potential barriers to AI adoption.

But even more than facing those challenges, IT leaders are concerned about the legal and ethical implications; 79% said this area needs clarification. One respondent said, "This new technology will need to be used responsibly and effectively and not at the expense of human expertise."

### Top 5 perceived main benefits of AI



### Top 5 perceived negative impacts of AI



SOURCE: MIT TECHNOLOGY REVIEW

It is that sensitivity to the human element that plays out when ITDMs were asked whether they thought roles or future jobs would be affected. A majority (78%) said they believed some manual roles will become less relevant, and they cited concerns about the loss of human jobs, touch, and skills.

And yet, countering these perceptions, respondents strongly believe that AI will still require human interaction:

- **Human intelligence is required to interpret data and make decisions** (83%).
- **There will be a limit to how far data can take us without human intervention** (73%).

In other words, “I think there will always be the need for human intervention,” said one respondent. “There are certain things that are art rather than science. You’re always going to have a blend of people and machines.”

## Moving Forward: Creating a Data Strategy

AI makes it possible for companies to put their data to good use and start gaining true business value. But it’s not simply about adopting artificial intelligence technologies. There must be an overlying, comprehensive strategy that addresses the challenges surrounding data and AI to ensure that desired business outcomes are achieved.

The strategy should provide scalability and flexibility, so the organization can adapt as efforts push forward and lessons are learned.

“For a technology as important as AI, it’s never just one-dimensional,” said Rob Lee, VP and Chief Architect, Pure Storage®. He suggested that AI and data strategy touch every part of an organization, from people and processes to infrastructure, all the way down to how data is managed in storage.

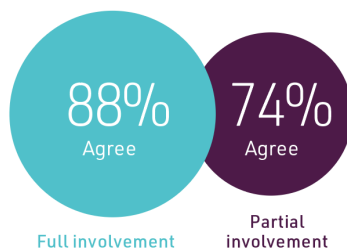
The MIT research revealed some best practices for companies that are just getting started with AI as well as those in the midst of deploying AI technologies:

- 1. Get the right people to the table.** The study showed that individuals most involved with data—or who manage people involved with data—portray the greatest positivity and sense of control. Get them involved with your strategy, and ask them to help you learn the desired business outcomes and how people most want to use data.
- 2. Communicate and educate.** Promote an inclusive message about the benefits of data development and AI, one that motivates all levels of the organization.
- 3. Tailor solutions to help fill talent and skill gaps.** Partner with companies that can provide support. For example, one respondent said, “We are actively partnering with a number of tech companies in order to access AI capabilities, because we don’t have any in-house and we think it is important for our analytics.”
- 4. Don’t overlook storage.** It is too often overlooked, yet it is critical for AI. The power of processing has jumped considerably, especially in the past five years. Traditional storage systems have been challenged to keep up. Adding AI and analytics to the data processing mix will necessitate a hard look at modernizing storage solutions.

## Leaders with lower involvement levels are less likely to explore new possibilities like AI



“We could dedicate more time to thinking creatively about the business challenges we (and our clients) face.”



SOURCE: MIT TECHNOLOGY REVIEW

## The Bottom Line

Given its ability to increase efficiency, automate and replicate tasks, and improve processes, AI holds the key to unlocking data value.

“It helps us make important decisions in our organization, based on more-precise and more-reliable data obtained through AI,” said a survey respondent. “This gives us many more advantages over our competitors now and in the future.”

Adopting a comprehensive strategy that incorporates AI and support from partners is a vital step toward companies’ overcoming data challenges. By better harnessing the wealth of data being collected and stored, organizations can begin to gain true value—including greater efficiency, improved customer experiences, and innovation.

Get the full results of the MIT Technology Review global study at [purestorage.com/evolution](https://purestorage.com/evolution).

### About the Study

MIT Technology Review surveyed 2,357 IT leaders by web survey across all industries in Asia-Pacific, EMEA, and the Americas about the intersection of data, intelligence, and AI. The organization also conducted eight in-depth interviews with IT decision-makers to glean deeper insights.