RESEARCH REPORT

Modern Data Infrastructure Dynamics

Drowning in Data: A Guide to Surviving the Data-Driven Decade Ahead

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Executive Summary

The amount of data the world captures and consumes continues to increase exponentially. Modern leaders have to balance this unprecedented demand for scale against separate but integrated complexities including growing ethical and regulatory pressures around sustainability, data protection and governance. As a result, the excess of data, and the scope of proper data management is shaping up to be a far greater challenge than most IT leaders ever imagined.

To measure the impact on businesses and to highlight the opportunities and issues that will arise as leaders juggle competing priorities, Hitachi Vantara interviewed 1,288 decision-makers in large organizations across 12 countries.

Our research quantified the extent to which organizations are drowning in data; by 2025 large organizations will be storing more than 65PB. That means within two years, their data storage infrastructure will need to handle nearly twice as much data as it does now. Most tellingly, **75% of leaders surveyed are concerned their current infrastructure won't be flexible enough to scale** and 71% are concerned it can't adapt to these changing needs. The rising tide of data presents serious challenges for leaders who are simultaneously struggling to keep data secure and under increasing pressure to reduce the impact on the environment.

The implications of these basic initial data points are substantial. Existing data infrastructures are crumbling under the weight of data, leading to unsustainable energy consumption, increased management complexity and declining security. Another factor is the vast amount of dark data, on average 17PBs. That means roughly half of all data large organizations store is never used. Unleveraged data like this is one of many costly frustrations for business leaders. Reducing this kind of data waste reduces cost, complexity and increases efficiency in ways that can positively impact profits, people and the planet.

Despite the findings highlighted above, it's not all bad news. Data is collected because of its potential to enhance decision making, unlock innovation and create better user experiences.

Modern data infrastructure solutions play an increasingly important role in helping organizations unlock value through their data. This study indicates today's leaders are evaluating their organizations' needs and adopting storage solutions with resiliency and security built-in from the ground up. In most cases, these solutions are designed to leverage hybrid cloud, allowing flexibility between resilience, availability and performance concerns.

Modern data infrastructure must also support the growing moral and regulatory imperative for businesses to improve the sustainability and energy efficiency of their data center operations. And to enable them to dynamically scale up or down with more precision than ever before. While simultaneously ensuring critical data is protected and backed up so that it is available and accessible where and when it is always needed.

In response to the major challenges expressed by decision makers, this report also outlines the strategic actions organizations can take to keep data flowing in a way that is flexible, affordable and sustainable. By leveraging best-practice security, recovery and more, organizations can establish the modern data infrastructure that provides a sustainable foundation for the data-driven decade ahead.

> **"The challenge for data infrastructure in 2023 is finding the right balance between scalability, sustainability and security. You can't just add more racks to a data center without considering power and space impacts. You can't be energy efficient while keeping duplicated data beyond what is necessary for resiliency. Balancing these conflicting requirements is an ongoing challenge."**
>
> **Russell Skingsley** - CTO, Technical Sales, Hitachi Vantara

Overwhelmed by Data

More isn't Always Better

Today's typical large organization is hoarding an average of 35 petabytes (PBs) of data across their systems. By 2025, decision-makers expect to store nearly double that, an average of over 65 petabytes. **In Asia, organizations estimate it will top 80 petabytes.**

80PB

is more than NASA's entire earth science data set in 2023

Data management and storage takes money. **Leaders estimate 50% of an IT budget goes to data infrastructure.** The spend is justifiable: **decision makers in our study most commonly ranked data as their single most valuable asset;** higher than investments, intellectual property or even their customers. They pointed to the insights that allow them to make better decisions (32%), deliver better products or services (31%) and spot security threats more quickly (31%) as a significant competitive advantage.

The Impact of Increasing Data Complexity

The amount of data isn't the only thing that's increasing. Complexity, sources and formats are also multiplying. It's all so valuable, business leaders can't afford to ignore the growing cost. Almost a third (30%) of IT decision-makers expect to increase their investment in unstructured IoT and surveillance data sets by 26-50% in the next two years alone.

However, decision-makers voiced fears that they already have too much data. Sixty-one percent are already overwhelmed by the amount of data they manage; even more (75%) are concerned their current data infrastructure won't be able to scale to meet their organization's data needs over the next two years.

75%

of IT leaders worry their data infrastructure won't scale to meet their growing needs

Respondents to the survey expressed frustration over the ways their current data infrastructure solutions hinder their organization from remaining competitive in today's rapidly changing technology landscape. 64% of decision-makers stress the importance of updating and modernizing their data infrastructure to allow for their digital transformation. With Asian leaders expecting to have to deal with more data, they are also most aware that their infrastructure needs to modernize (75%).

Scalable, Sustainable and Secure: the Three Imperatives of Modern Data Infrastructure

For many years security has been treated as an add-on to be considered independently of data infrastructure. While environmental considerations like carbon emissions, power consumption, and accompanying regulatory requirements were not part of the storage consideration set, either.

Not anymore. The old ad hoc approach has encumbered many business leaders with data infrastructure that is ill-suited to their future needs: slow, inflexible, and expensive to operate.

Survey respondents reported they can no longer afford to live with data infrastructure that's often in need of environmental and crisis management. Their customers, partners and regulatory management now insist that organizations adopt a long-term strategy for their data infrastructure that includes thoughtful consideration of people using the systems, protection of sensitive data and responsible stewardship of our planet's resources.

Sustainable Data Infrastructure is Not Optional

It's About People, the Planet and Profits

At present, data centers across the world produce up to 3.7% of global greenhouse gas (GHG) emissions. They use huge amounts of water for cooling, and in 2020 emitted the equivalent of 300 metric tons of C02. With such massive resource demand, organizations that maximize the efficiency of their data centers will realize benefits for their profits, their people and the planet.

Profits: Data centers that reduce energy waste and optimize their performance use less electricity and spend less money. They may also benefit from being sustainable when applying for grants. More efficient energy use also reduces the risk of technical failures due to overheating and breakdown.

People: Everyone prefers to work with organizations they can be proud of. When an organization's values and behavior align, it's easier to attract like-minded employees and customers.

Planet: Energy efficient data centers reduce the load on our planet's resources. They use less water for cooling, release less C02 into the atmosphere and create less solid e-waste by lengthening equipment life.

Is greater sustainability realistic considering the rapidly growing resource requirements of global data infrastructure? Industry leaders say yes. In 2023, TechTarget's ESG group validated modern approaches to object storage which achieve eight times more efficient performance, with small object performance beating out 2020 results by more than fifteen times in read throughput. This efficiency comes with no cost to responsiveness which remains excellent.

But whose responsibility is it to bring about these efficiencies and what are organization's currently doing to aid sustainability?

Measurable, Responsible, Sustainable

Although the benefits of sustainable infrastructure are clear, there is a wide range of expectations and actions that organizations are taking concerning sustainability in their data centers. Our survey revealed organizations are prioritizing the eco-friendliness of current data infrastructure, but uncertainty persists about who needs to take ultimate responsibility for sustainable solutions.

Nearly a quarter of respondents (23%) admitted their organization did not have any sustainability goals at all. Organizations in Germany (39%) and New Zealand (38%) were most likely not to have any goals. A further 57% who have sustainability goals say those goals don't address the impact of storing unused data.

About half the organizations in our survey had both set goals to reduce the energy consumed by their data centers' resources AND were measuring that consumption. But one in 10 (9%) aren't measuring consumption despite setting energy reduction goals, and 21% were measuring energy consumption without application to energy reduction. If sustainability goals are to be successful, measurement is crucial. Without accurate tracking and analysis of progress, goals become meaningless and ineffective. Simply put, if you're not measuring, you're not managing.

57%

Over half the organizations with sustainability goals still don't address the impact of storing unused data

When disposing of the physical assets of data infrastructure, the picture is brighter. Three quarters (73%) say they manage infrastructure disposal with sustainability goals in mind, and 76% believe their data infrastructure solution is eco-friendly.

Group ultimately responsible for ensuring sustainability of an organization's technology and data, % of leaders

Category	Value
An Organization's Technology Leaders	29%
An Organization's Executive Managament	22%
Third-Party Data Solutions Providers	16%
Sustainability Consultants/Experts	16%
An Organization's Employees	10%
Watchdog Organizations	4%
Governments	3%
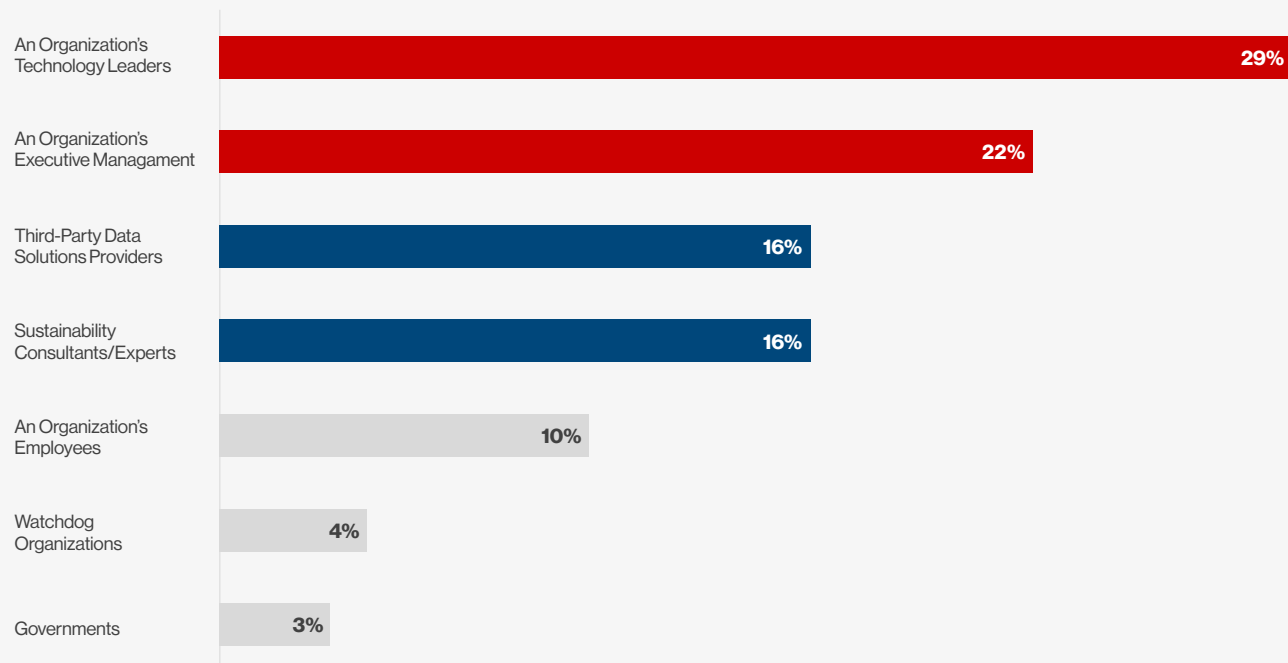
Businesses Must Lead on Sustainability

Decision-makers in our survey identified two main parties who should be taking ultimate responsibility for making sure their organization's technology and data are being operated in a sustainable, eco-friendly way.

About half (51%) said the ultimate responsibility is with their own leaders; either IT leaders (29%) or executive management (22%). Alternatively, a third (32%) said they hold third-party vendors (16%) or consultants (16%) responsible, suggesting they have already outsourced the burden of sustainable data infrastructure management to a partner.

"All your partners have to be transparent to show they're being compliant with your ESG goals on your behalf."

Russell Skingsley - CTO, Technical Sales, Hitachi Vantara

Securing Your Most Valuable Assets

## It's Not Paranoia. They Are Out to Get Your Data!

Security and restrictions can be frustrating for data users, but in the real world, the need for resilience is unavoidable. Data is valuable and threat actors are out to get it. In fact, with data valued higher than physical property as an asset, both IT and executive leadership are more concerned about digital theft, and its consequences, than the theft of physical property.

Considering 69% of decision-makers report some concern their organization wouldn't be able to detect a data breach in time to protect their data, they are right to be worried.

69%

of IT leaders are concerned their organization couldn't detect a data breach in time to protect data
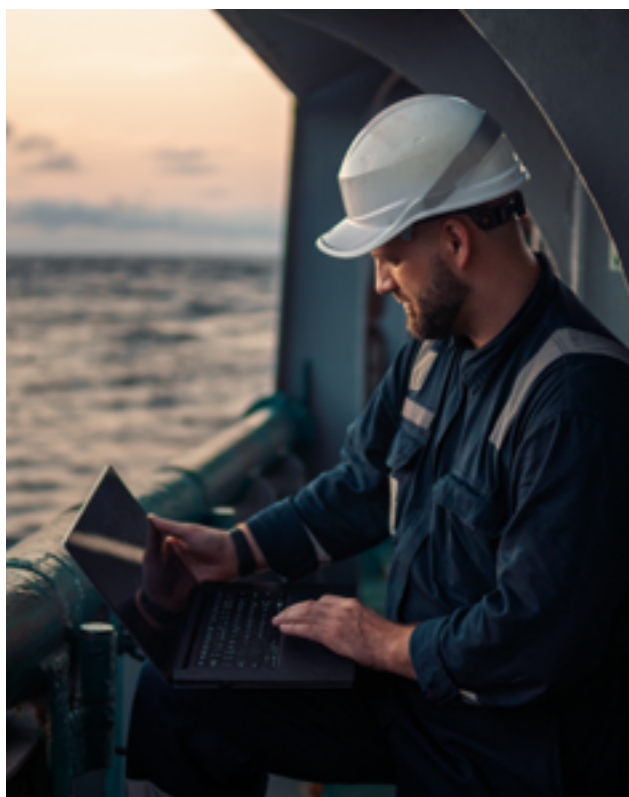
Rising Risks of Ransomware

A recent report found 79% of 620 organizations surveyed suffered a ransomware attack within the last year, highlighting ransomware's continued prevalence in the business world. As the economy slows, threats are becoming increasingly serious and attack methods are evolving. In the past, ransomware would encrypt target data and force victims to pay a fee for the decryption key. Today, cyber criminals are using 'double extortion' schemes where they threaten to release or sell the data if the ransom isn't paid.

Rather than specifically stealing data with ransomware through phishing, the aim of the initial phishing attack is to steal credentials. A recent Verizon study of social engineering incidents found that 63% resulted in compromised credentials, ahead of internal (32%) and personal data (21%). These credentials then allow threat actors access to vulnerable systems.

Resilience and Recovery

Unbreakable is critical. Organizations need to be 100% sure they can recover 100% of their data from a catastrophic loss. Modern data infrastructure that automates backup and protection of critical data should be top of the list for any decision maker who is unsure if they are adequately protected.

It may be shocking to learn that **22% of those surveyed in our study admitted important data isn't being backed up.** An additional 18% cited not being able to access data in the past two years because it was corrupted. Ignoring these basic remedies today can lead to unforgivable consequences.

Even when there isn't an obvious lack of protection, **68% of decision makers have concerns over whether their organization's data infrastructure is resilient enough** to recover all their data from any ransomware attack. This lack of confidence underlines the data infrastructure modernization imperative.

For many organizations, their own employees continue to be the weakest security link. **Only 29% are extremely confident their employees are following their security policies.** This may explain why an employee mistake leading to a data breach is one of the greatest security concerns among both IT and executive leaders. Human fallibility means recovery systems need to be in place so mistakes can be undone with no data lost.

Scaling Seamlessly in a Hybrid Cloud World

Cloud as Part of the Solution, not a Silver Bullet

For some years now, many businesses have considered the cloud as a solution to their data infrastructure challenges, hoping to offload their sustainability, security and accessibility problems to cloud providers. The reality is that cloud has become part of the solution, rather than a replacement. Along with the obvious benefits of cloud, e.g., resilience, scalability and flexibility, it can also put additional stress on an organization's data infrastructure.

Without the proper DataOps solutions in place, hybrid data and application environments, combining public and private cloud, along with colocated and on-premises resources, can be difficult to monitor and manage. Adding to this, the proliferation of remote work has multiplied points of entry for would-be cyberattacks.

Cloud and Security Concerns

Although our survey revealed business leaders favor cloud when it comes to enabling digital transformation, they still believe on-premises solutions are more secure (44% vs. 32%). This is one of the reasons decision-makers are doubling down on hybrid cloud. The complexity of their concerns mean decision-makers are divided over whether external or internal data infrastructure has a higher potential to solve their toughest business challenges; the rise of remote work being one of them. Organizations with a larger proportion of remote workers use more cloud platforms and spend more of their IT budget managing data.

Cloud, Colocated and On-Prem Solutions Need to Double Capacity

IT leaders will have to consider how to double their data capacity across all platforms. Respondents currently store about a quarter of their data in both public and private cloud, a quarter on-premises and just a bit less with colocated/managed services. Although the amount stored is likely to double over the next two years, decision-makers expect distribution to remain consistent, suggesting on-prem solutions will continue to be of critical importance. IT leaders will need to keep a dual, internal and external focus, and they report that they expect their budgets to be similarly divided.

Although it's spread across locations, systems and platforms, **data still needs to be available wherever, whenever and on any device it's needed.** With this kind of complexity, managing data resources is anything but easy; 91% of decision-makers echo this sentiment, citing a broad range of frustrations with their organization's data.

Percentage of data center workloads that will be on the following platforms in 2025

21% COLOCATED

27% PUBLIC CLOUD

in 2025

23% ON-PREMISES

26% PRIVATE CLOUD
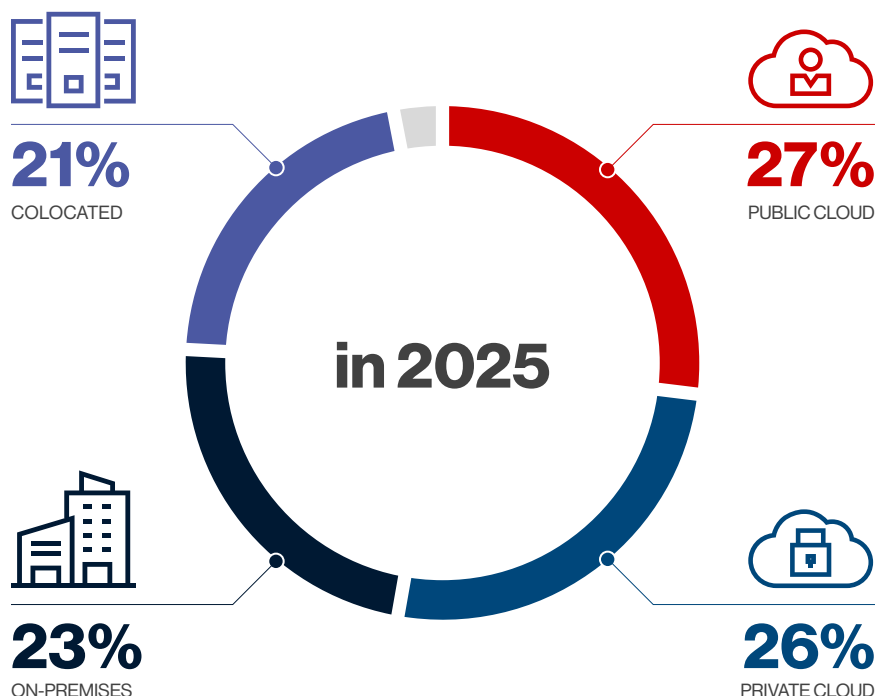
The Challenge of Data at an Unprecedented Scale

Overcomplicated, Underperforming

Although organizations are collecting more data than ever before, most aren't realizing its full potential. Yet 75% say they store every piece of data, just in case.

IT decision-makers estimate that on average they hold up to 17PB of dark data; data that's collected, processed and stored, but then goes unused for any purpose. The cost can run to millions of dollars a year. Organizations in industries like transportation, energy and utilities and healthcare report carrying the most dark data; public sector follows close behind.

A quarter (25%) of IT leaders say their users don't always know the data they need already exists. This problem is especially prevalent in retail (37%) and technology (36%) companies. When data is hidden away behind layers of technology or siloed systems, or buried under mountains of useless data, digital innovation and transformation can only suffer.

Even if users know that data exists, disconnected systems make it difficult to find and utilize. **An astounding 80% say users simply can't access the data they need.** Reasons vary widely; 39% say less than half of their data is integrated with the systems where users need it. A quarter of organizations say their employees haven't been able to use existing data because it just wasn't available in the right system.

This issue is related to how organizations have organically added systems as needed. This evolving approach to data infrastructure means many IT leaders have inherited a Frankenstein's monster of systems cobbled together over the course of years. Patchwork systems lead to users in 29% of organizations being unable to access the data they need because it's only available in one system.

With decision-makers committed to a hybrid future, ensuring systems work together seamlessly is imperative. It's a large task given two-thirds (66%) say they need better integration to bridge the gap between internal and external data infrastructure, even more so in public sector organizations (81%).

Decision-makers are also reliant on external expertise. A third (34%) say they need third-party help integrating their data. Cybersecurity is an especially big concern, with 44% saying this is the area they need the most help from third-party partners.

17PB

IT leaders estimate as much as half of their data is "dark data" that never gets used, costing companies millions of dollars a year

Failure is Not an Option

In a data-driven world, the ability to get data where and when it is needed is essential. Levels of failure executing on that requirement run from catastrophic to frustrating. A modern data infrastructure must be able to address them all, including:

22%

of IT leaders know important data has not been backed up

- **Absolute failure, loss of critical data:** In a world of distributed storage and rapid, or even instant data recovery solutions, it is unforgivable to accidentally lose data. Even so, 18% admit having lost data over the past two years due to storage corruption. An even higher number (22%) were aware critical data was not backed up.

- **Partial failure, data retrieval is too slow:** Waiting for data decreases efficiency and increases frustrations; 33% said users were frustrated by slow access, typically a result of aging architectures. Another 34% say it takes too long to execute on system processes.

- **Access failure, when users don't have proper access:** Overly restrictive security policies slow data access for 31% of users in our study which can discourage employees from even trying to get access. 39% report security measures make accessing data complex and time-consuming.

34%

say it takes too long for their infrastructure to execute on system processes

- **Fragmented systems, data unavailable where needed:** Data is often only available in specific systems, e.g., CRM. If users can't access those systems, data that could be useful remains locked away. Users in 29% of organizations experienced this within the past two years. The numbers aren't surprising, contributing to about 50% of an organization's data being unavailable where needed.

- **Trust Failure: users don't trust data quality:** A lack of trust – a concern for 23% of those surveyed – often comes down to a lack of data transparency. Enabling users to see where data comes from gives them more reason to trust it and use it appropriately.

Avoiding Regulatory Missteps

Regulatory fines are another concern of failing to secure data properly which negatively impacts data access, with 41% reporting this among their top three security concerns. A total of 30% say requests like regulatory audits could not be fulfilled because the data was unavailable. This is especially true among those using a greater number of cloud-storage platforms.

Another issue is stewardship and governance, with **44% of decision-makers admitting that no one in their organization knows all the data that they are collecting and storing.** It's no wonder over a quarter (28%) say they need third-party help with regulatory compliance.

30%

of IT leaders say their organization couldn't fulfill regulatory audit or Freedom of Information requests because the data was unavailable

Data Infrastructure as a Foundation for Business Transformation

In the recent past, the main measures of success for data infrastructure were speed, uptime and accessibility. While that hasn't changed, the calculus has been complicated as flexibility, sustainability and resilience are now also non-negotiable. Add in the proliferation of ransomware, data leaks, environmental concerns and storage management and it becomes clear why **a quarter of decision makers say updating and modernizing their data infrastructure is the most important part of their current business transformation strategy.**

Digital transformation isn't just about growing data. Successful transformation relies on data infrastructure designed for energy efficiency, resilience and data delivery at the speed of on-demand business. It's the foundation that paves the way for intelligent, software-driven infrastructure, including DataOps and AIOps automation, that ensures data is in the right place at the right time, adapting at the speed of business.

A modern data infrastructure empowers leaders to focus on driving positive outcomes. Advanced digital transformation exposes data and tools that business leaders can leverage to make better decisions, deliver better products and services and positively differentiate themselves from their competitors.

The Hitachi Vantara Approach to Modern Data Infrastructure

Businesses Must Change. Business Leaders Need Solutions.

Businesses leaders know they need to change and are fearful they won't be able to keep up. Most know their organizations must modernize data infrastructure to spur digital transformation. This means flexible, scalable, always-on data infrastructure that delivers greater business value.

But with 61% of leaders admitting their organization is overwhelmed by the amount of data it manages – and 44% that nobody in their organization has a handle on all the data being collected and stored – the task ahead is substantial. No wonder that 36% believe they need assistance from third parties to manage their data infrastructure effectively.
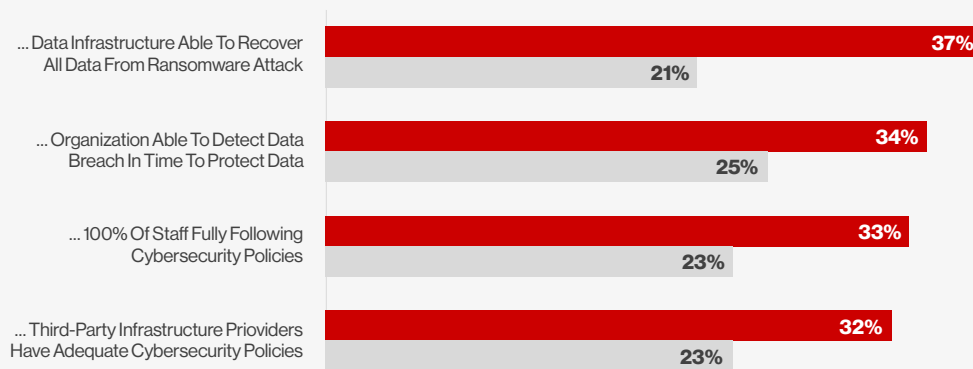
Not only can third parties help with products and technologies, but **the right third-party data infrastructure partner can also provide the knowledge and services to help plan for the data-driven world that lies ahead.** When leaders have an infrastructure modernization plan, they are more aware of the risks and more prepared, but they also display more caution. Rather than hiding their heads in the sand, organizations that understand the severity of the risks know they need more third-party help.

Expectations of third-party infrastructure providers are high. IT Leaders are entrusting these third parties with their most valuable resource, data. That's why infrastructure providers must use their experience and expertise to build trust, showing that they are fully and demonstrably compliant, have tight security policies and transparent security practices and be actively benefiting the environment.

> "We live in a hybrid cloud world. Data users want flexibility. For years people have been forecasting that everything is going to move to solely cloud. It hasn't happened. What we've seen is that it's a hybrid world. How much data storage and processing takes place on-premises and how much is off-premises varies based on economic demand and application workload, and in some ways it doesn't matter. As long as you can have visibility to all of that data and that storage, as long as you can manage it and make sure it doesn't break and it's available only to the right applications and people at the right time, great!"
>
> **Gary Lyng** - Vice President of Product & Solutions Marketing, Hitachi Vantara

Leaders who are extremely confident/not at all concerned that…, % of leaders

...Data Infrastructure Able To Recover All Data From Ransomware Attack — 37% / 21%

...Organization Able To Detect Data Breach In Time To Protect Data — 34% / 25%

...100% Of Staff Fully Following Cybersecurity Policies — 33% / 23%

...Third-Party Infrastructure Prioviders Have Adequate Cybersecurity Policies — 32% / 23%

Leaders who say modernizing data infrastructure is very important to the business transformation strategy

Leaders not prioritizing data infrastructure

Solutions Must be Designed With Sustainability in Mind

Modern data infrastructure not only reduces complexity, but has sustainability and resilience built into the design from the start. This provides a scalable foundation that doesn't compromise efficiency for flexibility.
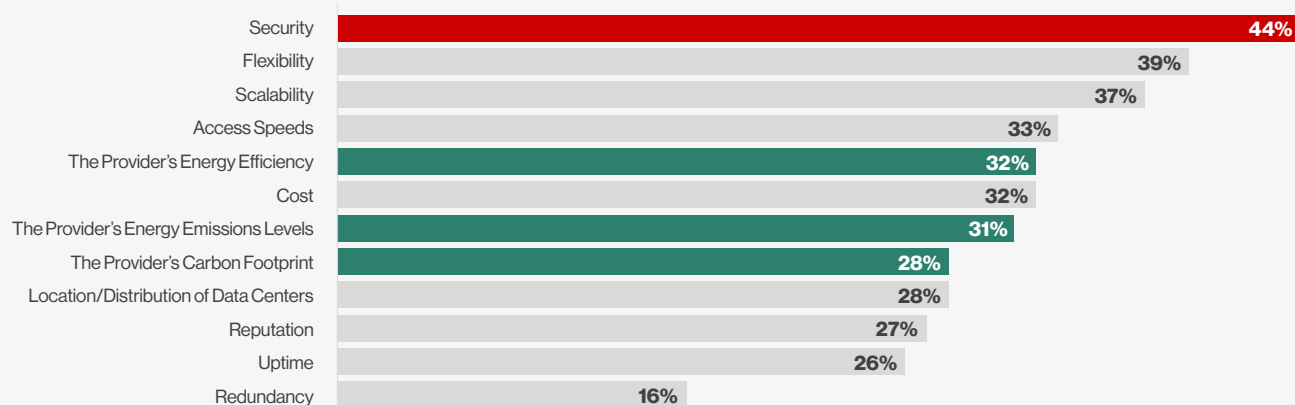
The right third-party providers can use their experience and expertise to responsibly design and operate efficient data center storage infrastructure solutions. Their systems will include dynamic measurement and reporting for regulatory compliance, taking the pressure off IT. But decision-makers expect more than just that. According to our study, **73% want to see providers use their expertise to actively aid the environment.**

This attention to sustainability translates to other aspects of selecting third-party data solution providers. Security is by far the main issue. Other concerns are those on the minds of data managers every day, including flexibility, scalability and performance/access speeds. However, the third-tier concerns see a provider's energy efficiency, emission levels and carbon footprint of equal importance with cost.
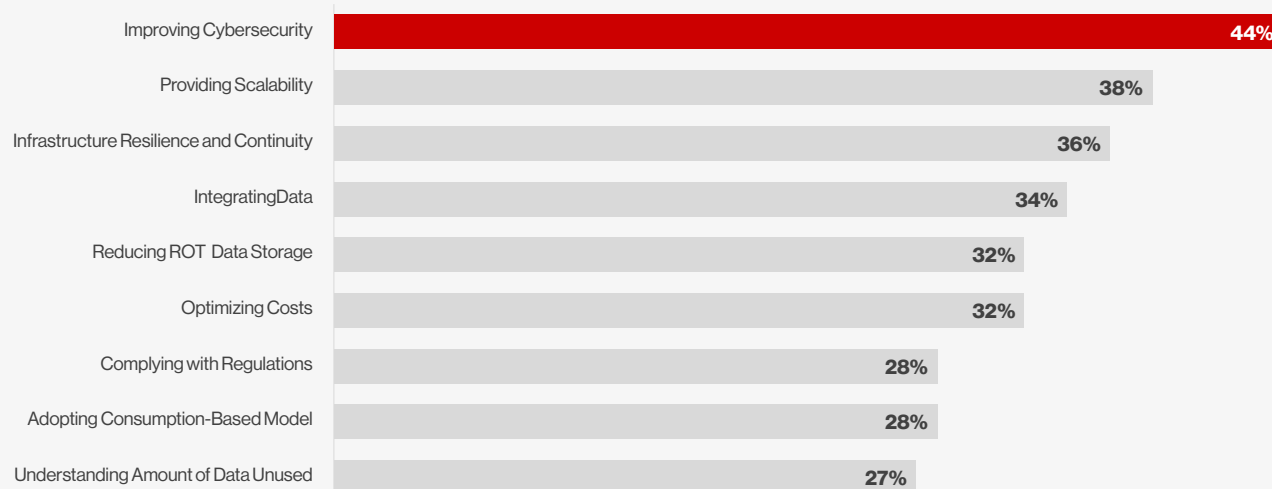
More About Sustainability →

Sustainability is critical. Eco-friendly alone isn't enough. Work with a partner who puts sustainability at the forefront—right from the start — with Hitachi Vantara.

What does your organization prioritize when looking for a data storage solutions provider?

Security	44%
Flexibility	39%
Scalability	37%
Access Speeds	33%
The Provider's Energy Efficiency	32%
Cost	32%
The Provider's Energy Emissions Levels	31%
The Provider's Carbon Footprint	28%
Location/Distribution of Data Centers	28%
Reputation	27%
Uptime	26%
Redundancy	16%

Areas of infrastructure management where third-party help is needed, % of leaders

Category	%
Improving Cybersecurity	44%
Providing Scalability	38%
Infrastructure Resilience and Continuity	36%
IntegratingData	34%
Reducing ROT Data Storage	32%
Optimizing Costs	32%
Complying with Regulations	28%
Adopting Consumption-Based Model	28%
Understanding Amount of Data Unused	27%

Resilient Data Security and Recovery Must be Built-In from the Ground Up

While users may feel security is a necessary evil, it doesn't have to be. According to 72% of decision-makers, integrated security-by-design should be effective and unobtrusive. There are already signs of success, as almost a third of IT leaders (29%) are already extremely confident that their integrated security by design is working in this way.

With the rising pressure to remain vigilant and the need for cutting-edge, dynamic security and recovery solutions across all platforms, it's no wonder improving cybersecurity is the area decision-makers most commonly rely on partners for help (44%), especially in China (48%) and Indonesia (51%).

Nearly a quarter (23%) have fully-outsourced data security to external vendors, and another 43% have added outside data security services or platforms.

Decision-makers know regardless of how good their security is, there's no substitute for creating a resilient infrastructure and ensuring data continuity, leading 36% to seek third-party support.

Many business leaders are turning to data-modernization solutions that provide total data visibility, harness more powerful analytics and allow for better data-driven decisions. At the same time a modern data core protects their data from threats and provides recovery options should the unthinkable happen.

"Trust is the rock solid cornerstone of this company. People trust in us. Organizations trust their business to us. They trust their applications, their data and their infrastructure to us. The reality is, because people want immediate gratification of data, they want flexibility. Business leaders need things like data smarts and intelligence. And we do that - but it's founded on solid infrastructure that doesn't let them down."

Gary Lyng - Vice President of Product & Solutions Marketing, Hitachi Vantara

Solutions That Flex and Scale for Future Proof Data Infrastructure

The right data infrastructure is a lifeline for organizations drowning in an ocean of data. With average data storage needs for large organizations set to pass 60 petabytes in the next two years, business leaders need to ask themselves if their current solutions can scale that far without introducing more frustrations for their users. They also need to consider whether their legacy systems will still be able to cope with twice the data. Solutions that seamlessly integrate with existing networks and dynamically scale as needed bring peace of mind to concerned IT decision-makers.

Adaptability is key when considering data storage solutions because the types of data currently being collected, managed and processed bear little resemblance to traditional data sources. Organizations that tap the potential of semi-structured and unstructured data can accelerate their digital transformation journeys. Integrating and making all your data accessible, no matter the source will have a huge impact on how well organizations can meet the challenges of the future. One important factor of successful data infrastructure is a single access point for all the data in your platform. Comprehensive access brings the full value of all your data sources to your fingertips.

> "You can't ignore the cloud. You need to have a single point of control, you need to manage and control the cloud. As the data moves across different platforms, our customers rely on us to make sure they have visibility and availability and protection. We're ensuring that even as data infrastructure flexes to meet their needs, we still have the customer's back."
>
> **Gary Lyng** - Vice President of Product & Solutions Marketing, Hitachi Vantara

12 Strategic Actions to Unleash the Value of Data

Hitachi Vantara is here to help data-driven leaders break open the full potential of data. We've outlined the most important things leaders can do to address the technology reasons, the human reasons and perhaps most importantly, the strategic reasons that cause data silos to exist in their organizations. Data policies need regular revision to ensure they still connect the organization's data strategy with its users and technology.
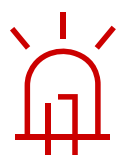
Strategic Solutions for Data-Driven Organizations

At the highest level, the responsibility for becoming a truly data-driven company starts with a purposeful strategy. Strategic decisions to become data-driven require a transformational mindset with a holistic understanding of how data needs to be managed and leveraged.

Steps business leaders can take are:

1. **Modernize:** Legacy systems that are no longer fit for purpose are a bottleneck for digital transformation. Replacing these systems is painful, but crucial for digital transformation. Thirty-one percent of organizations still rely on outdated systems, and 29% say their infrastructure is not equipped to handle the current volume of data. Modern data infrastructure allows IT leaders to dynamically scale their infrastructure up or down as needed, using technology to flexibly improve performance efficiency and only pay for what gets used.

2. **Empower users:** Modern systems allow users to make quick decisions based on the data in their hands. Extraneous security clearance processes and access restrictions shouldn't hamper your organization, but 31% say data can't be accessed because the security access approval process takes too long. Create a security and access framework and train responsible employees to act within these guidelines.

3. **Limit waste:** With 28% of decision-makers saying there's too much unused "garbage" data to sift through to find the useful data, bold leaders maximize the value of data by deleting ROT (redundant, obsolete or trivial) data. A similar number (28%) know their organizations are wasting money storing ROT data. This is more common in organizations using higher numbers of data management systems.

29%

of organizations say their infrastructure is not equipped to handle the current volume of data

Technology to Tear Down Data Silos

Despite efforts to eliminate them, 30% of organizations say data is still siloed in existing systems or apps. Fortunately, there are steps IT leaders can take to help users leverage the full potential of their data, including:

4.   **Consolidating systems:** Reduce the number of systems required to access the data users need. In a best-case scenario, an organization's entire data infrastructure would be available through a single portal. In reality the average organization currently uses five different systems to access their data.

5.   **Reviewing restrictions:** Regularly review security controls to determine if they unnecessarily restrict users from easily reaching data that could benefit them. Mismatched permissions are a frustration for 26% of organizations.

6.   **Leveraging intelligent automation:** Use advanced tools and AI to effectively minimize data storage. Three-quarters (76%) are currently doing this, but with technology continually advancing, IT leaders must regularly review and update the tools they are using.

Promoting People to Unlock Data's Potential

Data was created to help people. Following are specific steps organizations can take to empower their people to take full advantage:

7.   **Training:** Provide training on how to access data from different systems. Over a quarter (27%) say a lack of training and knowledge is a barrier to data access.

8.   **Knowledge sharing:** Ensure it's easy to share and transfer knowledge; 32% say their data has lost value because critical employees left without passing it on.

9.   **Informing:** Leaders in 23% of organizations say their users don't trust the quality of the data they have access to. Be transparent when informing users about how the data is collected, managed and processed. This helps users accurately assess the quality of data and use it appropriately.

Policies Connect Strategy to People and Technology

If your organization doesn't already have a data catalog, it's time to create one. But that's just one step in creating a data-driven organization.

10.   **Document data:** Data catalogs offer an information map for all the data in your organization. In addition to providing transparency that increases trust, it also makes data easily discoverable and understandable. This provides users with a holistic view of the data available to them.

11.   **Automate processing**: Use advanced tools to help documentation and enforcement. Expert systems should help users leverage data and prevent them from using or processing data in ways that violate an organization's strategic objectives.

12.   **Monitor infrastructure:** The data landscape is constantly changing, as are users and their requirements. Policies need to adapt to continue meeting an organization's strategic goals, along with the needs and potential of data and its users. To keep up, policies should be regularly revisited.

Learn More →

We're your partner for a modern data infrastructure that lets you face the future with confidence. Hitachi Vantara supports organizations to sustainably and securely scale their data infrastructure. For more advice about how to balance scalability, sustainability and security, contact Hitachi Vanatara.

Research Methodology

The research for this report and analysis was conducted by Reputation Leaders, an independent market research firm, through an online survey with industry decision-makers and experts.

A 41-question study was conducted online between Feb. 9 and March 2, 2023, among 1,288 senior leaders from companies with annual revenue of +$500M.

Respondents were either IT or C-suite leaders. Companies were recruited from all major industries across 12 markets (U.S., Brazil, Mexico, U.K., Germany, Italy, India, Singapore, Indonesia, China, Australia and New Zealand).

Data was weighted to ensure a 70:30 split between IT and C-suite leaders, respectively. Industries were also weighted equally.

Limitations: The sample for the survey included only large organizations (annual global turnover of over $500 million) and may not be representative of all organizations.

ABOUT HITACHI VANTARA

Hitachi Vantara, a wholly-owned subsidiary of Hitachi Ltd., delivers the intelligent data platforms, infrastructure systems, and digital expertise that supports more than 80% of the Fortune 100. To learn how Hitachi Vantara turns businesses from data-rich to data-driven through agile digital processes, products, and experiences, visit hitachivantara.com.

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