Overcome Data Challenges With Data-As-A-Service

Topical Results From The April 2021 Thought Leadership Paper, "Unveiling Data Challenges Afflicting Businesses Around The World"

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Compared to three years ago, just 41% say they are analyzing more data. That's roughly half the proportion of businesses that say demand for data has increased.

We define "as-a-service" as the use of a third-party infrastructure, application, or platform that can be dynamically provisioned to achieve business objectives.

Introduction

Firms today are generating, demanding, collecting, and analyzing more data than ever before. Over the last three years, firms have seen an increase in all categories of data (from sensors and physical processes to internally generated customer behavior data). This onslaught of data is overwhelming data teams, to the extent that they're struggling to analyze and secure that data, let alone put the necessary security and compliance checks in place.

But this deluge of data is also a tremendous opportunity for firms to access a surplus of actionable insights that could reveal the secrets to improving customer experience and business outcomes both today and in the future.

How do successful firms do this while circumventing the data challenges that are afflicting so many businesses? Our study shows that a data-as-a-service model can help firms deal with the data deluge in a more efficient way, leading to better insight-driven business outcomes. We define "as-a-service" as a technology capability consumption model that uses dynamically provisioned third-party infrastructure, applications, or platforms to achieve business objectives. Data-as-a-service securely delivers insights via an on-demand, cloud-based consumption model.

Dell commissioned Forrester Consulting to evaluate the state of readiness for the continued influx of data. Forrester conducted an online survey with 4,036 respondents from 45 locations with director or higher titles who are responsible for data strategies and digital transformation (DT) at small firms to large global enterprises. In this survey, we explored how the volume of data is impacting their businesses and the steps they are taking to turn that data into a valuable tool, including leveraging an as-a-service data model.

KEY FINDINGS

› **Outdated infrastructure is a key barrier.** Most decision-makers (83%) report the following barriers to capturing, analyzing, and acting on data: high storage costs, a data warehouse that is not optimized, outdated IT infrastructure, and processes that are too manual to meet their needs. An as-a-service approach can mitigate these key issues.

› **Data teams are overwhelmed.** Sixty-six percent have seen the amount of data they generate. Seventy-five percent say demand for their data has increased over the past three years. Some firms experienced a doubling, if not tripling, of their data. This leaves firms with a lot of data that they cannot analyze and use fast enough. As data proliferates at the edge businesses need an IT operational model that can manage an explosion of data across multiple locations.

› **Leveraging a data-as-a-service model creates tremendous opportunities.** A data-as-a-service model allows firms to be more adaptable and, as a result, become more agile. It removes capacity restrictions, providing more opportunity to scale to changing data volumes and expectations for that data. Data decision-makers are shifting to an as-a-service data management strategy to meet their top organizational and technology goals.

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IT Infrastructure And Data Team Improvements Are Required To Manage Data

Three-quarters of data decision-makers have seen demand for their firms' data increase over the past three years. Unsurprisingly, 66% say their firms are meeting that demand by generating more data; 56% say they are collecting more data than they did three years ago. Some firms are seeing these data vectors double, if not triple, leaving them with a lot of data that they cannot analyze and use fast enough.

To capitalize on the opportunity associated with so much data, firms must become more agile and adaptable. In surveying 4,036 data decision-makers, we found that without an automated, up-to-date IT infrastructure, firms cannot hope to gain actionable insights from their data. Outdated infrastructure challenges have left 64% of data decision-makers to focus on keeping a significant amount of data in the data centers they own or control, which is slowing progress. The study reveals some key barriers to data readiness:

› **Outdated infrastructure blocks firms from capturing, analyzing, and acting on data.** Data decision-makers face a myriad of infrastructure barriers as they try to improve their ability to capture, analyze, and act on their data (see Figure 1). Today, less than half of decision-makers say their firms have leveraged actionable insights to build an IT infrastructure geared for rapid data ingestion. As-a-service solutions address these key barriers by offering automated processes and data warehouse optimization, both of which lower costs.

› **Data decision-makers struggle to update their data management strategies.** In the past, firms addressed their increasing data volumes by building on-premises data lakes (see Figure 2). These might have been the best solution at the time, but today, cloud-based and edge solutions offer more flexible and higher-performance options. Firms still need to run the same data management components across multiple public clouds while retaining some data on-premises, such as for data backups, archiving, or regulatory reasons.[1] Without a solution, this trend will make the data paradox — wanting more data, yet not effectively using the data currently available — even more of a challenge.

Figure 1

"What are your firm's barriers to better capturing, analyzing, and acting on data?"

Processes are too manual to meet our needs
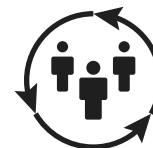
Outdated IT infrastructure

High storage costs

A data warehouse that is not optimized for the incoming variety, velocity, and volume of data

Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

Figure 2

"Which of the following are part of your data management strategy today and in the next one to three years?"
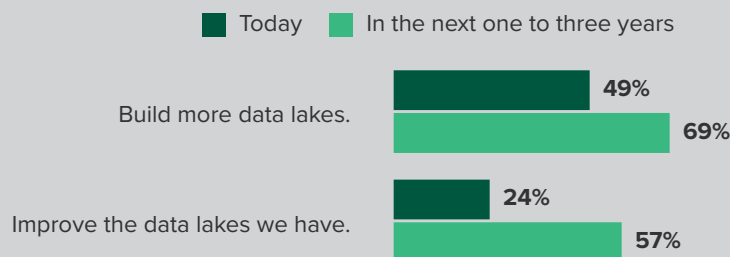
■ Today ■ In the next one to three years

	Today	In the next one to three years
Build more data lakes.	49%	69%
Improve the data lakes we have.	24%	57%

Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

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› **Teams are drowning in data.** Seven out of 10 data decision-makers agree that their organizations are gathering data faster than they can analyze. Additionally, they have too much data to meet security and compliance requirements. Data breaches and data loss are guaranteed to erode client satisfaction and trust. Sixty-one percent of data decision-makers admit their data teams are already overwhelmed by the amount of data they have (see Figure 3). Teams need as-a-service solutions to identify the data they have and need and enable insights at the point of ingestion — or risk a drop in productivity. This will allow data teams to save time moving and tracking data from one platform to another as well as glean actionable insights faster.

› **The global pandemic has added extra demands on data teams.** Data decision-makers had to act quickly in 2020 to support a remote workforce and new data security demands. More than half of decision-makers say their firms took emergency steps to keep data safe outside of the company network as more people started to work from home. Complicating matters, nearly four in 10 decision-makers report gaps in their data expertise due to staff furloughs. But, despite staff shortages, the pandemic forced firms to standardize data security policies and procedures to manage the proliferation of devices connected to the network.
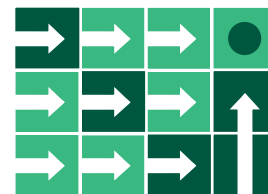
67% of decision-makers say they constantly need more data than their current capabilities provide.

Figure 3

Data Teams Are Overwhelmed By Increasing Volumes Of Data

■ Agree/Strongly agree

70% We are gathering data faster than we can analyze and use it

64% We have too much data to meet security and compliance requirements

61% Our data teams are already overwhelmed by the amount of data we have

41% Our data teams struggle to know how and which data they need

36% The imminent growth of data could overwhelm our IT infrastructure, leading to a loss in productivity

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Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021
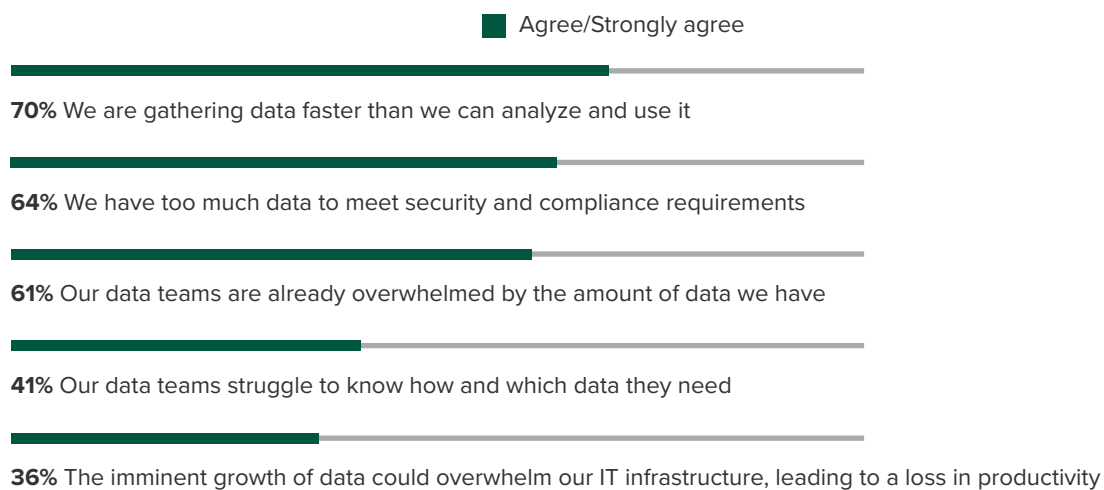
# Overcome Challenges By Leveraging Data-As-A-Service

Firms are spending significant resources today — and planning to spend even more in the future — to improve their data management infrastructure (see Figure 4). By shifting to a data-as-a-service model, businesses can 1) gain control of their IT spend; 2) improve their outdated IT infrastructure; and 3) better support their data teams — all without committing to onerous capex costs. Specifically, we found:

› **The as-a-service model improves outcomes.** Only 20% of decision-makers report their firms have moved to an as-a-service model for most of their applications/infrastructure. Those firms have been able to quickly and effectively overcome IT infrastructure and data team barriers laid out earlier in the study.

› **Data-as-a-service has helped firms to meet their data management goals.** Deploying an as-a-service data management strategy creates agility in the face of rapid transformation by providing a more automated way to provision data management technical capabilities as requirements change. Finally, data-as-a-service frees up capacity so firms can scale to changing data volumes and demands (see Figure 5).

Half of data decision-makers expect data movement will also become easier from one platform to another; nearly 39% expect to trace how and where their data moves with greater ease and accuracy. Long-term, they expect this will improve data quality, business decision-making, and automation.
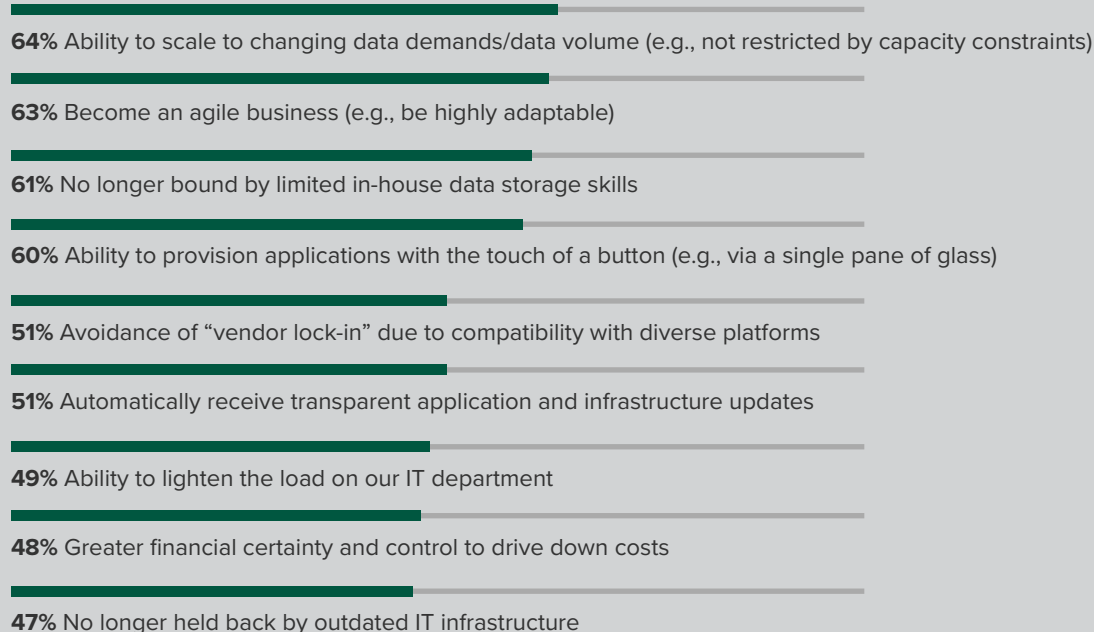
Figure 4

"Using your best estimate, how much did your organization spend this year on digital transformation? How much do you expect to spend three years from now?" (Midpoint average)
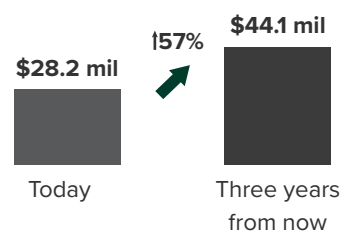
$28.2 mil — Today

↑57%

$44.1 mil — Three years from now

Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

Figure 5
"What do you perceive to be the top organizational goals for deploying an as-a-service data management strategy?" (Rank top 5)

64% Ability to scale to changing data demands/data volume (e.g., not restricted by capacity constraints)

63% Become an agile business (e.g., be highly adaptable)

61% No longer bound by limited in-house data storage skills

60% Ability to provision applications with the touch of a button (e.g., via a single pane of glass)

51% Avoidance of "vendor lock-in" due to compatibility with diverse platforms

51% Automatically receive transparent application and infrastructure updates

49% Ability to lighten the load on our IT department

48% Greater financial certainty and control to drive down costs

47% No longer held back by outdated IT infrastructure

Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

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Key Recommendations

A data-as-a-service model offers firms the agility to meet customer demands and overcome key barriers to capturing, analyzing, and acting on data.

Forrester's in-depth survey of 4,036 data decision-makers about their data management strategies and barriers yielded several important recommendations:

Ask "what if" questions about your data management future. All too often, when firms plan their future state, they get mired in their current state. Data management is no different. To avoid this, start by asking your team and your business partners a number of "what if" questions. What if your data management infrastructure could be provisioned on demand anywhere you want it, any time you need it? What if data quality were automated and driven by real intelligence? What if governance and security were built in from the ground up, instead of bolted on as an afterthought?

Challenge your vendor partners. The automation of data management technology is making many of these data management dreams possible, but each vendor has different levels of capability. Demand that data management vendors step up to the "what if" challenges your team came up with. No vendors will be able to live up to the entirety of your needs immediately; instead, pick the vendors that have the strongest roadmap and best track record of delivering on it.

Turn innovation blockers into allies. Becoming more insights driven through data-as-a-service is not all about technology. In fact, the technology is maturing and changing far faster than most people. Our research indicates that rapid change creates fears, often disguised as budget or regulatory issues. Prioritize identifying stakeholders that might seek to block change and begin recruiting them to your side. Do this by adding more "what if" questions to your list. What if customer privacy was managed transparently in accordance with local regulations?

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Appendix A: Methodology

In this study, Forrester conducted an online survey of 4,036 data decision-makers across telecommunications services, technology and/or technology services (including cloud vendors), manufacturing and materials, healthcare, biotech, or pharmacy, and financial services and/or insurance in 45 locations to evaluate how the volume of data firms have has impacted their business and the steps they are taking to turn that data into valuable tool, including leveraging an as-a-service data model. Survey participants included decision-makers at the director level or higher across IT and non-IT roles with responsibility for digital transformation. Questions provided to the participants asked about how data volumes have changed, the barriers they face, business and technology goals, and their use of as-a-service models. The study began in December 2020 and was completed in May 2021.

Appendix B: Demographics

LOCATION

Austria	2.5%
Belgium	2.7%
Czech Republic	2.5%
Denmark	2.7%
France	2.5%
Germany	2.6%
Ireland	2.5%
Israel	2.5%
Italy	2.3%
Luxembourg	1.2%
The Netherlands	2.5%
Norway	2.3%
Poland	2.6%
Russia	2.3%
Saudi Arabia	2.5%
South Africa	2.8%
Spain	2.5%
Sweden	2.6%
Switzerland	2.4%
United Arab Emirates	2.3%
United Kingdom	2.6%
Canada	2.7%
United States	2.8%
Argentina	1.8%
Brazil	2.0%
Chile	1.8%
Colombia	1.8%
Costa Rica	1.8%
El Salvador	0.8%
Honduras	0.8%
Mexico	2.0%
Peru	1.3%
Puerto Rico	1.1%
Australia	2.2%
India	2.3%
Indonesia	2.8%
Japan	2.2%
New Zealand	2.1%
Singapore	2.2%
South Korea	2.2%
Thailand	2.8%
Vietnam	2.8%
China Mainland	2.2%
Hong Kong	2.2%
Taiwan	2.1%

Pie chart:
- EMEA 51.46%
- GC 6.49%
- APJ 21.56%
- LATAM 15.01%
- NA 5.48%

TITLE

- C-level executive (e.g., CEO, CMO): 9%
- Vice president (in charge of one/several large departments): 30%
- Director (manage a team of managers and high-level contributors): 61%

NO. OF EMPLOYEES

- 20,000 or more: 6%
- 5,000 to 19,999: 15%
- 1,000 to 4,999: 22%
- 500 to 999: 17%
- 100 to 499: 25%
- 2 to 99: 14%

INDUSTRY

- Telecommunications services: 20%
- Technology and/or technology services (includes cloud vendors): 20%
- Manufacturing and materials: 20%
- Healthcare, biotech, or pharmacy: 20%
- Financial services and/or insurance: 20%

COMPANY REVENUE

- >5B: 4%
- $1B to $5B: 5%
- $500M to $999M: 7%
- $400M to $499M: 7%
- $300M to $399M: 7%
- $200M to $299M: 8%
- $100M to $199M: 8%
- $50M to $99M: 6%
- $25M to $49M: 27%
- $10M to $24M: 22%

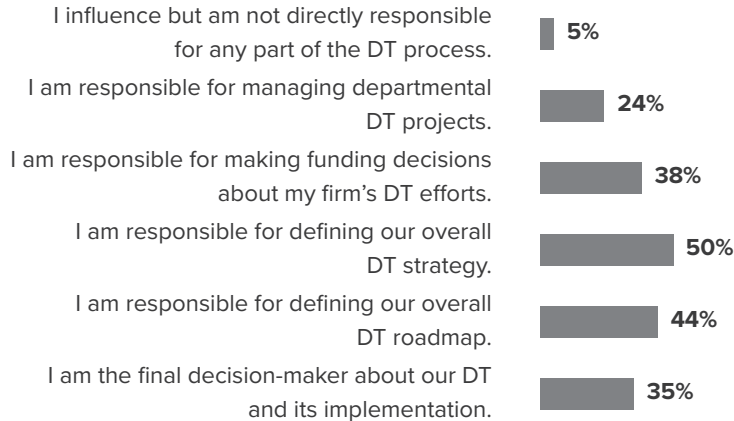Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Note: Percentages may not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

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RESPONSIBILITY

Tech/processes for data management
(non-IT; N = 3,648)

37% Some influence
37% Indirect but impacts job
26% Directly responsible

Data management strategy
(IT; N = 388)

30% Decision influencer
49% Part of team
21% Final decision-maker

DIGITAL TRANSFORMATION RESPONSIBILITY

I influence but am not directly responsible for any part of the DT process.	**5%**
I am responsible for managing departmental DT projects.	**24%**
I am responsible for making funding decisions about my firm's DT efforts.	**38%**
I am responsible for defining our overall DT strategy.	**50%**
I am responsible for defining our overall DT roadmap.	**44%**
I am the final decision-maker about our DT and its implementation.	**35%**

Base: 4,036 director+ decision-makers responsible for data and data strategies in NA, EMEA, APJ, GC, or LATAM
Note: Percentages may not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell Technologies, May 2021

Appendix C: Endnotes

[1] Source: "Now Tech: Master Data Management, Q4 2020," Forrester Research, Inc., October 21, 2020.

To read the full results of this study, please refer to the Thought Leadership Paper commissioned by Dell Technologies titled, "Unveiling Data Challenges Afflicting Businesses Around The World"

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