

VEEAM

Cloud Data Management Report

Backup
for what's next



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Foreword

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Technology has never been so important to a business' success. Organizations around the world rely on a whole host of digital platforms for everything from keeping the lights on to creating ground-breaking, new offerings for customers.

Being able to access the right data at the right time, and recover it when it's lost or damaged, can determine the success of a business. Building strong digital foundations that center on data availability will be vital to the future of every organization.

At Veeam we monitor how effectively organizations can ensure the delivery of seamless digital experiences that meet the requirements of users, to understand how businesses are faring on this critical measure of performance.

We surveyed 1,575 senior business and IT decision makers worldwide to understand their approach to data protection and data management today, and how they see its role in their future Digital Transformation.

But two years on from our last report, the findings are concerning. Nearly three quarters (73%) of businesses recognize that they still are unable to meet users' demands for uninterrupted access to applications and data, only slightly lower than the 82% reported in 2017.

This gap is causing business-critical challenges, from damage to customer confidence and brand integrity, right through to losses of hundreds of thousands of dollars an hour.

Fortunately, business leaders clearly understand the strategic and competitive importance of gaining more control and reliability over their IT systems, protecting and managing their data, and are taking proactive steps to improve their strategies. At Veeam, we refer to this as Cloud Data Management, an inherent part of Intelligent Data Management, meaning that data is available across the business, centrally managed and controlled and located where it will deliver the most value for the organization.

Amongst the businesses making the most intelligent use of data management, there were four common components: the cloud (or hybrid cloud), confidence, capabilities and culture. By optimizing these competencies, businesses can maximise the value of their digital investments – and enjoy better business results.

This report explores how businesses worldwide are approaching data management, the most common challenges with backups and availability, and the lessons leaders can learn from how high-performing businesses are using data as they continue to transform.

So as businesses take the next step on their digital journey, we offer a blueprint for how each organization can get the foundations right and become a more intelligent business.

Definitions

Intelligent Business – A business that leverages technologies such as data management, cloud and artificial intelligence to create a real-time view of the collective business, providing the ability for the business to act intelligently on this insight.

Intelligent Data Management – An organization's management of data that enables teams to respond instantly and appropriately to what matters anywhere across the enterprise's infrastructure. A key part of this is **Cloud Data Management**, which is an organization's ability to manage its data across multi-cloud environments to ensure its data is protected no matter where it resides and that resources are optimized.

Data Availability – The process of ensuring that data is available to end users and applications, when and where they need it. It defines the degree or extent to which data is readily usable along with the necessary IT and management procedures, tools and technologies required to enable, manage and continue to make data available.



Executive Summary

Data availability and recovery are critical to business success and **outages can create serious business problems**; however, at present the majority experience availability and recovery gaps:

- Most organizations are unable to meet users' demands for uninterrupted access to applications and data (73%)
- On average, respondents have experienced five to 10 unplanned outages in the last 12 months, each lasting 65 minutes.
- The impact of outages includes loss of customer confidence (54%), damage to brand integrity (38%) and loss of employee confidence (37%).
- Lost data from mission-critical application downtime costs organizations \$102,450 per hour, on average.
- Application downtime costs the average organization \$20.1 million globally in lost revenue and productivity.
- Three-quarters of companies are looking to Cloud Data Management as a key component in delivering Intelligent Data Management.

Business and IT decision makers are aware of the **importance of data management to their business' success**, pointing to greater productivity today and the potential to transform their business in the future:

- 44% of respondents state that more sophisticated data management initiatives are critical to their organization's success over the next two years.
- Productivity (80%), stability (66%) and forecasting (49%) are the benefits of proper data management that most respondents highlighted.
- Organizations globally attribute an average of \$124 million (per company) of extra revenue being generated through Intelligent Data Management.

Leaders have **ambitious plans for the next stage in becoming a more intelligent business**, meaning they are leveraging technologies such as data management, cloud (or hybrid cloud) and artificial intelligence to create a real-time view of the collective business and the ability to act intelligently on that insight:

- Over three quarters (77%) are already using Software-as-a-Service (SaaS), while 93% will have it in place by the end of 2019.
- Respondents will spend \$41 million (each, on average) on deploying technologies to build an intelligent business within the next 12 months.
- Once new technologies are deployed, respondents expect to see financial benefits in nine months, with operational benefits being seen sooner in seven months, on average.

The businesses that have already achieved success in their data management strategies indicate **four core attributes**:

- **Cloud:** Cloud Data Management is a key component of Intelligent Data Management, with 77% of respondents state that they are using Software-as-a-Service (SaaS), 51% are using cloud for backup and 44% are using Disaster-Recovery-as-a-Service (DRaaS), citing reliability, flexibility and data security as their top three reasons for doing so.
- **Capabilities:** 91% of organizations view upskilling employee's digital skills as vital to their success.
- **Culture:** 69% agree that company culture needs to become more open and accepting as they digitally transform, while 93% agree that leadership styles will also need to change.
- **Confidence:** Confidence increases as businesses progress on their digital journey, with only 25% reporting total confidence in their capability to meet digital challenges.

To get the right data foundations in place – and to ensure that the organization is ready to become a more intelligent business – **there are simple steps that IT and business leaders can take:**

- Acknowledge challenges in meeting user demands for uninterrupted services.
- Quantify your Service Level Agreements (SLAs) and assess your protection mechanisms and recovery capabilities to meet these SLAs.
- Convert your gaps into impact analyses.
- Outline the steps that it will take to become a more intelligent business.



Challenges with Backups, Recoveries and Availability

Availability and recovery gaps

IT and business leaders point to concerning challenges with their data availability and recovery.

- **73% admit failing to meet users' demands for uninterrupted access to applications and services**, and a gap between how often the business can back up applications and how often they need applications to be backed up to be an always-on enterprise.
- **69% have a gap** between how fast they can recover applications and how fast they need applications to be recovered to be an always-on enterprise.

This is significant because of the scale of the impact of outages on businesses worldwide. Application downtime costs the average organization a total of **\$20.1 million** annually in lost revenue and productivity each year; this is slightly lower than in previous years (the 2017 Veeam Availability Report found that the cost was \$21.8 million), therefore suggesting that companies are improving their processes. However, the cost is still very high, and is a figure that could be lowered if IT departments deployed data protection and management solutions that were fit-for-purpose. With that in mind, it's important to understand how businesses are protecting against outages at present and where the gaps lie.

\$20.1 million (per organization) of revenue lost due to application downtime

Protecting against downtime

Depending on the business sector and IT infrastructure, organizations can tolerate varying levels of downtime. On average, organizations can tolerate two hours of downtime for high-priority applications and three hours for normal-production applications. Notably, 52% of businesses can tolerate downtime of less than one hour for their high-priority applications.

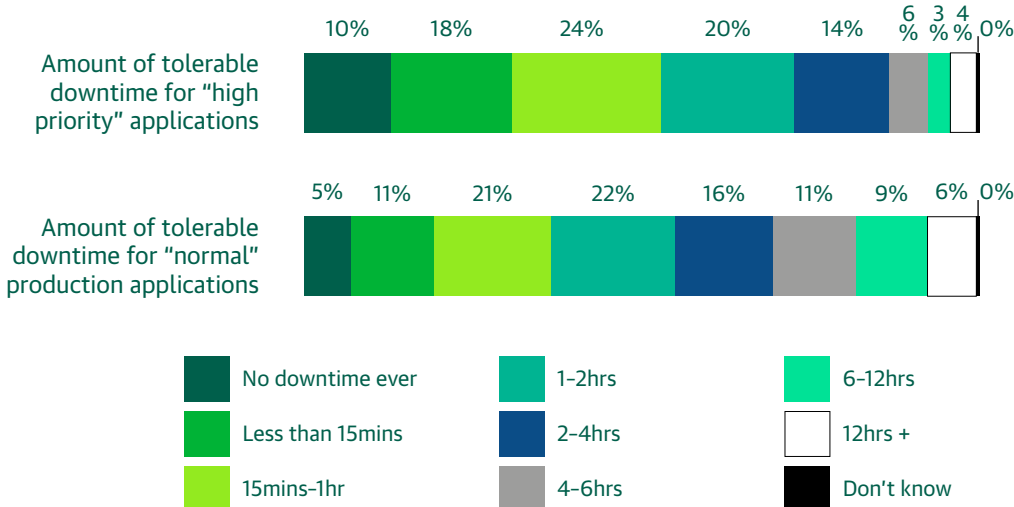


Figure 1: "What is the amount of downtime your organization can tolerate from its applications?", asked to all respondents (1,575 respondents)

It's therefore reasonable that just over half (54%) of organizations protect their data on an hourly or better basis, which presumably includes the combining of backup mechanisms with snapshots or replication.

Considering the 37% of organizations that apply similar methods to their "normal data," segmentation between those "high priority" and "normal" data appears to be blurring. It wasn't many years ago that only 5-10% of data was deemed mission critical, so this figure reinforces the perceived criticality of all data within organizations.

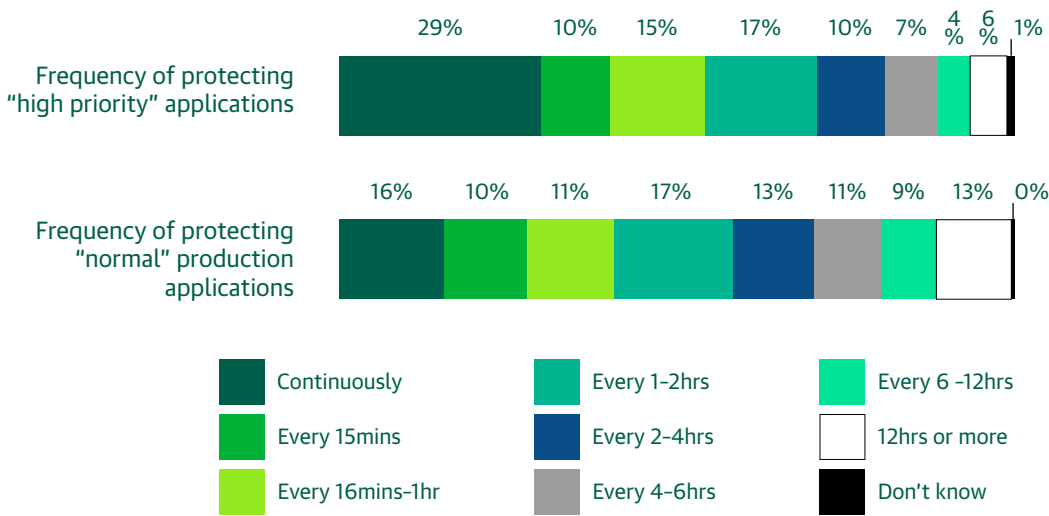


Figure 2: "How often does your organization protect (including backup and replication) its applications?"; asked to all respondents (1,575 respondents)

In the event of an outage, being able to recover the systems needed in a timely fashion can be critical to limiting damage to the business. As a result, most organizations agree on Service Level Agreements (SLAs) for application recovery which reflect the potential impact of the outage on the organization.

However, fewer than four in ten (37%) respondents are very confident in the ability of their primary data management solution to reliably back up virtual machines and to recover what they require within their business' SLAs.

Only 37% are very confident that virtual machines can be recovered within the Service Level Agreement

The impact of unplanned outages

Unplanned outages occur on a relatively regular basis. Businesses have experienced an average of five unplanned outages over the last 12 months. 82% have experienced two or more episodes of unplanned outages in this period, while only 6% of organizations haven't experienced any unplanned outages.

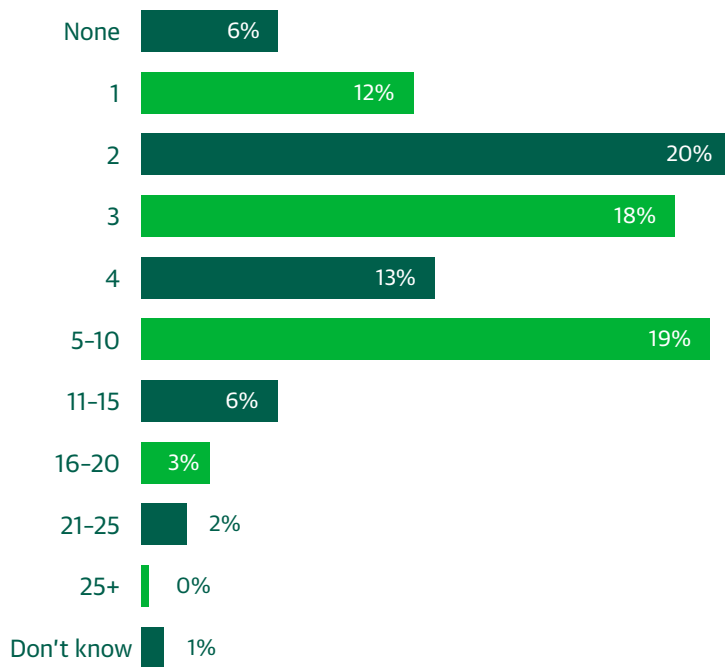


Figure 3: "How many unplanned outages has your organization experienced in the last 12 months?", asked to all respondents (1,575 respondents)

On average, unplanned outages last for 65 minutes, although this figure varied greatly around the world, with some reporting outages lasting an average of 218 minutes.

Business leaders highlight that downtime can cause several critical issues, including loss of customer confidence (54%), damage to brand integrity (38%) and loss of employee confidence (37%). Reduced stock price (21%) and legal action (21%) are also concerning consequences.

65 minutes is the average unplanned outage

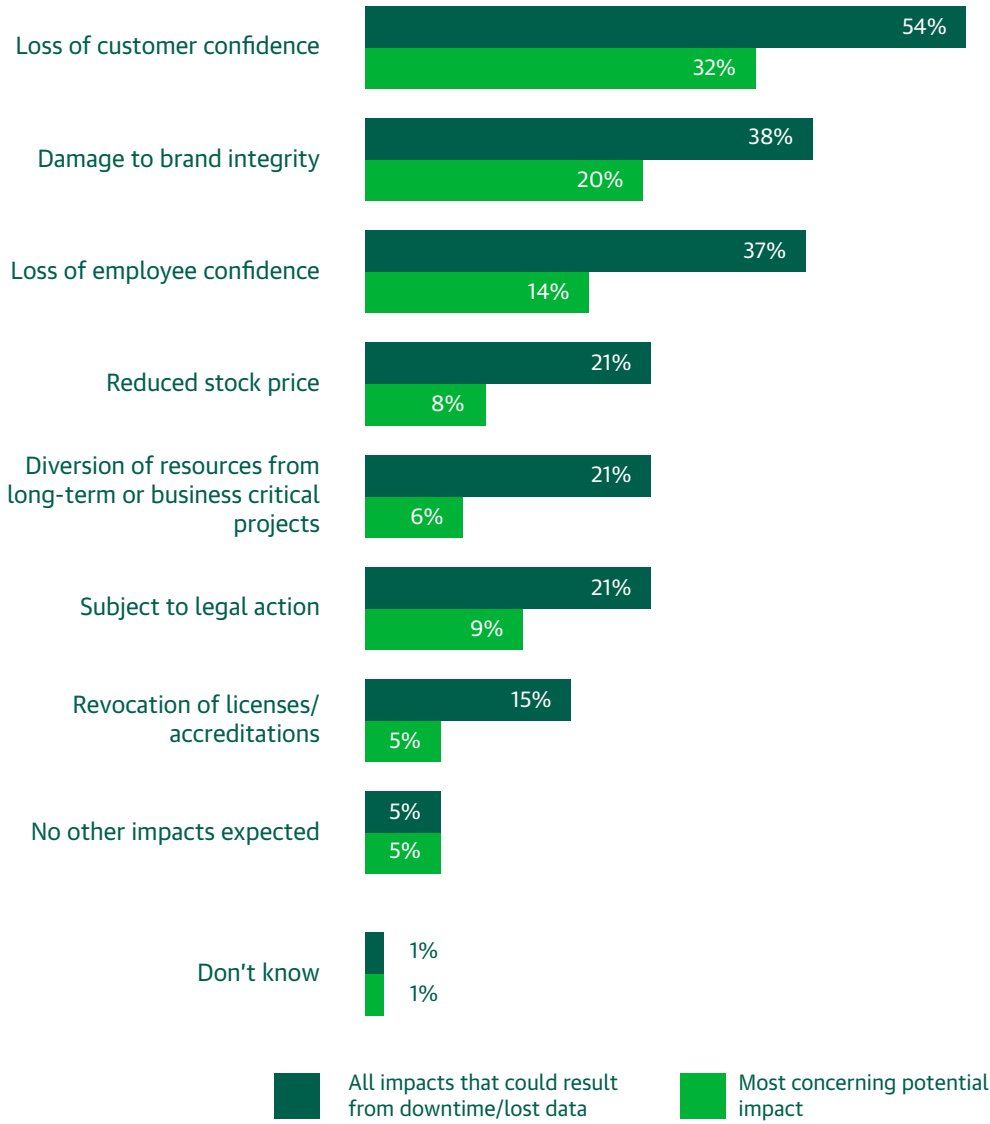


Figure 4: "What other impacts could your organization experience from application downtime?", asked to respondents whose organization has experienced application downtime (1,524 respondents)

Of course, along with the less quantifiable impacts of IT outages and data loss, these events cause significant financial losses. Respondents say that the loss of data in the event of one mission-critical data application's downtime will cost an average of \$102,450 per hour. Meanwhile, even the loss of non-mission-critical data can cost \$82,175 per hour.

Data recovery and availability are clearly important to mitigating these issues and are key components of a successful strategy. But organizations are still experiencing fundamental issues with their data management, which can hamper their operations and the company brand and represent huge financial losses. Given the damage outages can cause, it's critical that IT leaders align SLAs with business needs and use tools that can effectively support these SLAs, reducing the potential detrimental impact to the business.

\$102,450
lost per
hour during
mission-critical
application
downtime



The importance of data management to business success

Data and transformation

Despite admitting to such shortcomings, business and IT decision makers are very aware of the impact that data can have on their organizations' fortunes. In fact, almost half (44%) state that deploying smarter data management initiatives will be critical to their success during the next two years.

Almost all respondents (99%) believe that a more sophisticated approach to data management would have a positive impact on the business. In fact, nearly two-thirds (62%) say that data could have a transformational impact on their organization and its revenue streams, perhaps by enabling them to develop new services or monetize data-driven offerings.

The customer also figures prominently, with around half agreeing that deploying Intelligent Data Management can transform customer service (52%) or increase customer responsiveness (47%).

49% of business leaders believe more Intelligent Data Management will protect against disruption

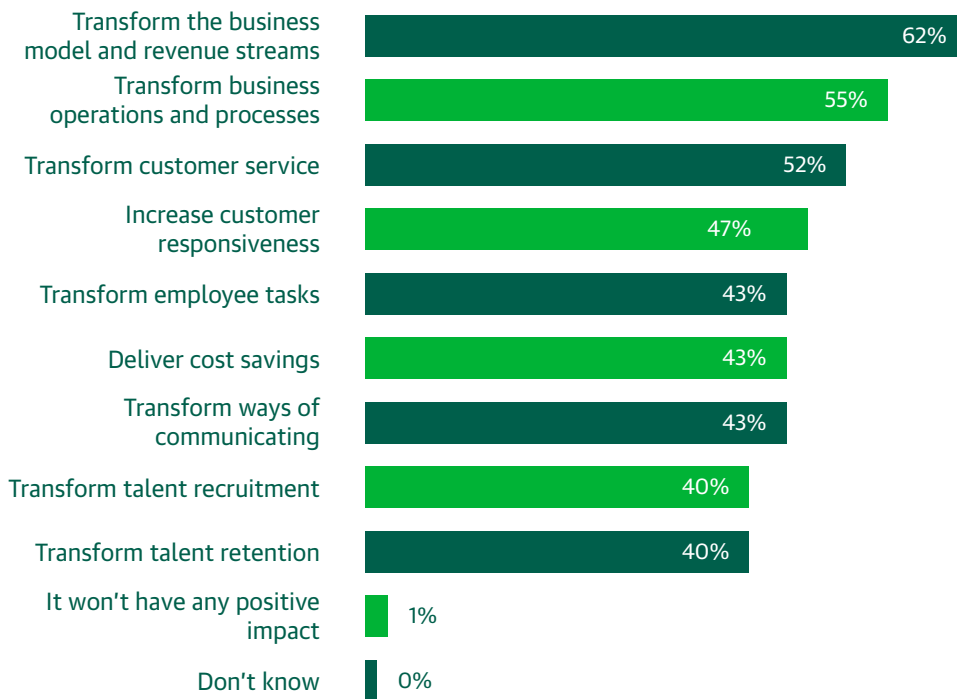


Figure 5: "What capabilities do you believe intelligent data management can have within your organization?", asked to all respondents (1,575 respondents)

More functional concerns, such as improving operations and processes (55%), transforming employee tasks (47%) and delivering cost savings (43%), also feature prominently. Perhaps as a result, most business leaders point to helping them to be more productive and efficient as the main benefit of improvements to data management. Reducing uncertainty (66%) and improving planning for the future (58%) are also key advantages.

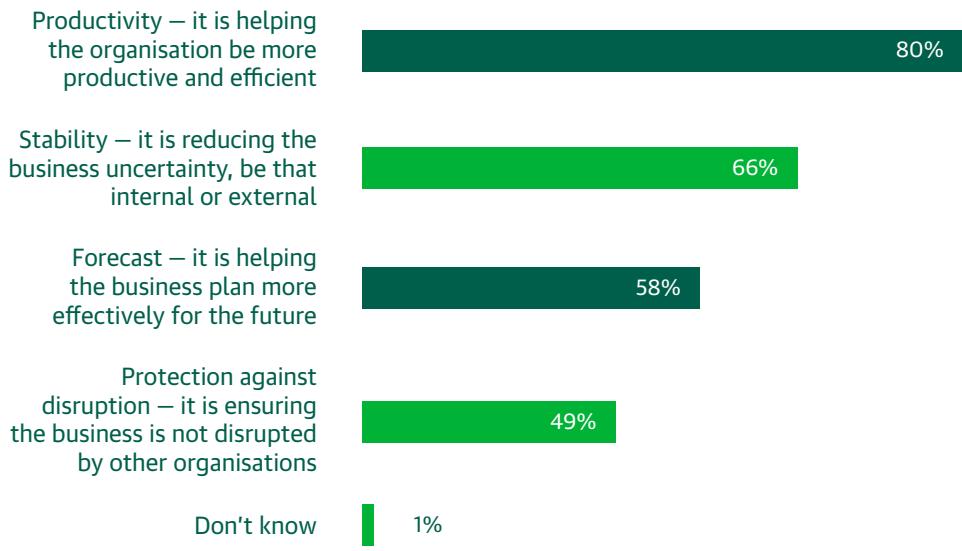
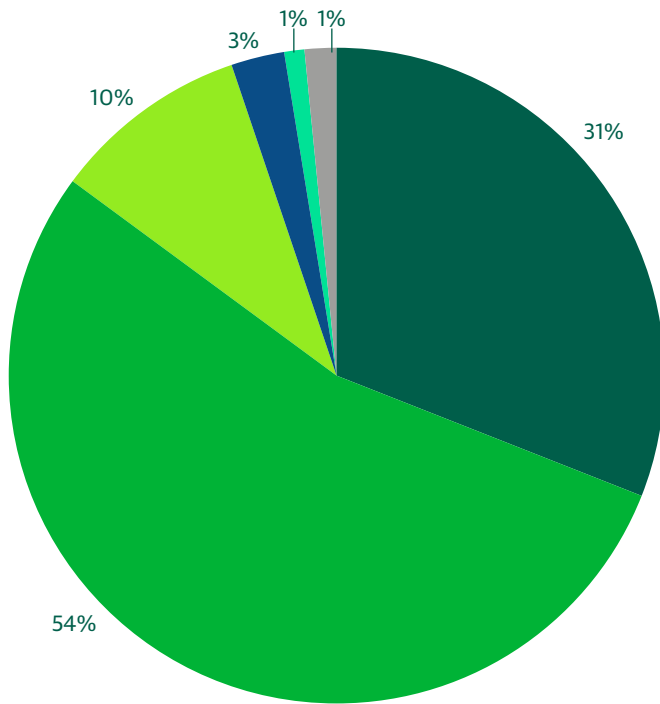


Figure 6: "In your opinion, what is/could Intelligent Data Management delivering to your business?", asked to all respondents (1,575 respondents)

Progress on the digital journey

When it comes to assessing their own progress toward that goal, most business leaders acknowledge that they are still on the journey. Over half (54%) say that they are currently implementing and executing various digital transformation initiatives.

Nearly a third (31%) describe their progress as 'mature': they have implemented and optimized several Digital Transformation initiatives. While this seems impressive, many organizations are still experiencing fundamental issues with data backups and availability, as the next chapter will explore.



- Mature –** we have implemented and optimised several digital transformation initiatives
- In process –** we are currently implementing and executing various digital transformation initiatives
- Just beginning –** we have formalised initiatives and goals, but have not begun to implement them
- Planning only –** we are just starting to discuss and formalise initiatives and goals

Figure 7: "How would you describe your organization's progress towards becoming an Intelligent Business?", asked to all respondents (1,575 respondents)

Financial rewards

Businesses agree that making more intelligent use of data can drive significant financial rewards. Amongst the businesses already using better data protection and data management solutions, leaders point to an average revenue increase of \$124m as a result (per company). And there is potential for this figure to rise significantly as more initiatives are put into place; some business leaders believe their gains could almost double to \$212m in the next 12 months. The advantages for businesses that can make the best use of data, then, are significant.



Plans for digital transformation

New technologies

Leaders have ambitious plans for driving transformation, and most leaders (71%) agree that technology will be the most important factor.

Cloud Data Management has featured prominently in businesses' investments to date; over three quarters (77%) of business leaders report using Software-as-a-Service (SaaS). A further 16% are planning to implement SaaS in the next 12 months, taking the total to 93% of organisations.

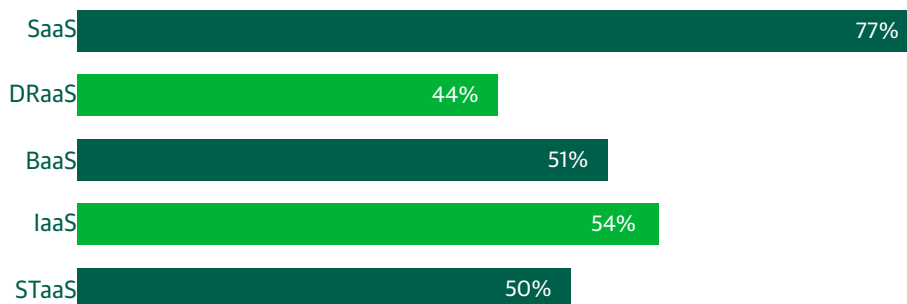


Figure 8: "What types of cloud-based services is your organisation either currently using?", asked to all respondents (1,575 respondents)

Organizations also report deploying other forms of multi-cloud solutions, including 54% using Infrastructure as a Service (IaaS), 50% using Storage as a Service (STaaS) for data protection and 47% using Platform as a Service (PaaS).

Significant proportions are planning to deploy other new technologies in the next 12 months, including:

- Artificial Intelligence (34%)
- Voice and gesture-driven technology (33%)
- Wearables (31%)
- Big data and analytics (25%)

More Intelligent Data Management

To get the full value from their digital investments, businesses will need to ensure that they have the most robust data protection and data management solutions in place — which is why many organizations are planning to invest in this area.

The vast majority (98%) of businesses are looking to deploy these kinds of capabilities so that they can respond instantly and appropriately to what happens anywhere in and across the enterprise infrastructure.

When it comes to their implementation strategy, more than half (55%) are focusing on the whole business at once. By contrast, a third are planning to launch and then scale (36%).

93% of organisations will have implemented Software-as-a-Service by the end of 2019

Realizing the value of the intelligent business

Leaders are planning to invest an average of \$41 million on deploying technologies to help transform their operations in the next 12 months. Nearly a fifth (18%) will spend between \$5 million and \$20 million on this.

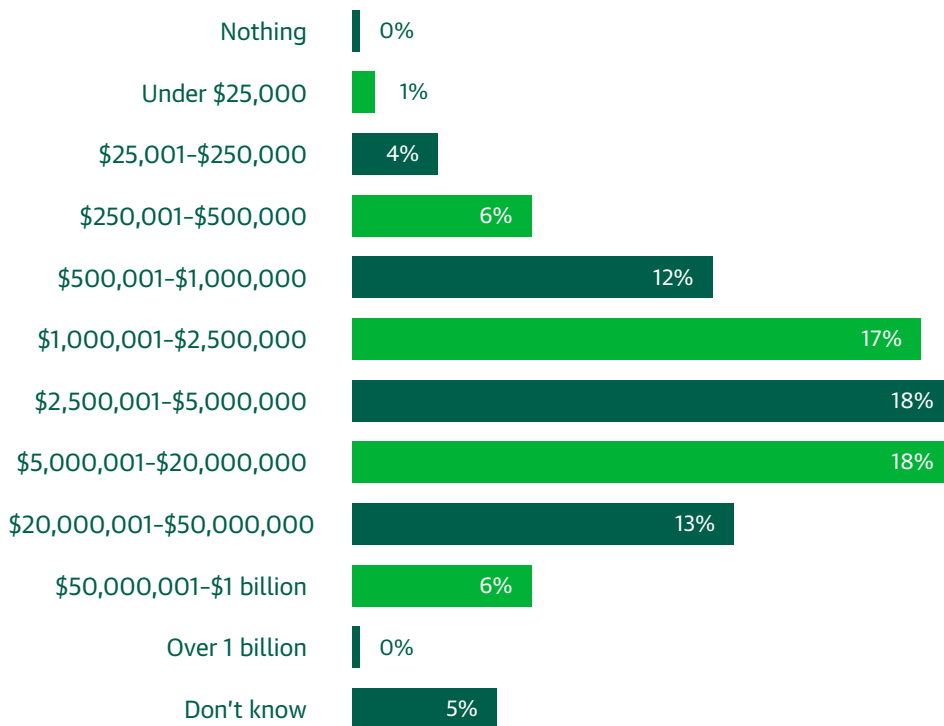


Figure 9: “Approximately, how much money does your organization intend to spend on deploying technologies to build an intelligent business within the next 12 months?”, asked to all respondents (1,575 respondents)

Once new technologies are deployed, respondents expect to see financial benefits in nine months. Meanwhile, operational benefits are expected to be seen sooner in seven months, on average.

However, business leaders acknowledge that it will take more than the technology itself to ensure that their transformation plans are a success. Skills (67%), processes (62%) and leadership (58%) will also play a significant role in becoming a more intelligent business.

By examining the attributes of businesses that have already successfully implemented comprehensive and modern data protection and data management solution components, leaders can ensure that they achieve the best results from their Digital Transformation plans.



A blueprint for success

As has been highlighted in this report, to create a more intelligent business the application of technology is essential. However, what is clear is that technology alone won't deliver success.

By examining the attributes of businesses that have already deployed Intelligent Data Management solutions, it's possible to see four common attributes that have paved the way to success. By focusing on these elements, businesses can ensure that they achieve the best practice in data management and their broader transformation strategies.

Cloud Data Management

Cloud Data Management is a key component of delivering business agility. Three-quarters of respondents (77%) report using Software as a Service (SaaS) platforms. Many are also deploying the cloud for their backup and recovery services, with 51% using Backup as a Service (BaaS) and 44% using Disaster Recovery as a Service (DRaaS). Cloud Data Management is therefore a key driver for many, as no matter where data resides, it is the company's data and must be protected.

Organizations are clearly recognizing the advantages of a cloud-based approach. Leaders cite the reliability (69%), flexibility (60%) and data security (54%) of the cloud as their main reasons for choosing it. The speed of disaster recovery (42%) was another notable reason.

Businesses that deploy cloud-based solutions across their business functions and backup and recovery strategies can realise the same advantages on their route to transforming their business.

Capabilities

Digital Transformation relies on people making the best use of new technologies – which is why the capabilities of employees is another critical competency for becoming a more intelligent business. This means that not only the skills are needed today, but into the future as well. As a result, 91% of businesses agree that upskilling existing staff in digital skills will be vital to their organization's success in the next three years.

Concerningly, more than half (57%) of all business leaders agree that there is a clear lack of the digital skills needed within their organization to handle the upcoming changes. Addressing these capabilities will be key to making the best use of data and realizing the value of digital investments.

Culture

Culture, and talent management more widely, are just as critical to business transformation as technology. Organizations are split as to whether their cultures are a strength or a weakness on their transformation journey, with a third seeing it as an opportunity (37%) and a third as a barrier (33%).

Either way, business leaders agree that company culture will need to change for them to become a more intelligent business. 69% agree that their company culture will need to become more open and accepting of new technology. There's also a link to skills, as nearly half (47%) say the business will need to embrace continuous learning.

42% say the speed of disaster recovery is why they use cloud-based technologies, suggesting that Cloud Data Management is imperative

91% agree that digital upskilling will be vital to their success in the next three years

The vast majority acknowledge that leadership styles will need to evolve too. Adaptability (76%), vision (67%) and engagement (52%) are the most common priorities for ensuring the leadership team can deliver a more intelligent business.

Confidence

Attitude is also important — and specifically confidence. Business leaders report a range of levels of confidence in their organization’s ability to meet digital challenges, with just a quarter (25%) reporting total confidence. Many leaders have a relatively high degree of confidence, as just under half (46%) say they are 80% confident they can meet all the digital challenges ahead.

By contrast, amongst the organizations who feel unable to meet all of their digital challenges, being tied to legacy systems and technology (64%), and a lack of time (52%) are identified as the most common barriers.

97% agree that leadership styles must evolve to create a more intelligent business

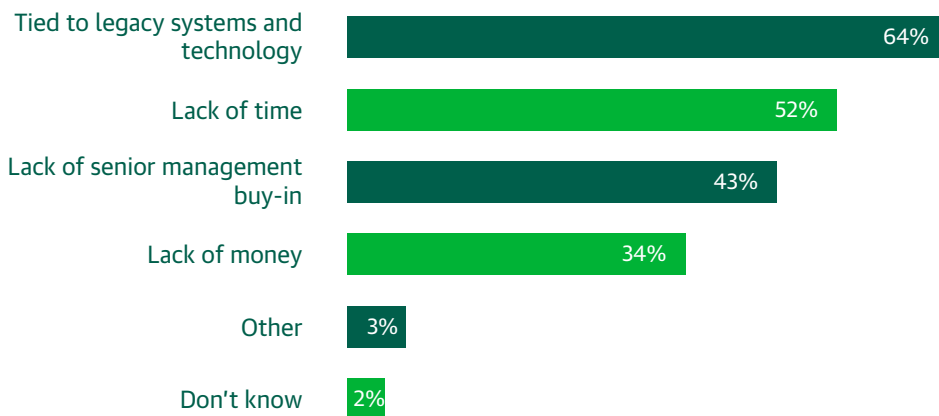


Figure 10: “Why is your organization currently unable to meet its digital challenges?”, asked to respondents who do not have total confidence that their organization is capable of fully meeting its digital challenges (1,168 respondents)

Perhaps unsurprisingly, the most confident leaders are the furthest along their digital journeys. This underlines that while transforming the business through the application of technology can be a daunting process, business leaders should take the first steps by focusing on the foundations, by improving data management, and trust that their digital confidence will improve over time.

A large green arrow pointing right, containing the word 'Conclusion' in white text.

Conclusion

Leaders rightly understand the importance of becoming a more intelligent business to their future success, and this starts with a strong data protection and data management foundation. By harnessing these capabilities, business leaders and employees will have a clearer view of what's happening across the organization, and deliver data availability, data agility, and business acceleration. This will enable the business to be more adaptive and responsive, which is critical in the current fast-changing environment.

However, at present, data management strategies can leave serious gaps when it comes to recoverability and availability. This can compromise employees, customers and the business' public standing, creating issues today and hindering future transformation plans.

The reasons behind availability and recoverability gaps are understandable:

- Many IT infrastructures have evolved rapidly in recent years, incorporating a greater number of both mission-critical applications and important data in the cloud. This has put pressure on SLAs – but IT teams may not have the budget or tools needed to deliver them.
- Many organizations haven't aligned their protection frequency or recovery mechanisms with their business units' SLAs, resulting in an availability shortfall.
- Many organizations don't have the tools in place to precisely quantify the impacts of downtime and data loss, making it difficult to secure financial and operational support for improvements to their mechanisms

To secure their future prosperity, businesses should begin by reassessing their data protection and data management strategies, focusing on the attributes of the most successful companies. That means:

- Drawing on the **cloud** to deliver flexible, reliable data availability, backup and recovery, that will grow with the business.
- Enhancing **capabilities** in the business, to ensure employees can draw on data insights and use new technologies as they are deployed.
- Creating a **culture** that is adaptable and open to new technologies, so that people can evolve with the organization.
- Fostering a sense of **confidence** in the business' digital capabilities, built on strong data foundations.

It is essential organizations put in place first a strong data management foundation, to ensure that their digital investments deliver the returns that they expect, creating a more intelligent – and more successful – business.



Next Steps

To get the right data foundations in place – and ensure the organization is ready to become a more intelligent business – there are simple steps that IT and business leaders can take.

1. Understand user needs

To ensure the viability of the IT systems that serve your employees and customers, start by recognizing that it's very likely that you are not able to meet all of your users' demands for access to applications and data. Often, businesses that lack accurate metrics or monitoring processes will presume that their systems are sufficient, only realizing that they have an issue when a critical outage takes place.

First, assume that you do have a problem, then quantify it (or disprove it). As this report shows, only a minority of organizations will find that they can sufficiently meet users' availability demands, and this is usually the result of recent investment in this area.

2. Quantify your SLAs and assess your protection mechanisms and recovery capabilities

Tolerable downtime can vary across the organization, between individual business units and sometimes even individual teams. It's important to understand the availability and protection expectations of each division, then compare your real-world capabilities. This will enable you to identify any gaps in the organization.

3. Convert your gaps into impact analyses

Conducting a business impact analysis (BIA) is important to understanding the ways that downtime and data loss can impact the organization. Recognize that there is a huge cost in doing nothing and acknowledge that downtime costs more than you think. This is accomplished by asking a number of questions about each system, including:

- What would a failure cost us in lost revenue?
- How many productive manhours would be lost?
- What would be the impact on customer confidence?
- Would our brand reputation suffer?
- Would we be subject to legal action?
- Could we lose accreditation or licenses?
- How many resources would need to be diverted from business-critical operations to find a solution?

As the first chapter of this report shows, downtime can have a wide range of sometimes unexpected consequences, so it's important to build a business case that takes them all into account. By understanding the frequency, duration and true potential impact of outages, you can more clearly understand what's needed to create an always-on enterprise.

4. Outline the steps for embracing Cloud Data Management

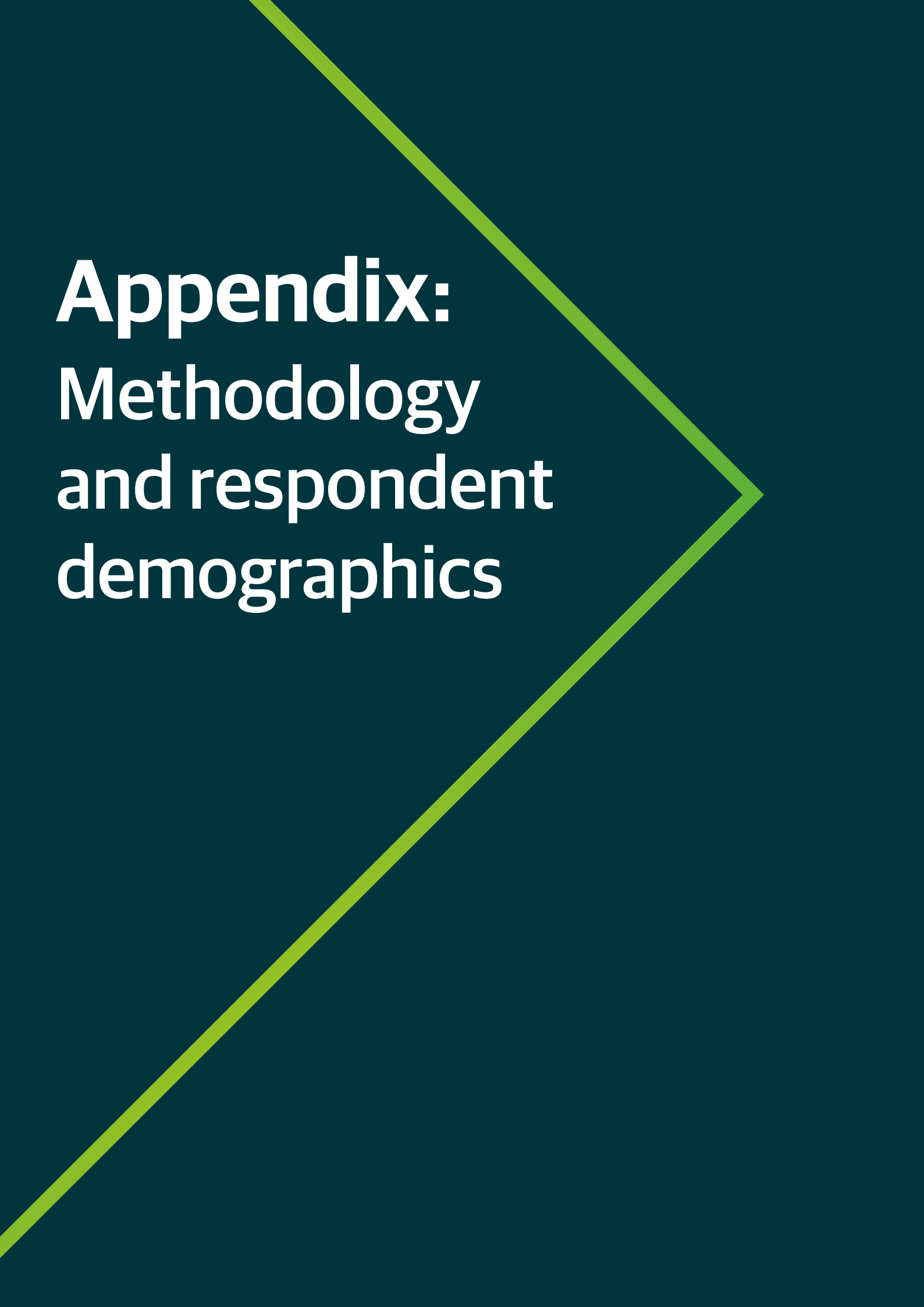
Recognise that virtualization will almost certainly be the underpinning of your infrastructure – and cloud services will play a growing role in your business. It's only then that you can work out the data availability and recovery strategy that will protect your business as it transforms.

Acknowledge that downtime and data loss are more than theoretical concepts but have business-critical impacts. A lack of agile and reliable recovery and availability mechanisms can not only compromise the business today but hinder the success of further Digital Transformation.

Understand how Cloud Data Management must underpin your future transformation ambitions – and create a strategy that will deliver it. That means:

- Backup – Back up all workloads and ensure they are always recoverable in the event of outages, attack, loss, or theft.
- Visibility – View the full breadth of your data, accompanied by the infrastructure that it passes through and resides on, so that you can pivot from reactive to proactive management for better business decisions.
- Activation – Leverage your well-managed data for additional use cases to unlock greater business value and accelerate business initiatives. DevOps, security and patch testing and compliance and governance are examples.
- Orchestration – Optimize data utilization across multi-cloud environments with workflows that ensure consistent execution of otherwise manual and complex data-management tasks.
- Automation – Data becomes self-managing by learning to protect itself with appropriate SLAs, methods and locations to meet business objectives or comply with broader IT initiatives.

Veeam refers to this journey as Cloud Data Management. Whatever you call it, the evolution from tactical data protection to more strategic data management is one of the imperative elements of any Digital Transformation journey.



Appendix:
Methodology
and respondent
demographics

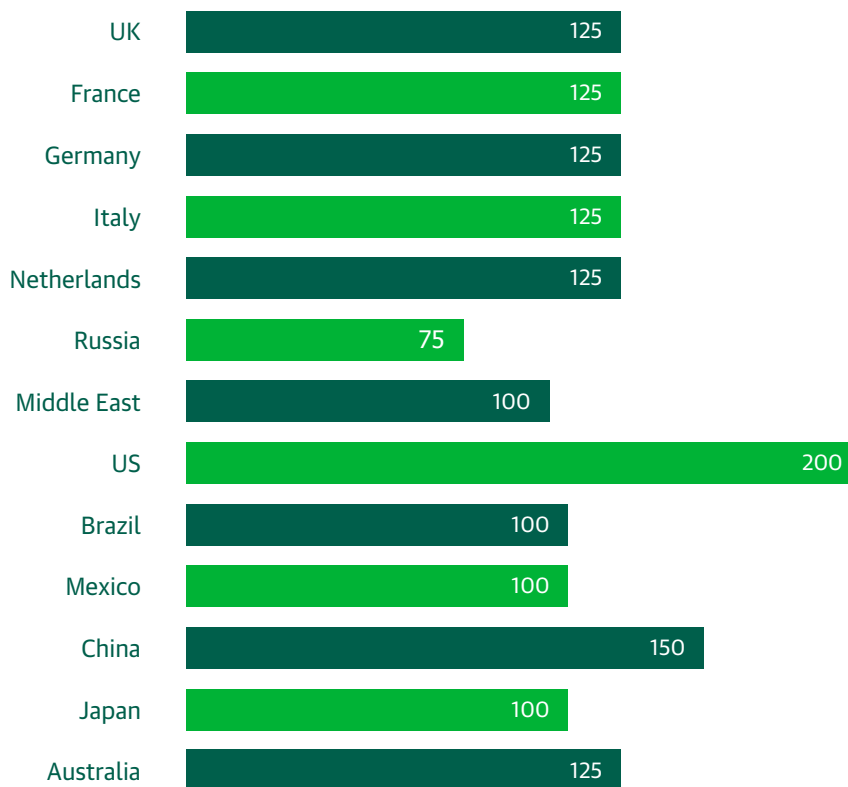
Research methodology

Veeam commissioned Vanson Bourne, a leading technology sector research partner, to execute the survey upon which this report is based.

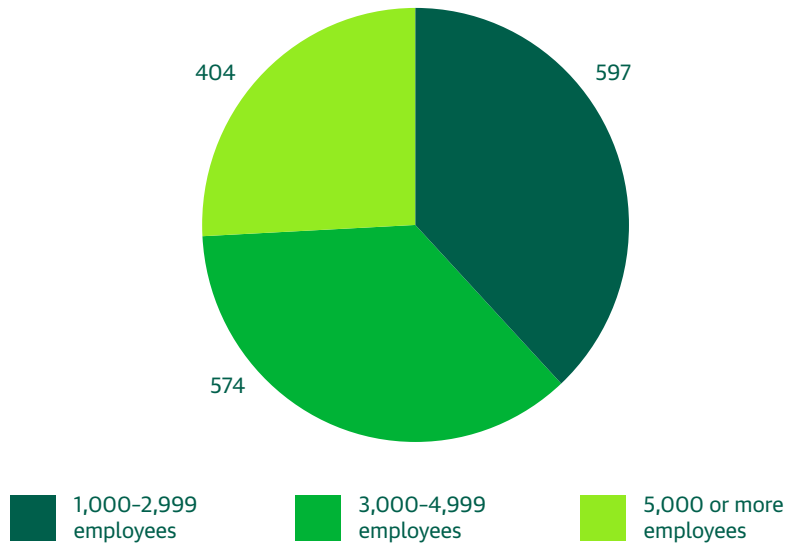
Vanson Bourne conducted a survey of 1,575 senior IT and business decision makers from organizations with at least 1,000 employees, based in 13 regions, in late 2018.

Respondent demographics

By country



By organisation size



By organisation sector

