FUJITSU

Digital infrastructure of the future: here's what you need to know

Tim Moody
Head of Strategy
Fujitsu Uvance Hybrid IT
& Fujitsu Fellow

There are countless worries on the horizon for businesses: from the uncertain economy, talent retention and increasingly complex cyber attacks, to the deteriorating condition of our planet and the extreme side effects emerging as a consequence.

The remit of business resilience is beginning to fall beyond the walls of the workplace and into the good of greater society. It's precisely because of the changing responsibility of businesses that organizations, such as the UN, have urged a new era of digital cooperation to promote sustainability and equity worldwide.

Enabling this international collaboration requires effective digital infrastructure that ensures resilience, accounting for future risks and uncertainties. Here's what you need to know about the future of digital infrastructure to support your organization, its contribution to sustainability and equity, and to whether the unpredictable business climate.
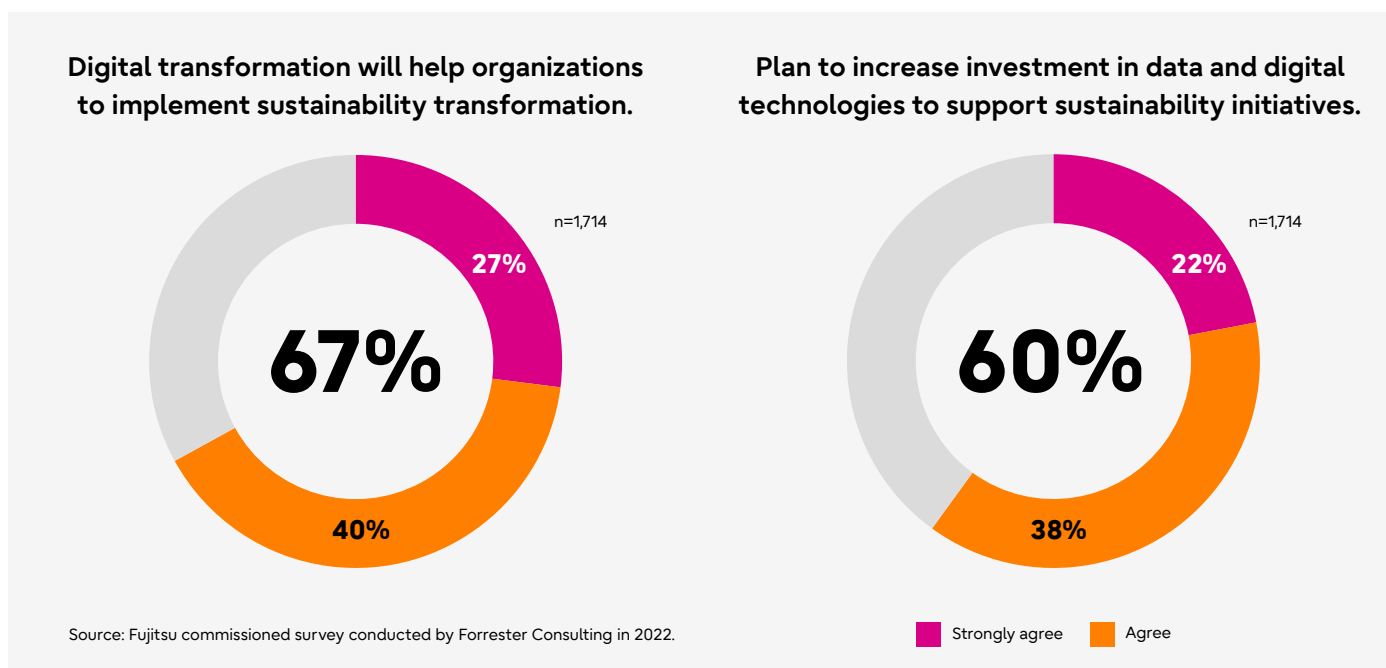
1. Digital maturity and sustainable innovation go hand-in-hand

Not all new technologies will have the same, transformative impact on an organization's digital capabilities. In fact, our research in partnership with Forrester Consulting last year found **a strong correlation** between the maturity of sustainability transformation and digital transformation.

Sustainability transformation can take many forms within an organization – be it reducing energy usage and CO_2 emissions or decreasing waste – but ultimately, we're talking about transforming businesses to bring about positive change in our environment, society and economies.

And, as it turns out, digital transformation is a key enabler for sustainability transformation. Our findings shone a light on the critical role digital capabilities can play in driving sustainability transformation – revealing that sustainability-mature organizations are also mature in their digital transformation, with agile practices and robust data-driven capabilities that enable initiatives to be scaled effectively:

Digital transformation will help organizations to implement sustainability transformation.

n=1,714

27%

67%

40%

Source: Fujitsu commissioned survey conducted by Forrester Consulting in 2022.

Plan to increase investment in data and digital technologies to support sustainability initiatives.

n=1,714

22%

60%

38%

■ Strongly agree   ■ Agree

Put simply, it's clear that digitally mature organizations are better prepared to transform their businesses to deliver sustainable innovation as well. This is because, at the core of successful digital transformation, is the goal to fundamentally change the way an organization operates so it can be reinvented. It's the will to do better – by customers, employees and wider society – and ensure business resiliency that stacks up against competition and external pressures.

When it comes to corporate sustainability, incremental change is no longer enough. More and more leaders are realizing that future-proofing their business requires a full transformation with a strategic and holistic approach to sustainability throughout their operations. And, globally, we need to move fast to meet ever-evolving ESG targets, initiatives and regulations. So, while there's much work to be done, the good news is we already have the tools to achieve sustainable transformation.

At Fujitsu, we are committed to driving sustainability transformation for our customers through digital innovation. That's why we launched **Fujitsu Uvance** to help customers take advantage of innovative solutions that address their business challenges while also solving societal issues. Through Fujitsu Uvance, we connect companies across industries to harness their strengths and create real, positive change – for today and tomorrow.

"From my conversations on podcasts, Climate 21 and the digital supply chain, it is clear that the sustainability journey and the digitization journey are inextricably linked for organizations. Because sustainability initiatives require the measuring and reporting of data across many organizational boundaries, this necessitates a high level of digitization. In addition, high levels of digitization can yield significant efficiency, and dematerialization gains, further enhancing sustainability initiatives."

Tom Raftery
Sustainability, Supply Chain, Technology, Storyteller, Thought Leader & Influencer

2. Cloud: accelerated usage with increased complexity

By 2024, 64% of enterprises are predicted to have modernized at least half of their infrastructure to the cloud, according to IDC's Managed CloudView survey. This points towards rapid acceleration, evidenced by the significant increase in total contract value of Managed Cloud Services within the top 100 Managed Services deals globally– reaching $17.4 billion in 2021, up from $16 billion in 2020.

It's an understatement to say the use of cloud accelerated during the pandemic, but its adoption has yet to slow down. Digital and cloud technologies and disciplines are vital for business transformation. And, indeed, many technologies are now positioned specifically as transformation accelerators, such as 5G, Edge and High Performance Computing (HPC).

The application of cloud technologies has widespread advantages for businesses – from everyday marketing operations to ensuring safety and compliance on the production floor. For instance, we've seen 5G deployed to become a 'Smart Factory' and increase the precision and automation of operations in its manufacturing processes. And another example is to track and monitor factory employees to make sure they don't enter dangerous environments when machinery's being operated.

But with the increased need for cloud-based operations to support transformation comes the growing complexity of cloud environments. A rise in demand for hybrid and multi-cloud services isn't always matched by the required levels of cloud maturity – particularly when it comes to the consistency of data and security among different cloud environments. Organizations require flexible, secure and agile services that facilitate an infrastructure that can keep pace and scale to meet demands, today and tomorrow.

3. Secure access versus new technology

An increase in cloud adoption also brings a rise in the risk associated with digital business operations. A broader IT estate – encompassing both private data centers and hyper scaler cloud services – means managing a wider threat surface with new and evolving vulnerabilities.

Business-wide data is moving from on-premise, in-house centers to being housed by cloud-based third-party operators. So, the challenge for businesses is managing data access while also ensuring that all compliance and data privacy requirements are met on all platforms and infrastructures.

Identity and Access Management and the use of encryption data is vital for organizations looking to ensure that only the right people have access to the right data, for the right reasons. By taking these kinds of precautions, businesses can reduce the risk of cyber threats with thorough monitoring and cyber intelligence to increase their business' resilience.

But resilience is not only related to cyber attacks. Today's organizations also need to cope with network and server-based storage outages – ensuring business continuity and disaster recovery are always in place.

All this combined means IT professionals are tasked with continuously balancing the desire for new technology to support innovation with the need to keep the business secure. And the stakes are high, because getting it wrong runs the risk of detrimentally impacting a brand's reputation and negatively effecting the businesses bottom line.

It's critical that, when faced with new technologies to implement, organizations do not compromise on data security, privacy or infrastructure security. All security standards need to be extended to new environments and technologies, with data and infrastructure security being a top consideration from the start to avoid costly updates further down the line.

Plus, with new value being created by broad supply chains and partner ecosystems the need to strike the necessary balance between new technologies and secure practice requires considerable collaboration and coordination. Here, IT service providers and users must work together to create governance rules and policies that are met across their entire ecosystem. With this in place, every company can confidently and securely use cloud-technologies to fuel critical insights.

4. Balancing business innovation with cloud cost management

As we continue to face economic downturn, optimizing and managing costs will be a top priority for businesses. But how does this goal interact with an organization's infrastructure?

Today's businesses have many options when it comes to infrastructure solutions. There's been a shift to pay-as-you-go services, meaning more opportunities to innovate and cherry-pick the solutions that will work best for an organization's specific needs.

Practically, this shift has enabled businesses to adopt a more flexible, scalable attitude to the cloud solutions they use. It significantly reduces the large, upfront investment by enabling businesses to pay on a smaller proportion on a subscription basis.

But the move to pay-as-you-go also presents a challenge for organizations: if the management of cloud services isn't tightly controlled, businesses can quickly find themselves paying for solutions they hardly use or that haven't adjusted to a shrink in workload.

Budget benefits are only accessible when organizations manage their workloads and cloud capabilities tightly. So, at Fujitsu, we help customers optimize their use of cloud by making sure that when assets aren't highly utilized, they're switched off. Our customers can actively reduce costs and align the technologies they want and use to their business value.

It's too simple to say 'cost reduction will be a critical part of digital infrastructure development in the future,' because it's more than that. Reducing costs for cloud services is about aligning where an organization is spending to value for the business.

This was exactly what [England's Environment Agency](#) was after in its efforts to protect and improve the environment for people and wildlife while reducing the impact of flooding and promoting sustainable development. With help from Fujitsu and AWS, we were able to integrate seamlessly into the Environment Agency's existing cloud solution to create a highly resilient multi-cloud estate – improving services to reduce annual software licensing costs while supporting innovation of services on the cloud.

With economic uncertainty increasing, the competitive business landscape is especially unlikely to slow down. Businesses need to be able to continue to innovate at pace. And that means balancing value for money with value for opportunity to develop products and services that continue to outstrip competitors.

HMRC, UK's tax, payments and customs authority, has the vision to become a digitally-advanced tax administration. As part of this, they needed to transform legacy systems to public and private cloud and 13 business services were migrated to Azure Cloud. The project significantly improved processes and helped enhance HMRC's technical capabilities.

> **"Fujitsu and HMRC worked seamlessly together to ensure the smooth migration of these vital services without disrupting the business. It sets us in good stead for future projects and gives our users today a better experience and improved performance."**
>
> **Jo Connew**
> SOTF Programme Director at HMRC

5. Cloud skills and talent are in short supply

As organizations embark on digital transformation and seek to innovate, they are opening up market opportunities and increasing the demand for digital talent.

And while the introduction of new solutions will help organizations remain competitive, the global skills shortage associated with new technologies presents a significant challenge.

Many businesses may struggle to keep up with the market demand for hybrid IT services, and when it comes to security, the short supply of skills versus the increasingly high demand for secure data management and off-premise accessibility is stark.

For organizations looking to benefit from new technologies to disrupt the market, this lack of talent will prove difficult for businesses to take advantage. And without internal resource and technical expertise, combined with a lack of management tools, organization's investment in cutting-edge solutions will also be challenged – placing a barrier on future innovation and opportunities for wider market growth.

Third parties, like Fujitsu, will continue to step up to help organizations overcome these challenges – defining their strategies more efficiently and ensuring the right expertise is on hand. For instance, Fujitsu provides technical support with software and library installation and tuning services enabling businesses to maximize the performance of HPC without training or securing engineers. In essence, finding the right partners to support in sharing skills and solutions will be paramount to successful future operations.

Why is now the right time to embrace digital infrastructure innovations?

In essence, businesses can't afford not to invest in innovation right now. In such a competitive environment, companies differentiate based on their use of technology and their ability to innovate new products and services that anticipate customers – where and how they want to be met.

The need to strengthen digital infrastructure, from increased cyber security to sustainable transformation, to be more resilient and adapt rapidly to future business disruptions is critical as we look ahead to next year and beyond. And cloud is at the heart of a fully resilient digital infrastructure, with continuous enhancement, consistent resilience with appropriate security and resource optimization.

But balance is critical. Which means, reducing operational costs by removing solutions or tools that aren't aligned to driving business value and increasing the amount of investment into business-aligned capabilities. As we begin a new year, it's really a matter of 'have to,' rather than finding the right time for it.

Get in touch to learn more about how you can improve your digital infrastructure and build resilience into your organization's everyday operations.

Click here