Digital Frontiers 4.0

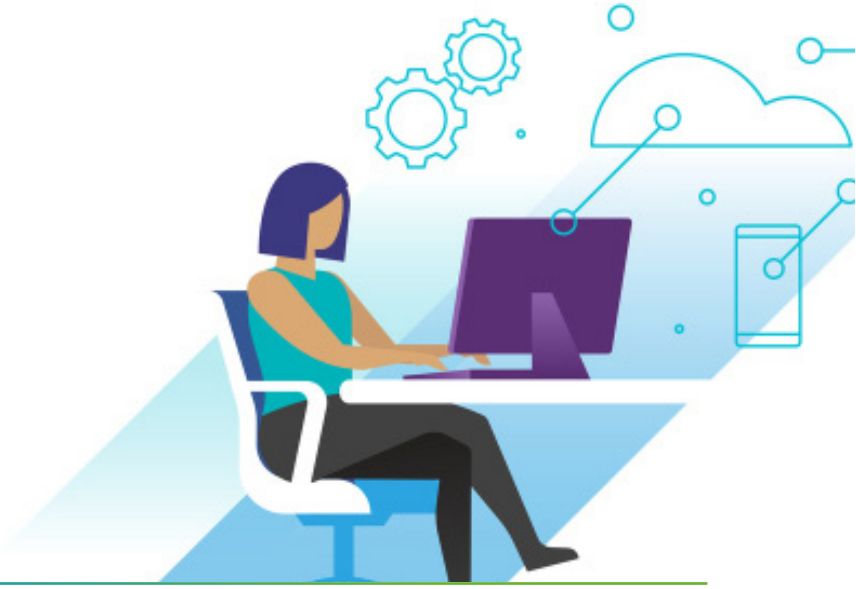
Will technology progress be stifled by data mistrust?

A look into European consumers' relationship with technology and data

Welcome to Digital Frontiers 4.0

As an annual survey of European consumers, Digital Frontiers aims to uncover consumer appetite and attitudes towards emerging technologies. In this year's study, we uncover a growing mistrust around who has access to, manages and stores the one thing technology can't live without – data – and how this could compromise growing digital economies.

Conducted by YouGov, and commissioned by VMware, Digital Frontiers represents the views of more than 6,000 consumers in France, UK, Germany, Italy, and Spain.



Digital Frontiers 4.0 Unlocking Europe's data potential – but at what cost?

We have reached a decisive moment in how technology innovation and digital experiences can positively shape our lives, economies, society, and planet.

Consumers have a great appetite for digital services and experiences - in the way they shop, bank, and engage with local government and healthcare providers— all which have seen digital acceleration over the past two years.

But consumers also have a mistrust in sharing their data – when they don't know who has it and what it's being used for. Typically, people's only point of reference to data is when data breaches hit the newspapers – and not how integral data intelligence is in our daily lives and how it is used to forge new frontiers: in medicine, in education, in entertainment and so much more.

This data is the essential ingredient to ensuring the potential of technologies, like Artificial Intelligence and Machine Learning, can be realised. Without it, these technologies will quickly fail to deliver on their promise – and continue to be misunderstood by consumers.

So, the challenge and opportunity for businesses, the technology industry and government lie in helping consumers become more aware and confident of how their data is being used.

Unlocking the value of data could be worth Euro 550 billion to the EU by 2025 – a driver for digital economies - but consumers must be onboard to participate and fuel digital adoption. Two thirds (66%) of European consumers state they don't know who has access to their personal data and how it's used – just 12% do with any certainty.

Lack of knowledge on how personal data is used and why is breeding mistrust between consumers and organisations

While there is an appetite for digital services and experience, consumers are in the dark as to what happens to their personal data when organisations ask for it. They feel there is a lack of clarity and sometimes transparency on how exactly this data is used, handled, and protected by organisations, thus making them reluctant digital participants.

Only 10% believe governments are clear enough on the technologies they use and how they use them – the same for businesses

58% are now increasingly concerned about the security of their online digital footprint

48% feel paranoid organisations are recording what they do on their devices

72% are concerned about the role of technology in spreading misinformation

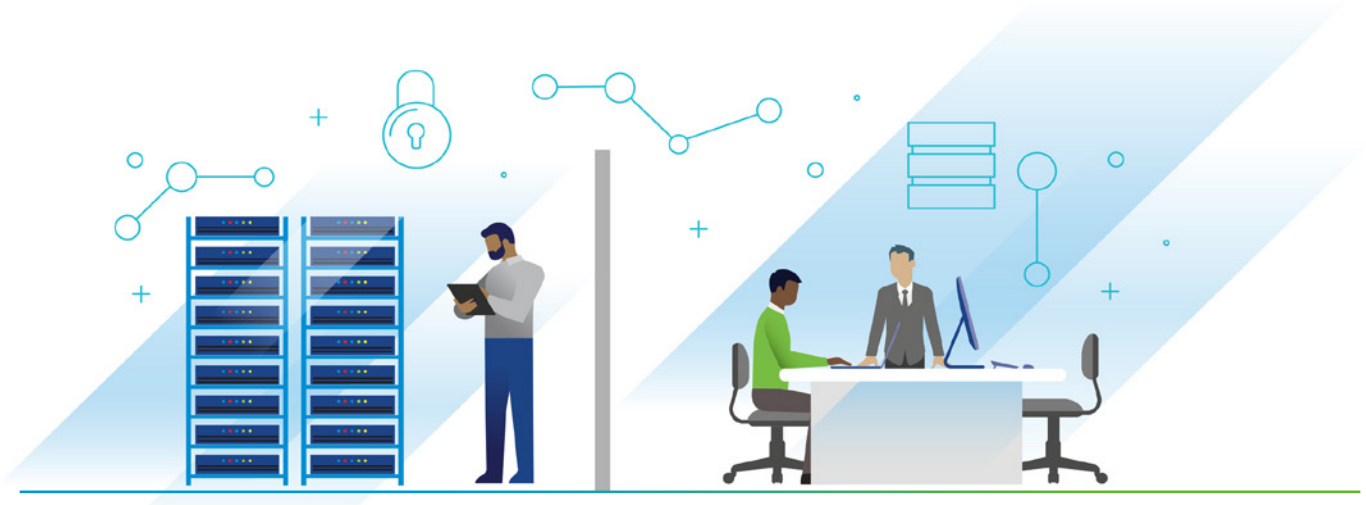
60% are scared or uncomfortable sharing their personal day-to-day data to help governments and companies design smarter and greener infrastructure

BUT

60% believe that technology can contribute to the digital progress of their country by creating new jobs and livelihoods

68% want technology innovation focused on making our world better, rather than focusing on extravagances such as space tourism (6%)

47% acknowledge that tech innovation pushing boundaries is scary, yet necessary, to improving citizen and society wellbeing



Distrust vs. Convenience

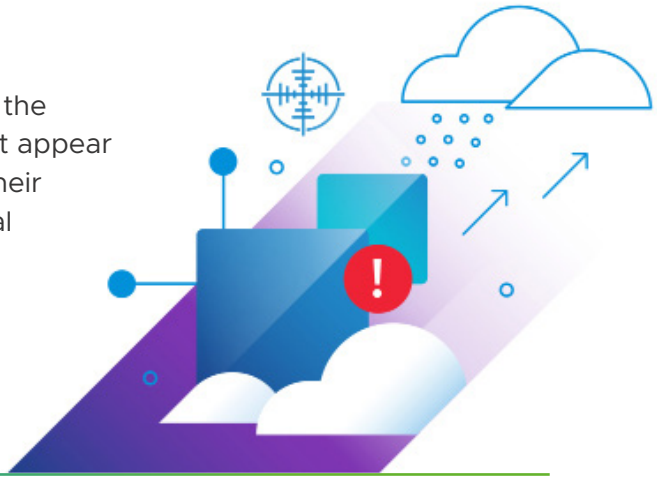
Despite a clear mistrust in how organisations use their data:

43% of respondents still have profiles on social media knowing that this could compromise personal data

40% accept all cookies with no regards to their own privacy

35% either don't care about the impact or won't change their behaviour, when reminded about how their online behaviour puts their data at risk

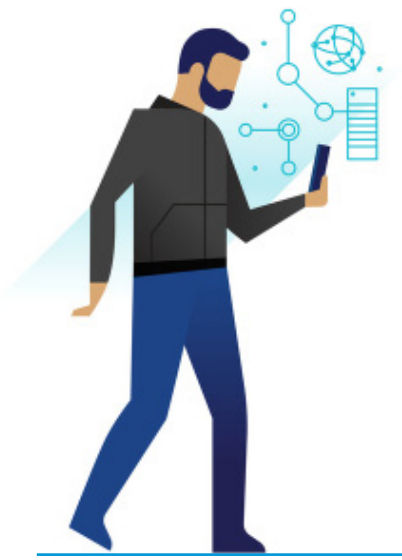
Consumers don't have the same mistrust when it comes to the convenience of online pursuits and social media. They don't appear to be taking the available and necessary steps to protect their privacy, for example when sharing personal details on social media, thus remaining potential targets to scammers or identity theft. This suggests there is a lack of awareness about where their data is, how exposed it is, and how people can use it – for good or bad.



Ethics vs. Convenience

When it comes to the planet, we all want to do our part to help live a greener, cleaner life. But when asked if they would change their behaviour when informed of the potential emissions their activity has, few would actually change what they do.

What emerges is a distinct gap between intent versus actions, where only a minority would change their behaviour to mitigate the environmental impact their actions have:

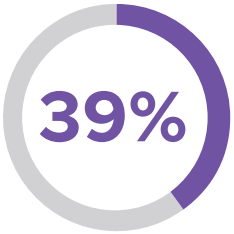


- Encouragingly, only 14% say they would sacrifice ethical behaviour (e.g. protecting the environment, not shopping with a company with a negative reputation) for the sake of convenience, speed and cost
- But, when informed of the carbon impact of activities like music/film streaming and buying clothes online, less than a third (31%) said they would change their behaviour as a result

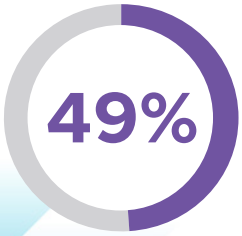
While consumers are positive about the support and enhancements that technology can bring to their experience with everyday services, they are far from ready to give up on human interactions.

Healthcare: technology is here to assist humans, not to replace them

Human intervention remains important when it comes to healthcare. People see the value of technology to assist, support and strengthen how healthcare is delivered but they don't want digital technology – not matter how crucial – to replace human contact. It is a case of digital AND human and not a case of OR.



of citizens feel scared / nervous / uncomfortable at the idea of being diagnosed by a computer over a human doctor, even if it meant the computer could detect things a human could not



feel comfortable or excited about having a more qualified doctor conducting invasive surgery via remote robotics than a less-qualified doctor conducting it in person

almost two-thirds feel comfortable / excited at having sensors and real-time data monitoring in place for a family member to predict when they will need medical assistance

An early adopter of AI, University Hospital Essen is now a leader in the use of artificial intelligence in medicine. AI enables doctors to diagnose and create treatment plans through cognitive computer systems.

"

We want to do precision medicine and treat each patient as an individual. If we miss data or we don't have the full picture about the patient, this approach fails. Having all of data accessible, we can apply clinical decision support systems and AI-based applications that really help us to…provide them the best treatment we can.

"

Dr. Felix Nensa, radiologist at Essen University Hospital and group leader at the Institute for Artificial Intelligence in Medicine

Source: https://www.gehealthcare.com/article/planet-of-the-apps-how-a-new-digital-health-platform-will-help-providers-make-smarter-use-of-patient-data

Financial Services: technology as a bonus

Consumers acknowledge that finance related digital services are driving accessibility and personalization. But in a rush to implement technology-led services, businesses must remember that customers still crave the human touch when they run into problems.

33% would trust an app to manage all their finances if it meant it generated greater returns each month

40% agree that in-person interaction in financial services is almost dead...

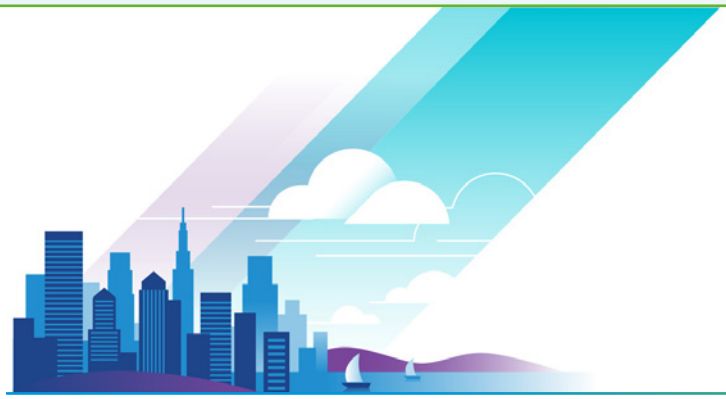
BUT

29% less than a third would choose a different bank / financial service provider on the sole ground that theirs it's not fully available online

65% two-thirds expect the financial services industry to support long-standing traditional/ in-person services that they may not rely on, but know other people may

Achmea has a leading position in the Dutch insurance market, with 10 million customers. The insurer makes use of technology and data in a clever way that allows it to quickly add new services or make changes based on customer feedback. Innovations to speed up its claim processes include an app for policyholders to help them find local tradesmen for repairs through to the use of drones to survey weather damage of properties.

Source: https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/customers/vmw-achmea-casestudy.pdf

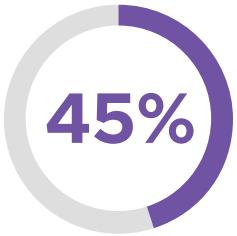


Retail: The retail experience won't be fully autonomous anytime soon

The retail industry has often pushed the technology boundaries – and while technology is expected to make the overall purchasing experience better, human interactions remain extremely important in the eye of consumers.

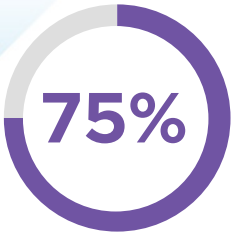
Omnichannel approaches have brought a great deal of satisfaction to the customer, making the ever complex customer journey more integrated, seamless, and engaging by incorporating advanced technology such as VR dressing rooms, and contactless stores. But these are considered 'extras' and shouldn't be taken at a cost of doing the basics, like a human point of contact, when things go wrong.

more than a third of consumers would pay more for clothes that have had retail technology analyse and approve their origin



almost half would welcome an augmented/virtual reality dressing room, so they can see what the outfit would look like in their size and fit without having to get changed

BUT



three-quarters still want to be able to speak with a person (either in chat or on phone) because chatbots can't provide the level of service they need

Carrefour, the global leading retailer, is putting technology at the heart of its development strategy. The company is focused on implementing new digital platforms by 2026, adopting the cloud on a massive scale and placing digital and data at the heart of its operations to deliver a true omnichannel experience.

"

Our data-centric, digital-first approach helps us to offer customers a more relevant, comfortable and innovative shopping experience, whether they are in a physical shop or online. Whether it's digital personal assistants when shopping online or eco-friendly checkouts in-store, these technological innovations are really popular with our customers.

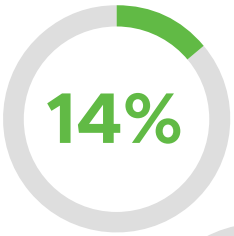
"

Damien Cazenave, CTO & CISO, Carrefour France

Public Services: Trust in government services is low, but not irreparable

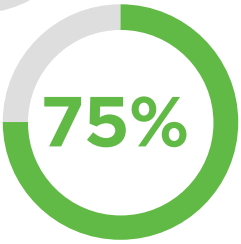
If you were to ask consumers which organisations they are least likely to trust with their data, governments would come somewhere near the top. This is a particularly sensitive issue post-pandemic when many feel data has been manipulated, misused, and miscommunicated, eroding any trust or goodwill that may have been established.

While there is hope that this trust can be rebuilt, consumes remain concerned:



less than one in five trust the government to improve personal level of digital literacy

feel scared or nervous at the idea of sharing personal data with governments, even if it meant this data could help design smarter and greener infrastructure for people's cities



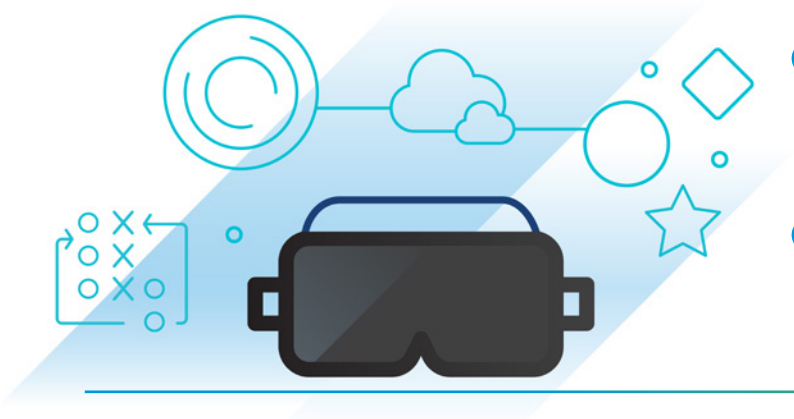
three-quarters agree that connectivity in rural areas must improve for this country to truly be considered digital

The Metaverse: An uphill battle before consumers take it seriously

The promise and potential of the metaverse hits the headlines every other week. But whether consumers are ready to experience a new immersive world, or trust the companies to govern it, remains to be seen.

In this study, by the term 'metaverse' we are referring to a virtual-reality environment that combines aspects of social media, online gaming and more and where people can access this by using immersive headsets.

Today, just 13% believe the metaverse will be good for society in the future:



- Despite the hype, if given an hour extra a day, only 10% of consumers would rather spend it exploring the metaverse than the physical world
- In fact, 29% believe the metaverse will exist only as a place to offer solace away from the physical world they live in

For more than 100 years, Netherlands Cancer Institute (NKI) has led the world in cutting-edge research to increase global understanding of the disease.

“

Whether it’s analysis of cancer cells or patient scans, NKI strongly believes that innovations like AI will play an increasingly important role in the future of cancer research, diagnostics, and treatment.

“

Roel Sijstermans, Head of IT, Netherlands Cancer Institute

Source: https://resources.nvidia.com/en-us-vmware/vgpu-netherlands-can

Are we all on the same Digital Frontier?

We in the industry and government must take an active role in helping consumers become more aware and confident about data, so we can collectively help boost digital economies. We can do this by building solutions rooted in individual choice and control over data; inspiring and educating to help foster a technology-literate population; and building confidence that the parties handling sensitive data are fit to do so.

The past two years have seen a seismic shift towards a truly digital-first world, but now we need to reset and realign to usher in the next frontier of innovation.

Methodology

This survey has been conducted using an online interview administered to a panel of more than 6 000 members who have agreed to take part in surveys. Emails are sent to panellists selected at random from a base sample of more than 800 000 members. Once a panel member clicks on the link they are sent to the survey that they are required for, according to the sample definition and quotas. (The sample definition could be “GB adult population” or a subset such as “GB adult females”). The responding sample is weighted to the profile of the sample definition to provide a representative reporting sample. The profile is normally derived from census data or, if not available from the census, from industry accepted data.

Sample sizes

- UK: 2060
- Germany: 1030
- France: 1024
- Italy: 1021
- Spain: 1020