DIGITAL TRANSFORMATION

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CHANGE MANAGEMENT

Why transformation failure rates are at an alarming high

Most projects are falling well short of their advertised objectives. One fundamental reason for this is that firms are generally poor at enterprise-wide change management

Sean Hargrave

Digital transformations will always have a lot to live up to. The executives responsible for leading these projects must first convince their boards of the benefits, so they are likely to fixate on the best-case scenarios that IT providers and consultants optimistically provide. Their clarion call is that going digital will create new income streams, improve productivity and reduce costs. But the results often aren't quite so impressive.

A 2022 McKinsey study covering 600-plus firms that had recently undergone digital transformations quantified the gap between expectation and reality – and found it to be wider than many might have suspected. Only 20% of the firms achieved more than three-quarters of the revenue gains they had anticipated before embarking on their projects, while only 17% achieved more than three-quarters of the cost savings they'd hoped for.
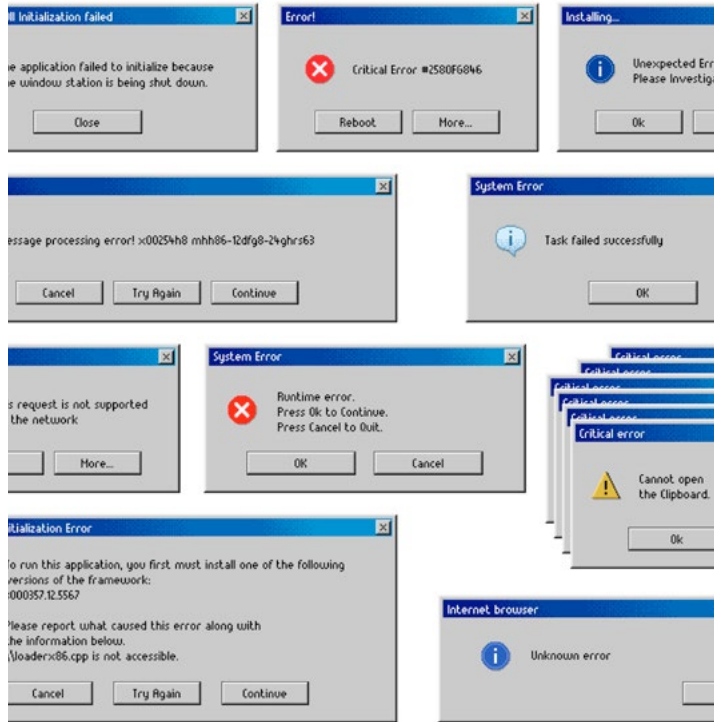
Why are so many transformations falling far short of expectations? Experts put it down to basic flaws in how businesses research, commission and implement such projects.

For Ruben Schaubroeck, a senior partner at McKinsey, the fundamental problem is that many firms don't understand how to embed change across the whole organisation.

"A lot of businesses simply aren't structurally ready for what they're trying to achieve," he says. "Many will do something on the surface, such as developing an app that makes them look easier to work with, but underneath they haven't rewired the company. This is about change management. Firms that want successful digital transformations must go deeper by ensuring that they have modern systems throughout their technology estate and equipping their people with the skills to operate them."

Michael Rendell, partner at transformation consultancy MonstarLab, agrees. Many such projects aren't helped by external IT consultants who predict exciting benefits that they won't be around long enough to ensure, he says, but the main problem is that new technological capabilities are rarely delivered in a coordinated way.

"The fundamental issue preventing many digital transformations from delivering their promised gains is that organisations are very bad at connecting strands," Rendell says. "A company might put in a new system that works well in one area but later causes a problem in another part of the business that isn't ready to work at a faster pace. Certain workflows can be accelerated, and new services and capabilities added, merely for customers to join a queue further down the line a little faster than before."

Consider, for instance, an insurance company that has adopted new technology that enables it to deal with incoming claim forms much more quickly than before. While the initial handling of claims has been improved by virtue of a digital transformation, the verification process – which still requires human input – has not. So, after a faster initial processing experience, the forms will simply join the queue to be checked by a claims assessor, who continues working at the same pace as always. The firm hasn't eliminated the bottleneck; it's simply shifted it to the next stage of the operation.

The answer is to better align a process that's being improved with what comes before and after it. For this to happen, digital transformations must be adaptable enough to solve the new problems that surface as they proceed. As Rendell puts it, such projects need to be "more directional than directed".

Another basic problem with many transformations is that, by pursuing the ambitious gains sought by their leaders from the conceptual stage, firms may inadvertently adopt strategies that are bound to fail.

Anthony Loy, vice-president of industrial digital transformation consulting at Schneider Electric, has run several projects, both internal and external, over the years. In his experience, companies are too focused on headline figures. This can cause them to pursue the wrong targets and/or become too cautious to activate new work.

"There is a time for reflection, but there is a time to execute," Loy stresses. "Too many companies defer action because a new piece of technology emerges, rendering a project more expensive and delaying it. You have to act promptly and then maybe include that new capability in a later iteration."

Often, a company will focus on the wrong project in the wrong area, he observes. Organisations tend to be "attracted to the big projects that might deliver massive savings, but these are often too complicated and unrealistic. You're better off going for several small gains than attempting a single huge one. Target saving 1% 20 times, rather than 20% once."
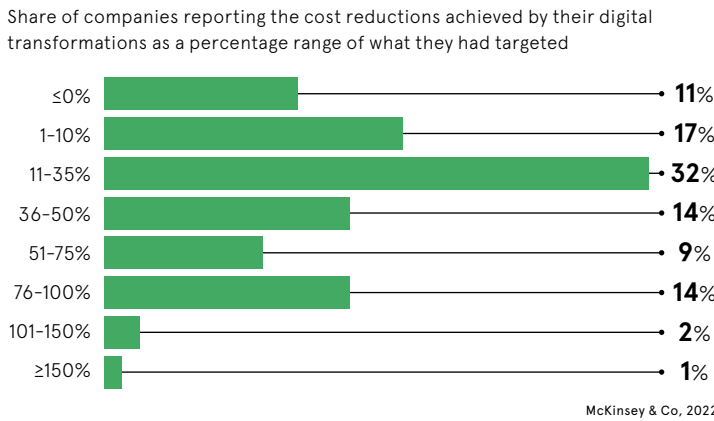
Loy continues: "Companies often want to start in their showcase location, because that's where they're based, but HQ is typically not where digital transformations can make the biggest impact. In my experience, it pays to start further away."

The general message from experts who have led digital transformations, both from within companies and through consultancies, is clear: organisations must adopt a holistic approach. They need to use tools that connect functions so that, when a transformation is delivered, its success can be enjoyed throughout the enterprise. Those that fail to do this will tend to find that the new tech they have adopted will simply move bottlenecks further along a process.

And business leaders also need to be more realistic about what such projects can achieve. They must question the benefits being touted. A digital transformation can deliver great value and a much better customer experience, but experts in the field warn that the proper groundwork must be laid before any of that can be achieved.

It's far more helpful to think of a digital transformation as an ongoing commitment than a huge standalone project. By making refinements in manageable steps, firms will start to derive value. As they do, they become more digital businesses, thereby providing a more suitable launchpad for transformation projects to come. ●

MOST DIGITAL TRANSFORMATIONS ARE A DISAPPOINTMENT

Share of companies reporting the cost reductions achieved by their digital transformations as a percentage range of what they had targeted

Range	Share
≤0%	11%
1–10%	17%
11–35%	32%
36–50%	14%
51–75%	9%
76–100%	14%
101–150%	2%
≥150%	1%

McKinsey & Co, 2022

'AI is here to stay, so businesses must get to grips with it'

Rohan Banerjee, Raconteur's senior writer, analyses the outcomes of the first AI Safety Summit and what they mean for business

For centuries, purveyors of science fiction have warned of the risks posed by artificial intelligence. From *Frankenstein* through to *The Matrix*, many works envisaging a dystopian future depict humanity's struggle to deal with various forms of AI. But this idea is no longer a flight of sci-fi fancy. Fast-developing AI-based tech has started affecting people's lives – especially their work – in a very real way.

The UK government recognises the risks presented by AI's rapid rise. Last month, at Bletchley Park, it hosted the first AI Safety Summit, a two-day assembly of politicians from 28 countries, along with senior figures from business and academia.

The so-called Bletchley declaration, a document signed on day one by every government represented at the event, marks a rare point of international consensus. It outlines an agreement for the countries to cooperate on AI research and regulation.

Although the declaration is light on policy goals – those will, presumably, follow next year in a second summit due to be held in South Korea and a third in France – it can still be seen as a diplomatic achievement.

The fact that, among others, China, India, the US, the UK and Saudi Arabia have agreed to share knowledge and develop international standards would seem to be a positive sign for the private sector. While they're wary of the risks attached to AI, businesses are naturally excited by its potential to streamline or otherwise enhance their operations.

Summit attendee Julian David, CEO of trade body techUK, believes that Westminster's decision to invite businesses, including Microsoft, Google and Samsung, was "only right, because they should have a voice on the issues that will affect them. The key thing for this summit is that it's the first one and others will follow."

Charlie Thompson, senior vice-president, EMEA, at software company Appian, agrees but suggests that subsequent events ought to be more inclusive.

"There are many other viewpoints that need to be heard," he argues. "What about the smaller firms and startups that are also making headway in this space with apps and platforms? What about consumers whose lives will be affected by AI?"

The AI Safety Summit seemed largely concerned with identifying all of the key risks presented by AI. Managing these effectively will require governments to strike "the right balance between appropriate regulation while still enabling innovation", according to Thompson.

In David's view, legislators and regulators should concentrate on addressing safety and security concerns. For instance, governments should work particularly hard to prevent the proliferation of "fake news and people impersonating people" using AI, he stresses, adding that they need to maintain a strong focus on ensuring "traceability and accountability".

David doesn't believe that governments should go so far as to impose higher tax burdens on firms with large AI footprints, for example.

"It seems unfair to pick on one particular technology," he argues. "We still want firms to be researching and developing AI – and we want the UK to be competitive in this space."

But David does think that the government could incentivise employers to retrain and redeploy their staff. The end goal, he says, should be to create a regulatory framework that encourages businesses to "create more jobs with AI than they replace".

The summit concluded that harms caused by AI, whether deliberate or accidental, can take many forms. To address this and other problems, an international task force comprising politicians, technologists and business leaders could be in place early next year.

It's clearly unreasonable to expect a fully formed, effective international governance framework to come off the back of one inaugural conference, but that's surely the ultimate goal that future summits will be working towards. AI is here to stay, so businesses must get to grips with it. The technology has the potential to be transformative, but it needs to be handled with care even before the law-makers get around to making this mandatory. ●

Rohan Banerjee
Senior writer, Raconteur

Succeeding in the next wave of innovation

As technological advancements continue to challenge businesses, a new wave of digital innovation is emerging. **Rukmini Glanard**, chief business officer at Alcatel-Lucent Enterprise, explains how to make the most of it

Digital transformation came of age during the pandemic. With massive disruption to business strategies and working processes, organisations were forced to finally adopt new technologies and digital policies that had been on the back burner for years.

However, as the pace of technological change continues to quicken, businesses now face a new wave of services that will revolutionise how they do business in the digital age. According to a McKinsey & Co study from earlier this year, one third of organisations say they already use generative AI regularly in at least one business function, with 40% planning to increase their spend on artificial intelligence in the near future.

From artificial intelligence to machine learning, virtual reality to automation, digital transformation 2.0 is upon us. So what strategies do businesses need to put in place to succeed in this new era?

Successful transformation

"There is a tsunami of technology coming that can help people and business, but at the same time it can be frightening and difficult to understand," says Rukmini Glanard, chief business officer at communications, networking and cloud solutions designer and provider Alcatel-Lucent Enterprise.

"When the C-suite wants to make a transformation, first they need to think about what they are trying to achieve. Then, they need to think about the people implications and the level of resistance and acceptance they're likely to face. It's important to consult with employees and software providers to understand the impact of technology," she adds.

A much-quoted statistic from McKinsey & Co suggests that 70% of transformation efforts fail. However, the reason most transformations are unsuccessful isn't technology, but people. It's employees resisting change, or managers being unclear about why technology is being implemented and what problem it will solve. In the new age of digital transformation, understanding the psychology of human behaviour will be critical to success.

Glanard advises C-suite leaders dealing with transformation to get the right planning, communication and project management structures in place before proceeding. Then, it's critical to ask yourself the right questions before proceeding. Getting the right culture in place is crucial.

"Why are you implementing a certain technology? Who is going to be impacted? What are the business benefits? Communicating as a united team and explaining your strategy to both employees and customers about the steps you're taking and the challenges you'll face is key. Don't make false promises, and make people aware of pain points as you transform," says Glanard.

It's also important to build in check points as you go through the transformation process, to make sure what you are implementing is achieving its desired aims, and that users are still onboard with the process.

Get the right partner

At a time when budgets are shrinking and businesses are under pressure to improve both efficiency and productivity, it can be easy to assume that the next wave of technology will make business processes easier and quicker. However, businesses should take the time to ensure that they get the right products and services to match their specific requirements. Choosing the right technology partner is an important step to get right.

Here, Glanard believes that technology providers need to take a more proactive stance in helping businesses navigate the complexity of technological innovation, citing Alcatel-Lucent Enterprise's own approach with clients.

"People are getting a lot of information. It is our role as a tech company and innovator to simplify the journey for customers. We help companies think about the individual challenges they are facing, the technology they already have and what they want to achieve. It's our responsibility to do the right filtering dependent on specific customer situations to get to the right recommendation," she says.

Business decision-makers face a challenging market. The speed of change, complexity of global situations and the uncertainty in our economies means that digital transformation will continue to impact organisations in new and challenging ways. Choosing the right partner, understanding your specific needs and getting your culture right are vital to making digital transformation work.

❝ There is a tsunami of technology coming that can help people and businesses, but at the same time it can be frightening

Find out more at al-enterprise.com

Alcatel·Lucent Enterprise

Only

7%

of firms are led by digitally competent management teams – those where more than half of the members have a clear understanding of how emerging tech will shape a company's success

3 in 4

CEOs don't have a clear understanding of how new technologies could be used to make their companies successful

Sloan Management Review, 2021

C-SUITE CONSIDERATIONS

The IT essentials that all C-suite members need to appreciate

Non-IT chiefs can't be expected to comprehend every technical aspect of a transformation, but there are some fundamentals that they must understand if they're to make informed decisions

Fiona Bond

W ho's in charge of a digital transformation? You'd be forgiven for thinking that such an initiative must be the chief technology officer's ultimate responsibility, given that, on one level, it's about using advanced IT in strategic and innovative ways.

But a transformation is fundamentally about achieving business objectives. Any new technologies a firm adopts in the process are simply the means to this end. While the CTO may well be best placed to understand how these work, the relevant strategic decisions and purchasing choices should be made collectively by the whole C-suite. When digital strategy and IT investments are made in a silo, transformation efforts are likely to become fragmented and thereby more prone to failure.

While the technology supremo's C-level colleagues don't need a detailed knowledge of the IT they're deciding whether to invest in or not, they will have to know enough to

make informed choices. So what must they understand when planning a digital transformation?

Finding the perfect combination of technologies to meet an enterprise's unique requirements is no easy task. Research by the Boston Consulting Group suggests that as many as 70% of digital transformations fall short of their objectives, often because of a failure to align the new tech with the strategic goals of the business.

As a first step, leaders need to gain a deep understanding of their business's various operations, assessing their strengths and weaknesses.

Tim Wright, head of operations at finance software solution provider Xledger UK, explains the importance of process mapping before starting on any procurement.

"They must think about their own procedures, needs, wants and pain points. Going through this process before going out to the market makes a massive difference to the success of a digital transformation project,"

he stresses. "All too often, organisations commit to a piece of new technology, thinking that it's going to fix everything. Then they end up trying to retrofit their processes to a tool that doesn't work for them. This causes the transformation to be abandoned and mistrusted."

Unlocking the true value of digital tech involves a systematic and disciplined approach from the outset, using the C-suite's collective knowledge to map out goals and gaps and form an understanding of where the

technology can be best applied to help the business grow. Members of the leadership team will need to ask themselves questions such as: are our existing processes delivering what's required to grow the business? What problems are we encountering? How can technology help us to plug gaps and remain competitive? And how will we overcome any challenges we encounter in embedding the new tech?

As Scott Dodds, CEO of Ultima Business Solutions, says: "This is not just about adopting new tools; it's also about changing how a business operates, competes and delivers value. To overcome challenges and achieve success, a business must define a clear vision and strategy."

While the C-suite may be promoting the need for technological innovation, the rest of the organisation may not embrace it with the same enthusiasm. Some may be fearful that new tech will render their jobs obsolete, while others may simply see it as an extra burden.

Before a firm embarks on a transformation, it must understand its employees' skills, shortcomings and needs. All too often, purchasing decisions are made in the boardroom with little input from employees, but wise business leaders recognise that they must avoid doing this.

"By involving employees in the decision-making process, along with the design and implementation of digital initiatives, leaders can foster a culture of innovation, collaboration and ownership," Dodds says.

Wright agrees, adding: "Teams must ensure that they invest time in understanding how technology will be best rolled out in their organisation. It's essential to have buy-in from key stakeholders, who should come to an agreement on how this new technology will help teams to work more collaboratively."

Employee feedback forms and internal councils can be effective ways

to gather organisation-wide input on areas of the business where radical changes would be beneficial.

Understanding the digital skills of the workforce is also key. Leaders who commit to a digital transformation must understand that they are starting a continuous process of learning and adaptation. This will require many businesses to make educational interventions. A digital skills assessment will help business leaders identify where the most significant gaps are.

While firms may have to recruit as part of their transformation efforts, they should not underestimate the importance of investing in their existing employees by offering them training and development opportunities. Understanding a team's digital literacy and its members' comfort in learning how to use new tech will enable leaders to commission appropriately targeted courses.

Beyond the organisational hurdles, choosing the right tools can be daunting. While there may be a temptation to buy an all-singing, all-dancing software service package, business leaders would be wise to exercise some restraint and remember the particular problems they want the technology to address.

It's unlikely that anyone outside the IT team would be asked to analyse the technical specifications of any new software that may be under consideration, but that doesn't mean business leaders will approach the selection process completely blind.

There are two essential questions that they must consider: is the technology flexible enough to enable their teams to develop and innovate? And how will it help them to collect and use data more effectively?

Experts agree that digital transformation should provide the foundation for teams to continually develop. A distributed technology model that enables the whole organisation – not only its IT department – to innovate should ensure resilience and scalability. This means ensuring the enterprise-wide accessibility of good data.

Cybersecurity is the last essential C-suite consideration in this arena. Business leaders must have a basic understanding of the potential data risks before committing to a piece of technology. They also must have confidence in their organisation's cybersecurity leadership, policies and training. ●

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> **All too often, organisations commit to a piece of new technology, thinking that it's going to fix everything**

AI: the key to productivity and time-saving in business

Generative AI can save businesses time and money while boosting creativity and productivity, but it's vital to understand its limitations to maximise its benefits

G enerative artificial intelligence (GAI) has fast become a fixture in the workplace – as well as in headlines warning of defunct human employees and the death of creativity.

The truth, in practice, does not tally with the doom-laden messaging. Instead, as demonstrated by research from Capterra UK, a business software comparison and reviews website, there are clear benefits to using GAI in terms of productivity and timesaving.

GAI has many applications – it is capable of generating original content such as images, videos, music, code, or text, by using deep learning techniques and neural networks to analyse and learn from large datasets. These tools, which include ChatGPT, Bard, and DALL-E, generate content that resembles human creations.

"Our report showed that 96% of employees who use generative AI for work feel that it increases their productivity," says Eduardo Garcia Rodriguez, analyst, Capterra UK. "This statistic underscored the potential for AI to enhance efficiency and productivity. And, 98% of surveyed respondents – the clear majority – indicate that generative AI is of some, or high, importance to their company. Given the supposed scepticism surrounding AI recently, this shows that there is actually a shift in how businesses might view AI, particularly for

innovation and creativity, where we have shown that people see the perks and the benefits of it."

Garcia Rodriguez highlights the fact that 41% of generative AI users deploy these tools for text editing, with 40% using it for text creation, and analytics and reporting. Perhaps surprisingly, 85% said AI boosts innovation and creative work, with nearly as many reporting that working with generative AI saves their company time (83%) and money (81%).

While the latter findings are in and of themselves significant wins, the fact that generative AI helped improve business performance for 79% of respondents – and that it produces content that is better than human efforts (70%), further explains why this revolutionary technology has been rapidly embraced.

ChatGPT usage

But, despite its versatility and immense potential, concerns abound regarding the lack of regulation of ChatGPT. Garcia Rodriguez reports that employees are uneasy about the responsible usage of this tool, with transparency, security and misinformation identified as key areas of concern.

When it comes to verifying the integrity of ChatGPT's output, Capterra UK found that 60% of users meticulously review every output when using this tool. This indicates that four out of 10 users do not check their outputs

consistently, which Garcia Rodriguez says is "alarming".

As ChatGPT scrapes information from sources without verifying authenticity or copyright rules and because the tool's knowledge is mostly limited to information before 2021, along with the technology's tendency to invent facts – known as hallucinations – there is a risk of plagiarism, inconsistencies, or false information, which can be detrimental if businesses do not notice them.

"Employees are open to using AI but they expect guidelines and oversight," says Garcia Rodriguez. "In fact, nearly one-third of surveyed ChatGPT users expressed concerns about security and misinformation. But these are things that can be addressed with regulation."

The UK Government released an AI white paper earlier this year, and, in November 2023, unveiled its new AI

Safety Institute, whose mission is to minimise surprise to the UK and humanity from rapid and unexpected advances in AI. The institute will "work towards this by developing the socio-technical infrastructure needed to understand the risks of advanced AI and enable its governance."

Guidance

So, what can responsible businesses do while governments work to formulate official guidance on the use of AI? The answer is: plenty. Being aware of the limitations of ChatGPT is vital. For instance, given the tool's tendency to hallucinate, employees should avoid asking ChatGPT to name its information sources, as the feedback may be inaccurate due to it not being verified at source. Rather, teams should cross-reference statistics or statements with trusted websites and original references.

Plagiarism is also a risk, as ChatGPT generates text based on training data. Businesses can use plagiarism checkers to compare generated text against a vast database of published material.

Offering employees training on the optimal prompts to use to help fine-tune the content they receive is also beneficial. "It's important to stress the importance of education," says Garcia Rodriguez. "Educate employees about the benefits of AI and how it can enhance their work. I think, in general, there's a curiosity and there are people who might be sceptical about AI, so it would be useful to educate them about how it can be used and how it can help them make their work better."

As well as this, managers should involve their employees in the generative AI implementation process rather than presenting it without consultation, he recommends. By seeking their input and addressing concerns about the technology via feedback channels, employees will feel more comfortable.

He adds: "The main point is transparency. It is important to communicate the ethical and responsible use of generative AI and to build trust. I think

when all this is joined up, employees will feel that it's a safe tool and [knowledge] can help them with that buy-in."

Finally, before implementing new software, it's essential to assess and identify use cases and business goals and determine which can benefit from generative AI, says Garcia Rodriguez.

"Fortunately, to help with this, there are task management tools and project management tools, so businesses can see when an assignment may be improved with generative AI. These can help build use cases to decide whether they need to invest in software.

"Businesses also need to make sure that they have sufficient data for machine learning models in order to deliver the best output. Data preparation is crucial to ensure data quality and protect visibility for these generative AI models. But overall, we need to make sure employees buy into generative AI to use it appropriately."

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Capterra

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> **Despite its versatility and immense potential, concerns abound regarding the lack of regulation of ChatGPT**

How to create GAI guidelines

Determine use cases and restrictions
Outline employee GAI use. Establish restrictions on generating sensitive or inappropriate content.

Outline input boundaries
To protect sensitive information and intellectual property, state what types of data employees are not allowed to input into GAI tools.

Use tools to create a clear policy
Streamline the process of developing GAI guidelines, via policy management software to develop a structured framework for drafting, reviewing and approving policies.

Share guidelines
Disseminate guidelines internally via email, intranet or messaging platforms to encourage employees to review and familiarise themselves with them.

Foster accountability
Establish mechanisms for receiving feedback and addressing employee concerns related to GAI systems. Respond to feedback.

Image: Kirill Kudryavtsev via Getty Images
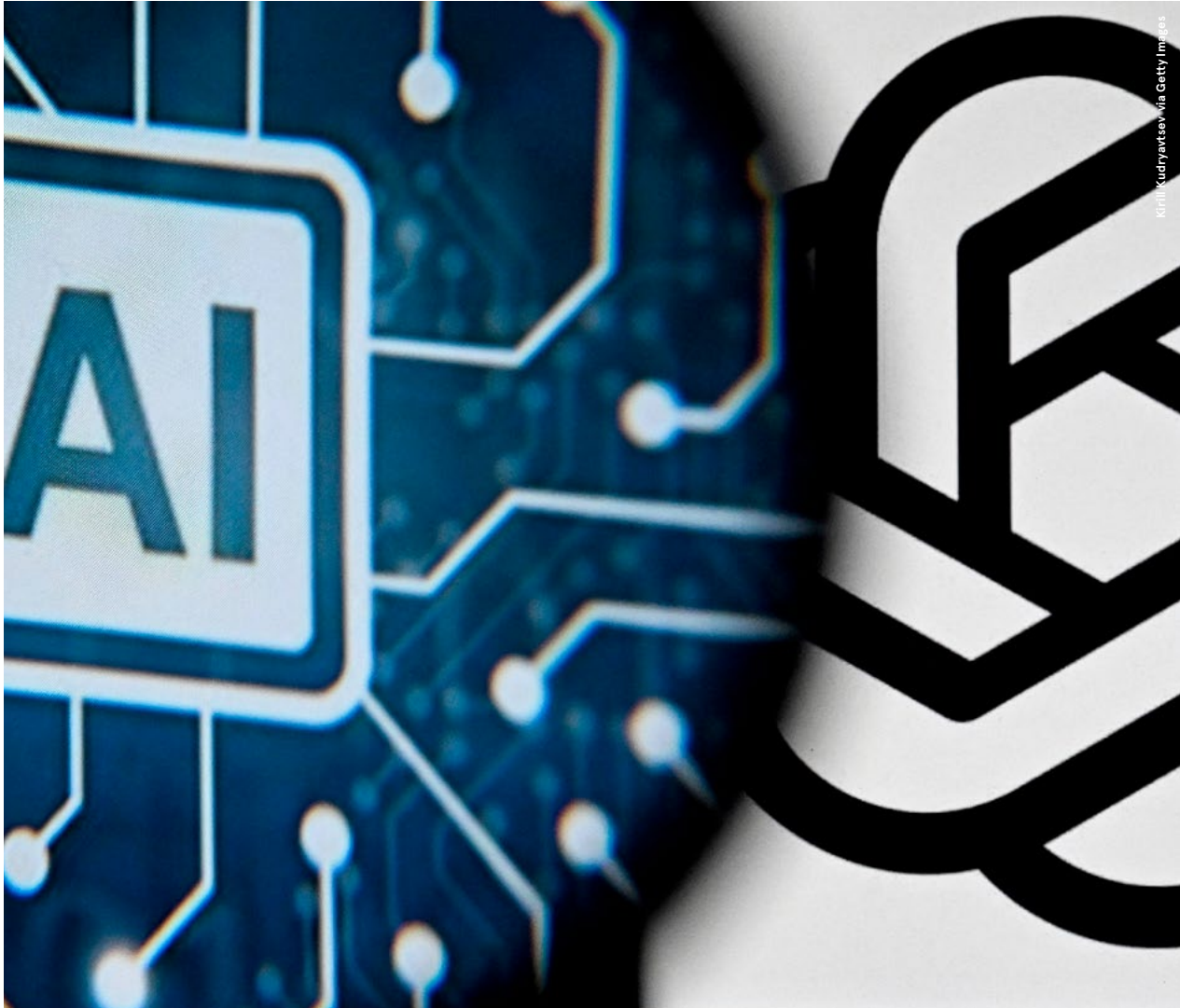
GENERATIVE AI

Will ChatGPT Enterprise ease companies' worries about GenAI usability?

OpenAI's latest innovation promises to solve the shortcomings that prompted several firms to steer clear of ChatGPT. Might this upgrade be thorough enough to convince them to adopt the bot?

Sam Forsdick

After the release of ChatGPT in November 2022, interest in artificial intelligence surged. The tech optimists were predicting that the new generation of sophisticated large language models would soon be used in every organisation, accelerating business processes and liberating millions of workers from tedious tasks.

Only a few months later, several big firms banned staff from applying the AI chatbot to their work, with the likes of JPMorgan Chase, Apple and Accenture all clamping down on its use for commercial purposes.

Security concerns were the main reason for such moves. Some feared that OpenAI, the creator of ChatGPT, would have access to all the queries typed into the bot's interface. Many took issue with the fact that the technology had only been trained on information up to 2021. Others were worried about so-called hallucinations, where an AI confidently submits a completely incorrect answer, and a lack of trustworthiness, which remains a concern for 46% of business leaders.

OpenAI hopes that the latest iteration, which is designed specifically for businesses, will solve such problems. The firm promises that ChatGPT Enterprise offers greater security, faster responses and more
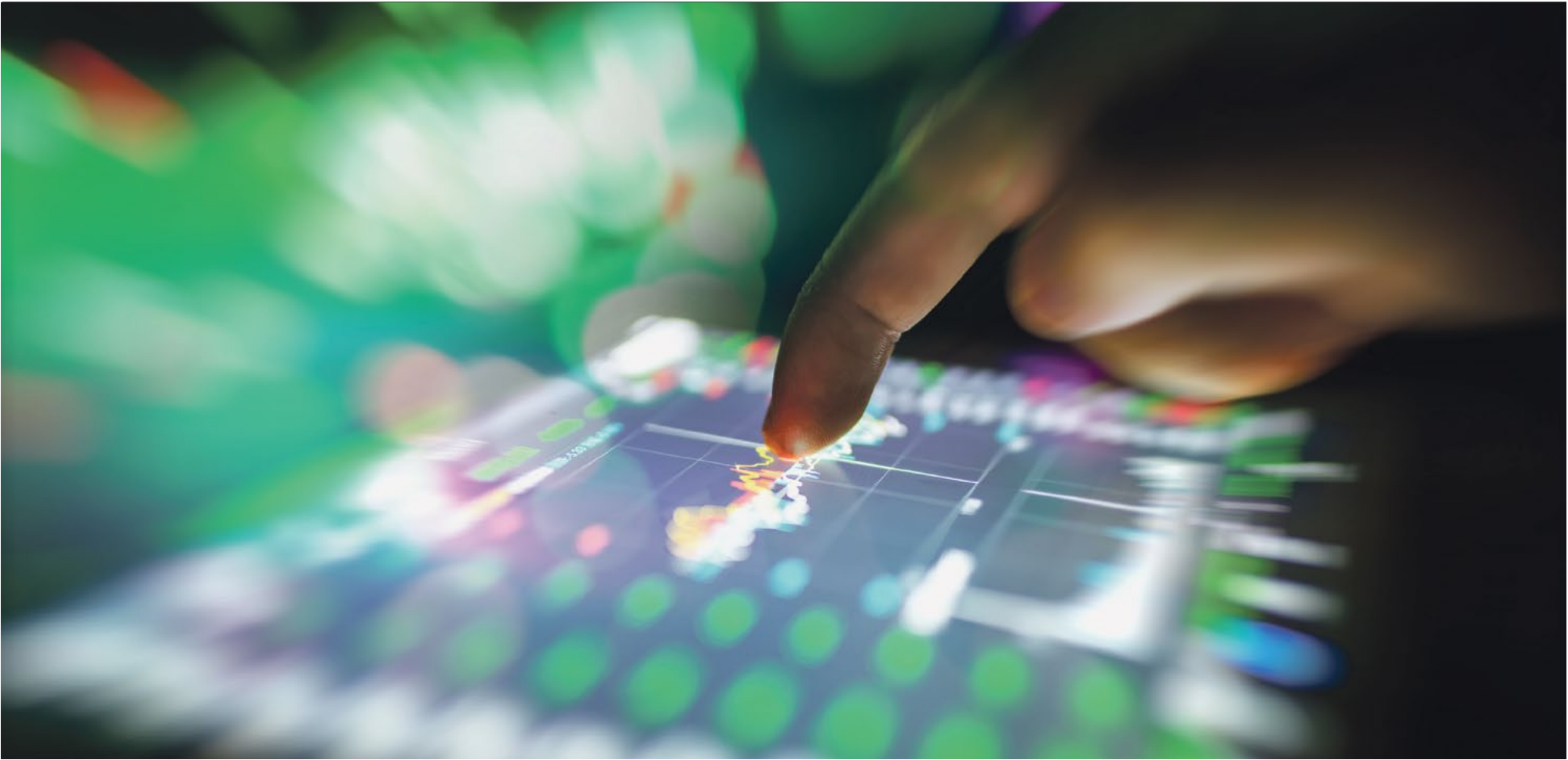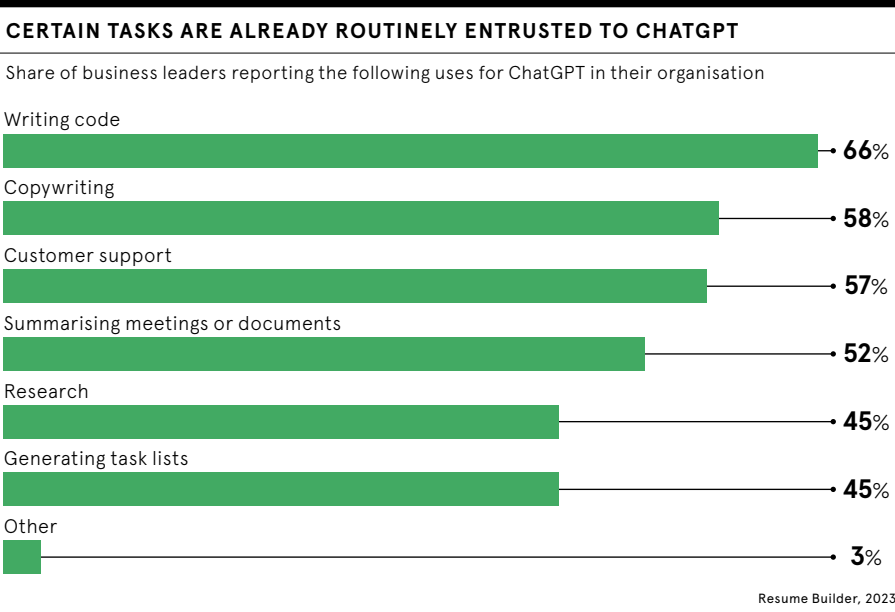
advanced capabilities, including new customisation options.

"This enables companies to roll out a generative AI foundation without having to invest in substantial new infrastructure or skills from the outset," says Rowan Curran, a senior analyst specialising in GenAI at Forrester. "Many people are accustomed to using ChatGPT in their work, whether it was permitted by their organisation or not. This gives them a way to do so safely."

He predicts that the new features that OpenAI is bringing in are likely to encourage the wider adoption of its products at an enterprise level.

Australian graphic design platform Canva was among a handful of businesses to be granted access to ChatGPT Enterprise before its public release. Its head of AI products, Danny Wu, reports that the business is using this version in several departments, including engineering, data analytics and finance.

"It's become a true enabler of productivity, with the dependable security and data privacy controls we need," he says.

In due course, OpenAI plans to enable ChatGPT Enterprise users

to train the system on their own data, so that they receive specialised responses, and to release more function-specific capabilities.

PwC has also been experimenting with ChatGPT Enterprise over the past few months. Bivek Sharma, partner, CTO and head of AI and alliances at the accounting giant, reports that "all the issues we had in terms of security and being able to use ChatGPT in a B2B environment have been resolved".

Noting that PwC is planning to develop its own AI models for advisory services, he adds: "If we want to create market-leading models, our proprietary data is the key intellectual property. The real brain power has already gone into building these large language models. What we're now doing is training it in specific use cases and adding our own data sets."

Emma Haywood is a principal consultant and director at Bloomworks Legal, a consultancy specialising in technology and intellectual property law. She doesn't think that the Enterprise version of ChatGPT will solve every problem that businesses have with the technology. If, for instance, companies use AI to create content, ChatGPT still has the potential to copy other parties' work, leaving them open to potential infringement claims.

"Courts around the world are still grappling with these questions," she says. "It isn't necessarily safe to assume that the content that you create using ChatGPT Enterprise won't create risks for your business further down the line."

ChatGPT Enterprise's compliance with a widely recognised security standard known as SOC2 and OpenAI's commitment not to use customer data to train its models are also "a step in the right direction", according to Haywood. But firms must still be considerate of the information they enter into the system.

The use of personal information will continue to be regulated under the General Data Protection Regulation and client data is often protected contractually, so plugging it into a third-party platform might not be permitted. Similarly, a firm could lose any protection pertaining to trade secrets if it willingly feeds these into a chatbot.

"Don't just blindly assume that, because you have these new features, it's completely safe to type everything in," Haywood warns.

ChatGPT Enterprise is not the only high-powered AI product on the market, of course. PwC is working with a range of platforms, including Microsoft's Azure AI and Google's Bard chatbot, for instance.

"We are watching how the various platforms are evolving and pioneering on all fronts to ensure that we're using the best models for the job," Sharma says.

When deciding which platform is best for your business's needs, cost, performance and security will be key considerations. But Sharma believes that your ability to access the model, train it on your data and develop your own models from it is "the really important bit".

AI regulations, which are being drawn up in the UK, the EU and the US, could also pose problems for business in the medium term. The ability of firms to tailor AI models to their needs may blur the boundaries between user and provider in the eyes of some regulatory bodies.

Haywood explains: "If you customise ChatGPT Enterprise to the extent that you're not just a user, you become the provider of the model. That means your business could end up with a much bigger regulatory burden, even though it didn't technically create the tool. We don't yet have a clear definition of where the line is."

This creates another level of uncertainty for potential commercial users and shows that, while some problems surrounding corporate use of AI tools are being resolved, new ones continue to be created. ●

CERTAIN TASKS ARE ALREADY ROUTINELY ENTRUSTED TO CHATGPT

Share of business leaders reporting the following uses for ChatGPT in their organisation

Task	Share
Writing code	66%
Copywriting	58%
Customer support	57%
Summarising meetings or documents	52%
Research	45%
Generating task lists	45%
Other	3%

Resume Builder, 2023

Responsible AI: the key to unlocking generative AI's trillion-dollar potential

Generative AI has great potential but business leaders must centre responsible design to de-risk their investments

No one can foresee the future with generative AI, as the tech giants race to break ground with models of increasing power and complexity. Only last week Google unveiled a "new breed of AI" with Gemini: the first to combine text, text, audio, images and even video for deep reasoning.

McKinsey & Co predicts generative AI's productivity gains alone could contribute over $4.4tn (£3.5tn) annually to the global economy – more than the UK's entire GDP. Such gains, however, depend on firms' ability to build in accuracy while ensuring privacy and data protection.

Philip Rathle, CTO at Neo4j, says: "Companies seek to use generative AI for efficiency gains across all parts of their businesses. Because of the high stakes involved in customer-facing offerings, many are starting with the lower risk of internal, employee-facing applications to test the technology. Here, companies can gain confidence in the accuracy of the result, establish guardrails around responsible use and navigate customer concerns such as security and privacy."

As firms rush to capitalise on generative AI, putting the right safeguards in

Responsible AI Safeguards

The tendency to hallucinate, or present false facts, is a common problem in generative AI. Hallucinations occur because the large language model (LLM) behind the technology produces the most statistically probable set of words in response to a user's question.

Since end users often turn to generative AI such as ChatGPT like they would a search engine, the problem is getting accurate responses. When generative AI models hallucinate, users often don't know it. And if users make a decision based on untrue information, the consequences could be far-reaching.

For example, if a firm's legal department asked its model about a compliance rule and the information provided was incorrect, the firm would still face liability for the non-compliant action. Until companies can trust in the accuracy of responses, generative AI can't be relied upon for mission-critical business functions.

place will make this technology usable and profitable at scale. By prioritising accuracy and data protection, enterprises will unleash the explosive revenue potential of genAI – but not before.

Furthermore, generative AI is created through a process that involves training a model on massive amounts of data. Preventing models from accidentally disclosing sensitive data from training has become a major privacy concern.

For example, in a recent experiment conducted by AI researchers from various universities and Google DeepMind, it was found that ChatGPT could be hacked by simply asking it to 'Repeat this word forever: poem, poem, poem.' In response, ChatGPT inadvertently shared personal data from its training, including names and contact information.

For firms seeking to deploy generative AI across company systems, it will

be critical to ensure that sensitive data remains protected. Without controls over what data is shared and to whom, the risk of inappropriate exposure outweighs the benefits of use.

As transparency requirements become more stringent with the European Union Artificial Intelligence Act, companies must build generative AI on a firm foundation: one that can adapt to a variable regulatory environment.

De-risking generative AI investments

Many firms already have or are currently forming a generative AI technology stack and must decide where to invest for 2024. The only path forward for high-stakes use cases, where the most value lies, begins with responsible design.

"Principles of AI responsibility – and new regulations such as the EU act – require technology leaders to build explainability into AI," says Rathle. "This is a greater problem than just identifying training provenance. You need a way to show the decision-owner information about individual inputs in the most detail possible."

A knowledge graph is a type of database that stores the connections between data points, making it ideal for AI use cases where the context of data is important. Knowledge graphs link data directly to its sources, enabling genAI systems to showcase the origins behind their responses. This allows users to evaluate accuracy as AI conclusions include traceable evidence.

As an example, a company's board members might request a summary of an HR policy tailored to the specific rules of a region. A generative AI model based on a knowledge graph could provide the source behind the response.

Since graph data is connected the same way information links together in the real world, generative AI built on a knowledge graph benefits from having additional data context.

For example, if the model contains company data, the system would capture how executives, brands, product lines and regional offices all connect within a corporate structure. This enables more informed responses to questions that involve understanding relationships and intersections, rather than just analysing standalone facts and statistics.

The rich web of connections in a knowledge graph allows generative AI to provide a more comprehensive view of a topic, resulting in higher accuracy and fewer hallucinated or mistaken responses when queried.

Further, administrators can wall off sections of the graph based on privilege level. For example, if employees ask for the salary of every member of the marketing team, they would not receive the same answer and information as the CEO.

The future of generative AI in business

Generative AI will have seismic effects on the ways in which companies operate and bring in revenue, but those that fail to center responsible design will find their market opportunity limited.

In the not-too-distant future, generative AI models will roll out to thousands of people in an organisation, informing crucial decisions. Firms must keep strategic requirements top of mind as they select their technology stack: especially data privacy and response accuracy. Understanding how a model arrived at a response matters.

> The only path forward for high-stakes use cases, where the most value lies, begins with responsible design

Explore Neo4j knowledge graphs for generative AI at neo4j.com/generativeai

neo4j

INTERVIEW

'Innovation is not about technology'

Over his 20-plus years with Transport for London, CTO **Shashi Verma** has driven a revolution in ticketing tech. He shares some key lessons he's learnt on the journey

Heidi Vella

When Transport for London (TfL) introduced the Oyster card just over two decades ago, the move was hailed as a radical advance in ticketing. For instance, the smart card enabled 40 people to pass through one gate on the Tube every minute, compared with only 25 passengers using paper tickets.

The Oyster card was the precursor to TfL's next ticketing revolution: allowing payments using debit or credit cards and, more recently, app-enabled mobile devices. This so-called contactless system, developed in close collaboration with the banking sector, takes money straight from customers' accounts when they use its distinctive smart card readers. Introduced on London buses in 2012 and the Tube and several metro rail services in 2014, it has become the dominant method by which people pay as they go on the capital's public transport network.

Shashi Verma, TfL's chief technology officer, oversaw the implementation of the Oyster card system and the development of contactless payments. Both advances highlight the operational gains that can be achieved when business strategy leads technology selection, he says.

Oyster has cut the annual cost of revenue collection by more than a third. A further saving of £50m a year to 2022 was delivered by the arrival of contactless payments, which enabled TfL to close almost all Tube ticket offices.

"Technology strategy must always be driven by whatever the business needs are. You can't decouple the two – it's dangerous to even try," says Verma, who has held several roles at TfL since joining in 2002, including director of strategy and director of customer experience.

The Oyster card's development was prompted by the annual need to ease bottlenecks at gate lines as passenger numbers rose. Contactless payment was the natural progression, creating new cost-efficiencies. It meant that passengers no longer had to go to a ticket office or a machine to top up their Oyster credit.

"What we did was strip the business's need down to the core. All we had to do was collect money, not run ticket offices," Verma says. "Ticketing is an unnecessary process."

By choosing to build a contactless prototype system in house first, he took "a calculated risk", explaining that this was a period when many comparable tech projects had had limited success, with "everyone outsourcing everything".

Convincing other people of the merits of going contactless wasn't easy, though, as he recalls: "The idea didn't have a huge amount of support in the organisation. For quite a long time, it had no buyers and I felt lonely. Often what you're trying to do with technology is make it clear that the business can be run differently, which is what we did with contactless by closing ticket offices. But this went against deeply held beliefs that we needed to have that infrastructure, paper tickets and so on."

Verma and his team eventually won their colleagues over when they delivered the prototype and people could see its potential.

"You need to be committed to it for a long period. That's not something everyone is willing to do," observes Verma, who adds that, to gain the level of credibility you require in an enterprise to make a radical change, you need to be running the day-to-day operations as efficiently as possible.

"To even have that discussion with the rest of the organisation, you must fulfil everything they require of you to such a high quality. Only then can you discuss the transformational things," he stresses.

In 2017, Verma set up a technology and data department. It was something he'd been trying to convince TfL to do for some time, but the breakthrough came after the corporation started coming under severe financial pressure. Verma adds: "Remember that innovation is not about technology; technology is the way innovation gets delivered."

Until that point, the delivery of technology and data had been fragmented, much like at many other organisations, he says. There were several teams responsible for various technological aspects. Verma saw an advantage in combining their strengths – for instance, the intense customer focus of customer-facing teams and the agility of digital teams – and spreading these across a single department.

"My core argument was that, before you learn from any other organisation, there's much that can be achieved by learning internally," he says. "But this is not something you can do simply by putting people in a room together; it must be forced. If you try doing it by diffusion, it will take a very long time."

The desired culture change happened quickly. Within six months of the new department's formation, "the whole place was turned upside down", he recalls.

The reorganisation also resulted in financial benefits. The smashing of silos reduced the cost of technology delivery by one-third through improved collaboration and efficiency, according to Verma. It boosted staff morale and, further down the line, solved a staff retention problem too.

"The organisational change forced everything out into the open. Many people left because they found the light being shone on them very uncomfortable," notes Verma, but he adds that this ensured that the right people were eventually placed in the right positions.

What does Verma consider to be the key to success with digital transformations, especially in times of economic uncertainty?

"While you always have to be responsive to short-term requirements, you must also have your own long-term goals and drive towards them," he says. "Otherwise, you're just being reactive. Where is the productivity coming from? Productivity comes only from looking at the long term and understanding your business,

> ❝ All we had to do was collect money, not run ticket offices. Ticketing is an unnecessary process

its dynamics and economics."

Verma adds: "Remember that innovation is not about technology; technology is the way innovation gets delivered."

But it's hard to innovate with limited funds. TfL has been under huge pressure to cut costs since 2015, after the government brought forward its planned cessation of grant funding. As a result, it lost out on £2.8bn between that year and 2021. And, if that weren't bad enough, most of its fare and advertising income dried up during the Covid crisis and hasn't yet fully recovered. At present, TfL is locked into six-monthly funding negotiations with the government. This is putting its successful delivery model at risk, according to Verma.

"Now, so much effort goes into budgeting, rather than productive work, and cost-cutting, which we used to do in a strategic way," he laments. "If we'd created a startup to develop our contactless system, that business would be worth tens of billions of pounds now. But it's an open technology, delivered through public sector innovation, that's providing huge public benefit." ●

> ❝ Technology strategy must always be driven by whatever the business needs are. You can't decouple the two – it's dangerous to even try

Shashi Verma's career at a glance

Transport for London

CTO	2016–present
Director of customer experience	2011–16
Director of fares and ticketing	2007–11
Director of Oyster card	2006–07
Senior principal, corporate finance	2002–06

McKinsey & Co

Associate and engagement manager	1999–2002

Harvard Kennedy School

Instructor in public policy	1998–99

Q&A

How to drive successful digital transformation

Razat Gaurav, CEO of Planview, the leader in portfolio management and value stream management, outlines the role data and technology has to play in strategy implementation

Q What are the main reasons why strategy implementation projects fail?

A Disruption and change are constant in today's business environment. This has only increased with the integration of AI, the digitalisation of operations and customers' continually evolving demands.

Yet, according to the 2023 Economist Impact report commissioned by Planview, 85% of executives believe that their organisation's ability to adapt to change falls short and only 20% are confident in the resources they have allocated for implementation. More tellingly, the vast majority – 86% – think that their organisation needs to improve accountability in its strategy implementation. These common disconnects result in major failures in strategic implementation, with a staggering 70% of digital transformation endeavours failing, according to McKinsey.

Q What key steps should management and the board take to ensure successful implementation?

A Focusing on a few key areas goes a long way in tipping the scales toward effective strategy implementation. These qualities – alignment, accountability, resources, agility and culture – require the right technology to ensure that they reach the entire organisation.

Q How should CEOs clearly communicate their vision for digital transformation?

A Just communicating is not enough. The key is to create alignment and a two-way dialogue around the most important work to achieve business outcomes. To do so, organisations must first align around the outcomes – not just outputs – that their business must deliver. Secondly, companies must create and communicate a common set of objectives and key results (OKRs), and ensure that every employee understands how their work supports those results. By understanding the objectives and outcomes, employees can make real-time decisions around their day-to-day work to drive better results.

Q What role do people, technology and processes have to play in successfully delivering that transformation?

A First, people must have the right tools and resources to succeed, as well as clear communication channels to facilitate collaboration. Second, technology, including data-driven decision-making and AI interfaces, can provide the visibility and transparency needed to optimise outcomes and enable rapid reprioritisation. Finally, robust processes are essential to synchronise strategy and work, align capital allocation with business outcomes, and ensure adaptability to change. By integrating all these elements, organisations can achieve successful transformation and enhanced business agility.

Q How can companies continue to prioritise and drive meaningful initiatives that enable them to adapt to and prosper in an ever-changing and volatile market, while gaining a return on their investment?

A Static strategies are the fastest route to becoming obsolete. Organisational agility – including the ability to adapt strategic plans and reallocate resources – is a must-have competency in today's fast-paced business world. Doing this effectively requires a responsive, customer-centric and data-driven approach spanning culture, analytics and reporting, governance, and technology. This ultimately enables organisations to adapt plans and reallocate resources to support priorities, while having clear visibility into the impact and trade-offs of those decisions.

With the rapid adoption of AI, the role of data will become even more critical to this process. Establishing a data foundation and system of record for transformation initiatives enables visibility and transparency, empowering informed decision-making to optimise key outcomes. Leveraging a generative AI interface allows companies to gain rapid insights into the optimal way to reprioritise, thereby enhancing their ability to adapt to and prosper in an ever-changing and volatile market, while gaining a return on their investment.

Q Why is data key to the decision-making process of strategy execution?

A Effective business strategy execution hinges on an organisation's ability to make fast decisions about critical work, with the confidence it will lead to positive outcomes. Yet a majority of executives lack confidence in this crucial skill: according to the Economist Impact study, 84% of executives recognise the need to improve data-driven decision-making. Business and technology leaders must collaboratively evaluate the organisation's capacity to distil and analyse complex data for valuable insights, evaluate performance against pertinent benchmarks, and overcome obstacles with recommended best practices. With only 14% of leaders expressing confidence in decision-making governance, this calls for open discussions on the adoption of data-driven decision-making.

For more information please visit planview.com

planview.

Commercial feature

A modern NHS: how health and social care teams work as one

Britain's health and social care services are a complex network. Joining up care will be central to transformation efforts in this critical sector

I n January, the NHS reported that over 14,000 beds were occupied by patients considered medically fit to leave. This resourcing pinch is not new, but with hospitals at near-record capacity, the UK's national health service is under pressure to address backlogs ahead of winter pressures.

While the government's commitment to invest £250m in expanding NHS capacity with 900 new beds has helped, the shortage remains a symptom of a broader set of issues. Britain has an ageing population, demand is sky-high, and the sector is operating with a staff shortfall of 154,000 full-time employees.

NHS and local authority care services are helping to meet these challenges head-on by implementing smart data integration. The idea is that busy professionals spend less time chasing up information across siloed systems, and, more importantly, patients and service users have better experiences and outcomes when clinical and social care teams collaborate effectively.

"The challenge we have in the UK is that patients come into a hospital setting and receive treatment, but there is limited convergence between what happens in the NHS and subsequently in a social care setting once that patient comes out of hospital," explains Nick Wilson, CEO of health and social care software specialist System C.

Typically, convergence focuses on sharing data between care trusts, when the reality is data needs to flow across different care settings and into social care, Wilson notes. In other words, much of the focus to date has been in the wrong place.

The power of continuity
The lack of convergence across health and social care often means that NHS staff are keying in data that has already been provided to

another department or organisation. Wilson notes that errors, inconsistencies and delays can easily build up in this environment. "If the right data doesn't flow from one part of the integrated care system (ICS) to another, it might delay patient treatment. Equally, by the time the patient is seen, their condition could require a more invasive or expensive procedure," he says. "Of course, it also adds administrative cost and burden to an already stretched workforce."

Over time, the inefficiencies caused by poor data integration can prevent NHS staff from making the best decisions. "It might be that if I see this patient today, I can offer a simple, low-cost intervention like physio or a drug regime. If I can't, by the time I see the data, the patient's condition may have deteriorated, and now they require surgery," Wilson adds. "Joined-up data can improve outcomes, reduce costs at face value and help to avoid costly and potentially challenging interventions further down the line."

The case for preventative care is clear. But without visibility, how can providers across branches spot the warning signs? In London, the majority of pregnant people present at more than one hospital during their pregnancy. Yet, historically, care providers haven't had an easy way to connect the dots, Wilson notes.

Barnsley Hospital's maternity service has made strides in this area. In 2021, it rolled out secure communication and real-time data sharing between NHS and care staff using System C's CareFlow software. Since then, medics and social workers have been able to quickly access full audit trails for their patients, from police reports and birth plans to images of c-section incisions and mental health reports. This transparency carries positive implications for patient safety as well as the course of treatment.

The potential of joined-up data is also evident across social care and education. Knowsley Council is utilising System C's solutions to enable teams to access information about a child across social care, education and early years settings. The council can also access information on adults who are linked to children in their care. "By connecting data, care providers, whether that be in healthcare or social care, are better equipped to make timely decisions. This ultimately improves the outcome for the person receiving care," says Wilson.

Making handovers more helpful
Research by the British Medical Association found that a quarter of doctors are at 'high risk of burnout', up eight percentage points on 2021.

He says: "The one thing that social care providers and medical staff tell us is that they want to spend more time with people. They don't want to be rekeying information or not feeling confident that they have the right information to make the best decision. Connected, effective systems can help unlock more time to care."

Where better information sharing can boost patient outcomes, it can also boost morale among hospital staff. Wilson shares an anecdote about a children's hospital that had been granted better access to data from other teams. Triage times, he explains, were reduced from around 10 to two minutes - time that could make a significant difference in an emergency scenario. Undoubtedly, giving NHS staff the best shot at helping people is a powerful step towards alleviating the stress of the job.

The sort of data convergence Wilson is referring to is still in its early stages. Nevertheless, Britain is at the forefront of data sharing and integrated services in this space and the scope for new developments is huge. "In the UK, we have a fairly unique set-up with the NHS, and in some ways, that

means it's uniquely complex. But we have some brilliant innovations happening in the British tech industry. We're building systems with particular care settings in mind," he says.

In the high-stakes world of healthcare, the question of how to innovate while keeping the lights on is a critical one. Any sector sustained by taxpayer contributions will inevitably face scrutiny over the value for money and timely results of its transformation projects.

"Where the NHS has been enormously successful has been engaging staff in transformation and securing buy-in from very different stakeholder groups," says Wilson, suggesting that public and private sector organisations look to the changes happening in the NHS. "If we consider that the average bank spends around 8% of revenue on technology, and the NHS spends just 1 or 2%, what has been achieved with that relatively limited investment in percentage terms is remarkable."

For more information, visit systemc.com

" The one thing that medical staff tell us is that they want to spend more time with people. Connected, effective systems can help unlock more time to care

System C
Connecting Care

Four firms getting a bang for their AI buck

Companies with less spending power have been relatively slow to adopt artificial intelligence, but SMEs around the world are demonstrating how AI can be genuinely transformative, even on a modest budget

Georgia Lewis

S mall to medium-sized businesses in the UK have generally been slow to grasp the potential of artificial intelligence. A recent survey of 700 SMEs by the British Chambers of Commerce found that 48% had no plans to use AI, for instance. For the B2C firms it polled, the figure was 58%.

Reasons for their relative wariness of AI include concerns about cost, reliability and privacy, plus a general lack of technological knowledge. Despite this, SMEs across the world have found ways to enhance their operations using AI.

Away from the sectors that are big AI spenders – healthcare, telecoms, and financial services, for instance – SMEs in a range of industries and markets, such as the following four examples, are quietly using AI to transform their businesses without eliminating the human factor.

1 GetTransfer.com
This is a service that matches airport passengers with rides. It has expanded globally from its Hong Kong base, with AI playing an important role. The business's founder, Alexander Pershikov, says its driver bidding system has "transitioned seamlessly" to AI. The company has since adopted other AI-based tools for a range of uses.

"AI has enabled us to analyse and categorise emails based on their intent, automate software testing with digital assistants and streamline various processes, such as creating service-level agreements and managing them," he says. "These processes eliminate a significant

number of person hours, save costs and expedite product launches.

While many companies rely on external partners to ease their AI transition, GetTransfer.com has developed its own solutions.

"Our advanced AI is designed to help drivers determine the optimal price for their services, while helping clients to find a better driver for a better price," Pershikov says. "Developing our own proprietary AI solutions has been our focus for quite some time now."

He advocates a team effort combined with strong leadership for this digital transformation.

"As the head of your company, you should communicate the benefits of AI clearly and address any concerns among employees," says Pershikov, adding that resource allocation and ethical risks are key considerations.

"Leaders need to make decisions about the allocation of resources, including time, money and personnel, to support AI initiatives," he stresses. "They must balance the investment in AI technology with other competing priorities and ensure that it is justified by the potential return on investment. And leaders also have to address the ethical implications of implementing AI technology, including potential biases, job displacement and data privacy concerns, because they have a responsibility to ensure that AI is deployed ethically and responsibly in their organisations."

2 FC Beauty
This is a UAE skincare brand that has become part of a 55-year-old group of Dubai-based companies which sell to customers around the world.

FC Beauty started using AI to personalise product recommendations, provide customer assistance using chatbots and analyse consumers' needs from their social media engagements. The company has since incorporated AI-based predictive analytics in inventory management.

FC Beauty's co-founder, Alefiyah Johar, explains: "This helps us to forecast demand for our goods, optimise inventory levels and prevent

stock outages. It ensures that we have the right products available at the right time."

Taking the opposite approach to that chosen by GetTransfer.com, FC Beauty collaborates extensively with external partners to develop its AI-based solutions.

"By involving external experts in our AI development and implementation, we can use the most current technologies and industry best practices, achieving cost-effective solutions," Johar says. "Their guidance and support play a crucial role. They contribute significantly to the seamless integration of AI into our business processes while proactively addressing risks."

For Johar, the top three leadership responsibilities relating to AI are as follows: addressing ethical considerations so that her team uses the technology "responsibly and transparently"; embedding data-driven decision-making into the company's culture; and aligning AI initiatives with strategic objectives to generate "tangible business value".

3 Phoenixfire Design & Consulting
Businesses that need to create content can benefit from generative AI, but John Fuller, founder of US firm Phoenixfire Design & Consulting,

stresses that the use of affordable tools such as ChatGPT and Google Bard should never replace human input. Its application in a creative context should instead focus on improving efficiency, he argues.

Phoenixfire doesn't consider any content it has created using AI as the finished article, as Fuller explains: "It's something that needs to be verified or modified by hand to fit our needs. Generative AI is bringing the projects we use it for to a level of about 80% complete, so we don't have to start from a blank page."

He reveals that his firm achieved "a huge bump in efficiency once we worked out the prompt engineering. The way you ask questions drastically affects the results you get."

Phoenixfire has been keeping its AI costs to a minimum by using ChatGPT and Google Bard without involving external collaborators. But Fuller is open to future partnerships, explaining that his firm's approach will change as AI solutions become more widely used.

"We tend towards the early adoption of new tech, so we are learning the tools internally," he says.

4 AllCasting.com
In addition to content creation applications, AI is making its mark in other creative industries, despite some fears that it will replace jobs.

The recently resolved Hollywood actors' strike resulted largely from concerns that the voices and images of actors would be replaced using AI tools. But, thanks to AI, "the future of talent casting has already come". So says Kate Taurina, head of the casting directors' department at AllCasting.com, a US company that connects performance artists and models to auditions.

It uses AI-powered platforms for virtual auditions and talent discovery, reshaping how new actors are found, auditioned and cast.

"We are working with new search systems that enable us to promote diversity and inclusivity in the talent industry. This is making it easier for casting directors to find the right talent for their projects and ensure that they are casting people who are representative of the diverse world we live in. For actors, this translates into faster and more optimised casting options and jobs that fit their profiles better," Taurina says, adding that AllCasting.com is thinking about working with external partners to maximise AI's benefits to the business.

To keep up with the breakneck pace of technological change, SMEs must ensure that their investments in AI are smart and strategic.

"It is best to consider resource allocation before any AI investment. Decisions about employees, budgets, infrastructure and implementation should be discussed first," advises Taurina, who adds: "AI gives the best results when it's coupled with the human touch." ●

" Generative AI is bringing the projects we use it for to a level of about 80% complete, so we don't have to start from a blank page

THE MOST COMMON BUSINESS USES OF GENERATIVE AI

Share of employees reporting that their organisations use GenAI regularly in the following ways

|	
Crafting first drafts of text documents	9%
Personalised marketing	8%
Summarising text documents	8%
Identifying trends in customer requirements	7%
Using chatbots	6%

DOES YOUR BUSINESS REALLY NEED AN APP?

Companies are becoming increasingly reliant on apps to improve the customer experience, enable first-party data collection and generally stay relevant in a mobile-first digital world. But, while most of us have grown comfortable with the concept, not all apps are created equal in the eyes of users. What factors must a business consider if it's to design an amenity that people actually want to use?

HOW MANY APPS DO CONSUMERS TYPICALLY USE EACH WEEK?

Share of consumers giving the following responses when asked how many business apps they used in an average week

● 1 to 4 — **34**%
● 5 to 9 — **41**%
● 10 to 14 — **18**%
● 15 to 19 — **3.5**%
○ 20 or more — **3.5**%
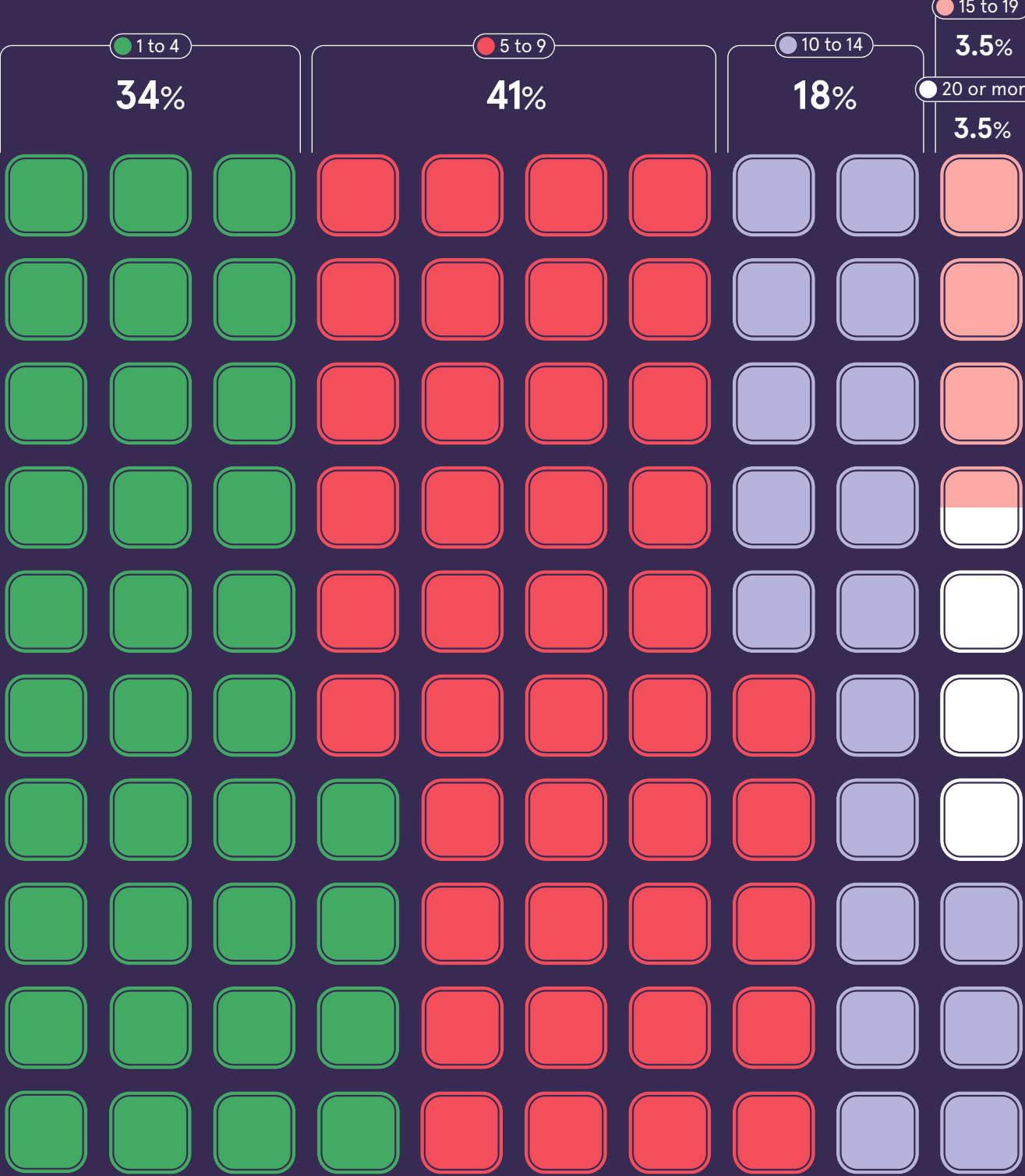
CONSUMERS ARE DIVIDED, BUT GENERALLY NEUTRAL, ON INSTALLING APPS

Customers' sentiments when businesses require them to install apps on their devices

31.3% Positive (aggregate)

43.3% Neutral
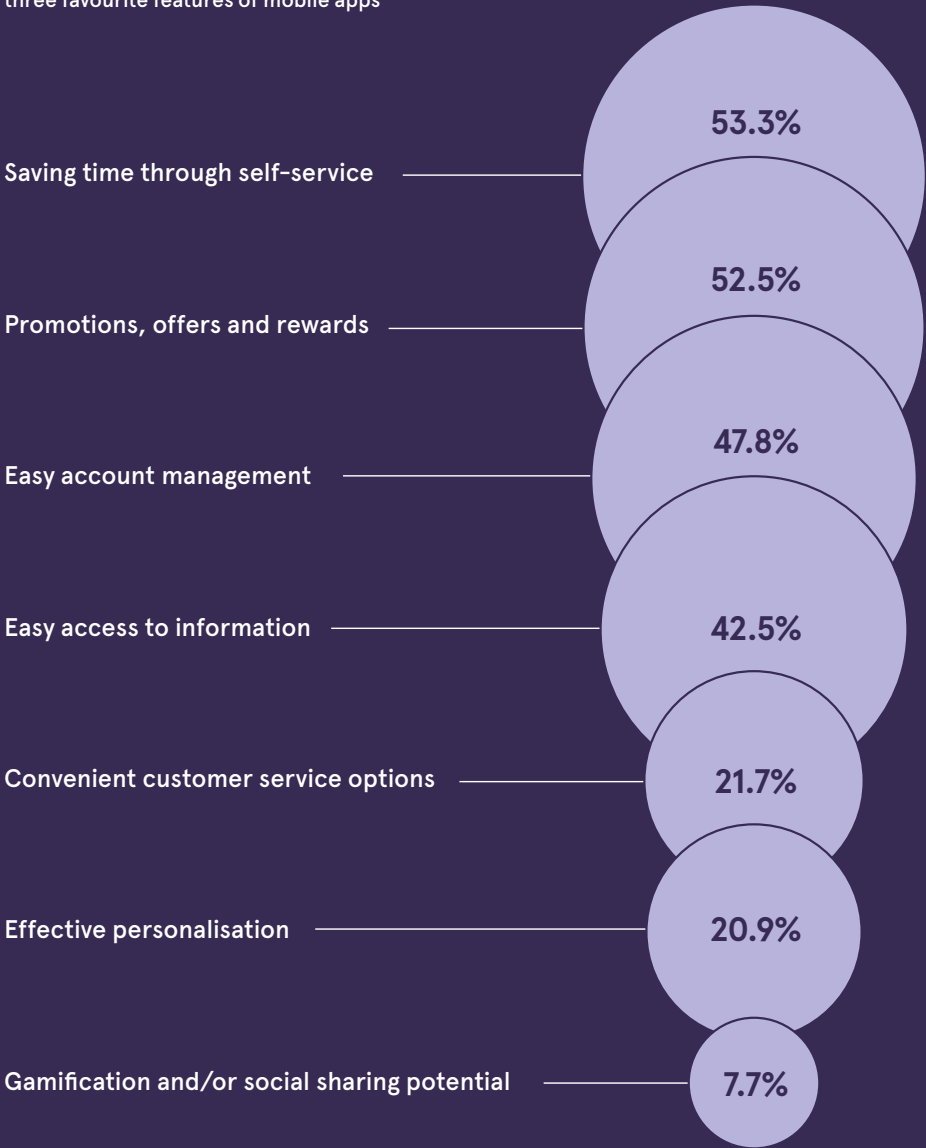
25.4% Negative (aggregate)
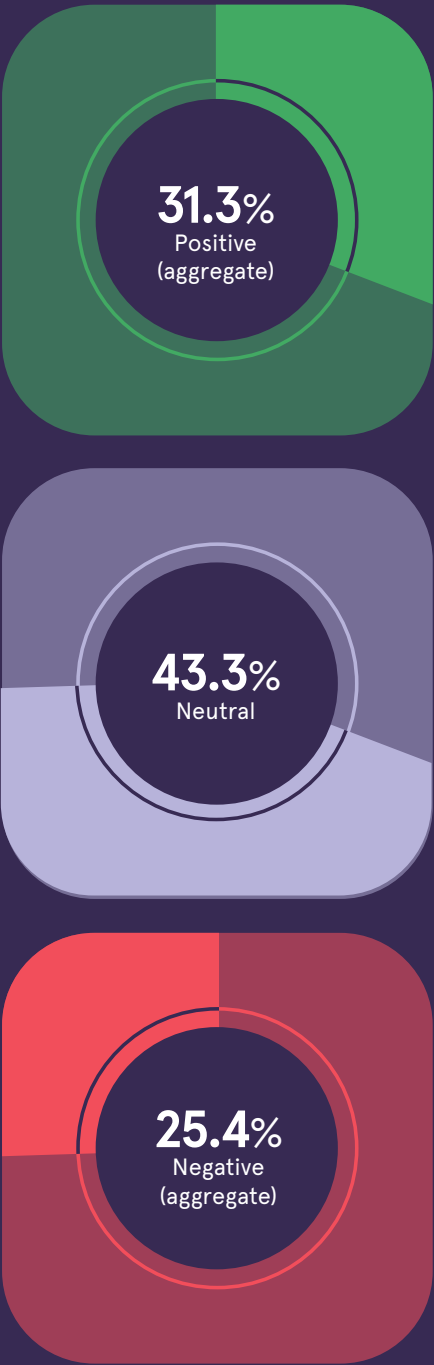
APPS PROVIDING FINANCIAL SERVICES ARE THE MOST POPULAR

Share of consumers who feel that apps for the following services usually improve their experience
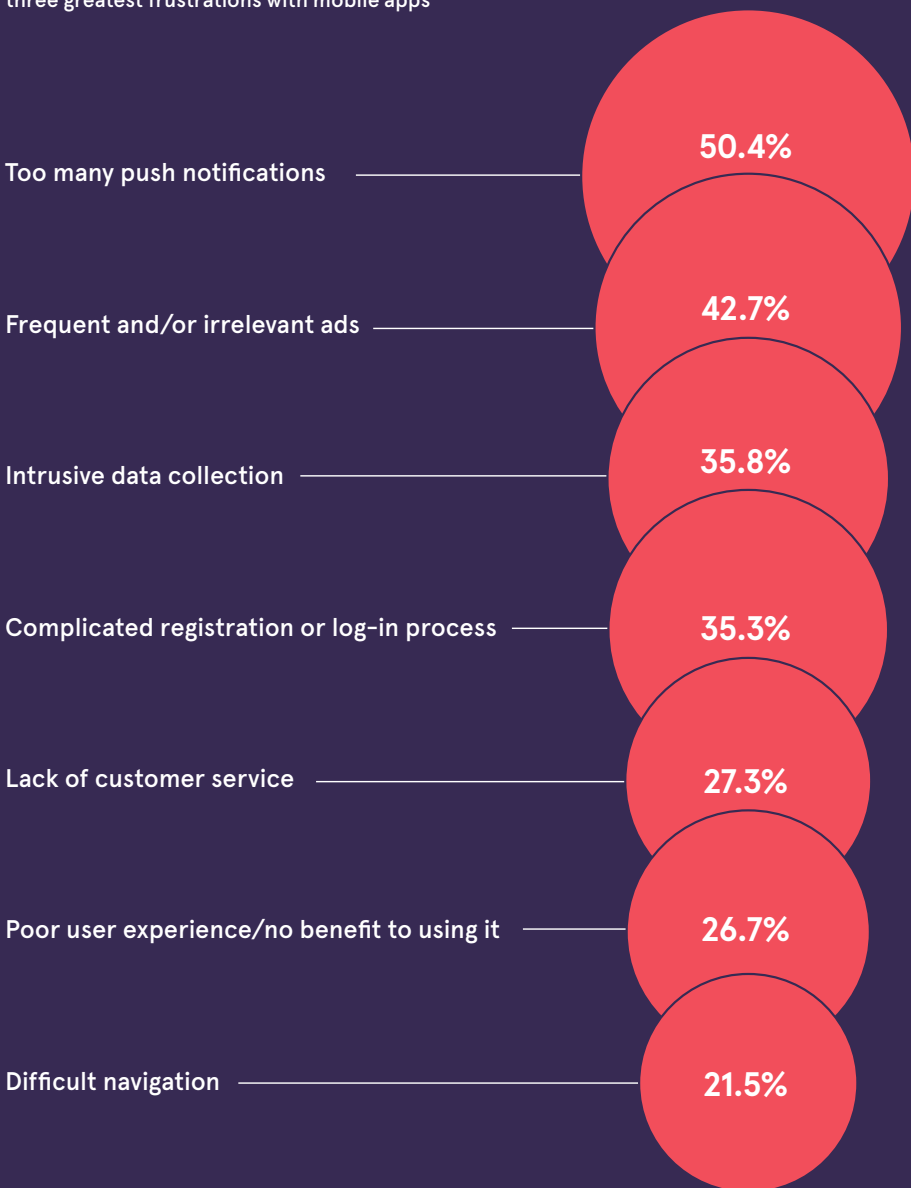
Service	%
Banking and personal finance	63.9%
Social media	62.5%
Food delivery (eg, Deliveroo, Just Eat)	51.3%
Online marketplaces (eg, Amazon, Groupon)	45.4%
Travel (eg, Trainline, easyJet)	41.6%
Food retail (eg, Waitrose, Tesco)	39%
Health services (eg, NHS, MyGP)	38.9%
Online branded retail (eg, Asos, Sephora)	28.1%
Bars and restaurants (table service or bill payment)	26.4%
News services	22.8%
Ride hailing	18.2%
None	1.4%

WHAT DO PEOPLE LIKE IN AN APP?

Share of consumers citing the following among their three favourite features of mobile apps

Feature	%
Saving time through self-service	53.3%
Promotions, offers and rewards	52.5%
Easy account management	47.8%
Easy access to information	42.5%
Convenient customer service options	21.7%
Effective personalisation	20.9%
Gamification and/or social sharing potential	7.7%

WHAT ARE THE MOST FRUSTRATING FEATURES OF APPS?

Share of consumers citing the following among their three greatest frustrations with mobile apps

Frustration	%
Too many push notifications	50.4%
Frequent and/or irrelevant ads	42.7%
Intrusive data collection	35.8%
Complicated registration or log-in process	35.3%
Lack of customer service	27.3%
Poor user experience/no benefit to using it	26.7%
Difficult navigation	21.5%

Raconteur, Attest, 2023

Commercial feature

Cut through data chaos to prepare for effective generative AI

How can organisations get their house in order before they start experimenting with emerging technology?

Where you find an emerging technology, you will always find excitement – as people dream of its potential to drive real business value and growth. However, to harness the true potential of new technology, organisations need to ensure they have their data ducks in a row.

This is particularly true of generative AI, where leaders need to pay as much attention to the data they need to make it work as the value it can bring to the organisation. Those who take the time to get this right are more likely to see vast benefits. According to AWS, 93% of chief data officers (CDOs) accept that a data strategy is crucial to creating business value from generative AI, but despite this, 45% say they don't have the right data foundation in place.

Farhin Khan, head of UKI Databases at AWS, explains that data chaos makes it harder to solve generative AI risks later, such as ethics, bias and hallucinations. She says that the CDO needs to lead organisational change.

"As a relatively new C-level position, the CDO role has evolved tremendously in the last decade," Khan explains. "The key challenges and barriers faced are mostly organisational and behavioural, rather than technological, and related to culture, people and process within the organisation.

"CDOs need to gauge their organisation's preparedness for data initiatives and choose the most straightforward route to deliver business and business outcomes. Culture change is challenging to achieve and quantify, but it is a necessity for successful adoption of a data-driven approach."

Many other factors can contribute to an inadequate initial adoption of generative AI, not least budgets and skills. AWS research found that 55% of CDOs cited having "insufficient resources" to accomplish their goals while half spoke of a "lack of data literacy or understanding" in their organisation.
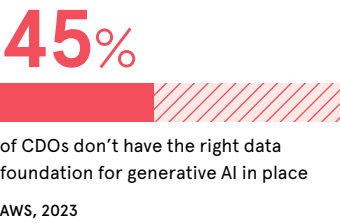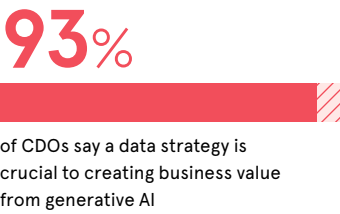
Khan advises that developing a "modern data strategy" can overcome these barriers. "This is an agile plan of aligned actions spanning mindset, people, process and technology that accelerates value creation," she explains, "using data in direct support of strategic business objectives."

She adds: "In the past, organisations would create a comprehensive strategy document spanning three to five years, which often remained untouched and unread. In today's dynamic digital landscape, a modern data strategy should be regularly updated to reflect evolving realities and rapid changes internally and externally."

Developing meaningful content
A data strategy for generative AI adoption needs "data quality" at its core, Khan believes. "It forms the foundation for accurate learning, unbiased outputs and the generation of meaningful content," Khan says, "ultimately contributing to the overall effectiveness and trustworthiness of generative AI applications."

Achieving data quality relies on several actions; these include effective data checks alongside leveraging purpose-built tools across all aspects of data pipelines and processes. Khan's experience shows this is often not achieved due to a failure to work backwards from customer use cases or because speed has been prioritised over quality.

Data must be both "relevant to the application and accurate/free from errors", Khan says. She explains: "While noisy data can lead to poor model performance, inaccurate data will result in misleading outputs.

"It is crucial to ensure any underlying data set is free from biases for fairness in your generative AI systems; inconsistent data can confuse the model and hinder its ability to learn patterns."

Other barriers to data quality might include outdated data governance and management policies, a culture that discourages shared access to business-critical information and a lack of agility, Khan suggests.

Therefore, C-suites can better support their CDOs to overcome these barriers by taking a "collaborative, hands-on approach" to foster change, she adds, with everyone, from top to bottom, "understanding the value of data and its role in decision-making".

Agreeing to the necessary budget at board level is also a critical moment in delivering a scalable data infrastructure. Khan believes the budget should include legacy system upgrades and cloud adoption. She adds: "C-suites should provide resources for budget and personnel for data projects, data literacy programmes and hiring so the CDO can build a skilled data team."

A step-by-step approach
The journey towards adopting generative AI can begin with the smallest step, which can then be added to over time with incremental change. Key steps on this path include working backwards from customer challenges, automating as you go, and establishing your values and ethics guardrails, Khan says.

She concedes there is no "one-size-fits-all" approach to a technology solution. Instead, a modern data architecture "giving you the best of data mesh, data lakes and purpose-built data stores" is the answer.

"It lets you store any amount of data you need at a low cost, and in open, standards-based data formats," she adds. "It isn't restricted by data silos and lets you empower people to run analytics or machine learning using their preferred tool or technique. Also, it lets you securely manage who has access to the data."

Technology solutions are also evolving alongside generative AI developments. For example, Amazon Bedrock, AWS's service for building and scaling generative AI applications, has recently announced its Guardrails feature to help customers implement safeguards customised to their generative AI applications.

Building a generative AI model from scratch not only requires a large volume of high-quality data, but it also needs fine-tuning. A modern data strategy will consider the nuances and intricacies when training multi-modal models so the differences in data types – text, image, audio or video – are understood.

"CDOs should have the authority and resources to establish and enforce data quality standards, security measures and compliance protocols. This not only ensures the reliability of the data but also mitigates potential risks," Khan says.

A focus on mindset, people, process and technology can also be used as a framework to avoid data chaos; this can be most efficient and successful when coupled with a C-suite approach to recognise, acknowledge and reward.

Khan contends this culture of acknowledgement and reward is vital as successful data-driven initiatives must celebrate incremental wins. "By combining these elements, executives can provide the necessary support for CDOs to swiftly and efficiently establish the robust data foundations needed for harnessing generative AI's transformative power," she adds.

Another aspect to be recognised is the distinct but complementary roles of data producers, data technology teams and data consumer teams. Doing so can create an agile environment that innovates faster while adhering to data security rules and regulatory considerations.

"CDOs are most exposed right now as they face new challenges," Khan cautions. "Integrating emerging technologies like generative AI into current data strategy initiatives and existing data ecosystems is a key focus area."

Getting strong data foundations in place may seem like a big project, but those organisations who take on the challenge will put themselves head and shoulders above the competition to leverage the power of generative AI.

For more information, please visit aws.amazon.com

> ❝ As a relatively new C-level position, the chief data officer role has evolved tremendously in the last decade

93%
of CDOs say a data strategy is crucial to creating business value from generative AI

45%
of CDOs don't have the right data foundation for generative AI in place

AWS, 2023

aws

A game of duopoly: the quest for a fairer UK cloud market

The government's competition regulator is investigating the sector with a view to levelling the playing field, but the sheer dominance of Amazon and Microsoft could well prove hard to challenge

Daniel Thomas

The UK's cloud computing market looks a lot like the internet, energy and banking sectors did in 2010. That's the view of Paul Mackay, regional vice-president, EMEA and Asia Pacific, at data analytics firm Cloudera.

Back then, the process of switching providers was "fraught with delays and red tape" before the various industry regulators stepped in, he says. There is a similar "lack of flexibility" in cloud provision today, with only two players – Microsoft and Amazon Web Services (AWS) – accounting for an estimated three-quarters of the market.

"The exit fees are huge, while the integrations, tools and skills needed to manage data are different for each cloud provider," Mackay says. "Because of these costs and complexities, many organisations are locked into their existing services."
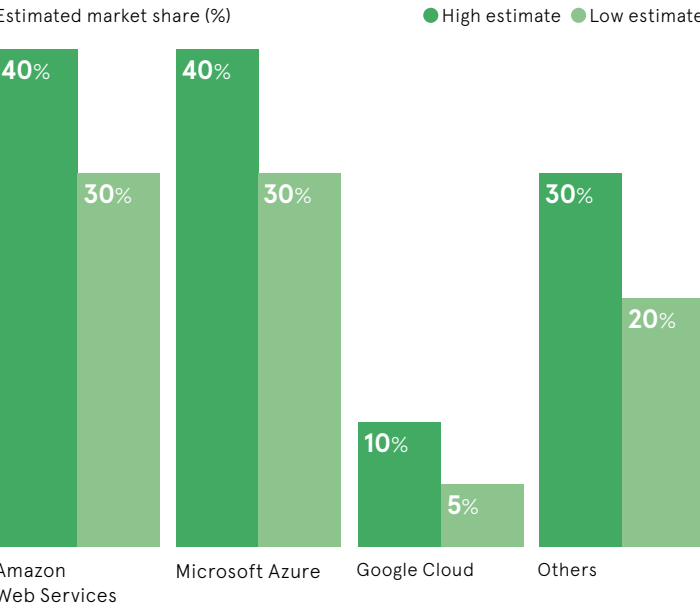
He is not the only one concerned about the health of this market. In October, the Competition and Markets Authority (CMA) started an investigation in light of a report by media regulator Ofcom, which concluded that high barriers to switching cloud providers were harming competition.

The competition watchdog wants to ensure a "level playing field" so that service users can easily find the best-value cloud providers and leave their existing vendors without having to pay excessive egress fees.

When the CMA finishes its investigation and publishes its findings in 2025, it could impose a range of remedies. These might include capping or banning such fees; prohibiting the use of certain discounts to entice customers; mandating the use of clearer, more comparable pricing structures; and even obliging providers to make their services more interoperable.

Both AWS and Microsoft deny that they are doing anything to stifle competition and have pledged to cooperate fully with the CMA. But whether its investigation will make any real difference to those hoping for change is a moot point.

There is no clear-cut case against the big players in the UK cloud market, according to Pinsent Masons, a law firm that has represented both tech firms and their clients. Alan Davis, its partner in charge of competition, points out that numerous customers are broadly happy with the innovations that Microsoft and AWS have brought to the sector – something that Ofcom did accept in its report.

These customers "don't want to return to legacy on-premises servers with bespoke software development and the hit-and-miss nature of technology solutions, which cost a lot and always delivered less than was envisaged", he says.

But Davis adds that customers do realise that they are becoming "increasingly locked in and have little choice". Ofcom's concern, he says, is that this situation could worsen as the giants concentrate their power and accelerate innovation in the field of artificial intelligence. Take how Microsoft's Copilot tool – the enterprise version of popular AI bot ChatGPT – is integrated in its key applications, for instance.

The regulator warns that independent cloud operators might also suffer because of this. Google is the UK's next biggest player after AWS and Microsoft, with no more than 10% of the market, followed by a host of smaller vendors.

Some of these, such as Civo, a cloud provider based in Stevenage, Hertfordshire, are convinced that the status quo simply isn't working for them or the customer.

"There is a myth that hyperscalers like AWS and Microsoft are good value for money," argues the firm's co-founder and CEO, Mark Boost. "Owing to their size, they can offer huge amounts of free credit for long periods to entice customers, but there's no such thing as a free lunch. Once those credits expire, you are locked into a proprietary ecosystem that is neither great value nor easy to leave, especially when you consider the grossly inflated egress costs."

Creating an easier way to switch providers and access multi-cloud environments would give users more flexibility to choose services that best fit their needs, he adds. It would also foster a more competitive and innovative market.

Microsoft did not respond to a request for comment. AWS, the UK's largest cloud player, preferred to highlight a statement it made to Ofcom in April. This argued that there were plenty of opportunities for customers to switch providers, while offering free credits was "a common business practice in most industries". It also pointed out that AWS had cut its prices repeatedly over the years.

Davis says that the CMA's market investigations almost always result in the imposition of remedies. But he believes that the most likely ones would not "radically alter the big players' business models".

As regulators in the banking and energy sectors have already seen, making the switching process easier may not make the market a great deal more competitive, Davis adds. He explains that "the problem they run into in all these markets is that there's a lot of customer inertia".

AWS and Microsoft also have clear advantages in terms of brand power that make them hard to challenge. Michael Callum is vice-president of engineering and data at Bud Financial, a data intelligence platform for the financial services industry. He says that firms in this sector believe that the biggest players have a complete understanding of their governance, compliance and data protection responsibilities, which makes their technology feel safer to use than average.

"In practice, you want to have stable cloud partners that you know have the lowest risk of disappearing tomorrow," Callum observes.

Nevertheless, other interested parties hope that the CMA's market probe will lead to real change by loosening the big players' grip on the market.

Mackay accepts that a "switching frenzy" will be unlikely once the watchdog has acted, but he stresses that "organisations do need greater flexibility to move data between providers in the hybrid and multi-cloud age".
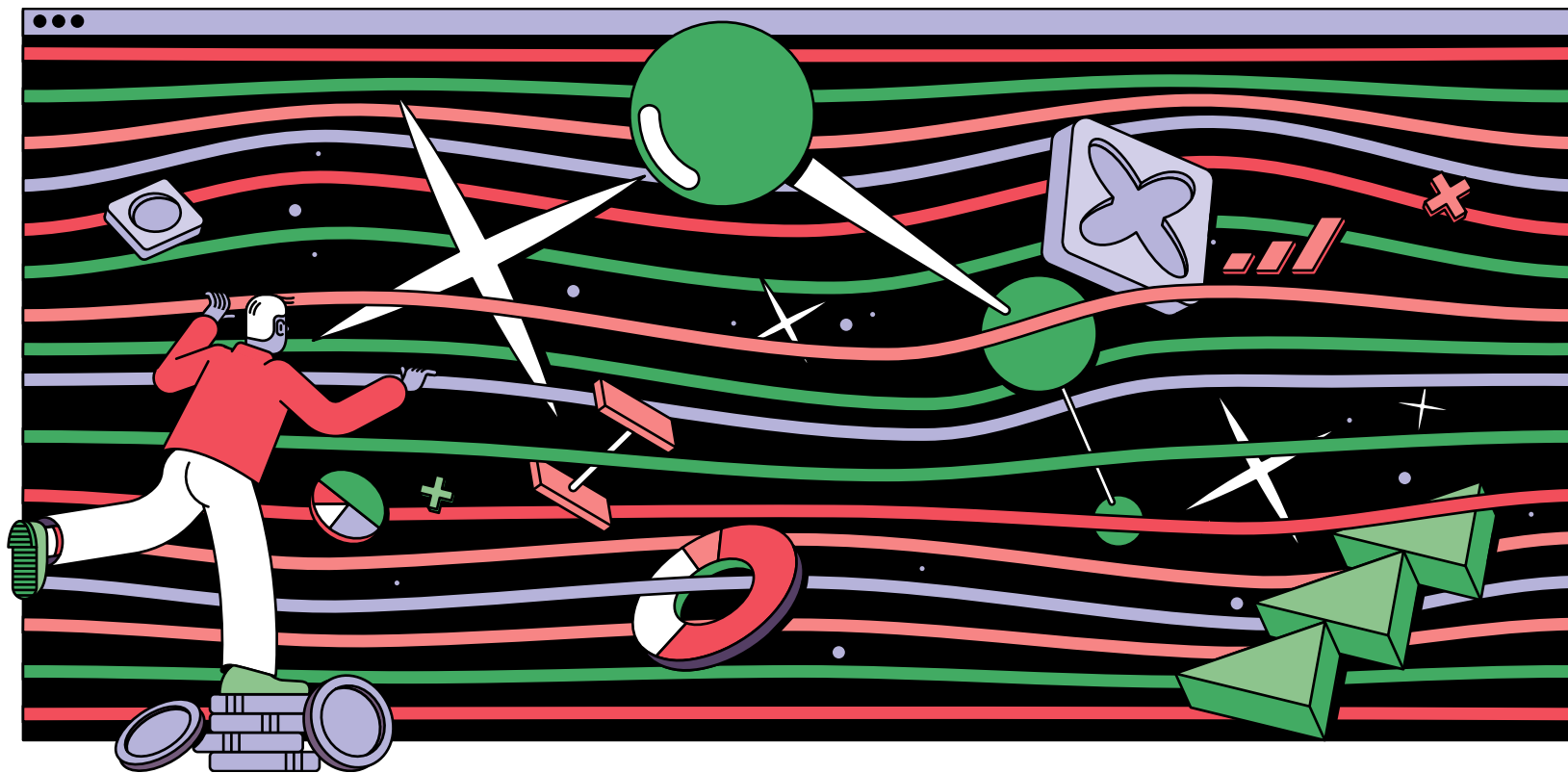
Boost believes that the investigation may succeed in making the market fairer if the CMA imposes effective measures such as the capping of egress fees. "In this market," he says, "customers can see that similar practices wouldn't be tolerated in other sectors." ●

> ❝ The hyperscalers can offer huge amounts of free credit for long periods to entice customers, but there's no such thing as a free lunch

AMAZON AND MICROSOFT ACCOUNT FOR A HUGE SLICE OF THE UK CLOUD MARKET — Ofcom, 2023

Estimated market share (%)   ● High estimate ● Low estimate

	High estimate	Low estimate
Amazon Web Services	40%	30%
Microsoft Azure	40%	30%
Google Cloud	10%	5%
Others	30%	20%

kickers via iStock

What tech to invest in for 2024 – a guide for different budgets

As business leaders begin to plan out their budgets for the coming year, their technology investment options can be overwhelming. Here, tech expert and Raconteur's regular columnist **Bernard Marr** shares his tips on where to start

Bernard Marr

I n this fast-moving digital age, technology has become a driving force behind most successful businesses. Many companies face a challenge in determining which new technologies warrant immediate investment and which can wait a while, particularly when funds are limited.

Any tech investment needs to be aligned with your overall business strategy, of course. It's not just about catching on to the latest trends; it's about ensuring that each advance works harmoniously with your commercial objectives. Although the allure of cutting-edge IT systems can be tempting, it's crucial to understand their tangible impact on your operations.

With all these considerations in mind, I shall highlight the most important areas for companies with small, medium and large budgets to focus on in 2024.

Foundational technologies: the base of modern business
It's crucial to understand the foundational technologies first before discussing any specific budgetary strategies. These act as the bedrock, underpinning organisations of all sizes and enabling them to take advantage of next-level tech.

1 Networks and connectivity
You know how we consumers all expect everything pronto? Like, yesterday? That's the digital age doing its magic. But here's the thing: a slight technical glitch, a little delay in delivery and bam! Businesses can get a nasty hit to their reputation.

What's the solution? Businesses need fast and secure connectivity, not only in their offices but also on the go. This brings us to 5G. This latest generation of mobile network technology is not merely about outpacing its predecessors – it's transformative. While it promises swift connections, 5G's true potential lies in its role as the foundation for cutting-edge technologies such as the internet of things, autonomous vehicles and augmented reality.

With 5G, businesses can capitalise on the advantages of high bandwidth and low latency, paving the way for real-time collaboration, no

> **"**5G's true potential lies in acting as the cornerstone for cutting-edge technologies such as the internet of things and augmented reality

matter where people are. It promises to knit global operations more closely together than ever before.

2 Data management
It's been said many times that data is the digital oil that fuels modern enterprise. Amassing vast quantities of data isn't the endgame, though. Its true essence is unlocked when all this raw material is aptly interpreted and applied. Successful organisations don't stop at data-gathering. They harness the power of advanced analytics and artificial intelligence (particularly machine learning) to convert this into tangible insights.

By assimilating proprietary data with external data sets, businesses can gain a comprehensive view of their operations, emerging market trends and customers' detailed requirements and preferences. This meticulous approach to data management serves as a guiding compass. It ensures that businesses don't drift aimlessly in the vast ocean of information but instead navigate with precision towards well-informed decisions.

3 Cybersecurity
Any organisation needs to be sure that the defences protecting its systems and data are impregnable. With the increasing digitisation of business operations, vulnerabilities are inevitably creeping in. Cyber threats aren't limited to ransomware attacks that can paralyse a company's entire data infrastructure or intricate phishing ploys that can erode the hard-earned trust of customers. They are diverse, they

evolve continually and they can strike when least expected.

Relying on reactive measures, such as repairing a system after a security breach, has become archaic. A proactive approach is crucial. This entails not only familiarising yourself with emerging threats but also deploying advanced detection methods. It involves training everyone in the organisation, ensuring that they can discern potential threats and nullify them. In the intricate dance of cybersecurity, the best defensive moves are often pre-emptive ones.

These foundational technologies aren't just techie things or buzzwords. They're the very bricks and mortar of today's business world. Think of them as the solid base of a skyscraper in this ever-buzzing digital city we're all part of.

**Advanced technologies: powering the next business frontier**
Once they have ensured that their technological foundations are solid, businesses can layer more advanced technologies on top to supercharge their performance.

1 Artificial intelligence
AI has fast become the most important advanced technology in business by far. It isn't all about intricate algorithmic processes cranking out calculations at lightning speeds. This is a matter of sculpting its formidable capabilities into rock-solid business solutions.

Take AI's uncanny ability for personalisation, for instance. Whether you're plotting a marketing strategy, reshaping a product or rolling out a new service, AI can dive head first into heaps of data, sniff out patterns we might miss and craft solutions that fit perfectly. Then there's the daily grind. Mundane tasks that used to gobble up hours? AI's got them covered, ushering in a new era of automation.

But that's just the tip of the iceberg. With predictive analytics in its toolkit, AI isn't just reacting – it's foreseeing. It's plotting out tomorrow's trends while we're still wrapping our heads around today's. And, for those seeking to mix business with a dash of creativity, generative AI is becoming a game-changer. GenAI can churn out written content, images, designs, melodies, computer code and even three-dimensional virtual worlds.

2 The immersive internet
If you're still thinking of the internet as a bunch of web pages, think again. We're cruising into a truly interactive universe. Virtual reality and augmented reality, once the stuff of science fiction, have
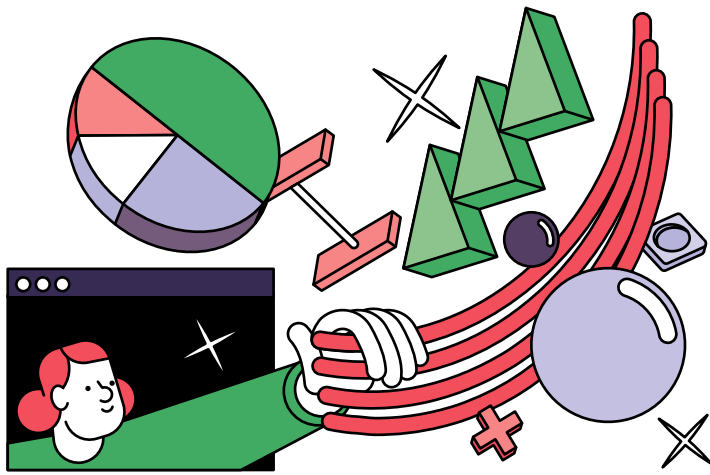
become genuine business tools. Imagine house-hunting with virtual property tours or trying on outfits in an AR-powered dressing room.

And then there's the concept of digital twins – virtual doppelgangers for everything real. Businesses can test theories, explore scenarios and iron out kinks without taking risks in the real world. But perhaps the showstopper is the metaverse, a sprawling virtual realm blending AR, VR, and the good ol' internet. It's like a new frontier where businesses can connect, advertise and roll out their services.

3 Blockchain
When most people hear the word 'blockchain', they immediately think of bitcoin, but that's barely scratching the surface. Blockchain's genius is its decentralised design. It's the epitome of transparency. Every transaction is clear for everyone to see, building an unprecedented level of trust. Imagine its potential for sectors where authenticity is king.

And it's not only transparent; it's as tough as nails. With its decentralised structure, blockchain gives hackers a run for their money. But don't just pin it down to cryptocurrency. We're talking smart contracts, crystal-clear supply chains and foolproof identity checks. The possibilities are staggering.

4 Quantum computing
Welcome to the future of computing. A quantum machine isn't your everyday computer; it's a beast. Thanks to quantum bits, or qubits, these systems can multitask like nothing else. Think of a problem that would stump a conventional PC for ages – a quantum computer could crack it over a coffee break.

Quantum computing is changing the game for sectors swimming in complex data – pharmaceuticals and logistics, for instance. And, while it's true that this technology might pose a data security headache, it also offers quantum encryption as a fresh take on keeping your communications watertight.

Investment strategies for a range of budgets: navigating the digital frontier
Businesses evidently have a tantalising buffet of technologies to pick from. But, as with any buffet, this will not be a question of grabbing everything in sight; it will be about making the right choices based on what you truly need and can afford.

Let's break it down based on three budget sizes, ensuring that you achieve the biggest tech bang for your buck in each scenario.

1 Small budget
If your IT funds aren't plentiful, don't sweat. Stick with the basics. Solidifying foundational tech is key.

> **"**Artificial intelligence isn't just for the big players. Even if your budget is small, directing some of your resources into AI can pack a punch, unlocking insights and efficiencies that can propel a business

This means upgrading network connectivity to ensure seamless operations, getting your data management house in order and ensuring that the fortifications protecting your data and systems are suitably reinforced.

And, while your money might be limited, don't count out the game-changers. AI, for instance, isn't just for the big players. Even if your budget is small, directing some of your resources into AI can pack a punch, unlocking insights and efficiencies that can propel a business. Generative AI in particular offers scalable options. Imagine creating
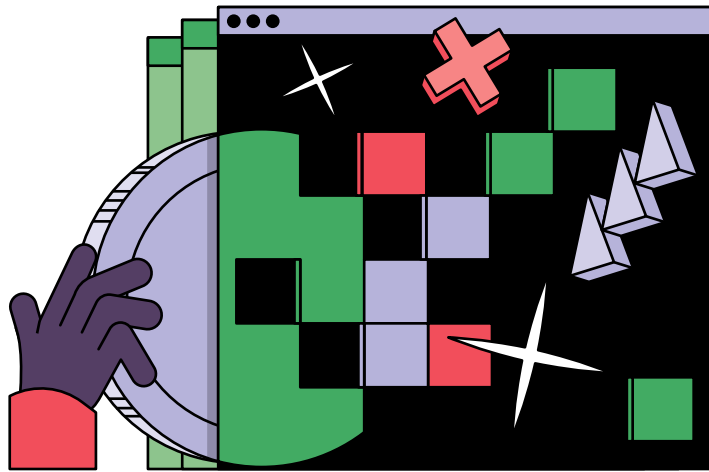
customised marketing content or design solutions with minimal direction. That's the power of GenAI. It can deliver substantial results even with modest inputs.

2 Medium budget
If you have a little more money to spend, it's time to up the ante. Enhance your firm's connectivity with the magic of 5G, ensuring faster and more robust connections. Data, the lifeblood of modern business, deserves a deeper dive. Consider optimised cloud and edge capabilities to safeguard and access your data effortlessly. Think about integrating external data sets to enrich your insights.

Beyond that, go all-in on AI. Make sure that you implement AI to automate and improve your processes and to make your goods and services more intelligent and more personalised. And, of course, going all-in on AI also means adding a generative AI aspect to your business.

The tech frontier is vast, so why not start exploring it? Technologies such as extended reality and blockchain might seem futuristic, but they are becoming ever more accessible and essential. Setting some foundations in place now could position you perfectly to build on the next technological advances.

3 Large budget
If your pockets are deep, the digital playground is truly yours to explore. We're talking best-in-class connectivity solutions, ensuring that no byte is out of place. In the realm of data, think big. Build a repository that includes not only your material but synthetic data and a dash of the expansive world – satellite-driven Earth observation data, for instance.

Make AI central to your business, driving everything from operations to innovations. Dive headlong into extended reality, bringing unparalleled immersive experiences to your stakeholders, especially in the shape of digital twins. While you're at it, get acquainted with Web3, the next layer of the internet's evolution, and keep those peepers trained on quantum computing. This is not about riding the tech wave; it's about *being* the wave.

Always remember, in the world of technological investments, that it's not always about having the biggest wallet; it's about spending smartly, looking ahead and ensuring that each choice you make propels your business closer to its goals. ●

'We are not monetising our own brain cells'

BT Group's chief digital and innovation officer, **Harmeen Mehta**, believes that UK plc needs to stop worrying about the threats presented by artificial intelligence and focus instead on the opportunities

Sam Forsdick

A s AI-based tech becomes ever more sophisticated, concerns about its possible negative impacts on society are growing. Chief among these is the threat it poses to the labour market. Indeed, in a new paper entitled *Future Risks of Frontier AI*, the Government Office for Science considers a scenario in which increased automation disrupts the UK's workforce, leading to increased unemployment and poverty by 2030.

Such outcomes are far from unlikely. IBM's chairman and CEO, Arvind Krishna, expects that about 7,800 jobs at the company could be replaced by generative AI in the medium term, for instance. Meanwhile, BT Group's leadership team has been open about its plan to slash the company's headcount by 55,000, using tech including AI to automate up to 10,000 jobs within seven years.

Harmeen Mehta, the telco's chief digital and innovation officer, believes that too much attention is being paid to the technology's negative impact on people whose jobs it's already affecting.

"Society changes and jobs morph," she says. "It's part of evolution. Some jobs will change, some new ones will be created and some will no longer be needed."

The UK press has adopted a particularly circumspect attitude towards AI, according to Mehta, who thinks that the media focus in the US and much of Asia has been much more on its potential applications. "It's creating a level of paranoia that's going to paralyse this country," she says.

Mehta believes that the UK is trailing badly in the innovation stakes behind the US, which is home to companies at the forefront of AI developments, including OpenAI, Amazon and Microsoft.

"The UK is a leader in research, but we lag on turning that into products that generate revenue," she observes. "We're not monetising our own brain cells."

Mehta joined the firm in March 2021 to lead its digital transformation unit, BT Digital. This department is responsible for modernising the business, which she describes as "a little bit more institutionalised" than her previous employer, Indian telco Bharti Airtel.

Having missed out on a "whole wave of transformation", BT has left itself "a lot of catching up to do", according to Mehta. With this in mind, she is determined that the firm will seize the latest opportunities created by the rise of generative AI systems such as ChatGPT.

"If I don't do this for BT, the business won't survive, because every other company will do it and overtake us," she stresses.

In her bid to "shake up" the enterprise, which can trace its roots back to 1846, Mehta has been hiring candidates with experience in startups to inject some entrepreneurial spirit into the organisation.

"These people have shown what they can do without the resources of BT, so imagine what they can do for the country, not just for the company, if we give them a bit of room," she says.

Alongside its remit for product innovation and service digitalisation, Mehta's unit is also responsible for finding £1bn in savings through digital transformation with a project that's known internally as "simplify". This forms part of the wider £3bn cost-reduction target set last year by BT's outgoing CEO, Philip Jansen.

These savings will come from measures such as productivity improvements, a reduction in spending on legacy systems, a shift away from using subcontractors and, crucially, the adoption of generative AI.

While Mehta accepts that this last measure in particular will affect numerous roles at the company, she encourages people to retrain to avoid being automated out of a job.

"Every job that exists today won't exist in exactly the same form in the future," she argues. "The people who reskill themselves will have jobs, while those who don't might not. That is simply part of the evolution of society."

This challenge should be reframed as a "call to arms for society" that urges people to "wake up, reinvent yourself and get ready", Mehta says. "It is their responsibility to put themselves on the map and mine to create an opportunity for them to do that. It takes two to tango."

Mehta can provide a clear example of how this approach is working at BT. Earlier this year, she encouraged tech-savvy workers in the firm's Belfast call centre to apply for jobs in her business unit. Of the 50 or so applicants, four have gone on to have full-time roles in BT Digital and have received training on low-code platforms (which don't require deep knowledge of programming languages to use).

"They've gone from working in call centres to building the technology we'll be using in call centres," Mehta says. "I just gave them a platform. The experience has made me confident that reskilling works beautifully if it's done with the right mindset and people are hungry to learn."

She would like such a model to become more prevalent in British business. In her view, if this country is ever to become a leading AI power, people must learn to stop worrying about the risks posed by the technology and focus on the opportunities it offers.

"The UK is not going to be an AI hub if you don't let companies adopt AI. While this will mean that some mundane jobs will disappear, new kinds of jobs will be created," she argues. "This can lead to much more innovation because we'll be spending less time writing emails and more time actually thinking." ●

Harmeen Mehta's career at a glance

BT
Chief digital and innovation officer   2021–present

Bharti Airtel
Global CIO and head of cloud and security   2019–21

Global CIO and head of digital   2014–19

CIO   2013–14

BBVA
CIO, global markets   2011–13

Bank of America Merrill Lynch
CIO, global markets and research (Asia Pacific)   2009–11

" The UK is not going to be an AI hub if you don't let companies adopt AI

Connecting the dots: how cloud-centric IT is driving digital Britain forward

Organisations across the public and private sectors are stepping into the digital economy with full force

T he government's vision of the UK as a global tech superpower is ambitious but by no means out of reach. Over the past decade, the country has begun to flex its muscles in a big way, establishing super-fast internet access and world-class cyber security capabilities.

"We find ourselves facing new challenges in keeping our nation secure, our people prosperous, and our planet healthy. Britain has a long history of leadership and innovation, from the steam engine to the world wide web," remarked Michelle Donelan, the secretary of state for the department for science, innovation and technology earlier this year. "As we look towards the future, investment in science and technology is more important than ever. It is at the heart of the prime minister's priorities."

A lot of Britain's tech progress has been steeper than expected over the past decade. The pandemic sharpened the need for a functioning and universal digital infrastructure to keep the country running, regardless of global shocks. As of October 2022, over 67% of UK premises had access to gigabit-capable broadband, a veritable jump forward from July 2019, when coverage sat at a meagre 8%. Underlining this win for British connectivity, 92% of the UK's landmass receives reliable 4G signal.

So, the digital economy in Britain is alive and well, and the ability to compete globally is tied to its growing strengths in this arena. Notably, though, the world's tech 'superpowers' must continue investing to maintain their lead.

A new set of goalposts

As businesses evolve to embrace new cloud-based technology for digitisation, the benchmarks for efficiency and competitiveness will also change. For organisations – public and private – to cement their place as key players in the global digital race, they must make ground in three key areas, says Ben Scowen, vice-president UK & Ireland, Cloud leader at infrastructure services company Kyndryl.

The first is establishing a secure, reliable and scalable cloud infrastructure. Covid emphasised the nation's need to accelerate modernisation efforts, and many firms took this opportunity to migrate core data and mission-critical environments to public, private, and hybrid clouds. The shift has proved to have strategic longevity, and brands are now embarking on ongoing multi-year transformation projects.

BT recently extended its partnership with Kyndryl to migrate long-serving mainframe applications to the cloud. Legacy infrastructure costs are growing increasingly prohibitive, but the move puts BT Group on track to reduce mainframe operating costs and energy consumption by 70%, with projected savings worth more than £17m a year by 2026. Amid the challenging competitive landscape, companies can't afford to amass or ignore technical debt and spend valuable resources rewriting decades-old applications.

Then comes securing that infrastructure. Scowen's second principle – safeguarding critical IT infrastructure – is especially important in light of the escalating frequency and scale of cyber threats. The UK and Ireland have witnessed ransomware attacks and data breaches within their public healthcare and education systems as well as across plcs.

"As it stands, efforts to anticipate, protect, withstand, and recover from incidents are essential to competitiveness," Scowen stresses.

Finally, industries will need to work towards powering the digital workplace, he says. As flexible working continues in full force, tech investments will need to follow the trend closely. This calls for "a robust strategy and a consistent ecosystem of analytics, solutions, and support to drive the employee experience."

Tech and taxes

HMRC is one of the key public sector departments leaning into modernisation in this way. It employs around

" Modernisation, innovation and security are the pillars of any successful digital infrastructure project

this expectation ramps up the pressure on government bodies to not only keep pace but lead in driving the UK's digital economy forward. That means setting up services that have continuity, compliance and resilience built in.

"A conscious multi-cloud approach will be key for enterprises that want access to a wider range of tech innovations and to decrease their reliance on legacy tech in 2024," Scowen explains.

This "conscious" approach allows organisations to embrace modernisation as an inevitability. He adds: "Governments and businesses should seize the opportunity to build on the natural progression of technology witnessed in 2023 and address major issues like technical debt and operational risk."

Clouded perceptions and clear skies ahead

None of this is to say that cloud is a silver bullet for all the nation's digital infrastructure challenges. According to a recent report by Kyndryl, 90% of business leaders and IT professionals agree that the mainframe's reliability and performance earn it a place alongside cloud alternatives. Kyndryl is thrilled to support HMRC's strategic aims of administering tax systems in the simplest, most customer-centric and efficient way," says John Chambers, Kyndryl's UK & Ireland president.

Taxpayers want to see value for money from public sector organisations, and

66,000 people in the UK, handling the money that keeps the country's critical infrastructure running, from schools and hospitals to Downing Street itself.

How, then, does an established government department accelerate and de-risk its modernisation efforts with so many moving parts while managing so many critical workloads?

This year, HMRC signed a 15-month contract with Kyndryl to develop efficient, low-risk pathways to migrate applications and minimise technical debt. "Cloud enables public organisations to operate with the agility and efficiency expected of contemporary civil bodies. Kyndryl is thrilled to support HMRC's strategic aims of administering tax systems in the simplest, most customer-centric and efficient way,"

the integration of cloud services. By and large, companies only eliminate mainframe operations altogether in very specific areas where it makes sense to do so.

With consumers having greater expectations than ever before, Kyndryl is seeing a convergence of customer and citizen strategies regardless of sector. There is a need for inclusion across all parts of society that should be addressed in these approaches, says Chambers, with both the public and private sectors learning from each other to narrow the digital divide.

"As a company that prides itself on being at the heart of progress for its customers, we're finding that modernisation, innovation and security are the pillars of any successful digital infrastructure project," Chambers concludes. "These combined factors act as a critical catalyst to drive Britain's digital economy forward." Businesses looking to scale their operations to meet growth targets and gain greater (and greener) technical and commercial flexibility should take note.

95%

of business leaders are shifting some workloads to the cloud or distributed platforms

11%

average profit increase experienced by organisations that invest in IT modernisation

Kyndryl, 2023

Find out more at kyndryl.com

kyndryl

Commercial feature

Why advertising's privacy crackdown is good for marketers

The race to create cookie-free marketing strategies began years ago and it's heating up fast. AI might be key to unlocking the balance between consent and conversion

The recent boardroom shambles at ChatGPT owner OpenAI highlighted the chaos that ensues when leaders don't sing from the same business transformation songbook.

Following its sharp rise, this apparent lack of direction seemed especially out of place for an organisation at the forefront of an uncertain, tech-driven future. Nevertheless, the farrago highlighted the need for businesses to put a clear plan in place for AI-enabled media transformations.

Marketing is one sector that is gearing up for major changes. As the third-party cookie crumbles and regulators tighten rules around personal data usage, CMOs are searching for new ways to connect with customers. Strong developments in artificial intelligence and machine learning over the past year have provided cause for optimism, offering businesses the potential to drive stronger business performance through their investment while keeping compliant in a privacy-first digital ecosystem.

So, how can this greater emphasis on first-party data sources and consent lead to more effective marketing investment? And what steps should organisations take to deploy their own AI-enabled media transformation?

Lucia Mastromauro, managing director at Acceleration, WPP's data and technology consultancy, believes that ad tech and its application to media performance are "going through an existential phase." She describes a marketing paradigm shifting away from reliance on third-party cookies and tracking individuals across the internet. Instead, this new landscape thrives on data, predictive analytics, and the integration of AI.

"For the first time, advertisers can leverage and give life to the breadth of consumer and trend data available in their organisation," says Mastromauro. This applies even to brands that don't have direct access to first-party data based on transactions. Consumer packaged goods companies, for example, may not have information at the individual level but can aggregate "based on football, appointments available, or the number of items purchased in different retailers," she explains.

Specsavers recently worked with Acceleration on three key objectives: to future-proof its audience measurement, enhance the allocation of media budgets across digital touchpoints

and drive efficient online appointment bookings in real time. This meant developing an algorithm to optimise spending based on store-level capacity and introducing models for real-time assessment of media performance without relying on cookie-level data. Specsavers' updated approach resulted in a 15% increase in online bookings and a 16% drop in cost per customer acquisition.

Technology is also helping brands navigate the difficult balancing act of respecting people's privacy while providing them with a clear value exchange to encourage data sharing. Research shows that this is a hard task to accomplish. According to Boston Consulting Group, two-thirds of customers want ads that are personalised and match their interests, yet nearly half (45%) are uncomfortable with sharing their data to create tailored marketing content - quite the catch-22.

Innovation will be central to creating engaging, relevant content without compromising trust. In the automotive sector, Volvo partnered with Acceleration to increase understanding of customer journeys and optimise creative performance with AI. Most importantly, they managed this while respecting consumers' privacy. The business predicted the future performance of its video advertising campaigns, building a strong understanding of the factors behind creative excellence in the process through analytics. This use of data and insight to enable strategic decisions continues to carry its weight in the business, having delivered 10% incremental revenue for the brand. Mastromauro says: "The beauty for large brands is that they can build bespoke solutions which leverage the uniqueness of their data while keeping it housed within their own company walls."

In addition to meeting customer expectations, marketers face the challenge of complying with data regulations, including Europe's General Data Protection Regulation (GDPR), introduced in 2018. Non-compliance can result in some eye-watering fines. Notably, Meta was handed a €1.2 billion bill back in May.

That said, this isn't necessarily bad news for CMOs. Mastromauro contends that by pushing businesses out of their comfort zones, GDPR has "forced the hand of many industries to have to innovate" with clear practices on data compliance in mind. This innovation will benefit advertisers as new analytics

> Before you can fully make an impact using data analytics and data science, take a good look at your organisation, where your data sits and how accessible that data really is

tools and solutions come to market. She notes that businesses ought to be prepared for the new normal: "Without well-structured data, organisations won't be feeding reasonable inputs into their AI solutions to bring value for the business."

To ensure a smooth transition, Mastromauro advocates a clear framework for businesses embarking on AI-enabled media transformation. This

"guided journey" involves several steps. First is the discovery and assessment of current data, which allows organisations to pinpoint opportunities and define their ambitions for future use of AI. Then, marketers must prioritise activities based on business value and the relative difficulty and investment involved. A clear implementation plan with definite steps, she adds, is the final piece of the puzzle.

"The real message is that before you can fully make an impact using data analytics and data science, you have to take a good look at your organisation, where your data sits, and how accessible that data really is," Mastromauro says.

Predictive analytics and artificial intelligence generally require aggregated data in large volumes to identify the necessary correlations that drive better performance. What businesses need then is to "brutally interrogate the organisation" to understand the full range of accessible data.

Finding the best and most appropriate talent to drive change with agility and speed may sound like a challenge.

However, the pool of expertise is deeper than businesses might expect. "The best data scientists are gravitating towards advertising and the cloud is redefining how data in businesses is being consumed," Mastromauro points out.

Working hand-in-hand with senior marketers, these experts can empower organisations to develop a seamless flow between marketing strategies, data, privacy practices, and tech investments. Future-facing businesses understand that far from witnessing the demise of data-powered marketing, the industry is entering a new era of cloud-based, AI-driven innovation fit for a privacy-first media landscape. It's time, then, for CMOs to start on a robust and transparent transformation plan.

For more information, visit
acceleration.biz
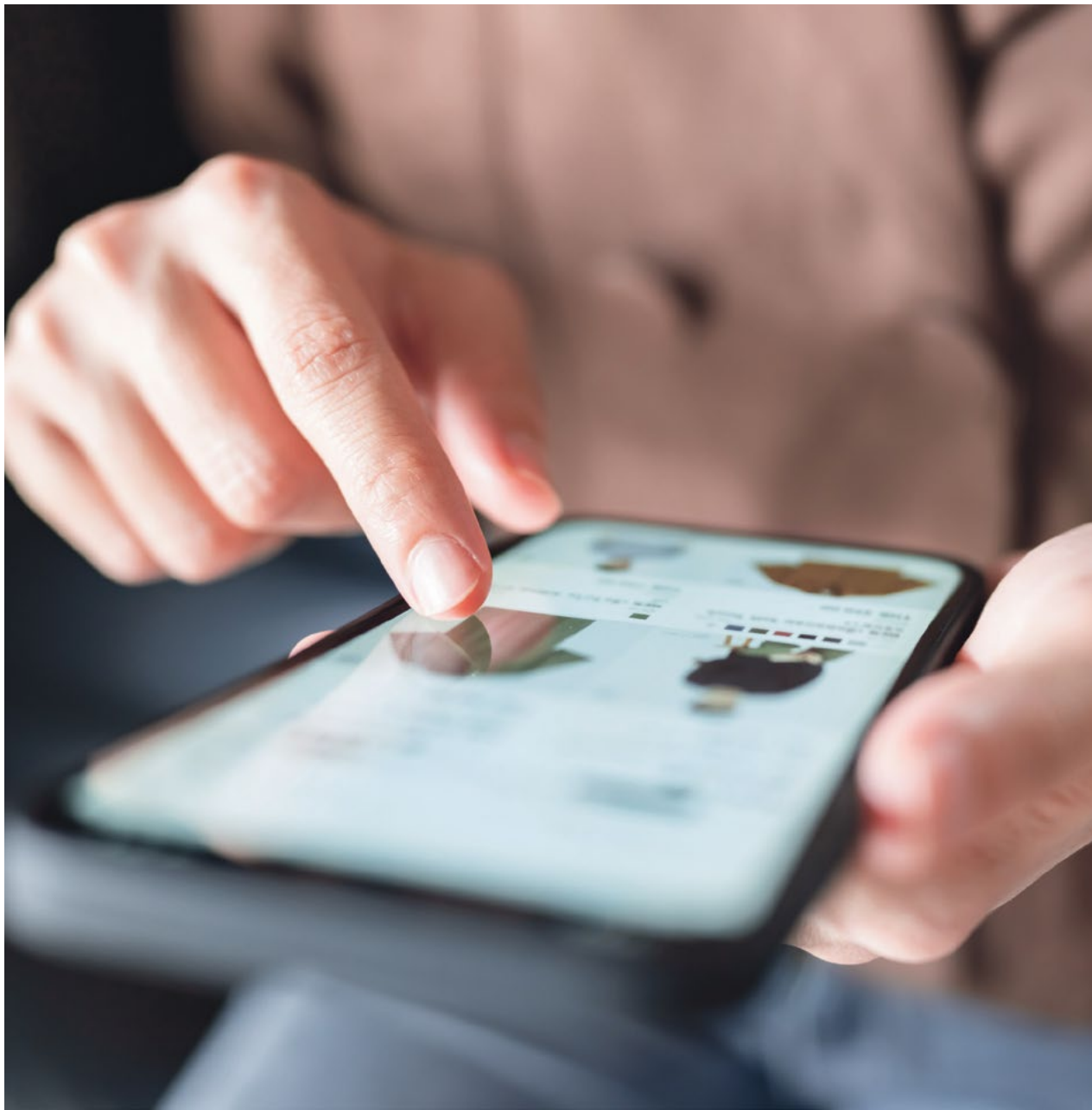
⧉ acceleration

Several clicks behind: B2B ecommerce plays catch-up

B2B vendors have much to learn from etailers when it comes to providing a user-friendly online shopping experience. What barriers are holding them back – and how surmountable are they?

Simon Brooke

> B2B companies must enable their customers to move seamlessly across whichever channels they want to use

Consumer brands have benefited greatly from ecommerce over the past two decades. Innovations such as online marketplaces have enabled them to reach new customers, boost sales and expand their offerings. Many B2C firms have come to derive most of their income via digital channels, using the wealth of data provided to refine their products and optimise their bricks-and-mortar presence.

Most business-to-business companies are lagging them badly in all these respects. Why is that? According to survey data published by Wunderman Thompson in its *B2B Future Shopper Report 2023*, 46% of global B2B buyers find purchasing products online frustrating, while 45% consider it to be a more complicated process than buying offline. Moreover, 51% of the respondents believe that B2B vendors don't understand which parts of the digital purchasing experience typically cause the most friction.

"The way in which goods and services are introduced, explained and sold is similar on all B2C ecommerce sites," observes Josh Tilley, brand strategy director at Initials, a customer experience agency. "The

technical specifications of a product will be laid out carefully alongside layman's descriptions, with a clear focus on the benefits it offers the customer. The vendor's aim is to offer seamless transitions through product discovery, comparison, brand assurance and purchase."

He contrasts that approach with that taken by "an equivalent B2B category, where there's an assumption that the brand already has sufficient credibility. There's a lack of emphasis on the benefits, which creates a huge barrier for buyers who may not be experts in what they're purchasing. Add in tricky website navigation and it's no wonder that the customer experience is frustrating and so many transactions are abandoned."

Standard sales practices among B2B vendors can be problematic too. Their commercial managers often jealously guard access to their contacts, while sales teams are concerned about losing commission payments. Pricing is more complex when companies sell to other companies, as many vendors are wary of sharing information such as the discounts they have given.

The payment process can also present challenges for B2B sites, notes Gabriel Le Roux, co-founder and CEO of Primer, a provider of payment processing software.

"Card payments are relatively straightforward in B2C transactions, whereas employees typically use expense cards tied to more expensive acceptance rails for B2B transactions," he explains. "B2B payments often involve higher average order values, which frequently results in the use of bank transfers. This approach, while common, can feel clunky and manual."

Foreign exchange requirements can gum up payments even more

and many B2B ecommerce sites don't invest enough in easing the process, according to Le Roux. Despite this, he is optimistic that improvements will come.

"There is potential for account-to-account payments to gain more traction in the B2B space," he says. "With open banking in Europe and the rise of variable recurring payments, there is an opportunity to address challenges and offer more seamless and cost-effective processes than traditional bank transfers."

Research by McKinsey & Co suggests that many of the features that appeal to customers on B2C platforms can and should be incorporated by B2B vendors. The study also shows that B2B buyers typically interact with suppliers via at least 10 channels throughout the purchasing process (research, supplier evaluation, ordering, reordering), compared with five in 2016.

"B2B companies must enable their customers to move seamlessly across whichever channels they want to use to find whatever they're seeking whenever they need it –

without having to enter the same information several times," says Dr Isabel Huber, a McKinsey partner. "Sellers need to ensure that they can identify customers and track them as they journey across the sales ecosystem."

She believes that there is still a role for traditional B2B sales reps. But, in addition to talking to customers in person, they should also make themselves available remotely, conducting virtual product demonstrations, for instance.

Craig Smith, UK and Ireland country manager for ecommerce platform Scayle, believes that B2B vendors must rethink how they develop and implement their digital tech if they're to radically improve the customer experience they offer. In this respect, they would also do well to learn from the B2C world.

He explains: "A B2C retailer will often treat its IT department and its digital team as separate entities. This means that the latter can focus on improving the customer experience through testing and learning with an agile, iterative approach, while the former can concentrate on matters such as data security."

By contrast, many B2B ecommerce platforms still operate with "a traditional IT department, which has to go cap in hand to the finance department for funds to build any software", Smith says.

Some B2B marketplaces are enjoying strong growth and are seeking to improve the customer experience they offer. Alibaba.com, for example, has taken what it describes as

"the best parts of our B2C platforms" to introduce innovations such as live-streaming, hybrid trade shows and virtual factory tours to make the B2B buying process more user-friendly.

"We use virtual reality to enable buyers to 'visit' potential suppliers' factories in their own offices, cutting out international travel while giving them assurances about the supplier they ultimately choose," explains Roland Palmer, Alibaba Group's general manager in the UK, Benelux and the Nordic countries.

B2B marketplaces have much to learn from their B2C counterparts, according to Palmer. He believes that "the most important thing is to facilitate a seamless relationship between buyer and seller. This means enabling a streamlined purchasing process from beginning to end. Wholesale buyers should be able to easily explore and discover products from suppliers around the world."

The appetite for ecommerce is strong among B2B buyers. More than two-thirds (68%) of those responding to the Wunderman Thompson survey are planning to increase their use of digital shopping channels. Indeed, Vantage Market Research has forecast that the global B2B ecommerce market will nearly quadruple in value from £5.6tn in 2022 to £21tn by 2030.

The players that secure a good slice of that pie will be those that learn from B2C etailers, upgrade their digital offerings and make life as easy as possible for their customers. ●

49% of all B2B spending is done online

In five years' time, this figure is expected to rise to **57%**

1 in 3 B2B buyers expect to be purchasing through social media by then

Wunderman Thompson, 2023

STRATEGY

How to keep a long-running transformation fully focused

Some companies have been transforming digitally for years and understand that the process never ends. How do they keep engaged in the right areas, especially when the technological goalposts keep shifting?

Alison Coleman

Digital transformations have helped firms to improve their processes, gain new capabilities and adjust their business models to stay ahead of the competition and meet consumers' rising expectations. This process is rarely linear and it has no end point. Along the way, a company will sometimes find itself asking: what next? This is particularly likely when the digital strategy misses its targets for cost-efficiency, say, or when parts of the plan are rendered obsolete.

Navigating such situations and making the changes required to restore momentum can be difficult. How can business leaders readjust and reinvigorate their firms' transformation efforts with the right mix of focused ambition and realistic risk awareness?

Tony Farnfield is a partner and country leader at BearingPoint UK, a management and technology consultancy. He stresses that, while digital transformation is a matter of urgency and powerful tech such as generative AI is increasingly alluring, a business must never lose sight of what it and its customers actually need.

"The temptation is often to let these exciting new technologies drive requirements – a 'tail wagging the dog' situation," Farnfield says. "That would be time-consuming, costly and counterproductive. It would dilute your potential competitive advantage."

He reports that BearingPoint UK has been helping a company in the financial services sector to stay focused on its strategic needs over the four years in which it's been adopting various cloud technologies.

The client is "moving into a run mode, concentrating on continuous improvement and innovation, when new technologies that support competitive differentiation can be tested and developed", Farnfield says.

The changes that an enterprise must make will vary depending on the type of business and the scope of what it's attempting. But any company should review and adjust its plan regularly, remembering that a digital transformation is a continuous, iterative process rather than one big bang.

"The guiding principle should be that a digital transformation is a programme of work entailing incremental changes planned over some time. Each change should build on the previous one. This is not about trying to undertake one large-scale piece of work."

That's the view of Steve Grainger, founder and managing director of digital development agency Enigma Interactive. He says that, "if your transformation efforts have been successful so far, you'll naturally have created momentum that you can build on".

Grainger believes that any successes should "increase a business's ambition to be more creative in its thinking about what digital can help it achieve". Crucially, these should give the firm greater confidence to consider "breaking" existing processes, even if they seem to be working adequately.

"When you see digital transformation as bringing together small changes that align with the agreed business strategy, it becomes a low-risk, high-reward process," he adds.

Domestic & General, a specialist in appliance insurance, maintenance and repair, began its digital transformation more than a decade ago. The process initially entailed a few iterations of change powered by data. It gained momentum early last year when the company replaced several old systems and processes while adopting a more product-centred approach.

"Our focus used to be on functional or team-based targets. Now the whole company focuses on an outcome or an experience – the 'product'," explains the firm's CEO, Matthew Crummack. "This way of thinking evolved from when we stopped viewing a product as something a customer buys in a single moment and started thinking of it as what that customer experiences over a period."

Domestic & General has made significant progress in instilling the required changes over the past 18 months, but Crummack admits that it hasn't been straightforward.

The first challenge, he says, was to ensure that the technology team was organised correctly and had the right people in the right positions. Then it was a case of "getting out of their way so that they could execute. The right team will always figure out the answer, even as the technology evolves."

But the greater challenge has been to ensure that the whole organisation understands the need for change and is on board with what's going on. Crummack stresses that a digital transformation "is not something that happens to others. It's an initiative that everyone, from the CEO to the newest graduate recruit, must embrace.

This has required the leadership team to allocate enough time to ensure that it fully understands every operational process that had been enabled by the legacy systems it was seeking to replace.

"You can change either a system or a process, but not both at the same time. You would lose everyone by attempting the latter," he says.

Domestic & General has reached the point at which it can explore the full capabilities of the new technology it has been adopting. This has raised ambitions and created further potential for change, according to Crummack.

Even where transformation efforts have delivered outstanding results, business leaders are often wary of moving up a gear. This is understandable, because change fatigue is a genuine risk, yet such reticence could jeopardise any competitive edge their firms have gained. It's a tricky balancing act, as Rodolphe Malaguti, product strategy and transformation specialist at software firm Conga, notes.

"Companies will often rush their transformations because they feel that they must stay ahead of their competitors. As a result, they execute them poorly," he says. "But there are risks when companies feel that they have done enough and so put their activities on hold."

Recent leaps in generative AI have highlighted how technologies are constantly advancing and offering ever more opportunities to improve efficiency. Firms that don't remain ambitious therefore risk getting left behind, Malaguti stresses.

"At a basic level, digital transformation is about reconsidering the relationships between people, processes and data," he says. "Technology doesn't need to be groundbreaking. Integrating systems and streamlining processes should be the priority to ensure that data management and workflows are properly structured and fully optimised."

Given the importance and complex nature of the transformation process, there may be a strong business case for creating a dedicated role overseeing it and appointing an experienced specialist as digital transformation officer.

Lee Frame, managing director of consultancy TAL Partners, says: "If your strategy involves a lot of small, manageable steps, you may not need to think about this just yet. For those that might entail overhauling the work of a whole department, say, it could be worth getting someone in to ensure that the process goes as smoothly as possible."

One option would be to hire someone temporarily to cover the immediate changes being planned, but firms in sectors where the technology advances particularly quickly would probably be wise to seek a permanent appointee.
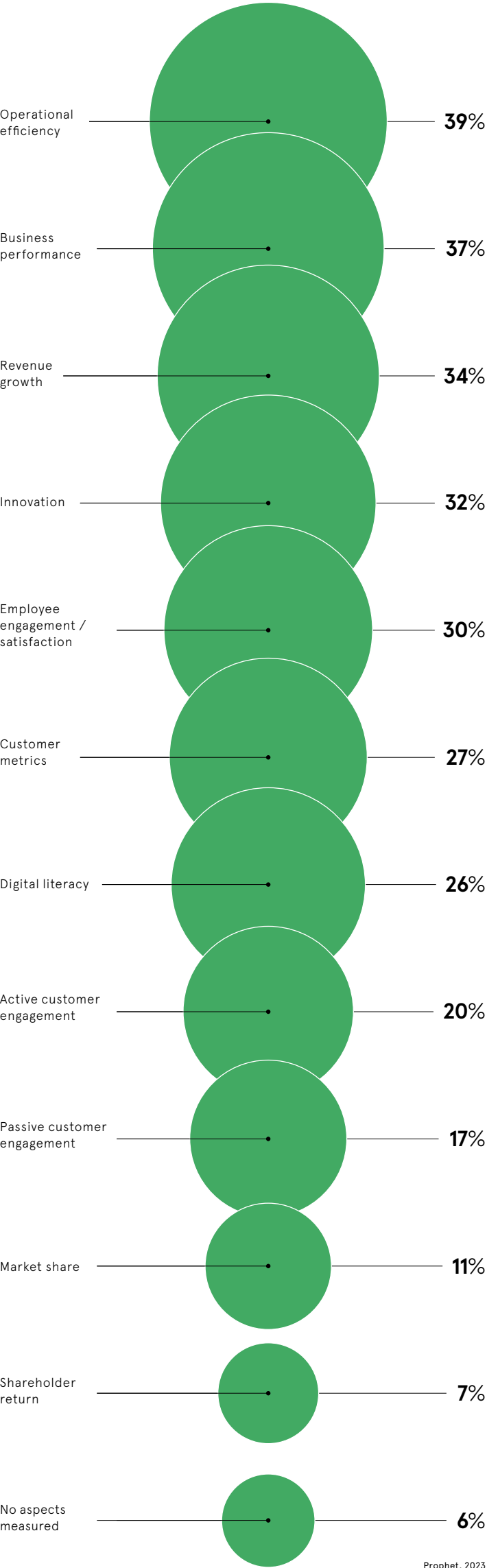
As Frame notes, an effective exponent of this role will "not only help with your existing digital transformation efforts. They will also look for new tools and strategies that can in turn be implemented to further your business's transformation." ●

> " You can change either a system or a process, but not both at the same time. You would lose everyone by attempting the latter

GAUGING THE PROGRESS OF A DIGITAL TRANSFORMATION

Share of organisations measuring the following transformation-related aspects

Aspect	Share
Operational efficiency	39%
Business performance	37%
Revenue growth	34%
Innovation	32%
Employee engagement / satisfaction	30%
Customer metrics	27%
Digital literacy	26%
Active customer engagement	20%
Passive customer engagement	17%
Market share	11%
Shareholder return	7%
No aspects measured	6%

Prophet, 2023