



## Byte-sized banking: Can banks create a true ecosystem with embedded finance?

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**As payments, technology and e-commerce disrupters cut banks out of the equation with embedded finance solutions, banks must harness emerging technologies to create their own digital ecosystems and remain at the centre of the banking universe.**

- New technologies will have the biggest impact on banks in the next five years—more than changing customer demand and evolving regulation. Generative artificial intelligence (AI) in particular is expected to impact banking, according to 75% of respondents to a survey conducted by Economist Impact. More than 70% of survey respondents see unlocking value from AI as a key differentiator between winners and losers.
- Collaboration with fintechs or other technology providers is key to access expertise in emerging technologies as open-banking initiatives multiply across the world.
- Banks see their business model evolving in the next 12-24 months, offering banking-as-a-service to brands and fintechs, and enabling embedded finance within their own products and services—79% of survey respondents agree that banking will become “embedded” in consumers’ lives and businesses’ value chains.
- Nearly two-in-five banks (38%) foresee acting as a true digital ecosystem offering own and third-party banking and non-banking products and services.
- Improving personalised and embedded customer experiences remains a top strategic priority. Three-quarters of survey respondents agree that banks will seek to differentiate on customer experience rather than products in the next five years.
- Customer centricity is driving banks to offer more embedded environment, social and governance (ESG) propositions to their customers (73%), as well as providing capital to environmentally friendly projects (74%).
- With the focus on lowering their carbon footprint, as well as the increasing use of data-intensive AI, banks are inevitably moving to the public cloud—51% of respondents agree that banks will no longer own any private data centres in the next five years after moving to the public cloud.



### ABOUT THIS RESEARCH

Economist Impact conducted a study, commissioned by Temenos, to understand emerging trends in the banking industry. This report presents insights from a global survey of 300 executives in retail, commercial and private banking spanning Europe (25%), North America (23%), Asia Pacific (18%), Middle East and Africa (17%), and Latin America (17%). Respondents perform various job functions, such as IT, customer service, finance, marketing and sales, strategy and business development, and general management, among others. Half of the respondents were C-suite executives. This is the seventh year that Economist Impact has conducted this survey. The research also included interviews with industry practitioners to gain further insights.

### Rise of the machines

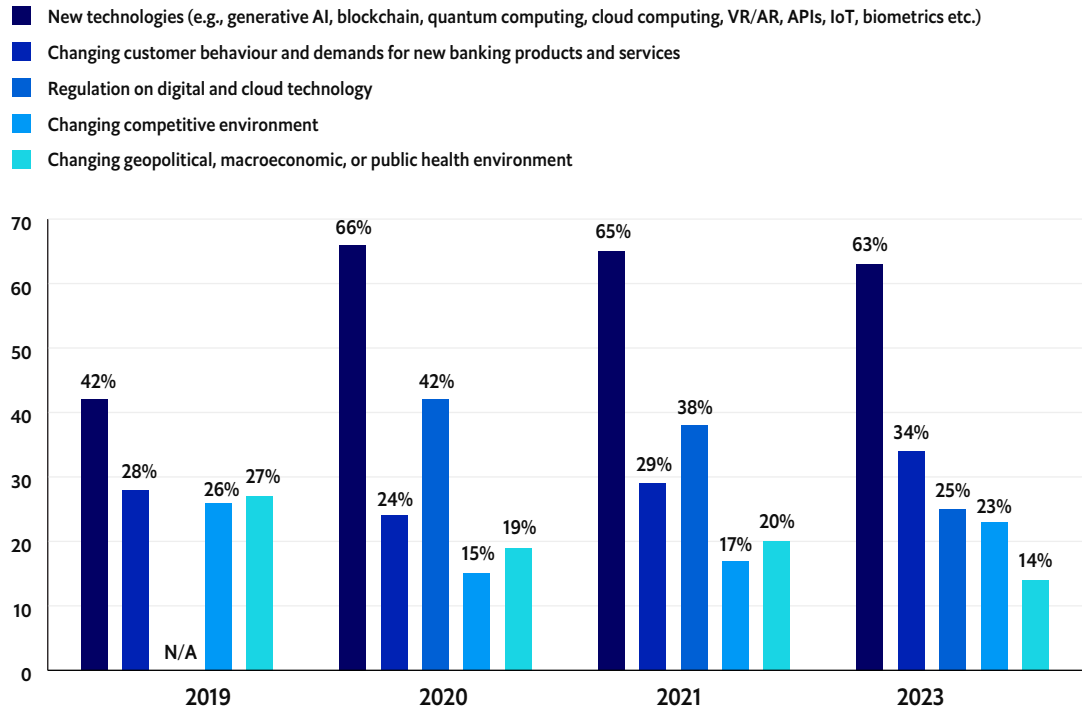
In the last iteration of Economist Impact's global banking survey, conducted in 2021, banks were facing a perfect storm as the pandemic accelerated consumer use of online banking, hastening the closure of bank branches and seemingly giving a strong advantage to digital-first competitors. With fintech start-ups, payment players, super-app platforms and tech giants continuing to take market share as they gained the ability to offer more traditional banking services, incumbent banks were compelled to reassess their priorities and business models.

It is no surprise, then, that new technologies are expected to have the biggest impact on banks in the next five years, according to 63% of respondents in this year's survey—a finding that has been consistent since 2019 (see Figure 1). "When the young generations, who were born with phones in their hands, become clients, they will have much more of a focus on the technology," says Schuyler Weiss, CEO of Alpian, a Swiss neobank (that is, a bank that operates exclusively online, without bricks-and-mortar branches). "If you do not have modern technology, they will not bank with you, it doesn't matter how long you've been around."

**New technologies are expected to have the biggest impact on banks in the next five years, according to 63% of respondents in this year's survey.**



**Figure 1: Which trends do you believe will have the biggest impact on banks in the next five years?**



Source: Economist Impact survey.

In the spotlight this year is generative AI. While AI and machine learning (ML) have been in existence for decades, the launch of Chat GPT late last year demonstrated the potential of AI to transform everyday tasks and spurred companies to find the best ways to leverage it. Indeed, 75% of respondents to this year’s survey believe that the banking sector will be significantly impacted by generative AI and 71% agree that unlocking value from AI will be the key differentiator between winners and losers.

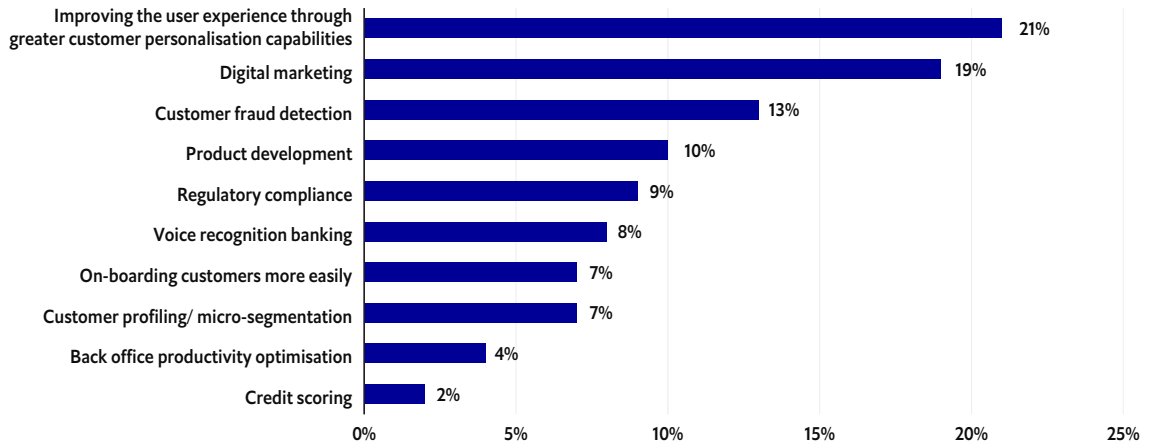
The use cases of AI in banking are plenty, from the front-end, such as greater customer personalisation and digital marketing, to the back-end, such as customer fraud detection, product development and regulatory compliance (see Figure 2). In response, many big banks are beefing up their innovation teams with AI

talent. JPMorgan Chase alone advertised 3,651 AI-related roles between February and April 2023, and 30% of job ads from European banks during that time period made reference to AI.<sup>1</sup>

For DBS, a bank in Singapore, one potential application of AI is in supporting employees to deliver more personalised services to clients. Nimish Panchmatia, chief data and transformation officer, explains: “In the coming months we are looking at rolling out a solution using generative AI for our relationship managers, which will curate investment research for our clients.” Alpiant is also considering how AI can support its wealth-management offerings. “We are looking at how we can make smart recommendations to our clients about what they do with their wealth using AI-driven investment strategies,” says Mr Weiss.

<sup>1</sup> <https://www.altfi.com/article/european-banks-are-putting-ai-in-30-of-their-job-ads>

**Figure 2: What do you believe will be the most valuable use of artificial intelligence for banks in the next 1-3 years?**



Source: Economist Impact survey.

So far, the most common customer-facing AI tools have been chatbots. Bank of America’s virtual financial assistant, Erica, has been used by more than 37m customers in over 1.5bn interactions between 2018 and 2023.<sup>2</sup> Research has found that banking chatbots, while offering personalised experience to customers, will also save banks US\$7.3bn in operational costs in 2023.<sup>3</sup>

Back-end solutions tend to focus on security. Denmark’s largest bank, Danske Bank, developed an AI tool in 2017 that increased the bank’s fraud detection capability by 50% and reduced false positives by 60% as of 2023. JPMorgan Chase has developed an early-warning system using AI and ML techniques to detect malware, trojans and phishing campaigns.<sup>4</sup>

**If you can’t beat them, join them**

Collaboration with fintech firms and other technology providers is seen as key to accessing expertise in emerging technologies. Steve Dunn, head of innovation and fintech at Sumitomo Mitsui Banking Corporation, explains: “The way we see it is there are a lot

Bank of New York (BNY) Mellon sees value in using AI for better data management. “We have a machine-learning tool that improves our client data by ensuring that we don’t have any duplicates and that we have complete and accurate data,” says Linda Powell, deputy chief data officer at the bank. “Then my human time is spent on analysing and resolving problems, rather than trying to identify potential issues.”

This ML tool is the result of a partnership between BNY Mellon and software company Quantexa. “We’re committed to providing the best possible services to our clients, so partnering with outside firms to gain access to these technologies is valuable and important,” says Ms Powell.

of smarts out there, so how do we leverage that? How do we tap into technology we need, but we just don’t have access to? We see value in partnering with fintechs to accelerate our own go-to-market capabilities. It’s a key element of our innovation strategy.”

<sup>2</sup> <https://www.marketwatch.com/story/bank-of-america-says-37-mln-clients-have-used-its-emily-virtual-financial-assistant-e379587f>  
<sup>3</sup> <https://www.juniperresearch.com/press/bank-cost-savings-via-chatbots-reach-7-3bn-2023>  
<sup>4</sup> <https://appinventiv.com/blog/ai-in-banking/#:~:text=Q.-,How%20does%20AI%20help%20in%20banking%3F,and%20provides%20more%20individualized%20services>

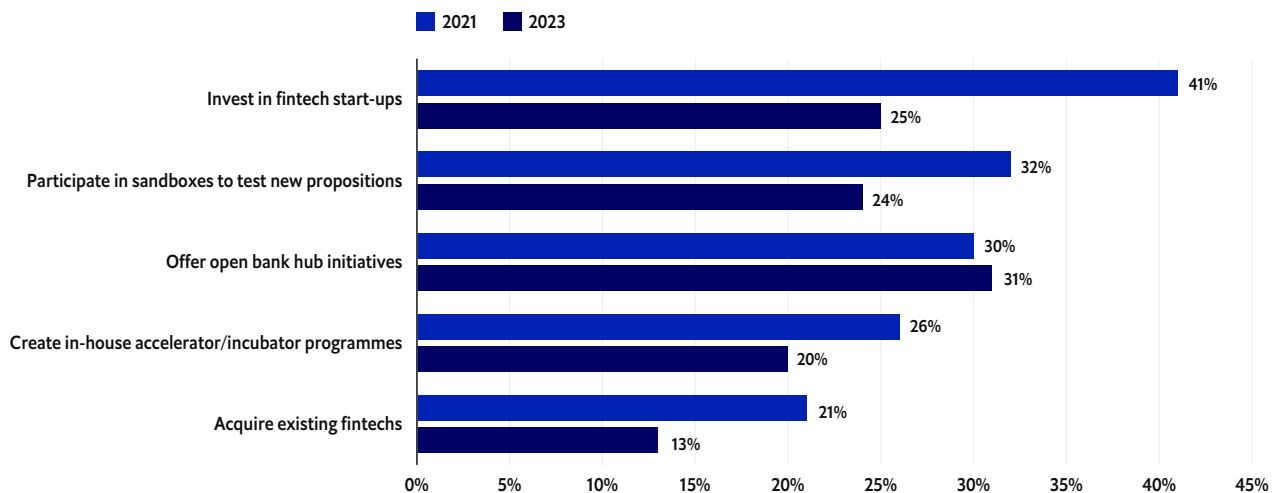
Since the last survey in 2021, deepening engagement with fintechs has become a much more important innovation strategy for banks. Compared to 2021, a much higher share of banking executives now cite investing in fintech start-ups and participating in sandboxes with fintechs and other technology providers to test new propositions as their top innovation strategy (see Figure 3).

This is a necessity, partly as open-banking initiatives multiply around the world. While Europe was the pioneer, kickstarting the open banking revolution in 2015 with the Payment Services Directive, a piece of EU legislation designed to increase competition in the payments industry, Asia-Pacific is close behind in terms of the number of

open-banking platforms and products. In Asia, the uptick in open banking is being driven by market forces, not regulation, with consumers more willing to share their data.<sup>5</sup>

A rapidly changing macroeconomic environment is also enabling banks' investments in fintechs. After years of declining profits, bank profitability reached a 14-year high in 2022, supported by rising interest rates in 2023.<sup>6</sup> Meanwhile, their challengers are facing a funding crunch. Venture capital funding of fintech start-ups plunged globally by 49% year-on-year in the first half of 2023, to US\$23bn.<sup>7</sup> Investment in fintechs in the first half of 2023 shows consolidation around established firms with dominant market positions, such as Stripe's US\$6.87bn round.<sup>8</sup>

Figure 3: What is your bank's innovation strategy?



Source: Economist Impact survey.

<sup>5</sup> [https://www.researchandmarkets.com/reports/5457752/global-open-banking-market-and-trends-2023?utm\\_source=GNOM&utm\\_medium=PressRelease&utm\\_code=94zh5f&utm\\_campaign=1828735+-+Global+Open+Banking+Market+Analysis+and+Trends+Report+2023%3a+Focus+on+United+States%2c+United+Kingdom%2c+Australia%2c+Brazil%2c+Canada%2c+Germany%2c+India%2c+Mexico%2c+Russia%2c+South+Korea&utm\\_exec=chdo54prd](https://www.researchandmarkets.com/reports/5457752/global-open-banking-market-and-trends-2023?utm_source=GNOM&utm_medium=PressRelease&utm_code=94zh5f&utm_campaign=1828735+-+Global+Open+Banking+Market+Analysis+and+Trends+Report+2023%3a+Focus+on+United+States%2c+United+Kingdom%2c+Australia%2c+Brazil%2c+Canada%2c+Germany%2c+India%2c+Mexico%2c+Russia%2c+South+Korea&utm_exec=chdo54prd)  
<sup>6</sup> <https://www.mckinsey.com/industries/financial-services/our-insights/global-banking-annual-review>  
<sup>7</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/global-fintech-funding-nearly-halves-to-23b-in-h1-2023>  
<sup>8</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/global-fintech-funding-nearly-halves-to-23b-in-h1-2023>



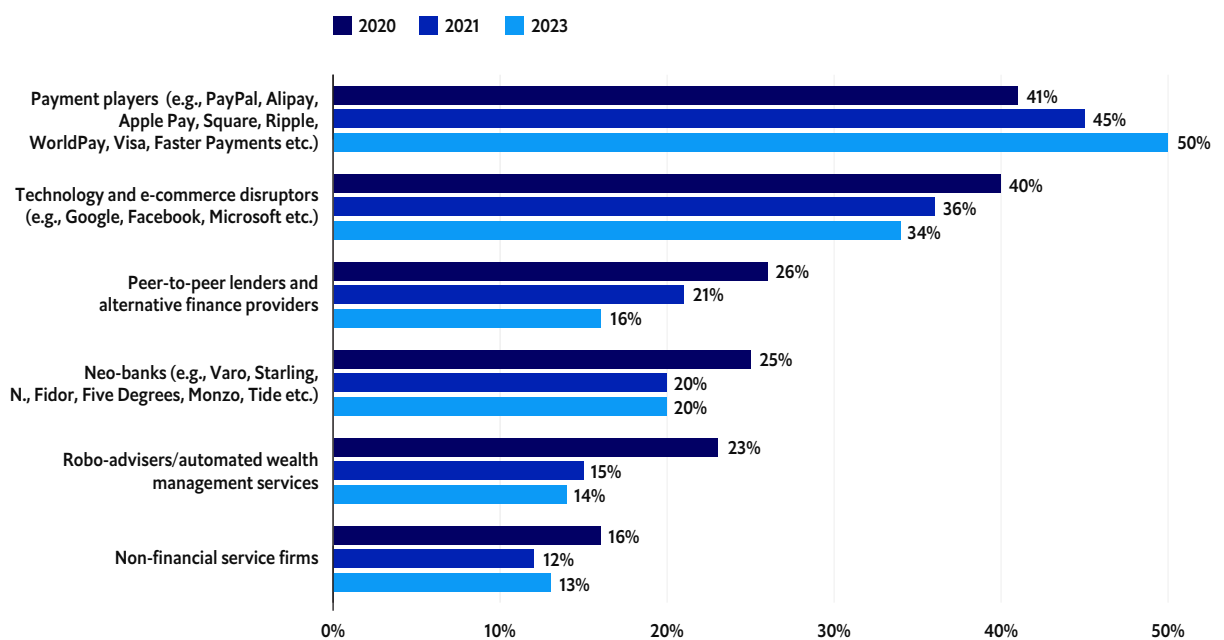
UK-based Wise established its position in international payments and is now offering additional products like multi-currency bank accounts to maintain and build its direct client base and leveraging its infrastructure to provide payments solutions for banks. “We spent 12 years building our international payments technology and infrastructure,” says Roisin Levine, head of UK and Europe partnerships at Wise. “We have 50-plus licences around the world, over 100 relationships with banks, 800-plus engineers. So how can we work with more traditional players, and potentially other fintechs, to be their go-to for this solution? Our objective is not to do everything, but to do what we do very well, and to allow partners to leverage what we’ve built.”

Against this backdrop, banking executives we surveyed foresee relationships within the industry evolving over the next one to three years. As many as 44% of survey respondents believe that banks will acquire majority stakes in fintechs and 32% believe that there will be market consolidation among challenger banks in the next one to three years. These were lower in 2021, at 41% and 23% respectively.

While banks deepen their collaboration with fintechs to increase access to technology and a suite of financial solutions, they are in fierce competition with non-traditional entrants to own the customer relationship. They still see payment providers, such as Paypal and Alipay, as their biggest competitors in the next five years; however, the proportion of respondents believing this has declined over the past few years (see Figure 4)—perhaps as banks choose instead to partner with players like Wise. Meanwhile, banks are increasingly worried about competition from technology and e-commerce disruptors, cited by 40%, compared with 34% in 2020. This may be because customers prefer one-stop-shop solutions when purchasing online—the new battleground between banks and other non-traditional entrants.

**44% of survey respondents believe that banks will acquire majority stakes in fintechs.**

**Figure 4: Which non-traditional entrants to the banking industry will be your company’s biggest competitors in the next five years?**



Source: Economist Impact survey.

## Embedded finance: Masters of the digital universe

The dual tides of technological innovation and evolving customer needs have given rise to embedded finance—the integration of financial services or tools within the products or services of a non-financial organisation without the need to redirect to traditional financial institutions. It includes payment, lending, investment and insurance solutions, keeping the customer at the centre.

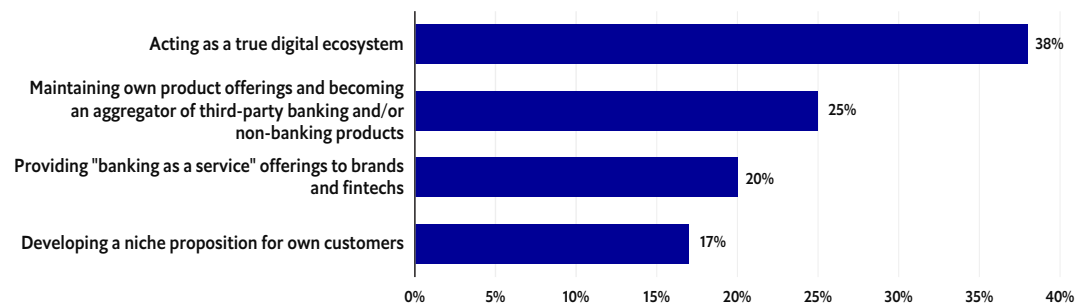
Shopify, a Canadian e-commerce company, processed gross payments of US\$14bn in Q3 2020 in partnership with Stripe, a US-based fintech. Similarly, Uber handles more than 70% of driver pay-outs using Instant Pay.<sup>9</sup> Buy-now-pay-later products, such as Afterpay, Klarna and Paypal, offer loans at the point of sale and are exploding in popularity across multiple e-commerce platforms. Research estimates that the embedded finance market will reach a global value of US\$7tn in the next decade.<sup>10</sup>

In this model, banks are relegated to acting as a utility at the back end or are replaced by

fintechs such as Stripe. But they can stay relevant and scale by partnering with platforms for “banking as a service” (BaaS) offerings, says Mr Panchmatia of DBS. For example, DBS is working with large companies in China, “where we provide end-to-end solutions, not just for the platform, but for the merchants on the platform,” he says. One-in-five banks in our survey expect their business model to evolve in the coming years to offer BaaS to brands and fintechs (see Figure 5).

However, banks do not want to be cut out of the equation entirely, or to lose more ground in terms of the consumer-facing experience. To keep this direct connection with the consumer, banks are recognising that they must become true digital ecosystems. Survey respondents say that this is the top way that their business models will evolve over the next 12-24 months (see Figure 5), and this will support their top strategic priority for the next five years of improving personalised and embedded customer experience and engagement (30%) (see Figure 6).

**Figure 5: What is the primary way in which you see your current business model evolving over the next 12-24 months?**

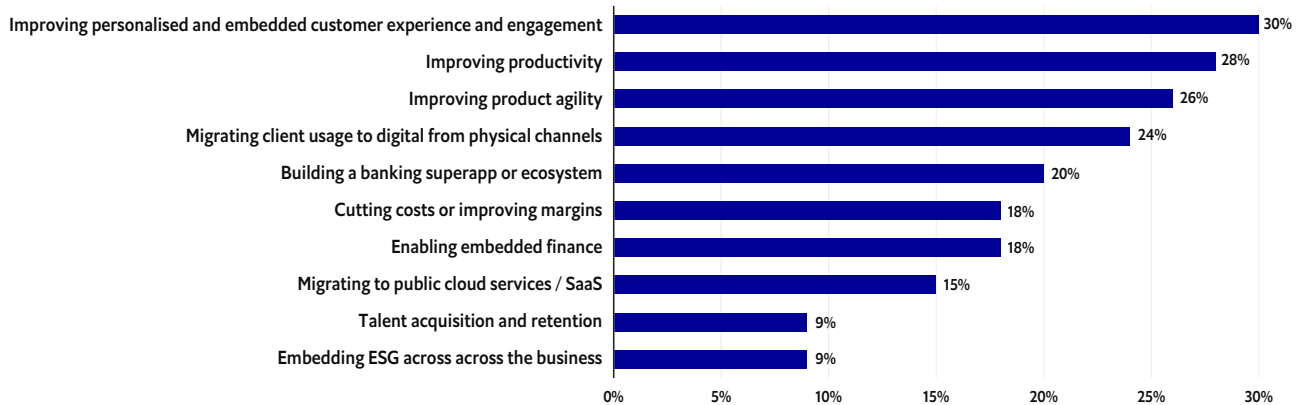


Source: Economist Impact survey.

<sup>9</sup> <https://www.forbes.com/sites/jordanmckee/2020/12/16/embedded-finance-a-beginners-guide-to-the-growing-intersection-of-tech-and-financial-services/?sh=5a852fd924af>

<sup>10</sup> <https://builtin.com/fintech/embedded-finance>

**Figure 6: What are the top strategic priorities for your company in the next five years?**



Source: Economist Impact survey.

An ecosystem of their own and third-party financial products is the first step. To achieve this, about one-in-five survey respondents say that they are prioritising building a banking super-app or ecosystem. The next step is using technology and data to embed themselves deeper into customers’ lives by providing services in real time, building cross-industrial platforms and turning formerly linear value chains into customer-centric innovative delivery models.<sup>11</sup>

By becoming consumers’ one-stop-shop for products and services, both financial and non-financial ecosystem owners gain access to a treasure trove of data. This puts them in an ideal position to use AI, ML and other technology to better understand consumers and more effectively deliver personalised experiences, products and services (the most valuable use of AI, see Figure 1). One of the most prominent examples of this is China-based WeBank, part of the Tencent conglomerate better known as WeChat. Using data from users’ shopping transactions and

social interactions, it offers credit in seconds to those without traditional credit scores and has maintained non-performing loan ratios lower than those of traditional banks in China, at just 1.2% compared with 1.7% in 2021.<sup>12,13</sup>

In the next five years, this shift is expected to create a world in which banks seek to differentiate on customer experience rather than products (say 75% of respondents) and become embedded in consumers’ lives and businesses’ value chains (79%) .

**79% of survey respondents expect banking to become embedded in customers’ lives and businesses’ value chains in the next five years.**

<sup>11</sup> <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-banks-a-20-trillion-dollar-breakup-opportunity>

<sup>12</sup> <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-banks-a-20-trillion-dollar-breakup-opportunity>

<sup>13</sup> World Bank, <https://data.worldbank.org/indicator/FB.AST.NPER.ZS?locations=CN>



### Digital clouds could help clear skies

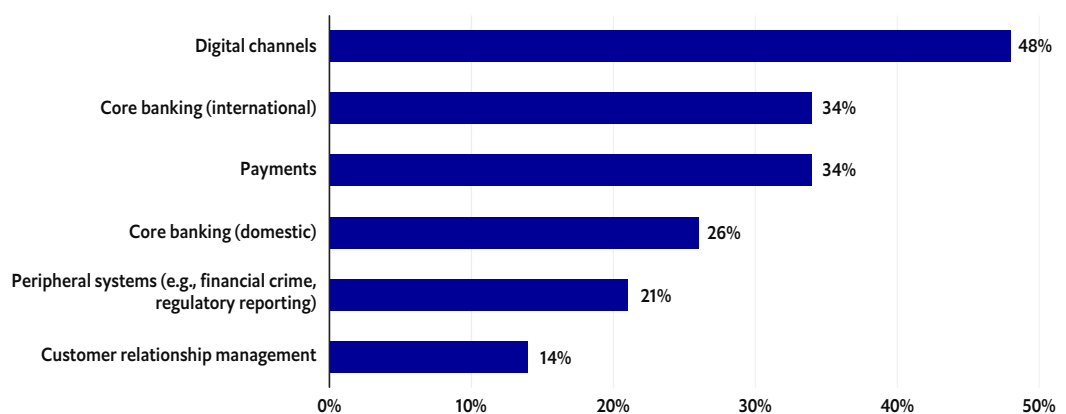
As ecosystems enable banks to play a larger part in consumers’ lives, what they stand for and how they operate will matter more. Companies across sectors are increasingly expected by customers and employees to operate according to clear values, and there is growing public attention directed towards the important role that banks can play in climate action. Survey respondents recognise this, with evolving customer behaviour and demands for new banking products and services cited as the second biggest trend to affect the industry, after technology (34%).

This is translating into banks offering more ESG and sustainable banking propositions to both retail and enterprise customers in the next five years (73%), as well as providing capital to environmentally friendly projects (74%) and taking capital away from carbon-intensive industries (64%). More than one-third (37%) of

banks report investing in low-carbon technologies and start-ups working on decarbonisation. As part of their own sustainability initiatives, 31% are implementing strategies to reduce emissions in their operations internally as well as their supply chain.

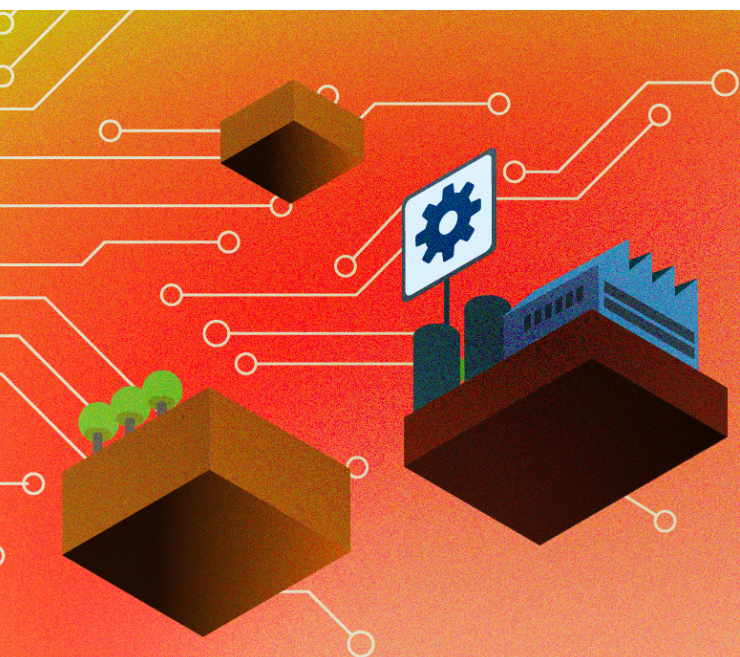
The shift of applications to the cloud is a part of this drive, as public cloud storage (particularly those platforms that run on renewable energy) typically has lower carbon emissions than private data centres. As use of data-intensive technologies such as AI grows, banks will need to find ways to store and process data in a more energy-efficient manner. Data centres are expected to consume 13% of the world’s energy by 2030, which translates to 6% of the world’s carbon footprint. For information-intensive companies, data centres can be half of their corporate carbon footprint.<sup>14</sup>

**Figure 7: What type of applications do you believe banks will prioritise in moving to the cloud over the next 12-24 months?**



Source: Economist Impact survey.

<sup>14</sup> [ftp://public.dhe.ibm.com/software/uk/itsolutions/optimizeit/greenhub/carbon-management/pov-mckinsey-report.pdf](https://public.dhe.ibm.com/software/uk/itsolutions/optimizeit/greenhub/carbon-management/pov-mckinsey-report.pdf)



**More than half (51%) of survey respondents agree that banks will no longer own any data centres because they will have moved to public cloud in the next five years.**

More than half (51%) of survey respondents agree that banks will no longer own any data centres because they will have moved to public cloud in the next five years. Over two-thirds (70%) of banks agree that a multi-cloud strategy will become a regulatory pre-requisite in the next five years. As part of the move, banks are prioritising digital channels (48%), international core banking services (34%) and payments (34%) in their migration to the cloud (see Figure 7).

### **A new banking ecosystem**

The perfect storm banks faced two years ago continues. The challenge from fintechs and tech companies, as well as consumers' persistently growing expectations for better, more personalised products and services, are forcing banks to assess the role that they play and how they must adapt.

The trend of embedded finance is encouraging banks to drop any reservations that they may have had about opening up and becoming true ecosystems. The need to tap expertise in

"The future is going to be cloud driven," says Mr Panchmatia. "We have gone from 90% of our applications on old technology, mainframe applications about eight years ago to now 95% cloud-enabled. Where the risk tolerance is acceptable, then we do a lot of investment in terms of moving into the public cloud; where it's not acceptable, then we've got our internal private cloud."

emerging tech like AI is similarly boosting the case for greater collaboration with fintechs and technology companies. And environmental concerns have joined the list of reasons—alongside efficiency and security—why banks are accelerating the shift to the cloud.

As they become more and more embedded in consumers' lives, banks have the opportunity to not only deliver more for their customers and support the shift to net zero, but to also secure their place at the centre of the ecosystem.

While every effort has been taken to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report.

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