FUTURE OF PAYMENTS

Distributed in
THE SUNDAY TIMES

Published in association with
MONEY 20/20

METAVERSE

Web 3.0 and the big-bucks theory

As the expanding metaverse promises to revolutionise the retail experience, payment service providers must rethink how they operate if they're to seize the opportunities it will offer

Simon Brooke

How to monetise the metaverse? This fast-developing virtual realm could generate up to $5tn (£4.2tn) in value by 2030, according to a report published by McKinsey & Co in June.

"The metaverse is simply too big for companies to ignore," the consultancy declared in the research paper, *Value Creation in the Metaverse*. With businesses around the world preparing to enter it, the commercial potential for payment service providers seems similarly vast.

Harshna Cayley, MD of payment products at Barclaycard Payments, notes that most consumers who have sampled what the metaverse has to offer to date "have already made a purchase in the realm, highlighting the need for retailers to put a payments infrastructure in place to support this new commerce channel. For payment providers, it's an opportunity to be part of a fully digital ecosystem that allows merchants to offer a highly personalised immersive shopping experience."

Some of the biggest players in the payments market are already extending their reach in the metaverse. Mastercard has filed applications for 15 trademarks covering a range of services relating to the metaverse and non-fungible tokens (NFTs), for instance. Visa's consulting and analytics division is advising financial institutions on their metaverse strategies, while the Visa Creator Program is support artists, musicians, filmmakers and other creatives as they seek to create NFTs, which are key to monetising their work. And Facebook Pay has been replaced by Meta Pay. Although this service remains much the same, the aim is to create a digital wallet that will enable users to securely manage their identities as well as what they own and how they pay.

> **"In real life, cards are stored on devices and authenticated through face recognition or fingerprint matching, but this could be much harder to achieve in the metaverse**

Although this branch of Web 3.0 technology is still at a relatively early stage of development, payment service providers are already learning important lessons about what they'll need to offer in the metaverse. Chief among them is that they will need to offer their users a seamless experience. As Mark Zuckerberg has said: "The more easily you can transact, the bigger the opportunity."

To give an idea of the impact of making transactions as smooth as possible, a study of online shoppers by the Marketing Science Institute in 2020 found that, on average, they "increased their purchase amount by 17.4% over a period of 12 months after adopting one-click buying".

Given the commercial importance of convenience, the integration of financial products that can work across both digital and fiat currencies will become the norm. That's the view of Pavel Matveev, co-founder and CEO of Wirex, the provider of a multi-currency payment card offering real-time conversion at the point of sale.

He says: "Interoperability of payment providers will be key. Companies that have developed crypto-enabled cards will allow users to seamlessly utilise both the physical and digital world of the metaverse."

Matveev believes that the benefits of such innovations could extend far and wide. "More than 1 billion unbanked people worldwide will finally be included within this ecosystem," he predicts. "With the development of the digital economy, where it's estimated that nearly 80 million people own a crypto wallet, this is already starting to happen, although there's still a long way to go until it becomes a fully mainstream proposition."

James Booth, vice-president and head of partnerships in EMEA for PPRO, which works with global payments platforms, also sees the potential for reaching a new customer base.

"Arguably, one of the most valuable possibilities of the metaverse is that it will pave the way for consumers from emerging economies to access the market," he says. "Digital assets can be traded through the metaverse marketplace, giving rise to an alternative way of accepting a payment for commerce, promoting inclusivity and creating new streams of revenue that providers can tap into."

The relationship between crypto and conventional currencies is developing apace. There are numerous ways for consumers to change fiat money into crypto that they can spend in the metaverse. But it remains to be seen whether they will want to reverse the process and how easy such transactions will prove in any case.

The metaverse and blockchain technology will almost certainly stimulate the development of new person-to-person payment options.

Meanwhile, a decision by online video games Fortnite and Roblox to use their own in-game currency that can be bought with either crypto or fiat currency could offer payment service providers new commercial opportunities.

In the same way that the first incarnation of the internet spawned new types of crime, the metaverse will present law enforcement agencies, regulators and, ultimately, payment service providers with several problems.

$4.2tn

the value the metaverse is predicted to generate by 2030

McKinsey, 2022

Cybersecurity consultancy TrendMicro has identified the possible emergence of what it calls "the darkverse". It predicts that NFTs will be subject to phishing, ransomware and other attacks as they become an important metaverse commodity to regulate ownership, while overpriced metaverse real estate and NFTs will provide a new way for criminals to launder ill-gotten gains.

Certainly, with growing concerns about the sophistication of fraudsters, the provision of rapid, effective and frictionless authentication in the metaverse is a challenge the payment sector will have to accept.

"There's a general assumption that cryptocurrencies are a natural fit in the metaverse, but it doesn't really matter what payment method is used, as long as it can be authenticated," says Ralf Gladis, founder and CEO of payment service provider Computop.

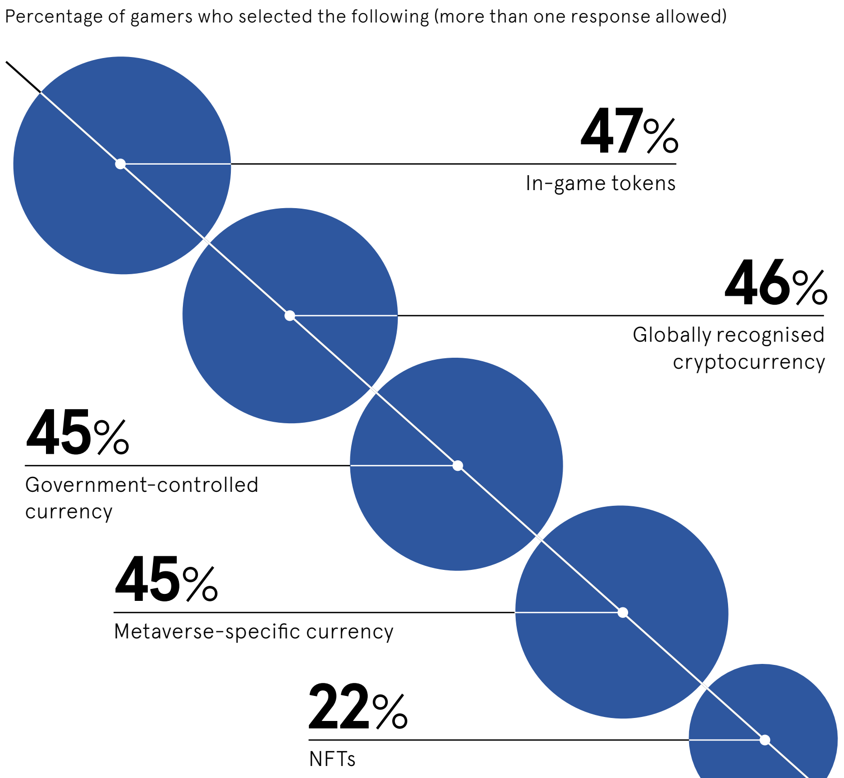
He explains: "In real life, cards are stored on devices and authenticated through face recognition or fingerprint matching, but this could be much harder to achieve in the metaverse. There is a discussion about voice detection, which may solve the issue and even help to create a valuable channel for sales and marketing, but it needs to be given a lot of consideration from a technical perspective first."

As the metaverse evolves, it's becoming abundantly clear that this isn't simply about conducting ecommerce in 3D. Rather, it will provide an entirely new lifestyle experience. Payment service providers, like brands and retailers, will have to reimagine many of their offerings to make them appropriate for the metaverse.

This effort is likely to be both challenging and expensive. McKinsey estimates that at least $120bn was spent on building metaverse infrastructure in the first five months of this year – more than the total outlay recorded in 2021. But, for those willing to accept the challenge and the cost, the return on their investment could be substantial. ●

PREFERRED PAYMENT METHODS IN THE METAVERSE

Percentage of gamers who selected the following (more than one response allowed)



OnePoll, Improbably, 2021

Contributors

Fiona Bond
A freelance journalist who writes about all areas of finance and investing.

Simon Brooke
A freelance journalist, specialising in business, finance and sustainability.

Ben Edwards
A freelance journalist who specialises in finance, business, law and technology.

Jonathan Evans
A journalist specialising in HR, SMEs and C-suite leadership.

Mark Frary
Journalist and author of 12 books, who writes on business, tech and science.

Ed Jefferson
Data journalist and digital creative, who has written for *The Guardian*.

Virginia Matthews
Reporter, writer, editor and columnist, for daily and weekly publications.

Tom Ritchie
Business journalist specialising in HR, leadership and the future of work.

Ouida Taaffe
Editor of *Financial World*, the magazine of the London Institute of Banking & Finance.

Daniel Thomas
Writer and editor, published in *The Telegraph*, *Newsweek* and *Fund Strategy*.

Uneesa Zaman
Freelance journalist who has written for *The Times*, *Financial Times* and *Amaliah*.

raconteur reports

Publishing manager
Chloe Johnston

Editor
Sarah Vizard

Deputy editor
Francesca Cassidy

Reports editor
Ian Deering

Deputy reports editor
James Sutton

Chief sub-editor
Neil Cole

Sub-editors
Gerrard Cowan
Christina Ryder

Commercial editors
Laura Bithell
Brittany Golob

Associate commercial editor
Phoebe Borswell

Head of production
Justyna O'Connell

Design and production assistant
Louis Nassé

Design
Harry Lewis-Irlam
Celina Lucey
Colm McDermott
Samuele Motta
Sean Wyatt-Livesley

Illustration
Kellie Jerrard

Design director
Tim Whitlock

raconteur-media
@raconteur
@raconteur_london

raconteur.net /future-payments-2022

Commercial feature

The new frontier in payments

Technology and innovation is paving the way for a payments revolution, changing the way banking services function

A new world of payments is rapidly unfolding, one that is instantaneous, digital and most importantly, driven by data. The convergence of technologies, increased regulatory requirements, and a fast growing digital payments ecosystem are driving the innovation behind a rapid rise in new ways to pay, and shifting payments to a more strategic weapon for creating new commercial opportunities and transforming customer propositions.

With one in four of all UK payment transactions processed by NatWest, the bank sits at the heart of both business and personal customer transactions. "For many, payments are viewed as the natural end of a process; but the payments revolution created a seismic shift, moving payments to the epicentre of the digital transformation, impacting the economy, society and the lives of individuals," says Simon Eacott, head of payments NatWest. "Payments is the most exciting and rapidly evolving part of the finance world; the prime interface between us and our customers enabling us to provide the smart, simple, and secure payments they need, and which is a crucial element of our differentiation."

As cash payments continue to decline, alternative payments methods continue their meteoric rise in popularity, accelerated by the pandemic. Change is also being driven by industry regulation. The renewal of the UK's central payments infrastructure as well as the Payment Services Directive Two (PSD2), and open banking, aim to increase competition and innovation, while also improving safety and resilience. "Identifying the opportunities and creating the benefits, while implementing the regulatory requirements is central to the NatWest strategy," says Eacott.

Focus on customer need, not payment need

Since the Faster Payments Service first emerged in the UK over a decade ago, it has been on an upward trajectory, revolutionising payments. However, it's what is built on the back of the payment and embedded into the customer journey, the things people do on a day-to-day basis, such as buying a coffee through their app, with a focus on customer need, rather than payment need, that matters.

Embedded finance, the integration of financial services traditionally obtained from a bank within the products or services of a non-financial organisation, has the flexibility and universality to be applied to any company or industry with a transactional element. Examples include online stores offering short-term loans in the form of buy now pay later (BNPL), and digital wallets on smartphones that enable instant contactless payments. Digital innovation has created opportunities to build more capability into the payment stream, creating a frictionless journey for the customer and fresh revenue streams for businesses. Eacott adds: "Our focus is on unlocking the power of payments to create value for every customer."

With this level of integration in the world of payments and banking, APIs are driving a digital economy that drives efficiencies and lowers costs. But this is just the beginning, says Dan Globerson, head of bank of APIs at NatWest: "The use of API technology to connect systems opens up capability for non-financial services companies to offer financial services; banking as a service (BaaS) enabling them to lend, for example, through their channels via our technology. Companies now can provide a payment service, a lending service, or a credit service from a bank, but through their customer user interface."

He adds: "We embed the whole payment, the whole banking experience, within a different company's offering. And by embedding a contract as part of that payment between both parties it introduces trust. We use payments as an agent of change; a catalyst to increase value, drive innovation, foster inclusion, and build confidence in the future of money."

For businesses, embedded finance opens up new channels and creates huge opportunities for growth, for example, by helping them get more products to market, drive sales, meet growing consumer expectations, and attract and retain customers.

> **"The payments revolution created a seismic shift... payments is the most exciting and rapidly evolving part of the finance world**

Data-driven global payments in real-time

Digital innovation is also transforming cross-border payments, with advances in instant or real-time payments allowing people to receive funds from overseas much faster, aided by schemes and mechanisms for cross-border connectivity and interoperability. Advanced payment technology provides access to richer payments data, the key to identifying new growth opportunities and becoming a real-world vehicle to drive positive change, not only within cross border payments but also cross-border partnerships.

Digital currencies also have a role in the future of payments. Three notable categories include central bank digital currencies (CBDC), being explored globally as an alternative way of exchanging and settling transactions in central bank money. Stablecoins are not central bank money but are linked to or backed by some asset and payment can be made on the back of it, while cryptocurrencies, such as bitcoin, are more speculative in nature, with values being subject to volatility. Nevertheless, bitcoin is increasingly being accepted as a payment method in its own right, although far from universally.

Frictionless and secure

Customers want great user experience and frictionless payments but they also seek peace of mind, especially at a time when online payment scams, in particular authorised push payments, where individuals and businesses are unwittingly duped into sending money to criminals, are rising.

"The importance of trust in the payments arena cannot be underestimated," says Jessica Richards, head of market development, payments, NatWest. "Our goal is to implement the right technologies to protect our customers from fraud, while delivering a fast and efficient payment journey. It's vital that we collaborate with the industry and regulators to maintain focus on this critical issue."

32%

of all UK payments were contactless in 2021

23%

the increase in the use of the Faster Payments Service through online banking in 2021

93%

of adults will use remote banking by 2031

UK Finance, 2022

A good example is Confirmation of Payee (CoP), a new name-checking service for UK-based payments, which strengthens payment security by allowing people to verify who they are sending payments to in real-time. "During the pandemic, NatWest was able to use this service to help government get payments out to people who needed them most," adds Richards.

Protection from fraud, as well as financial crime, which has been in the global spotlight recently, can only be addressed through collective and collaborative effort, and at both the industry level and individual bank level, a huge amount of investment and innovation is being channelled into it. The challenge, says Globerson, is finding the balance between frictionless and secure. "While customer experience needs to be seamless, creating that balance between frictionless customer experience and appropriate checks and balances along the way is the key to fighting financial crime," he says.

Looking to the future

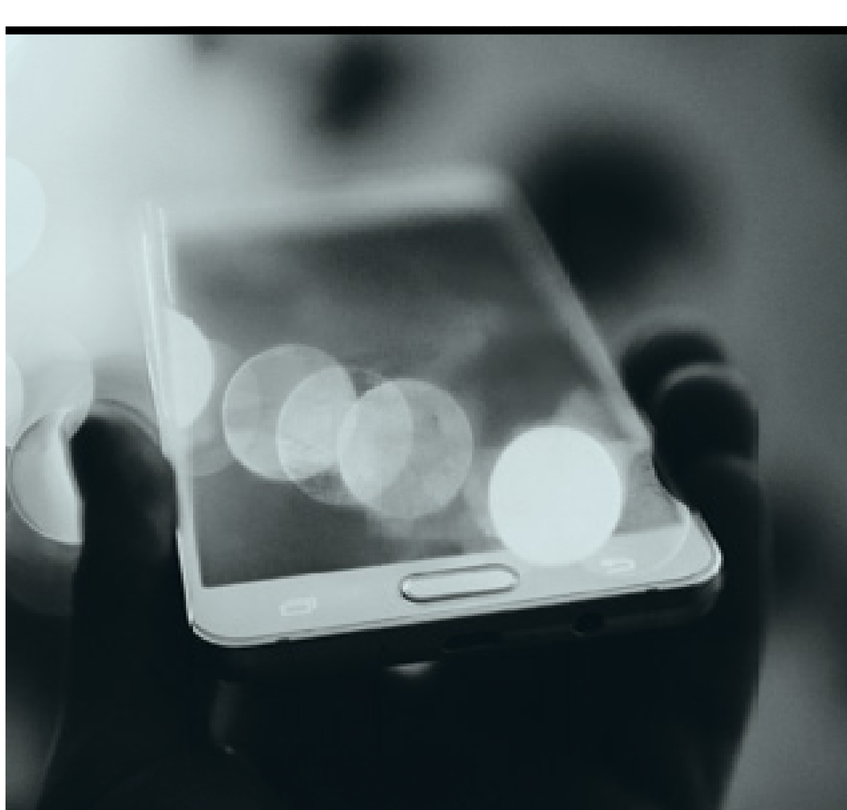
What does the payments revolution mean for traditional ways of making payments, including direct debits (DD) and cash? With the advent of open banking, alternatives to DD are already making inroads. Request to Pay is a new initiative that gives customers greater control over when and how they pay, while variable recurring payments (VRP), allow customers to safely connect authorised payment initiation service providers (PISPs) to their bank account to make regular payments on their behalf.

Eacott says: "We know there are challenges with some of these changes, and as a responsible finance provider our role is to ensure that all individuals and businesses have effective access to payments and that we don't leave anyone behind. The industry still needs to provide access to cash for those who want and need it."

In an increasingly complex networked payments ecosystem, where cost and infrastructure barriers to market entry are lower and competition is rising, Eacott emphasises the benefits of collaboration within the industry. He says: "Whilst competition is important to drive innovation, banks and other financial services organisations must work together to accelerate the evolution in payments in a purposeful way and ensure success for the long term."

For more, please visit natwest.com/corporates

NatWest



NatWest specialists predict the five key trends in payments

01 The true value of payments data

The opportunity for better, richer payments data is the single most important point of value to banks and others along the payment chain. By unlocking the true value of payment activity data, banks can develop more personalised products in a more secure environment. And in the fight against financial crime and fraud, predictive analytics becomes a powerful tool for staying ahead of potential threats, reducing risks, and ensuring compliance.

02 Tradition being eclipsed by digital

Cash payments have been in decline for several years. In 2021, the proportion of UK payments made using cash fell to 15%. Direct debit, a long-established method of paying regular bills appears to be plateauing. While the volume of direct debit payments grew in 2021, with 4.6bn payments made, it was at a slower rate, according to the UK Finance report 2022. With global smartphone ownership predicted to continue to grow over the next five years, any significant return to traditional payment methods is unlikely.

03 Digital developments drive the payments revolution

The payments-as-a-service (PaaS) and banking-as-a-service (BaaS) model is gaining traction due to cost-effectiveness and is a fast-moving trend for banks and financial institutions looking to accelerate digital innovation, stay relevant, and avoid losing new and existing customers. Embedded finance is one of the most exciting digital developments in the evolution of payments. With consumers demanding fast and frictionless ways to make payments from a variety of devices, from wallets to wearables, embedded payment options can open up new revenue channels for non-financial organisations.

04 A catalyst for overseas trade for the startup economy

In the payments and movement of money space, it's no longer just large corporations that can get involved with instant payments. Faster payments, not just in the UK but across international borders, can be integrated at near zero cost by startups and small businesses, allowing them to not only drive down the cost of transactions between them and their suppliers, workers, and customers but also take advantage of newer digital tools, embedded lending, embedded payroll and embedded accounts payable.

05 Purposeful payments

Sustainability is at the top of all agendas, including finance. Digital transactions have the potential to drive real choice, providing sustainable payment alternatives and support the transition to a net-zero economy. By 2030, of the projects that NatWest helps fund, it aims to at least halve the impact on the climate.

Financial inclusion is a hugely important topic, particularly against the current backdrop of rising inflation and the cost of living. A big part of the payments evolution is about widening the function of payments to broader sections of society. Richards says: "It's about making sure that our entire customer base have access to the payment capability that works for them."

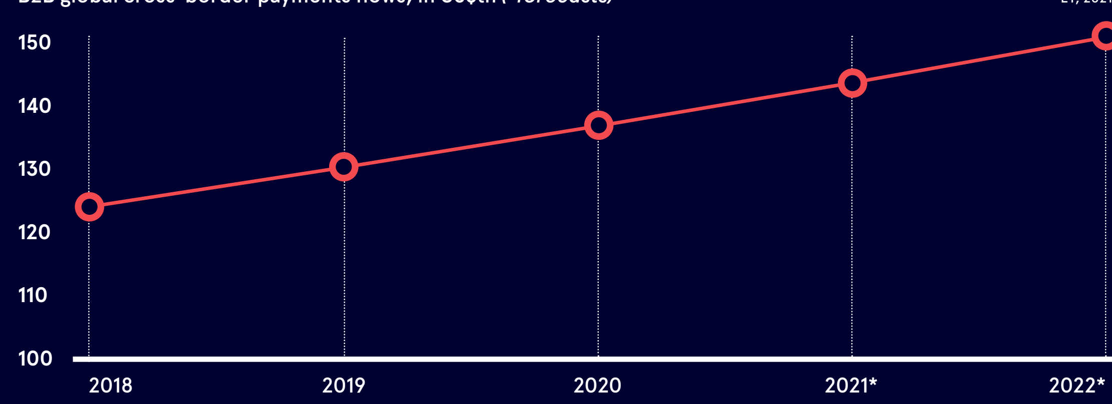
CROSSING THE BORDER

Cross-border payments – financial transactions where the payer and recipient are based in separate countries – are growing in economic importance. The value of both the retail and wholesale market is expected to grow from $150tn (£130bn) in 2017 to more than $250tn by 2027, according to projections by the Bank of England. But the systems to enable such payments can be slow and expensive for several reasons, from a lack of competition to legacy tech platforms and fragmented data. That's why improving them is a priority for the G20 as it looks to boost global trade

BUSINESSES TRANSACTING ACROSS BORDERS IS ON THE RISE

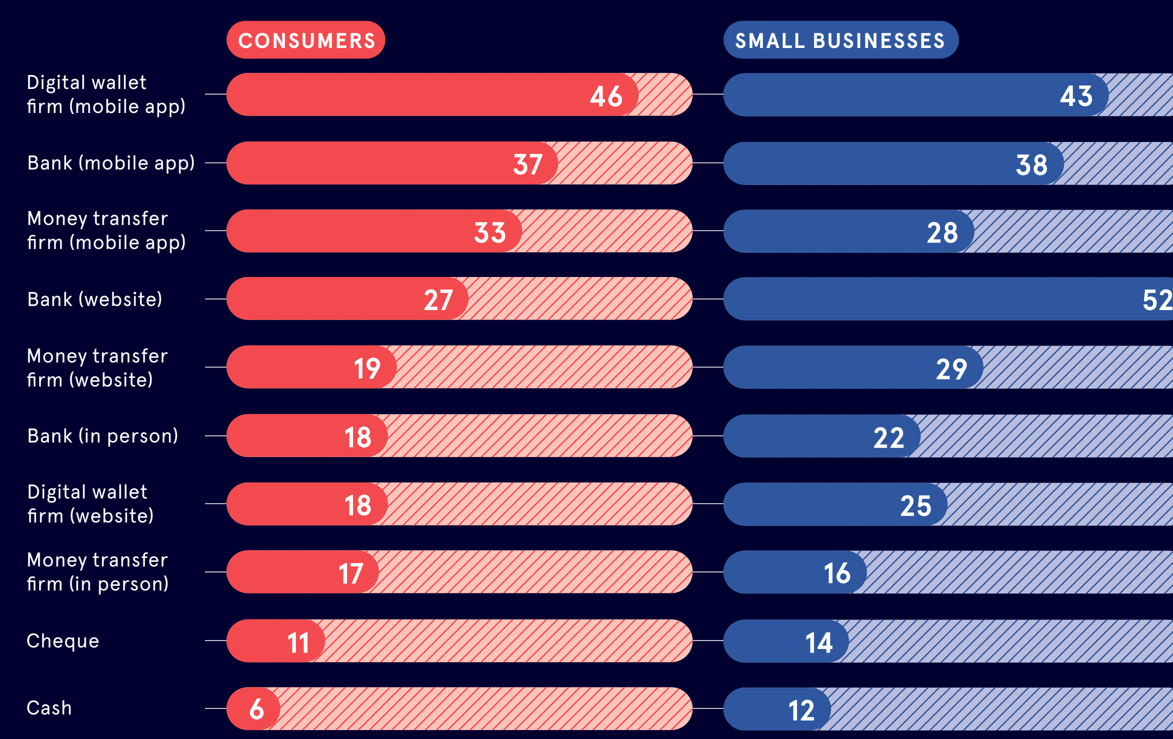
B2B global cross-border payments flows, in US$tn (*forecasts*)

EY, 2021



BANKS REMAIN THE MOST-USED METHOD OF MAKING CROSS-BORDER PAYMENTS

Share of consumers and small businesses across 15 countries globally saying they use the following payment methods

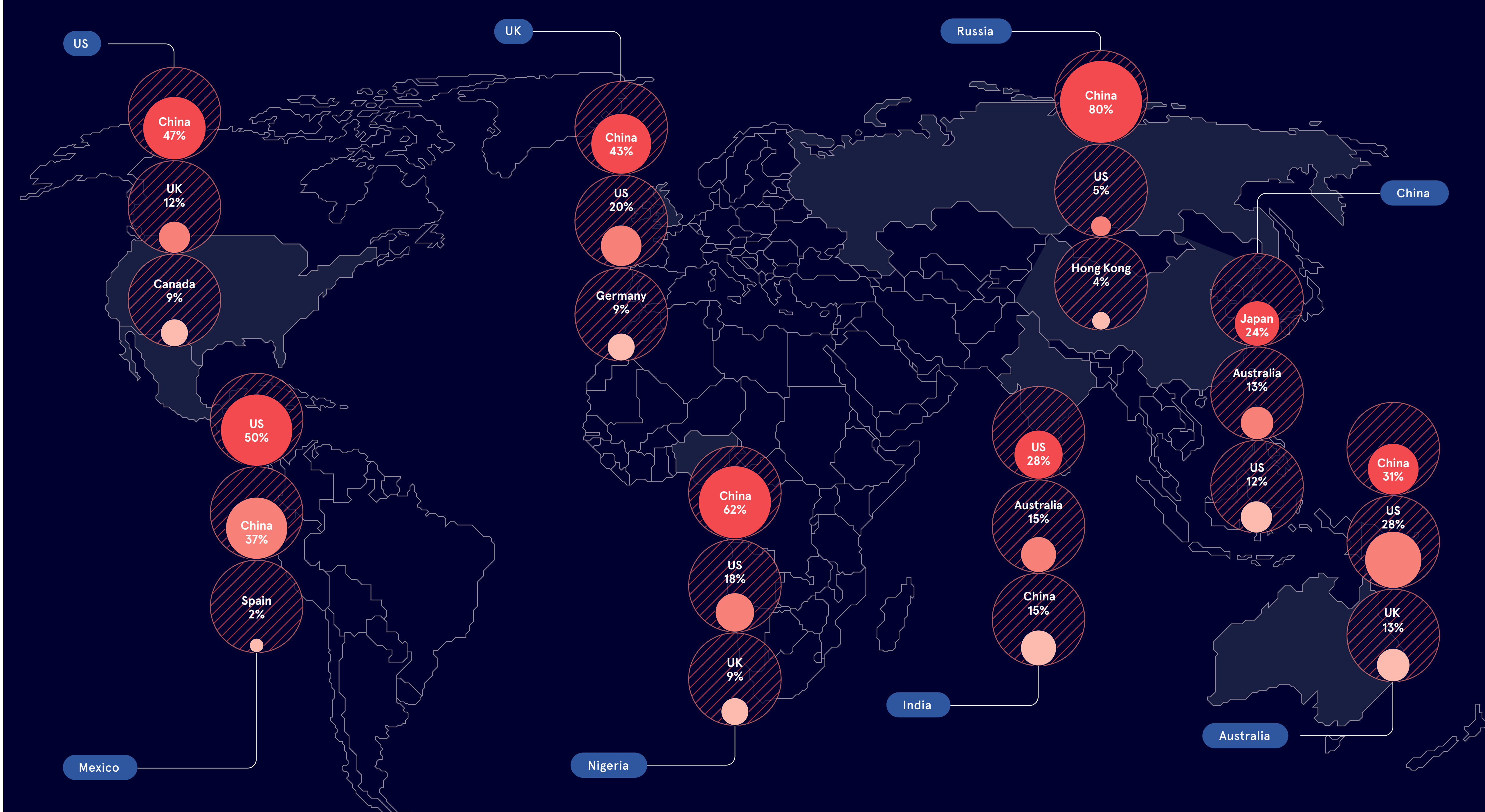


EIU, 2022

THE US AND CHINA ARE THE MOST POPULAR COUNTRY FOR ONLINE CROSS-BORDER PURCHASES

Top three cross-border markets purchased from by consumers, per selected countries

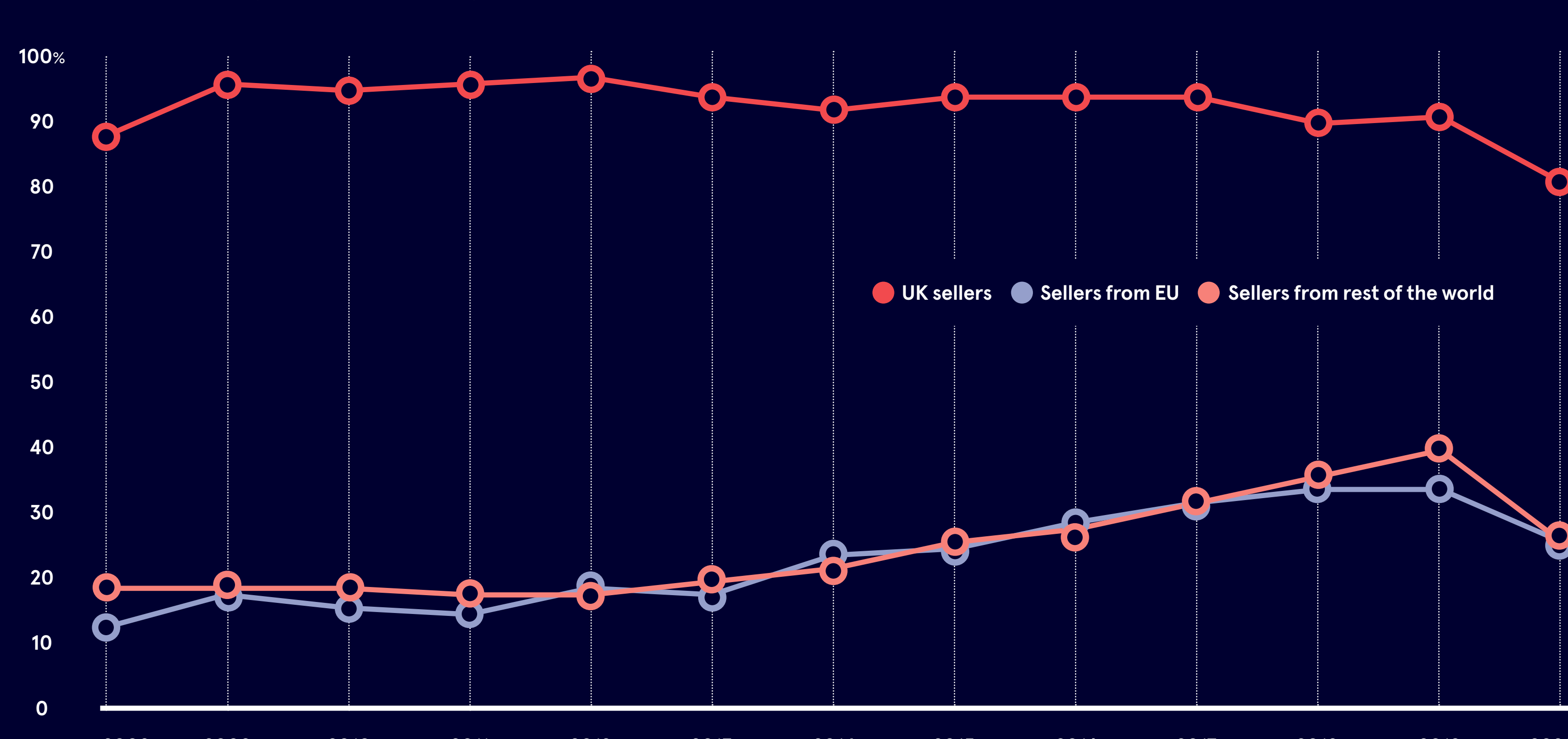
IDC, 2021



PEOPLE ARE INCREASINGLY BUYING PRODUCTS FROM OUTSIDE THE UK

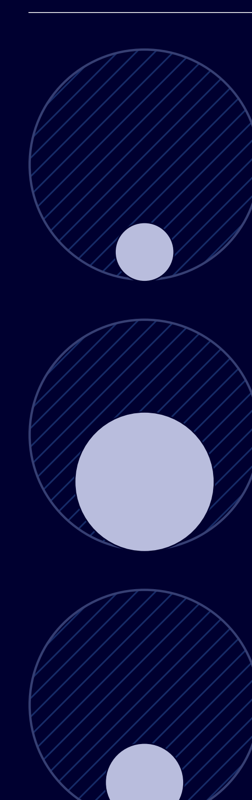
Share of adults purchasing online from sellers of goods and services, by location

ONS, 2021



THE COSTS OF CROSS-BORDER PAYMENTS

World Bank, 2021



6.09%
The average cost of a cross-border payment in the first quarter of 2022. The G20 wants to cut this to 5%

35%
The proportion of payment corridors with average costs of less than 5%

10.94%
The average cost to conduct a cross-border payment with a bank – the most expensive option

Commercial feature

The opportunities and threats of real-time payments 4.0

The UK continues to lead the US on the development of real-time payments, but the potential for instant cross-border global payments remains a long way off

The real-time payments market has been growing rapidly. More than 118 billion real-time transactions were made in 2021, according to ACI Worldwide and GlobalData research – up from 70 billion in 2020. That number is expected to grow to more than 427 billion in 2026, equivalent to around a quarter of all global electronic payments.

Demand for real-time payments has also been growing among consumers and businesses alike as the macroeconomic backdrop sours and interest rates start to rise.

"When rates were low, nobody really cared if it took days to transfer their money to someone else, but now rates are rising, people are chasing interest rates," says Peter Harmston, head of payments at KPMG UK. "Because of the macro climate, people are starting to ask questions: why isn't my money moving quicker, and who is taking advantage in between? As consumers, that is a very different conversation than we would have had nine months ago."

For businesses – be it large corporations or small and medium-sized enterprises (SMEs) – real-time payments are increasingly important for managing liquidity and working capital.

"For the SME segment in particular, with the current looming recession and the cost-of-living crisis, cash management is critical," says Harmston. "If I'm a plumber, say, being able to do a 'request to pay' that allows me to request payment immediately will become even more important in this environment."

Given that increased demand, the UK is currently developing the New Payments Architecture (NPA) – the next generation of real-time payments that will replace the current Faster Payments scheme, with migration starting in 2024.

"The UK was one of the first to adopt real-time payments in 2008, and was seen at the time as a world leader," says Harmston. "Now, there are well over 50 countries that have real-time payments. So the UK is looking to leapfrog ahead again and introduce the next iteration of real-time payments infrastructure."

One advantage of the new infrastructure is that it is designed to improve the quality and amount of data that can be sent with any payment message, using the so-called ISO 20022 payments standard.

"The richness and extent of data that ISO 20022 will transmit should allow banks to reduce their costs, because they can use that data to increase straight through processing and gain more insights about their customers," says Harmston. "For corporates, it can help automate payment reconciliations, and for governments, it can help them better capture tax data and opens up the possibility of real-time tax collection in the future."

The new payments architecture will also enable greater accessibility and simplified onboarding which we hope will increase the number of directly connected players and increase innovation and competition," says Harmston.

The new infrastructure will bring world class levels of resilience, availability and security. These aspects are absolutely fundamental from the regulators' perspective and vital to ensuring the UK remains at the forefront of real-time payments technology - that's what the NPA brings."

While the UK is seeking to remain at the cutting edge of real-time payments, the US has continued to lag due to its market-driven environment, although progress is being made.

"The difference in the US is nothing is ever mandated, it's all market-driven compared to the industry mandates in the UK. The US will adopt things when we're ready to and the market demands it," says Courtney Trimble, global leader for payments at KPMG US. "Then there's the fact that we have approximately 16,000 financial institutions. It's an absolute behemoth, so the combination of sheer size and complexity coupled with a market-driven environment is the reason why the adoption of real-time payments has lagged."

The US is starting to make progress, however. In 2017, it went live with real-time payments through The Clearing House, which caters to the country's largest commercial banks such as Citibank, JPMorgan Chase, Wells Fargo and Bank of America.

"We still haven't got that ubiquity, so usage is not where it needs to be," says Trimble. To address that lack of ubiquity, the US Federal Reserve is developing a real-time payments network called FedNow, which is currently being piloted and is due to be rolled out by the end of next year. Once live, that will extend real-time payments capability to all other banks across the country. "That's really going to be the game changer in the US in terms of traction and for usage when a larger number of banks have access," says Trimble.

While individual countries are getting to grips with real-time payments, it remains a challenge to send money instantly across borders. "From a wholesale banking perspective, cross-border payments are still quite traditional and quite costly – true cross-border real-time payments are a long, long way off," says Harmston. "While we are getting more standardisation with ISO 20022, each country has its own spin on that. So there's still a lot of work to be done to get proper interoperability."

Part of the problem is that rules and regulations vary according to jurisdiction. "If you look at governance, there's no governing body for cross border," says Trimble. "How do you properly roll out cross border without a governing body? So we need to figure out all the rules across the different jurisdictions, and banks in those different jurisdictions will also need to be collaborative. So when you talk about cross border, we need standardisation and synchronisation across governance, compliance and operating models, and there have to be some guardrails around it."

There are also concerns about the impact of real-time cross-border payments on exchange rate stability. "From a macro

> For the SME segment in particular, with the current looming recession and the cost-of-living crisis, cash management is critical

perspective, if money can move in real-time cross border, then capital flows can occur very, very quickly," says Joe Cassidy, head of financial services strategy at KPMG UK. If a country was under economic stress and people could transfer money instantly out of the country with no frictions or speed bumps, that velocity could be destabilising, he says.

"It could potentially result in systemic risk," says Cassidy. "Real-time capital flows just whizzing around the world with finality and without any checks and balances in them is clearly not governable. And the consequences of that – nobody really knows."

There are potential opportunities created by cross-border real-time payments. First, it can help reduce transaction costs. Also, if payments arrive instantly, it removes the need for clearing agents to hold as much capital against that exposure while the payment is in transit, Cassidy says. A third benefit is that it potentially widens the perimeter of trade by making it easier to transact across borders, boosting the real economy.

Harmston believes real-time cross-border payments are more likely to develop regionally first where trade is driving payments activity, such as in the Nordics. "They are aiming to get three countries initially live facilitating real time cross border payments which will encourage trade and growth in the region" he says. "if the bulk of your trade is with your neighbours, it kind of makes sense to do it regionally where you can get some real advantages, rather than trying to standardise payments between countries that don't trade much with each other."

Banks are also trying to figure out how to best make use of the data generated by the next generation of real-time payments. "Real-time payments are all about speed and data – you're talking about 30% to 40% of additional contextual data with ISO 20022, so every bank we're talking to is thinking about how to monetise the data and what the value proposition is for their clients," says Trimble.

The growth in real-time payments and the potential impact that has on existing revenue streams means banks are also having to rethink how their business models might work in a world of instant transactions.

"If you make a real-time payment, the bank becomes more of a utility through which the payment passes," says Cassidy. "In that scenario, the bank is moving away from interest-bearing income towards fee-based income and so the question becomes, what does it charge for payment transmission? That's a real challenge for banks."

The prospect of real-time payments and the acceleration of capital flows is reviving discussions about the potential for an intraday market for interest rates where banks could move money into higher interest-bearing markets for very short periods of time, says Cassidy.

Another area where banks could potentially try to create new revenue streams is by offering secondary services for trade-related payments, such as help with tariffs and duties or insurance.

"Banks are going to need to look at how they can extend and expand their offering into those value-added services areas that they don't provide today," says Cassidy.

To learn more, visit home.kpmg/uk/en/payments

KPMG

Q&A

Faster payments, faster fraud

KPMG's global forensic technology lead **Paul Tombleson** and co-lead of KPMG UK's fintech team **John Hallsworth** discuss the new fraud risks of real-time payments and how financial institutions can mitigate them

Q What are the main fraud risks associated with an increase in real-time payments?

PT The faster that payments are, the faster the fraud. That's one of the biggest tensions and dilemmas that the industry is facing at the moment – to be better at preventing fraud, certain types of payments are probably going to have to be slowed down. But the single biggest fraud type in the UK over the past 12 months is APP – authorised push payment fraud, such as romance scams or investment scams. Those are incredibly difficult to stop as the nature of an APP fraud is that someone is making a payment to the intended recipient because they've been socially engineered and duped through a scam to make the payment. This means that many of the various checks and balances that we have at the moment, like confirmation of payee, don't work for APP because the payment is being made to the intended recipient.

Q What other risks are created by real-time payments?

JH Financial institutions with legacy technology systems might struggle with upgraded real-time payments infrastructure, particularly around AML transaction monitoring. The faster the payments are, then the harder it is for banks to be able to monitor transactions and genuinely be able to stop fraud and financial crime from happening. It's a huge challenge because most traditional banks have legacy systems and legacy data, which at the moment probably isn't good enough to keep pace with the speed at which payments are now being made. The risk of payment errors is also greater as payments get faster.

Q How can financial institutions reduce the risk of fraud with real-time payments?

PT The most effective way of fighting fraud and financial crime in real-time payments is through good quality data and looking for patterns and trends. However, the 'kill chain' for a fraud doesn't start with the banks, it often starts with a text message (a smishing attack) or a bogus investment website. This means that financial institutions don't have end-to-end visibility of the fraudulent activity and therefore it is vital that there are mechanisms in place for information and intelligence sharing between market participants and across sectors as well, not just banks. There are several initiatives in the UK looking at the creation of a central utility of data that could spot potential fraud patterns. Once you start to aggregate and triangulate that data, you often see a very different picture than you would in just one bank. Even if you only had the top 10 banks in the UK doing it, that would have a meaningful effect on the amount of fraud that is detected.

Q What role is technology playing in tackling fraud and financial crime in real-time payments?

PT Technology has always had a vital role to play in the fight against fraud, and now more so than ever. Many firms are already deploying supervised and unsupervised machine learning models, behavioural analytics and social network analysis to look for the known and unknown characteristics of fraud and financial crime in transactional data. This needs to be underpinned by good quality and reliable data. That's potentially an area where paytech firms are at an advantage because they're not encumbered by the legacy systems that traditional banks have. When you're starting with a blank sheet of paper and building an IT infrastructure that is cloud-based and embedded with advanced analytics, you can put all your investment in that rather than having to clean up legacy data.

Q How will the threat landscape evolve as real-time payments become more prevalent?

JH The one thing about fraudsters is that they tend to be quite innovative, and

> The most effective way of fighting fraud and financial crime in real-time payments is through good quality data and looking for patterns and trends

so if you shut down one avenue, another one opens up. This is never a static set of risks, so while we don't know what the biggest fraud will be in five years, it probably won't be anything like the threat landscape that exists today. That means banks need good quality data so they can monitor trends to put themselves in the best possible position. If your data is poor quality and you don't know what your fraud losses are, then you'll always be on the back foot.

One interesting emerging area is crypto which, by its very nature, has a completely separate infrastructure to fiat currency. This introduces new threats, for example it will become increasingly difficult to understand a customer's overall behavioural pattern to identify criminals without also looking at the payments they are making in crypto. As the whole payments system speeds up then this interface between fiat currency and crypto will evolve and present new threats.

EMBEDDED FINANCE

Faster payments in progress

Businesses are showing interest in the slick processes used to facilitate consumer purchases to update their clunky systems

Ben Edwards

Photo via iStock

Cumbersome and costly, the business-to-business (B2B) payments process remains far from ideal. Many transactions are still paper-based: in the US, almost 25% of B2B payments are made by cheque, according to a survey of CFOs by Pymnts. And the reliance on manual tasks increases the risk of errors. In contrast, in the business-to-consumer (B2C) world the payments process is becoming faster, cheaper – and frictionless.

This has come about since the emergence of embedded payments technology, which allows any company to provide payments services. Now, B2B businesses are considering how the technology could reduce inefficiencies in their payments transactions.

"The big problem with B2B payments historically is that the data is disconnected from the payment," says Todd Clyde, CEO at Token, an open-banking platform. "Accounts receivables departments match invoices to payments and if a payer inputs incorrect details it makes the reconciliation very difficult."

Embedded payments can resolve this by embedding a 'request to pay' link on an invoice. This encodes the invoice with all the data that needs to travel with the payments, simplifying the reconciliation process. "That's the real killer application that will change the B2B payments space," says Clyde.

And embedded payments can make it easier for sellers to integrate payments capabilities into their accounting systems.

"In the past, you had to buy an enterprise resource planning (ERP) system or an accounting package, then make a separate payments decision to integrate it. Those payments projects were always very large and complicated," says Clyde. "Embedded payments companies are pre-integrating with those accounting packages and ERP systems, streamlining the process."

Some B2B companies are further ahead with embedded payments than others. Payroll software providers, for example, were among the first to use the technology.

0.5%

of total payments in the UK are made using cheque

UK Finance, 2021

"The way that payroll worked 10 years ago was that someone would manually log into their banking portal and initiate each payment," says Anthony Oduwole, chief technology officer at Verto, a cross-border payments platform. "If you're running payroll at the end of the month for 10,000 employees, that's a lot of data entry and a lot of room for mistakes." By embedding payments into payroll software, that process can be automated without users needing to leave the payroll platform or log on to their banking website.

"Embedded payments are most successful when people can use software and processes they're familiar with and use every day without having to think about a separate process for a payment," says Tom Kelly, strategic lead at payments platform Modulr.

Embedded payments technology is also enabling startups to build their business models around payments from the ground up. One company that is innovating with embedded payments is financial wellbeing app Wagestream. It allows businesses to offer employees flexible access to their wages, for instance if they need a cash advance ahead of payday. By embedding the payments process within the app, employees can draw down money as they need it, helping them better manage their finances.

According to Clyde, B2B companies have been slower to adopt embedded payments technology because its providers have focused on the consumer market, where there is a higher volume of transactions. In addition, B2B businesses are less concerned with conversion rates, which is when customers add items to their shopping basket but then change their minds before completing their purchase).

"For consumer-focused ecommerce sites, cart abandonment is a big issue," says Clyde. "But for B2B companies, conversion rates are not quite as important – if your company just bought some goods or services from me, you have to pay for them. So there hasn't been as much focus on conversion rates or speed of payment."

Online B2C sales platforms tend to revamp their websites more often than those in the B2B market, which has also slowed adoption.

"Take the fashion industry," says Jacob Rider, co-head of payments practice at consultancy Projective. "They update their websites constantly with the latest trends. If you're selling screws to builders, though, you might not have changed your website in 15 years. So the development cycles are much longer in the B2B space."

Market participants expect the use of embedded payments to accelerate in B2B, as broader embedded finance trends become more common in the consumer economy.

"The people who are running these businesses are consumers themselves, so their expectations start to converge around what service providers can offer," says Kelly. "With consumer products, you receive push notifications to your mobile about your spending. In the B2B space, those notifications could then trigger other processes that are predefined."

If a business receives funds from one customer, that could then trigger a payment to another supplier, effectively automating cash flows, Kelly says.

The boom in embedded buy-now-pay-later services for consumers could also be applied to the B2B market, which would potentially speed up the traditional trade credit process.

"In the B2B space, the ability to get buy-now-pay-later trade credit – or even a longer-term loan – from the site where you're purchasing your goods removes the need to shop around for the best interest rate or do all the application paperwork. It makes it a seamless experience," says Rider.

> **"Where embedded payments are most successful is where people can use software and processes that they're familiar with and use every day**

Sellers could also embed other financial services, such as insurance products, into their platforms.

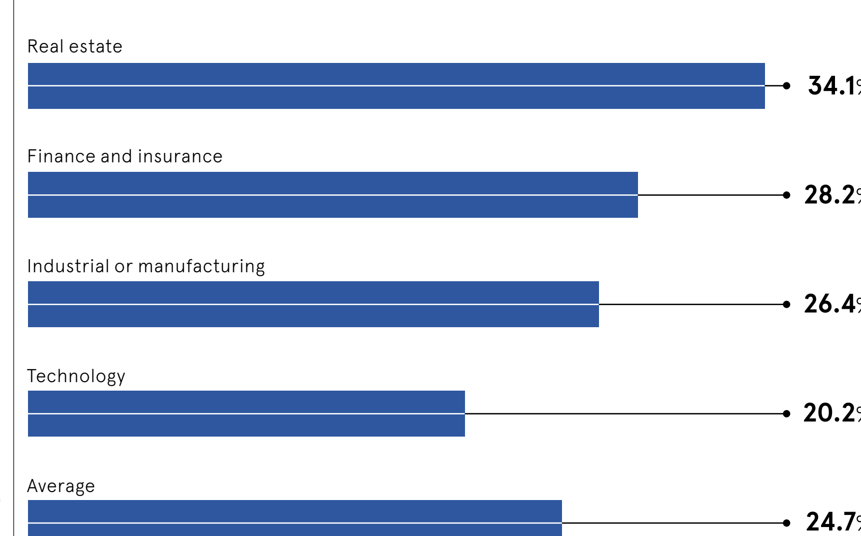
"On the buy side, if you need to purchase a product or service with a deposit or to pay the full balance upfront, you might want to take out insurance against the company going bust before the order has been fulfilled," says Rider.

While there is no data that shows the current adoption of B2B embedded payments, the broader embedded finance market is expected to grow to $7tn (£6tn) over the next decade, according to a report published last year by Pymnts and Fispan.

"We're just at the starting point of the journey. We haven't reached the tipping point yet," says Oduwole.

THE B2B PAYMENT MARKET IS RIPE FOR INNOVATION

Percentage of firms' payments made by cheque since March 2020



Pymnts, Versapay, 2021

INCLUSION

Bad optics: the screened-out consumers

The proliferation of touchscreen terminals and other tech lacking accessibility features is causing consternation among disability charities. The industry has much to lose by ignoring the needs of vision-impaired people

Virginia Matthews

SolStock via iStock

More than a decade since the Royal National Institute of Blind People (RNIB) started its Make Money Talk campaign to improve the accessibility of banking services in the UK, there are more than 10,000 talking ATMs nationwide. Over the same period, several other initiatives, such as braille communications, audio statements and voice-assisted digital banking, have helped to make life easier for partially sighted customers.

Yet, with point-of-sale (POS) keypads being replaced by touchscreen terminals in settings as diverse as retail, transport and hospitality, the 2 million people living with sight loss in this country are facing new barriers to their financial security and independence.

"The payments industry has made real progress in ensuring that blind and partially sighted people aren't left behind in the race to make on-the-go purchasing as fast as possible. I like to think that this is because it cares about inclusion," says the RNIB's chief operating officer, David Clarke, who has held senior roles at Clydesdale Bank. "But, given the astonishing proliferation of new mobile channels, it can no longer be assumed that people with limited sight can make electronic transactions as safely and easily as everyone else. For both moral and economic reasons, this situation needs to change."

Aside from criticising terminals built without tactile keyboards or audio facilities, Clarke points to "poorly designed commercial websites", many of which lack basics such as text magnification facilities. This makes it harder for users with vision impairments to place orders.

Another significant new barrier to accessibility has been the banks' increasing use of debit and credit cards without embossed numbers. The claim is that these cards will need replacing less often and are therefore a relatively green choice. Nonetheless, some players are bucking this trend. Released last year with the RNIB's endorsement, Mastercard's Touch Card incorporates a series of notches to indicate whether it is a credit, debit or prepayment card. It can be used both at points of sale and in ATMs.

NatWest and Nationwide have adopted similar approaches. These, Clarke believes, offer a "simple but effective" template for others in the industry to follow.

The Financial Conduct Authority is planning to introduce a new so-called consumer duty next year. Designed with the goal of setting higher standards of customer protection, this is set to improve service levels throughout the sector.

It will also highlight the potential gains to be made by companies that are willing to move accessibility to the top of the agendas, according to Briony Krikorian-Slade, principal responsible for card payment strategy at trade association UK Finance.

"The scheduled introduction of new consumer legislation next year has sharpened the industry's focus on the importance of responding to the needs of all customers," she says. "With challenger banks appearing and the level of account-switching increasing slightly in recent years, providing excellent customer service has become a clear differentiator between competitors."

While there is no legal requirement for payment terminals at the POS to offer accessibility features, Krikorian-Slade believes most vendors understand their importance to customers with sight loss.

"Retailers should recognise that terminals in shops, restaurants and taxis and so on need to maintain the highest possible levels of accessibility and safety," she stresses. "In our experience, the small number of devices that don't conform to good quality standards quickly fall out of use. Blind and partially sighted people may need extra support in making payments when they're out and about, particularly now that they're returning to pre-Covid spending habits. It's vital for the industry to meet their needs."

Even when payment terminals do have accessibility features, ignorance on the vendor's part can negate them, Clarke notes.

"When you use your earphone at a talking ATM, you know that you're making a safe transaction," he says. "But, when an unfamiliar machine is thrust at you in a packed restaurant, the harassed waiter won't have a clue whether it has a screen magnifier or not, let alone an earphone jack. You may end up giving out your PIN just to get the bill paid without any further hassle."

Maxine Pritchard is head of financial inclusion and vulnerability at HSBC UK, which offers, among other things, accessible cards and readers for making online payments, along with support from a specialist banking team. She agrees that a more robust focus on tech standardisation by all concerned would help instil greater trust in the new generation of POS payment devices.

> **"Given the astonishing proliferation of new mobile channels, it can no longer be assumed that people with limited sight can make electronic transactions as safely and easily as everyone else**

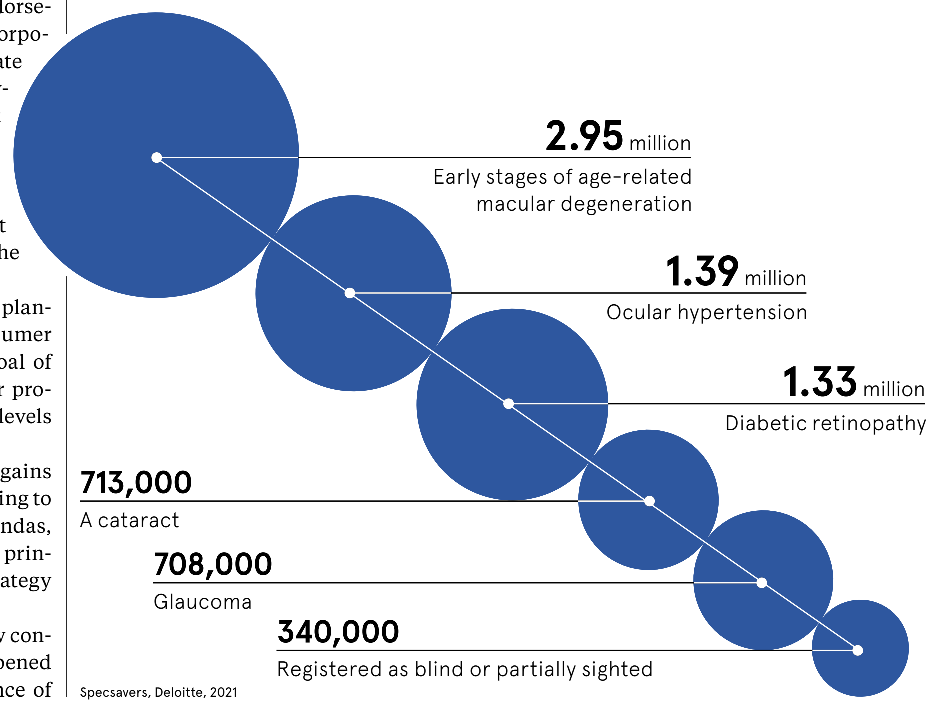
"We appreciate that customers with visual impairments may still feel vulnerable when making purchases. To make their experience as seamless as possible, it's important for both the financial services providers and the merchants involved to ensure that they're providing accessible journeys," Pritchard says. "While HSBC UK is the facilitator of purchases, it's equally important that the merchants' screens and other POS technologies meet the same accessibility standards."

Recent advances in payment authentication – particularly those based on face, voice or fingerprint recognition – give the RNIB hope for the future, but challenges remain, according to Clarke.

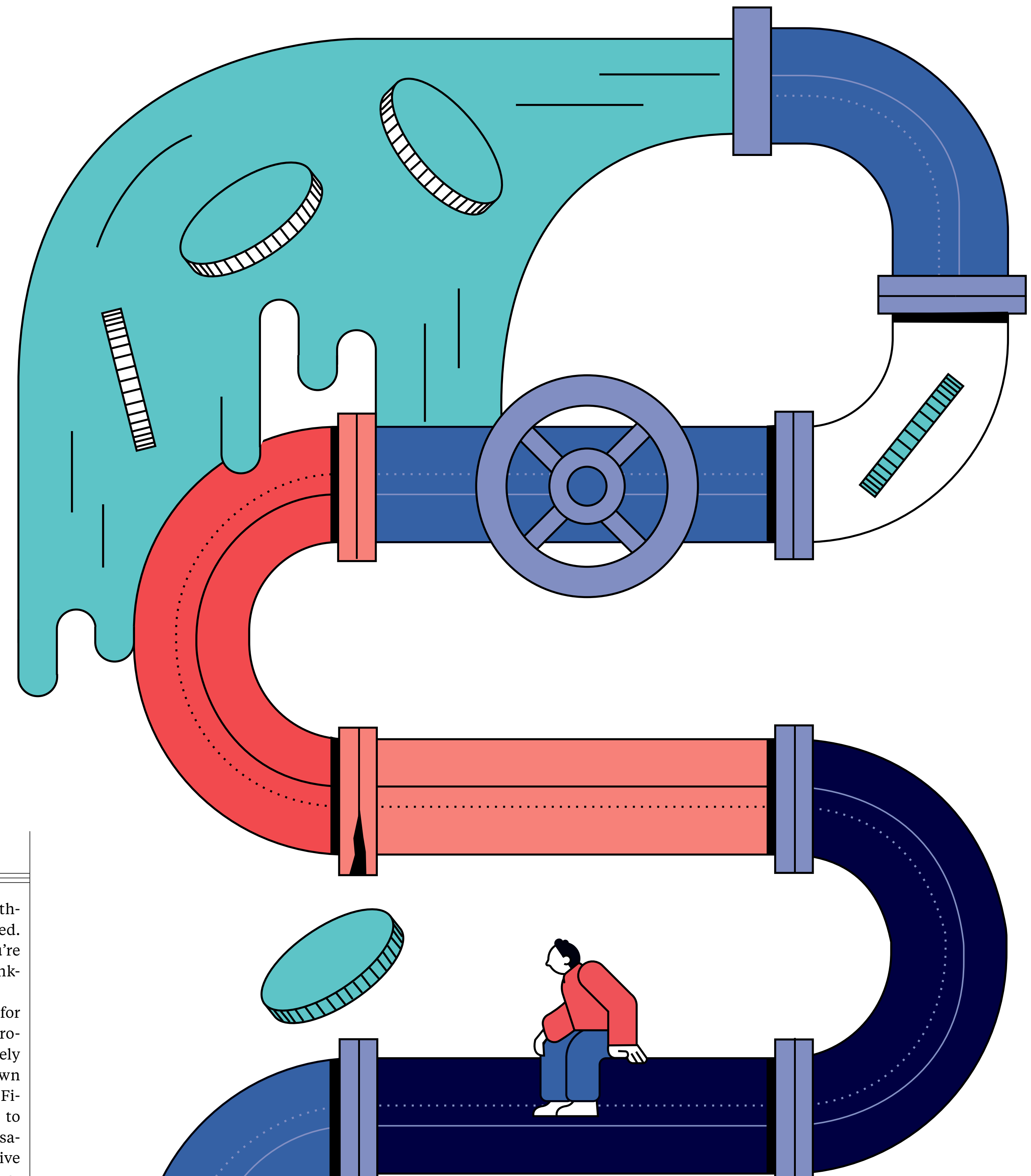
"As long as all parties involved in these developments work to agreed standards, new trends in biometric and speech output technology will not only be immensely helpful to blind and partially sighted consumers. They can also be a great leveller for the banking industry as a whole," he says. "Yet, despite the clear intention to give everyone the same access to secure payments across all channels, there are still devices, apps and websites out there that don't allow this to happen – and we will continue to point this out."

UK POPULATION WITH SIGHT ISSUES

Numbers of people living with the following eye health problems



Specsavers, Deloitte, 2021



INTERNATIONAL PAYMENTS

Cross-border payments: fixing the plumbing of a $250tn market

Ageing technology, legislative disharmony and opaque processes are among the problems impeding the cross-border payments sector. Providers must work with regulators and governments to stand any chance of solving them

Daniel Thomas

A thriving industry has emerged over the past five years with the goal of making payments more seamless. Most of its successes have occurred in domestic markets such as the UK and the US, where neobanks, mobile payment apps and buy-now-pay-later services have proliferated.

The cross-border payments market is much larger – the Bank of England expects it to be worth more than $250tn (£217tn) by 2027 – but it remains far less efficient, mainly because of the disjointed nature of the global financial system.

As Sir Jon Cunliffe, deputy governor at the Bank, explained in the *FT* in 2020, it can take as long as 10 days to transfer money to some jurisdictions. He noted that the fee for each transfer could be up to 10% of the sum being moved, while payments from the UK to certain territories might have to go through four currencies and five banks.

"Cross-border payment systems still use message formats developed 100 years ago for the telex machine," Cunliffe added. "For decades, they have been the forgotten corner of the global financial plumbing."

This has caused immense socioeconomic harm around the world. If businesses can't move money across borders easily, it impedes global trade and development, especially in emerging economies. Millions of people face high costs when sending money to relatives and friends abroad, while the unbanked and those living in the most unstable and impoverished territories often cannot access payment services at all.

It's widely acknowledged that the system urgently needs improving. The good news is that modernisation work is under way. New players in the payments sector are trying to smooth cross-border cash flows, eliminate unexplained fees and make processes more transparent. The big incumbents that have hitherto dominated this market are taking note and upping their games.

Perhaps most crucially, the G20 group of leading economies has agreed an ambitious action plan (see panel, below) to tackle the compliance hurdles and the lack of coordination between the industry and its regulators that have made it so hard to solve the problem. The big question is whether this will make a real difference by 2027, as its architects hope.

If you want to move money across borders, there are several ways to do it, depending on the use case. These can include traditional banks; money-transfer services such as Western Union and PayPal; newer fintech players such as WorldRemit and Wise; and payments specialists and forex brokers including Corpay and Monex.

> "Global cooperation is no easy task. If we look at ISO 20022 standardisation in payment messaging as an example, it's obvious that progress is quite slow

While there are many players serving a range of customers with differing needs in this fragmented market, most payments at the back end require an account-to-account transaction through a bank. This is where a large part of the problem lies. If the payment provider has a direct tie with a financial institution in the receiving country, the transaction can proceed relatively quickly with little fuss. If there's no such relationship, it will rely on intermediaries, with the funds travelling through a network of so-called correspondent banks. This slows things down, with each party applying its own compliance controls and fees.

Daniel Webber is the founder and CEO of FXC Intelligence, a provider of data on the payments market. He observes that there are "200 countries that can send money to each other. When you add it up, that makes about 40,000 individual payment corridors, each one of which is a unique case. Nearly every country has its own rules covering things such as money-laundering and the financing of terrorism that financial institutions must comply with. Then you have all the different use cases for payments, challenges specific to certain industries and the fact that financial institutions may have different operating hours across different time zones and/or use outdated tech. All of these factors create friction."

The clearing and settlement time for most global payments is typically at least two days, according to research by the Aite-Novarica Group. Many users complain about the lack of transparency concerning where a payment is until it has settled and also about the loss of data during the process. Moreover, transaction values may vary by the time they settle, owing to hidden charges incurred along the way.

Webber points out that some payment corridors – for instance, between the UK and the US – are much more efficient than others, as these tend to be the most widely used.

"Where things get tougher is when you're moving money to a country where the banking system is less developed," he says.

Although there's clearly much room for improvement, there has been some progress in recent years. Most large banks rely on a cross-border messaging system known as the Society for Worldwide Interbank Financial Telecommunications (Swift) to make payments. Since 2017, that organisation has been implementing an initiative called the Swift Global Payments Innovation (GPI) to improve the speed and transparency of international transactions.

According to the Bank of England, nearly half of Swift GPI payments are credited to end beneficiaries within 30 minutes and almost all within 24 hours. Clients can also pinpoint where a payment is in the process, instead of having to wait in blind faith for it to arrive. By last year, about three-quarters of Swift's 11,000 member institutions were using the service.

Meanwhile, some innovative new players have been finding ways to improve transfers, with a few eliminating the need for correspondent banks altogether. Apps such as WorldRemit or Remitly enable consumers to shift small sums across borders directly to debit cards or digital wallets with ease. Wise – one of Europe's largest fintech players, with a valuation exceeding £5bn – has built its own banking network across the world, meaning that its commercial and consumer clients don't need to use intermediaries. Its goal is to make transfers both faster and cheaper.

Wise's senior corporate affairs and policy manager, Magali Van Bulck, explains: "If you're sending pounds to euros, you pay sterling into our UK bank account and we pay out to your recipient from our euro account. As much as possible, money does not cross borders. We charge a single upfront fee, while the exchange rate you get is the one you see on Google, with no hidden charges."

Some payments firms are using so-called use aggregator models, grouping payments to reduce costs, as most cross-border fees are incurred as a fixed sum per transaction. Others are dabbling with blockchains. Proponents say that these decentralised digital ledgers could make payments more secure and easier to track than would be possible with the centralised ledgers used by big banks.

One provider that's been using blockchains is Ripple. The San Francisco firm, which names Bank of America and Santander among its 30,000 clients, claims that cross-border payments on its platform can be made in seconds.

Webber believes that blockchains could help with one of the biggest problems affecting international payments: the fact that banks in many countries don't operate 24 hours a day (unlike blockchains), meaning that payments may take longer to reconcile and get passed on. They could also address the costly problem of having to pre-fund multiple accounts as collateral to make an international payment, he adds.

That said, it is still early days for blockchain – a technology that is not trusted in some quarters. For instance, the US Securities and Exchange Commission is suing Ripple over its issuance of XRP – a cryptocurrency it uses to make cross-border transactions. The regulator claims that the firm has broken the law by selling unregistered securities. Ripple strenuously denies this and intends to defend itself in court.

> "The success of our work to improve cross-border payments will depend on the commitment of public authorities and the private sector working together"

Many experts believe that the recent innovations in international payments bode well for the future. They are spurring traditional institutions either to be more creative themselves or to partner with the new crop of fintech firms.

Despite such advances, most agree that concerted regulatory action is also needed to address the wider issues blighting the market, which is why the G20 stepped in. In 2020, it published its *Roadmap for Enhancing Cross-Border Payments*. This action plan is being overseen by two international bodies with the task of increasing cooperation: the Financial Stability Board and the Committee on Payments and Market Infrastructures (part of the Bank of International Settlements).

The plan, which has the backing of central banks, aims to boost public and private sector cooperation on international payments; improve regulatory coordination across borders; enhance existing payment infrastructure; improve data-sharing and explore the potential role of new payment technologies and arrangements. It also sets out a series of ambitious goals to cut fees, reduce delays and increase transparency by 2027.

Progress is being made in these areas. For instance, the central banks of Australia and India are working to give non-bank service providers access to their domestic payment systems. This means that such providers will be able to deliver their services without having to use a costly intermediary. Only 30% of domestic payment systems allow such access, according to the Bank of International Settlements.

Meanwhile, the US Federal Reserve has extended the operating hours of its Fedwire service (a real-time gross settlement system used by Fed banks) and the European Central Bank is set to extend its operating hours in November. This reflects the need to widen the rather limited time window in which banks worldwide are open at the same time.

Nonetheless, the G20 plan will take a huge amount of cooperation among governments, central banks, financial institutions and fintech firms if it's to deliver all the desired benefits.

"The success of our work will depend on the commitment of public authorities and the private sector working together," says the Financial Stability Board's secretary-general, Dietrich Domanski. "It also will require investment in systems, processes and technologies to make material improvements in underlying systems and arrangements, as well as the development of new systems."

Erika Bauman, director of commercial banking and payments practice at Aite-Novarica Group, doubts that it will accomplish all its aims on schedule.

"The goals of the roadmap may be meetable, but is that likely? As with any industry standardisation attempts, there will be bastardisation and differences among global regions that make the process arduous," she says. "Global cooperation is no easy task. If we look at ISO 20022 standardisation in payment messaging as an example, it's obvious that progress is quite slow."

Webber likes the G20's wide-ranging approach but agrees that meaningful change will take time. "We'll see steady progress with slightly uneven results. Some markets will progress faster than others," he predicts.

Whether the 2027 goals can be met remains to be seen. Either way, the status quo presents a huge opportunity for the payments industry.

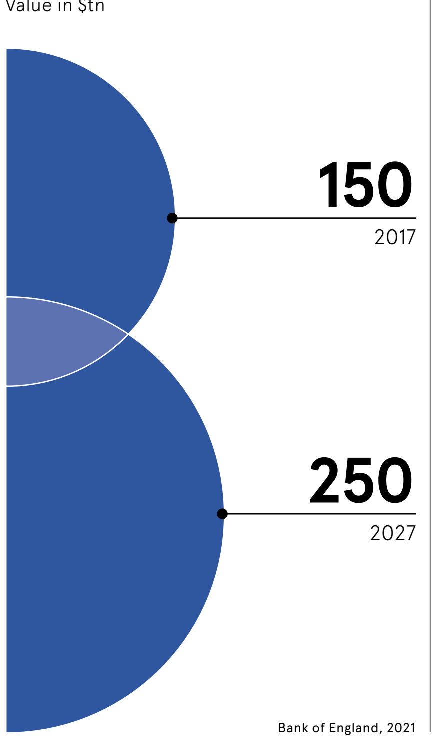
Webber, whose company tracks industry developments, reports that the market is growing quickly but also starting to consolidate. It is always likely to be quite fragmented, with many solutions required to tackle the sector's many challenges, he says, adding: "There will be no silver bullet."

Baumann observes that payment providers are innovating faster than ever – and any bank that fails to adapt could be left behind.

"For smaller financial institutions especially, it can be hard to rationalise investing in services that aren't used as widely as something such as online banking," she says. "But the reality is that many customers are leaving to utilise banks that have invested in better solutions, including cross-border payment systems."

CROSS-BORDER PAYMENTS ARE OF GROWING ECONOMIC IMPORTANCE

Value in $tn

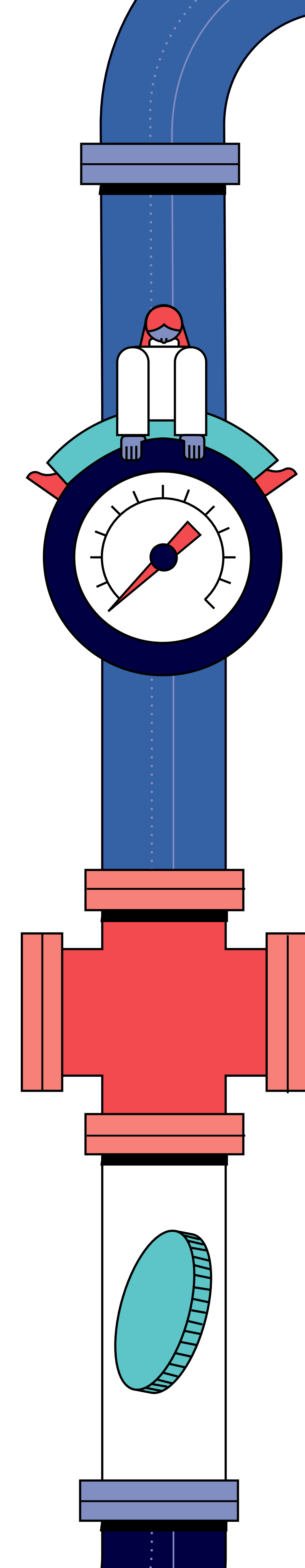


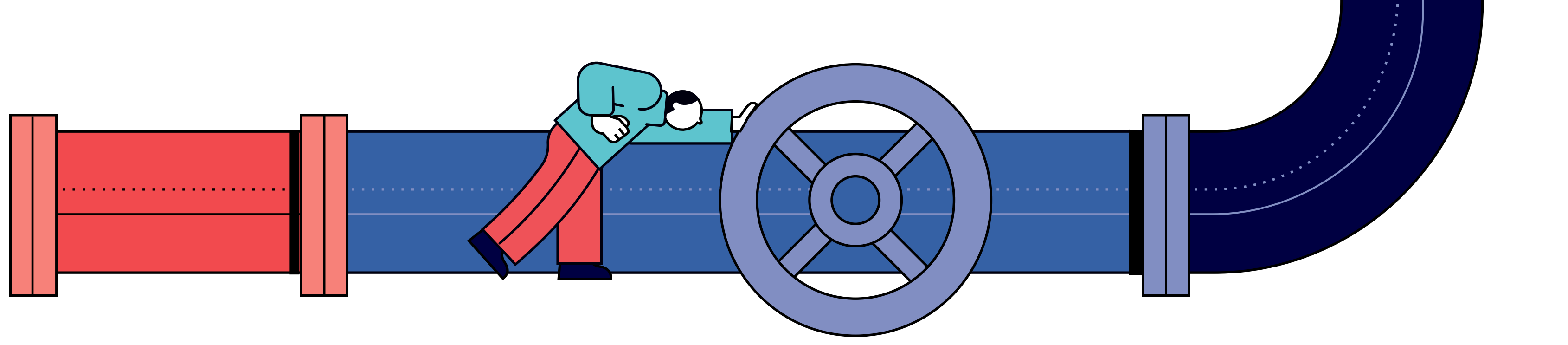
Bank of England, 2021

Key aims of the *G20 Roadmap for Enhancing Cross-Border Payments*

The G20 hopes that, by 2027:

- The average cost of sending a retail payment globally will be no more than 1%, with no payment corridor charging more than 3%.
- Three-quarters of wholesale, retail and remittance payments globally will be credited within one hour of payment, with the rest of the market within one business day.
- More than 90% of individuals globally (including those without bank accounts) who wish to send or receive remittance payments will have access to a means of doing so electronically.
- All payment providers will provide a minimum level of information to customers, including the total cost of a transaction, the expected time to deliver funds, the tracking of payment status and the terms of service.





Exploring the new opportunities and greater potential in payments

As the technology develops, payments solutions can now offer businesses so much more than simple transactions

With global pandemics, international conflicts, and a looming economic crisis to contend with, agility is critical to business survival today. Against this background, payments systems can play an essential role in enabling enterprise-level and international businesses among others, to drive sales, improve margins and engage with consumers whose expectations for fast, easy and secure transactions are greater than ever.

"Businesses are gradually moving away from large, enterprise-built systems in favour of small, specialist providers that fit together seamlessly in the back-end," says Colin Neil, managing director of Adyen UK, the global financial technology platform that provides companies around the world with end-to-end payments capabilities, data-driven insights and financial products in a single solution. "This makes it much easier to pivot since these components can be switched out without bringing the whole system to its knees."

To achieve this, the payments functionality needs to plug seamlessly into a business's wider tech ecosystem without adding complexity. A single platform solution that can handle all payment needs across all regions and channels is an advantage. This enables unified commerce, another important and growing trend in which all systems are connected behind the scenes to not only streamline business operations but deliver better experiences to the end user.

According to recent research published by Adyen, 47% of businesses say unified commerce improves customer experience. However, only 21% of UK businesses currently connect their payments to other parts of their operations.

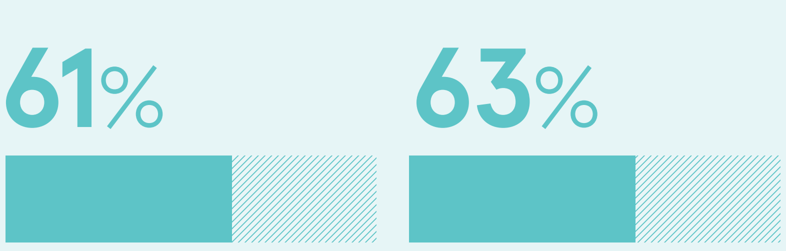
"The opportunities for businesses to develop competitive advantage are huge," says Neil. "And unified commerce paves the way for other innovations such as payment-linked loyalty. The days of wallets bulging with loyalty cards are over. Today, your customer's credit card can become their loyalty card as well. It can be used to identify the customer, track purchases – across any channel or region – and trigger rewards. This is much easier to manage and a better experience for the customer; something welcomed by 70% of consumers who said that brands need to make their loyalty schemes easier."

Neil adds: "Payment data is also a valuable source of information. It can help businesses to understand the profile of customers in specific areas. For example, a high rate of Alipay transactions in a specific store might indicate a prevalence of Chinese shoppers in that area. This kind of intel can be used to inform marketing decisions."

At a more advanced level, payment data can be used to drive efficiencies in the back end to remove friction. It can, for instance, be used to optimise card payments for higher approval rates. It can also be used to beat fraud since payments systems can now recognise known fraudsters across a range of data points and block them before they can act. According to Adyen, the more data that the business puts in, the more value it gets out.

ADDRESSING CHANGING CUSTOMER NEED THROUGH PAYMENT INNOVATION

Ayden, 2021-2022



61% of consumers would download a retailer's app to receive better loyalty rewards

63% want brands to connect their loyalty to their payment method

Ayden, 2021-2022

Meeting customer demand for fast payments

As consumers demand a more rapid, seamless experience, fast payments are becoming increasingly important. According to Adyen's recent consumer research, 67% of UK consumers won't return to a brand if they've had a bad experience either in store or online and 76% expect businesses to maintain the same flexibility that they demonstrated during the pandemic.

"As competition for share of consumers' shrinking wallets ramps up, it's critical that businesses remove friction from every part of their consumer journey," says Neil. "The payment experience is the moment of truth in any purchase and it's no time to scrimp on customer experience, especially when the likes of Uber and AmazonGo are setting such a high bar."

Similarly, with the rise of Apple Pay and Google Pay among others, consumers shopping on their mobiles don't need to enter their card details for every purchase. This is thanks to the growth of express payments where the necessary details are already completed. The technology behind this is tokenisation, in which sensitive card data is replaced with a secure token which is useless to any criminal if intercepted. Businesses can offer express payments without worrying about the safety of their customers' card data.

Neil urges businesses to embrace next generation Strong Customer Authentication (SCA), the mandates for which came into play in March this year. However, the recent Adyen survey data shows that 44% of UK businesses are still not ready for it. "This not only makes businesses vulnerable, since they lose the benefit of a liability shift, it also damages their conversion as more and more issuing banks are declining non-compliant transactions," he says.

Thanks to easier authentication flows which use biometrics rather than relying on a hard-to-remember password every time, these latest SCA mandates should be seen as means of reducing friction for customers.

Rise of the conscientious consumer

Businesses also need to recognise the rise of the 'conscientious consumer,' according to Adyen survey results which show that 26% of consumers want the ability to donate to charity while they're paying. "That's why we introduced our Giving feature," says Neil. "It's easier than ever for businesses to enable donations at checkout. In Adyen's case, 100% of the donation goes directly to the charity and we absorb the processing costs."

> As competition for share of consumers' shrinking wallets ramps up, it's critical that businesses remove friction from every part of their consumer journey

Another interesting innovation in payments that Adyen is helping to drive is embedded finance. For consumers this comes in the form of buy now, pay later methods such as Klarna and ClearPay.

"From a business perspective, embedded finance can be found within your commerce platform," says Neil. "Platforms are increasingly looking for ways to remove operational burdens and cash flow restrictions from their users. That's why we can expect to see the growing use of issued virtual and physical cards in order to streamline money flows and speed up payouts."

Pre-approved capital loans based on business users' previous performance on the platform will also help to keep the wheels of commerce moving during difficult times by quickly unlocking capital for businesses when they really need it.

Adyen recently announced that it is expanding its services beyond payments into embedded finance products for its platform customers.

Neil says: "Payments must play their part in ensuring the customer comes away happy. Now's the time for you as a thriving business to invest in the technology that will ensure that buying from you is as easy as it can be." As the cost-of-living crisis ratchets up, businesses must think carefully about the experiences they're offering and ask whether they're providing real value in exchange for people's hard-earned cash.

How payments can build customer loyalty

The challenge in developing payments systems that deliver greater customer loyalty is real. Over a quarter (26%) of consumers stopped using or buying from a business in the past year, a figure that rises to 32% among Gen Z, according to PwC's Customer Loyalty Survey 2022. On the other hand, the survey also revealed that more than half (51%) of respondents said that they're less likely to be loyal to a brand if its online shopping experience isn't as easy or enjoyable as shopping in person.

Embedded finance – providing tailored financial experiences

Increasingly, platforms are looking to create their own payments and financial experiences in order to meet demand from underserved SMBs thereby growing loyalty and unlocking new revenue streams.

To meet this demand Adyen has been building out its capabilities in all major markets. "Our goal is to remove the limitations of legacy financial systems and deliver the power of a bank combined with the adaptability of fintech," says Thom Ruiter, VP of banking and financial products at Adyen. "We want platform customers to enjoy unparalleled flexibility so that they can meet the evolving needs of their users without the barriers of regulatory complexity, lengthy product development or sponsor bank restrictions."

The process started with Adyen for Platforms, a product that allows platforms to embed payments into their services and to deliver a unified commerce experience across sales channels and geographies. "Over time, it became clear to us that platforms needed more control over the payout experience and so we launched Issuing," says Ruiter. "This has enabled platforms to offer their users virtual and physical cards for business transactions and to directly receive funds faster."

Going forward, Adyen will include Issuing in a full suite of embedded financial products. These include Adyen Accounts, which allow platforms to build out different types of accounts to solve their users' treasury needs such as receive payments, initiate pay outs, and safely store funds, all in one place. Another new product, Adyen Capital, allows platforms to extend business financing to their users directly from their interface. Funding offers are based on historic payments data allowing platforms to proactively offer business financing to users who qualify, and automate repayments based on incoming revenue

Adyen clients like the fact that its data-driven risk-scoring capabilities means that users don't have to go through lengthy and complicated application processes and can have fast access to capital right at the point of need. Platforms will be able to solidify their relationships with their users, while providing the traditionally underbanked segment of small businesses with the funds they need, which is especially important during the current economic climate, when cash-flow is an ever-growing challenge.

Connected payments enable brands to build a complete picture of their customers and create cross-channel loyalty and rewards programmes. Adyen's recent research found that 61% of consumers would download a retailer's app to receive better loyalty rewards. And 63% want brands to connect their loyalty to their payment method.

Adyen customer Joe & The Juice knows first-hand the power of connected payments. "By linking our app to the credit card terminal, customers get greater transparency of their purchases, messages, and rewards in the app," says the company's VP of strategy & business development, Thomas Evald. "On the other hand, we gain a clearer understanding of who our customers are and how we can provide them with better service and products."

Payments technology is also helping the brand by enabling it to connect its online and in-store channels in one system. By centralising its payments, Joe & The Juice can provide a consistent experience across both channels; a key factor for engaging customers, improving personalisation and building loyalty.

"We're unifying the ecommerce and physical store experiences," says Evald. "You can preorder from your home, or you can order in store. You can pay via the terminal or in-app. It doesn't matter. We've created this flexibility by connecting our payment data in the back end. It lets us see the whole picture in one place and evaluate our performance. That's amazing for us."

For more, please visit adyen.com

REGULATION

EU runs the rule over its regulatory revolution

The second payment services directive, which took effect in 2018, was designed to open up banking, cut fees on card transactions and reduce fraud. How well has it worked?

Mark Frary

It is more than four years since payments in Europe underwent a revolution. In 2018, the regulations of Europe's Payment Services Directive 2 (PSD2) came into force across the EU, then including the UK.

PSD2 ushered in an era of open banking, giving consumers more control over how they managed their payments and bank accounts, and opening competition to new players in the banking and finance sector. It forced banks to allow competitors access to their customer data, making it easier for consumers to switch to a bank offering them a better deal.

The regulations also introduced new security measures intended to make online payments safer. These included two-factor strong customer authentication (SCA) for certain electronic payment transactions and for accessing accounts online. It required consumers to identify themselves in two different ways when making a payment, such as typing a password, entering a code on a smartphone or confirming a payment using a fingerprint.

PSD2 also introduced a ban on shops and online retailers from adding surcharges for payments made with credit and debit cards.

So has the new regime worked? To find out, the European Commission began a series of consultations this summer to review the effectiveness of the PSD2 regulations. If further changes or clarifications are required, this might lead to a third directive at some point.

Mairead McGuinness, the financial services commissioner, declared the 12-week review open in mid-May. She said that, since the enactment of PSD2, "a wide array of new players – in particular, technical service providers – have become key actors in the payments ecosystem. And they are not all effectively supervised. With the increase of digitalisation and ecommerce, social engineering and scams pose a growing threat to payment security and consumer confidence. As new types of fraud emerge, we must be ready to improve both detection and prevention measures."

Hundreds of stakeholders – including trade associations, businesses (not only in the payments sector) and individuals – have responded to the consultations.

One of them, the European Banking Authority (EBA), believes that the benefits of PSD2 are starting to materialise.

"The security requirements – in particular, SCA – are having the desired effect of reducing fraud," it wrote in its submission. The EBA has found that the share of fraud by value is three times higher for payments authenticated without SCA compared with payments authenticated with SCA.

But not everyone is convinced that SCA is the right way to do this. Denmark's financial affairs minister, Simon Kollerup, says that, while SCA has led to a significant decrease in fraud cases, it can cause inconvenience for users and may create "a lack of financial inclusion for vulnerable and non-tech savvy citizens".

The European Security Transport Association (Esta) represents companies in the European cash management industry. It also expressed concerns over financial inclusion in its response to the consultation, calling on the commission to ensure that cash payments are included in any new directive (they are excluded from PSD2).

"Consumers must have a right to pay in cash," and "retailers must have an obligation to accept payments in cash," Esta said. It added that the "war on cash" had advanced by seven years during the pandemic, largely because authorities had been making unsubstantiated claims about the risk of contamination through cash transactions.

There are concerns about the PSD2 ban on surcharges for payments by credit card. Germany's Federal Cartel Office argues that, while the interchange fees that banks charge merchants for using cards have fallen, the payment scheme fees charged by the likes of Visa and Mastercard have increased and passed on to consumers. It says that consumers using relatively inexpensive payment methods are "cross-financing the more expensive methods".

The travel sector in particular has faced problems operating under PSD2. It has been hard for operators to handle bookings for services such as hotel accommodation where the traveller doesn't show up and has no incentive to provide further authentication to cover the cost of the booking.

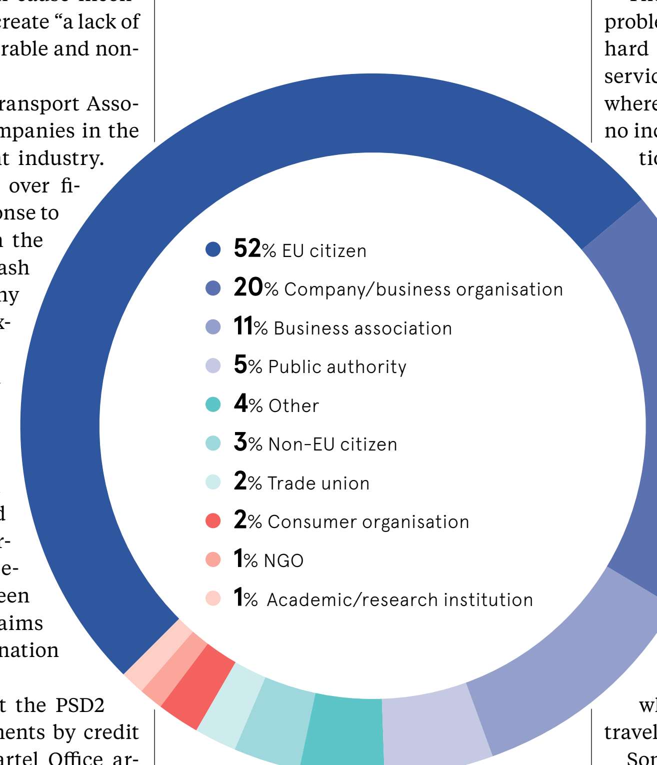
There has also been confusion regarding bookings made on company credit cards and so-called lodged cards, where companies require employees to use a single company card number that has been lodged with their travel agent when booking business trips. Such transactions are exempt from SCA but there is no ban on card surcharges, unlike for consumer transactions.

But for companies requiring employees to use their own cards, these exemptions do not apply. In these cases, there are difficulties handling bookings for services such as hotels and car rental where payment is only made when the travel happens rather than at booking.

Some airlines have also been using incorrect assumptions – for instance, that payments made using American Express cards are exempt from PSD2 because Amex is based outside the EU.

RANGE OF PARTIES RESPONDING TO EUROPEAN PAYMENTS CONSULTATION

Percentage of respondent category



European Commission, 2022
(Figures do not add up to 100 due to rounding.)

> "A wide array of new players, in particular technical service providers, have become key actors in the payments ecosystem. And they are not all effectively supervised

Travel technology organisation EU Travel Tech has called on the commission to provide further clarification of surcharge rules so that they are applied more consistently and fairly across member states.

Digital Europe, a trade association for digital industries, wants certain exemptions from PSD2 – most notably, charging terminals for electric vehicles, to hasten the move away from petrol and diesel.

The open banking revolution promised by PSD2 has partly come to fruition. Competition has increased in the payments sector, with more than 2,700 new payment institutions and electronic money institutions registered since the directive took effect.

The European Banking Federation (EBF) believes that overall, PSD2 has contributed to increasing levels of innovation, competition and security and that concepts such as SCA have been "positive developments".

But in its response, the EBF said it might be too early to comprehensively gauge the impact of PSD2. Further change should keep "regulatory consistency as a core principle", it said. The EBF also believes that a review of PSD should look beyond open banking into open finance, which would extend regulation to cover pensions, insurance and investments.

McGuinness sees this as a potential route for new regulation. When she announced the review, she said: "Open finance has the potential to spark new, innovative products personalised to individual consumers – while those consumers keep control over their data."

The payments sector has also moved fast. One of the big questions is whether Europe will bring in new regulations for innovative payment types, such as crypto transactions, digital wallet services and buy-now-pay-later (BNPL). The combined value of BNPL transactions worldwide jumped from £29bn in 2019 to £103bn in 2021. But the number of consumer complaints about BNPL in the UK has risen sharply.

Further innovation in the payments space seems inevitable. Europe's regulators will have to move sharply to ensure that there's a level playing field for newcomers and legacy businesses, while protecting the consumers who use them.

Commercial feature

How AI is tackling payments fraud

Jared Kernodle, chief revenue officer at Kount, and **Adam Sharpe**, chief executive of Cardstream, explain how technology is leading the fightback against fraudsters

Q How has the payments system evolved since the start of the pandemic?

JK The pandemic accelerated the growth of online payments. We have seen a profusion of businesses setting up their first ever ecommerce or digital operations. The issue is that merchants are in the dark about these new online customers. They don't know who the person is behind the computer, and they don't know what their intent is. If someone buys 10 iPads in one go, are they a business, an individual with a lot of tech-obsessed kids or a fraudster? If they came into your store regularly, you would talk to them and develop a relationship. So, without that, we need to develop actionable digital relationships instead.

AS Customers who previously went into a store have now adapted to sitting at home using their smartphones to buy goods and services with credit cards, crypto or buy now pay later services. This growth has meant more digital and contactless payments, as well as QR codes and PayLinks. We are also seeing more touchless payments, in particular restaurants and leisure facilities ditching chip and pin machines and moving to mobile technologies such as apps.

Q What are the main challenges resulting from this growth?

JK It has put a significantly greater onus on ensuring secure digital payments. As transaction numbers have increased, so has the amount of fraud, with people using stolen cards, details they have secured from the black market or taking over loyalty accounts and banking the reward points. We're also seeing more chargeback fraud, misleadingly known as "friendly fraud". At the end of the month, if you look at your credit card bill and see a payment that you don't recognise, you query the transaction and ask for a chargeback. It could be that you've forgotten but people also use this to make fraudulent refund claims.

AS Merchants are also increasingly under pressure to produce frictionless customer payment journeys to compete against the likes of Amazon. We have all been frustrated putting in card details and then seeing the payment screen whirring, only to be met with a decline message. Neither genuine customers nor honest merchants want these "false negatives" querying and even condemning their identity.

Q How is artificial intelligence (AI) technology helping to prevent fraud and develop digital identities?

JK Using our technology, we harvest consensual customer data. Anywhere that customers digitally interact with a business, through a mobile app or website, feeds our machine learning and behavioural analytics technology to profile their digital identity. We combine our data with that of our parent company, Equifax, to perform a real-time analysis as to whether the customer trying to make an online transaction is a good actor. We also do real-time post-authorisation checks to counter chargeback fraud. These frictionless processes are equally effective online; cardholder present; crypto-based; cross-jurisdictional; or local payment variants.

Our AI fraud mitigation is a unique transaction dead end for the 1% of fraudsters who prey on genuine traders, and a major stride forward for honest trade.

Q What benefits have you seen from the Kount and Cardstream partnership?

AS Cardstream's Open Payment Network is a unique constellation of diverse merchant service providers and ancillary payment methods. Fraud mitigation is a top priority for our channel partners and their merchant clients. Fraudsters will always exist but adding the Kount technology has provided a massive barrier against that threat. AI and machine learning has been pivotal in helping our partners to mitigate fraud end to end without frustrating hold-ups – known as checkout friction. Real-time decisions on a transaction's probity are being made in milliseconds.

Q Where do you see the payments sector moving in the foreseeable future?

JK There will be more of a blend between payments and digital identity. Merchants will want to find more ways to help customers pay quickly and with less friction. That will be helped by knowing more about the customer and creating a personalised experience. If I am a keen fly fisherman and visit a sports website, I don't want to see pages of products for deep sea fishing. If I can be directed straight away to products that I need, then I will pay more quickly, and the merchants will do more business.

To learn more, visit kount.com and cardstream.com

Kount An Equifax Company cardstream

Betsie Van Der Meer via Getty

CASH

Ready money

The FCA will soon be able to require big banks and building societies to ensure that cash is available across the UK. What does this mean for the future of the pound in the UK's pocket?

Ouida Taaffe

Digital payment is now the way most UK consumers part with their money, even in-store. Only around 20% of people prefer cash and, the Financial Conduct Authority (FCA) says, just 10% rely on cash for daily purchases.

That makes it sound as though cash is on the way out. After all, making, distributing and securing cash is expensive and digital payments offer advantages like a data trail and a frictionless checkout. Nonetheless, the government recently announced that the FCA will get powers to require the largest banks and building societies to maintain cash withdrawal and deposit facilities across the country. Legislation is expected to come into force in April 2023. Sweden's central bank, the Riksbank, took the step of protecting cash in 2021.

"There are two principal reasons for maintaining cash," says Chris Holmes, member of the House of Lords and co-chair of the all-party parliamentary group on fintech. "The first is financial inclusion. Cash still matters and matters materially to millions of people.

"The second is financial resilience. Cash is an extremely robust layer of resilience in the financial system. It's there even when digital networks are not. For that reason, it should be designated as part of our critical national infrastructure."

Holmes was behind the amendment to the Financial Services Bill in 2021, which introduced the option of cashback at tills without the need for a purchase.

"Cash at the till was a really important new development," says Nick Quin, head of financial inclusion at Link, which runs the UK's ATM network. "Around 30% of those withdrawals are for non-round amounts and the average value is about £25. That compares with an average of around £80 at an ATM. We're pretty convinced that it's serving people who are budgeting.

In February 2020, around 3.8 million people struggled to make ends meet. People who are budgeting are, of course, a growing segment as the cost-of-living crisis bites.

"A lot of people find they control their finances better when they use physical cash," says Holmes. He says those who are older, those from a lower social-economic group, from more deprived parts of the country, or are disabled are all more likely to use cash.

Holmes would take legislation on access to cash a step further. "An important debate needs to be had about bringing in a universal service obligation for cash," he says. "For example, when it comes to paying energy bills or shopping at supermarkets. Otherwise, what currency does cash have if there is nowhere to spend it? We need a solution that benefits everyone, from small retailers to large utilities as well as us as consumers."

But ensuring that cash circulates is not cheap. "The cost to the UK of making cash available – printing the notes, filling ATMs, delivering cash to shops, the whole ecosystem – is about £5bn a year," says Quin. "That obviously becomes more of a burden, the smaller the number of people using cash."

The 52,000 free-to-use ATMs are paid for collectively by the banks. Link has a commitment to ensure that every street that has five or more shops has access to free cash withdrawals within one kilometre, whether from an ATM or a post office.

"The bigger commitment is that industry drew a line in the sand in 2018 to maintain the geography of the network," says Quin. "Banks pay extra money to support a protected ATM. If one closes, we go and replace it." Quin says there are around 3,000 protected ATMs and there is no minimum transaction level. "We pay up to £2.75 per transaction on machines in deprived areas where there are small volumes," he says.

The pandemic revealed the importance of cash in poorer areas. "Across the network, transaction volumes were down 60%," says Quin. "In the wealthiest areas, the fall was 80%. In the poorest areas, though, cash withdrawals were just 20% lower."

But even if more people do turn to cash as household budgets get squeezed, isn't there a danger for cash to become stigmatised and for its use to be concentrated in more deprived areas, where businesses may be less able to manage it? After all, if small firms don't have easy access to a bank, taking cash can quickly become onerous.

Quin says part of the solution is keeping banking available. He adds there are already two shared banking hubs and Link recommends setting up a further 10 to serve areas where bank branches have closed.

The value of cash taken out of ATMs is now around 25% lower than it was pre-Covid. Still, a recent Link survey found that around 10% of people intend to save money by cutting back on using contactless and 9% will use cash more, mainly because it helps them keep an eye on their spending.

But even as the near-term reliance on cash rises as people struggle to make ends meet, digital services will continue to evolve and to encroach on cash. How should that be managed over time?

"We need a dual track," says Holmes. "A universal service obligation for cash and a way to drive the future of digital payments. Otherwise poorer areas, more deprived areas, the elderly, could be left behind and we can't allow that to happen."

> **Cash is an extremely robust layer of resilience in the financial system. It should be designated as part of our critical national infrastructure**

Many governments are looking into the possibilities offered by central bank digital currencies (CBDCs).

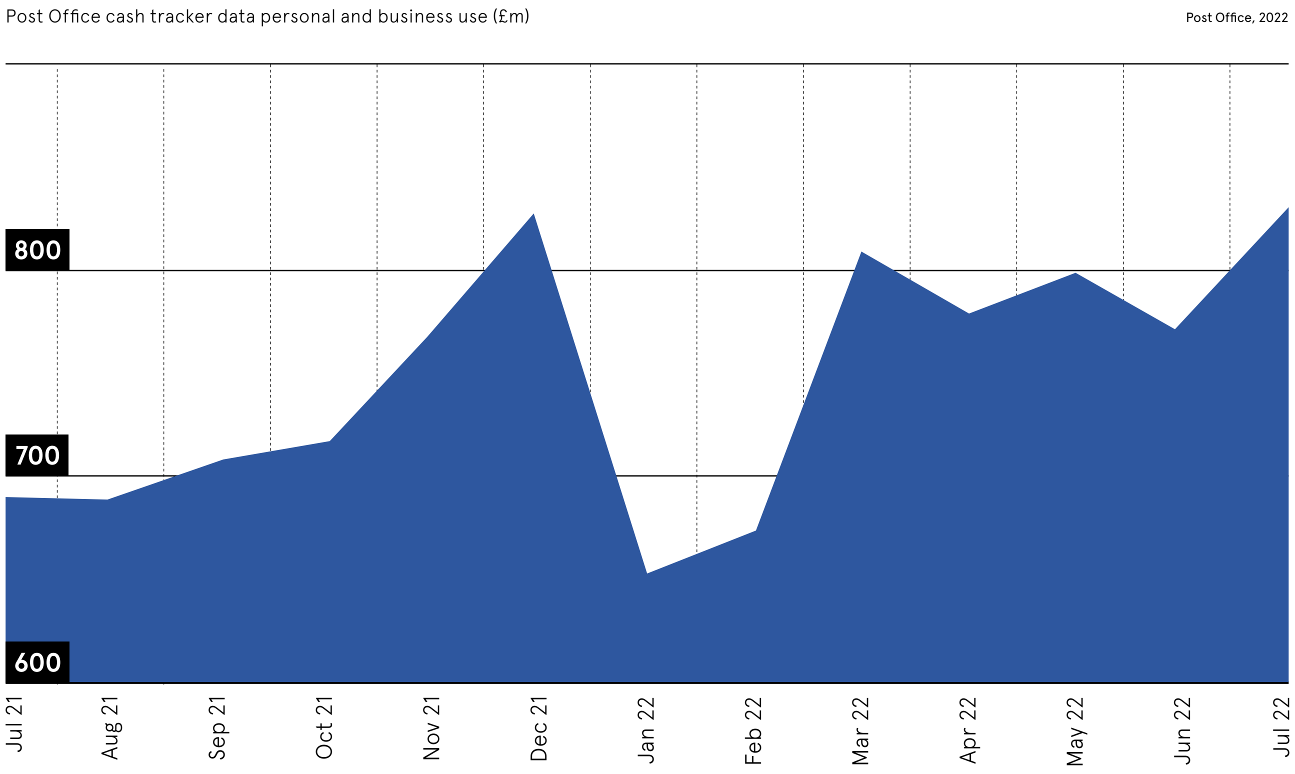
"A CBDC has the potential to be the most powerful means of surveillance and control that a state could have," says Holmes. "A great feature of cash is that you can do with it what you will, it's entirely anonymous and that shouldn't be underestimated." Nonetheless, Holmes believes that CBDCs could, "if got right", be transformational. "But they will go right to the heart of what sort of society we want to be part of," he says.

Quin thinks that CBDCs are still some way off. Until there is a person-centric approach, "or some revolution in how everyone uses online banking", he says cash will remain central to many people's lives.

CASH WITHDRAWALS HAVE HIT RECORD HIGHS IN RECENT MONTHS

Post Office cash tracker data personal and business use (£m)

Post Office, 2022



Q&A

SME merchants set global ambitions amid the digital revolution

Innovation in the payments space has collided with other powerful enablers of digital commerce to unlock global growth opportunities for SMEs, says **James Allum**, senior vice-president and regional head for Europe at Payoneer

Q How has the digital commerce landscape evolved over the past decade?

A We've all seen and participated in the huge growth in online connectivity in recent years, driven by the near ubiquitous penetration of smartphones, tablets and social media platforms and powered by innovations like cloud computing and AI. By connecting us all online in such a seamless way, these technologies have also been great enablers of digital commerce and sparked a payments revolution, which we've been privileged to play a key part in at Payoneer.

When consumers are almost constantly interacting online, there are great opportunities within the commerce ecosystem to integrate into those daily workflows by leveraging some of the exciting emerging technologies in the ecommerce space. These developments have triggered a lot of innovation, such as APIs that allow us to easily integrate new direct-to-consumer checkout capabilities within a merchant's website, linked directly to its virtual Payoneer account.

Q To what extent has digital commerce helped create a new breed of global SMEs?

A The opportunity for SMEs to go global first was really unheard of a decade ago, yet in certain regions it is increasingly commonplace. In Spain, as just one example, we're seeing companies that were previously local - face-to-face market traders - suddenly deciding to prioritise global markets as part of a digital go-to-market strategy. That's pretty extraordinary and it's all thanks to digital technologies, which have torn down the barriers that previously prevented smaller companies from riding the waves of globalisation.

In fact, in today's fast-moving global business environment, SMEs can have an advantage over larger corporations as they are able to adapt and pivot with far more agility. These forces combined have created a perfect storm for SMEs to compete globally for customers in ways that were just not possible historically.

Q What are the key challenges SME merchants face in fulfilling their global growth potential?

A Let's say you're an Amazon seller doing a really good job on Amazon UK and want to start listing on Amazon France. It's always been really hard work to open a local bank account in another country. In some jurisdictions you even need to have a local entity to do that, which is simply not feasible for someone working out of their loft or spare room. That was a real catalyst for us when we realised that we could, in essence, set up accounts for people in just hours, all around the world.

As a result, we've become a real growth partner to SMEs. A genuine partnership is a win-win situation. If our customers grow, we grow. We try to help solve their growing pains through a real community approach, as well as educating them on opportunities in different regions or markets.

> **Anyone, anywhere can participate and succeed in today's global digital economy and we're committed to supporting that democratisation of opportunity**

For example, we brought our UK merchants together with Walmart. As we deal with millions of customers that are effectively trying to do the same thing – grow globally – we are able to help solve their problems not just through our own solutions but through partnerships with companies that solve other problems for them. Whether it's payments or tax advice, rather than having to manage multiple relationships our customers can do it all through one platform.

Q What opportunities are there in digital commerce and payments for social impact?

A The movement of money presents enormous opportunities to support communities and drive social impact. Despite the terrible circumstances there, we've continued our investments into Ukraine in order to support our local customers and our own teams. Through our engagements with local communities in the region, we've learned that the best way we can help with their recovery and rebuilding their economy is by continuing to provide the services and support that allows them to keep working, whether they're coding software for foreign clients or selling products overseas. That shows that digital commerce, in itself, is an enabler of social impact.

Diversity and inclusion is another example where digital commerce creates social value. When you're listing on a marketplace, no one knows who you are, so it's a real meritocracy. It is harder in a physical environment to be seen as equals to large corporate brands and have the same opportunities to access customers. But with digital commerce, the people with the best products and the best go-to-market approach do the best regardless of their backgrounds. Anyone, anywhere can participate and succeed in today's global digital economy and we're committed to supporting that democratisation of opportunity.

Q What is the future of payments in ecommerce and how are you finding new ways to support SMEs?

A Payoneer is evolving the payments space along with our customers, creating a sort of financial operating system that enables their success from the moment someone buys from them, all the way through to when they pay out to suppliers. For example, we're seeing a lot of our customers listing on Amazon, learning from that experience and wanting to set up their own web stores to supplement their Amazon stores. But they need capital to set up those web stores, so we offer a working capital product that forwards them income so they can make those and other investments. Some companies also use that capital for other reasons, such as stocking up for the holiday season or investing in warehouses.

When they do build their own sites, we're also investing quite heavily in our checkout proposition so they can accept card payments off-marketplace. Despite the great innovation we've already seen in digital payments, we are only at the start of the journey. The best times are still ahead.

For more information, visit payoneer.com

Payoneer

CRYPTOCURRENCY

Retailers tiptoe towards crypto

Like it or not, cryptocurrencies are here to stay, attracting the interest of consumers, merchants and financial institutions alike. But will they ever become a standard form of payment?

Uneesa Zaman

Camilo Freedman/Bloomberg via Getty Images

Cryptocurrencies are forming a small but emerging part of the payments ecosystem. A survey of 2,000 US retailers by Deloitte at the end of last year found that nearly three-quarters were planning to accept crypto or stablecoin payments over the next two years.

There are similar signs of increasing uptake in the UK too. Nine out of 10 British cryptocurrency owners polled in August by Paysafe stated their belief that paying with crypto online and in person would become as common as paying by card. More than half of those respondents thought that the widespread acceptance of crypto payments online would occur within five years.

Crypto payment facilities are indeed being offered by a widening array of companies. Microsoft and video streaming service Twitch have been notable early adopters, while Gucci recently announced that it would soon be accepting apecoin – the 12th crypto asset to be recognised by the fashion house as a legitimate form of payment.

But, as this field develops apace, it presents challenges to retailers and payment service providers alike. Increasing numbers will have to cope with weak infrastructure, poor security and a lack of cross-border regulatory alignment. Extreme price volatility remains a barrier to the mass acceptance of decentralised cryptocurrencies such as bitcoin. And then there is the high financial and environmental cost of exchanging crypto into fiat currency.

El Salvador and the Central African Republic – economies that have both been crippled by conflict – are the first two nations to have adopted bitcoin as legal tender. Although bodies such as the International Monetary Fund have highlighted the ramifications of such a move, crypto wallets remain a popular way for Salvadorian consumers to store and convert bitcoin into fiat currency.

More than half of the respondents to Deloitte's 2021 survey said that they were planning to use a payment service provider to convert crypto into conventional money. This indicates that, while crypto payments may be gaining acceptance among retailers, this is largely at face value.

As Alistair Milne, professor of financial economics at Loughborough University, notes: "While central bank digital currencies may become more mainstream with time, it's particularly difficult for cryptocurrencies and stablecoins to replicate the sophisticated financial models offered by mainstream banking institutions."

It's an important point to make, given the current mishmash of regulation and compliance rules across the globe. Crypto payments still aren't covered by consumer protection frameworks in the UK, for instance. As long as regulators aren't setting out stringent rules and procedures in this area, consumers and retailers alike remain especially vulnerable to fraud.

Merrick Theobald, vice-president of marketing at crypto payment processor BitPay, says effective regulations are urgently required. "It would benefit everyone if there were a formal set that could be interpreted and implemented," he says. "This would improve [crypto payment] adoption. The UK and the US need to step up and lead on drawing up friendly, clear regulations for the whole industry."

The security risks associated with cryptocurrencies remain a sticking point for many. Hackers have stolen nearly $7.5bn (£6.3bn) in crypto assets since 2011, according to research by Comparitech.

Milne's verdict is that crypto payment fills a "niche need for those who want to make payments without revealing their identity, but that this freedom comes with substantial security risks".

Yet interest in this area is showing no signs of waning. Research by trading app provider crypto.com has found that the number of cryptocurrency owners worldwide in 2021 increased from 106 million in January to 295 million in December. It expects this population to hit 1 billion by 2023.

A key benefit for merchants is the low processing cost of crypto payments (generally 1%) compared with that of mainstream payment service providers (about 3%). This allows for swifter and more cost-effective transactions, allowing retailers to settle payments without the fear of return charges on fraudulent transactions.

"The biggest issue facing merchants is a lack of understanding in how crypto transactions work," Theobald says.

Like many crypto payment service providers, BitPay works as an intermediary, settling crypto payments in hard currency for the benefit of the merchant. With the benefit of this additional service of due diligence and payment settlement on their behalf, retailers can handle crypto transactions with greater confidence.

But one of the main concepts underpinning cryptocurrencies is that they offer seamless peer-to-peer transactions. When a third party starts holding crypto on behalf of a retailer or a consumer, it gives rise to an obvious question: how does the intermediary's role differ from that of a traditional bank?

> **The biggest issue facing merchants is a lack of understanding in how crypto transactions work**

As increasingly environmentally aware consumers consider their carbon footprints, the ecological impact of crypto adoption adds another layer of complexity. While the Bitcoin Mining Council claims that the creation of new coins was 58 times more energy-efficient in Q1 2022 than it was eight years previously, the total electricity consumed by bitcoin mining operations in one year could power every kettle in the UK for 21 years, according to the Cambridge Bitcoin Energy Consumption Index.

Zumo, a cryptocurrency exchange based in Edinburgh, believes that there will be further significant improvements in this space as the industry changes its attitudes towards energy consumption. For its part, the business recently committed to becoming a net-zero emitter of greenhouse gas. To this end, it has bought renewable energy certificates to cover £1.5m in bitcoin purchases, compensating for 850MWh of electricity consumption.

As generations Y and Z in particular show increasing interest in cryptocurrencies, the alternative payment methods these enable will keep moving towards the mainstream. That said, until key regulatory bodies around the world take a coordinated and cogent approach to crypto payment adoption, cybercriminals will continue delegitimising this space. Now would be the ideal time to develop sustainable rules of engagement that work for everyone.

RETAILERS ARE GETTING READY TO ACCEPT CRYPTO

INSIGHT

In payments, speed without control is a recipe for disaster

The word 'frictionless' has become endemic in fintech. We are led to believe that consumers want payment transactions to be without friction, that they want to be able to make instant purchases or be able to make money transfers to anywhere in the world in milliseconds.

In some areas, this friction reduction may indeed be desirable, or even table stakes. No one wants to wait three working days for settlement of funds in an age when we can order some items and have them delivered within an hour.

But friction can be a good thing. The ability to 'pay in four' for not just big-ticket items but the weekly food shop is symptomatic of an industry that is taking advantage of consumers that are not necessarily connecting the dots from current spending to future debt.

By contrast, cash is apparently seeing a post-pandemic renaissance. New data from the Post Office showed that its branches handled a record £801m in cash withdrawals in July, up almost 8% compared to June and 20% from the same period last year.

This may be indicative of more people being out and about and reliant on cash than they were in the midst of the Covid pandemic. But the Post Office sees it as a bellwether of consumers wanting more control of their finances and therefore resorting to the time-tested method of putting cash in envelopes for weekly budgeting purposes.

Convenient? Not at all, but it adds the friction that some consumers require to keep tabs on where their money is going in a very tangible way. Would these draconian measures be needed, though, if electronic money were less opaque?

Here's an interesting question: how long do you think it would take to count £1m, at a rate of one pound-coin per second? The answer is, just over 11 days. Now consider how long it would take to count £1bn. Most people are surprised to learn it would take almost 32 years.

This exercise shows how we lack the ability to distinguish money at different scales. If we can't grasp the magnitude of the difference between 1 million and 1 billion, then it's unlikely we will be able to grasp the difference between a little online spending here and the odd impulse purchase there.

This is a feature, not a bug in the design of digital money; the less connected we are with the actual transaction, the more ambivalent we become in these financial transactions and therefore the easier it is to spend beyond our means. This doesn't benefit anyone long term.

Friction in payments is therefore a useful reality check before we collectively put ourselves into positions where we are overstretched. Today, when there are genuine concerns about an economic recession in the UK, this can be beneficial in preventing debt that could force greater financial instability at an individual, and even national, level.

Perhaps, then, the solution is to give the consumer a view of their overall financial footprint, allowing them to holistically see spending patterns today and the implications of their actions tomorrow. The role for fintech is in allowing consumers to define the degree of friction that is needed, bringing the visibly finite and tangible nature of paper transactions to electronic forms where these attributes have been obscured by design.

This would explain the growing demand for solutions in wealthtech and regtech that facilitate a 'single pane of glass' vista of where money comes and goes.

Friction isn't necessarily a problem when the right level is found. But, if consumers can't find ways to have a 360-degree view and the ability to apply the brakes with digital forms, they may well then return to clunkier but more transparent analogue alternatives, where they can own the friction.

As any Formula One racing fan will tell you, speed without control is a recipe for disaster.

Nick Holland
Global head of research
Money 20/20

Commercial feature

BIOMETRICS

Body talk: who's ready for biometric verification?

Consumers will soon be able to authorise payments using fingerprint- or face-recognition systems. Such technology could significantly improve security, but it's not without its risks

Ed Jefferson

Once upon a time, making a payment with a little plastic card was seen as the height of convenience. Now you can leave that at home and pay with your phone – and before long, you might not even need that.

Biometric payment technology automatically identifies people from their face, fingerprint or any other unique physical characteristic. It isn't a new concept: such data has been used as an identification method since the development of fingerprint analysis for criminal investigations in the 19th century. In fact, there is evidence that fingerprints were used to seal business contracts thousands of years ago in ancient Babylon, although it's unlikely they understood that a print was unique to a particular person.

But technology has massively expanded the potential of biometric verification. Whereas fingerprint matching once took place in specialist labs, now mobile phones do it for many of us several times a day– and that's not even counting other techniques, such as facial recognition or iris scanning.

Payment technology has advanced significantly since the start of the 21st century, when card payments were still primarily authenticated by signatures. Chip and PIN and contactless are taken for granted with physical payments, while online authentication methods evolve as technology advances.

But security remains an issue. How do businesses ensure that the person using a card and PIN is the owner? Increasingly, biometrics will provide the solution.

The technology is already being used to improve security when making financial transactions. This is partly by default, as phones secured by biometrics are becoming a common payment method in themselves.

Beyond the phone, numerous other biometric security methods are being introduced. Mastercard and Visa have trialled payment cards that can be authorised via a fingerprint sensor built into the card. Mastercard is trialling payment tech with the Brazilian supermarket chain St Marche that lets customers pay by checking their IDs through facial recognition. The days of remembering PINs and passwords may be over. Physical markers will be used instead to guarantee that the person making a payment is who they say they are.

There are numerous ways that biometric information can be a strong indicator of someone's identity. A whole range may come into play in different payment scenarios. Biometrics can also be behavioural as well as physical, as Mark Nelsen, senior vice-president at Visa, explains.

"The way you type and swipe on your phone, for instance, is unique to you and can be used to confirm your identity when making a payment, without you actually having to do very much," he says.

But will everyone be happy to give up their biometric data to make payments more convenient and secure? Ajay Bhalla, president of cyber and intelligence at Mastercard, says its St Marche facial recognition trial saw a "strong initial consumer response and repeat usage".

The company's global research found that more than two-thirds of consumers agree that using biometrics for identification or payments is more secure than PINs, passwords or other forms of identification. The pandemic has also affected payments: more than half of in-store payments have become contactless since the Covid crisis started.

> Allowing cardholders to use their biometric data to initiate a transaction is the next step in touchless payments experiences

Bhalla believes that "allowing card-holders to use their biometric data to initiate a transaction is the next step in terms of touchless payment experiences".

It's important that customers can choose payment methods they're comfortable with, says Nelsen, who adds: "The same consumer might be happy to pay with a biometric using their mobile wallet on public transport, but they might want to pay for a holiday using their physical card and a laptop PC."

While most customers will probably be happy to use these methods, it's important for retailers to factor in those who may be hesitant to adopt new payment technology.

And there are risks for businesses and their customers to consider. "The unique nature of biometrics is also its biggest vulnerability," says Prakash Pattni, managing director of digital transformation at IBM Cloud for Financial Services. "Biometric data is either stored locally, perhaps on a mobile, or centrally in a database. If the data is stolen – for example, a fingerprint is copied – then little can be done to resecure it."

Poorly implemented verification tech could be a disaster, so it's not something to take lightly. Companies need to be sure their customers can have faith in their systems.

The good news is that the technology to secure biometrics is advancing just as quickly as the technology to read them. Data will necessarily be encrypted, but specific techniques are also being developed, including 'cancellable biometrics'. This, explains Pattni, is "biometric data that is transformed using complex algorithms that cannot be reverse-engineered. It is this biometric template that is used for identity verification and can be deleted and replaced in case of loss or compromise."

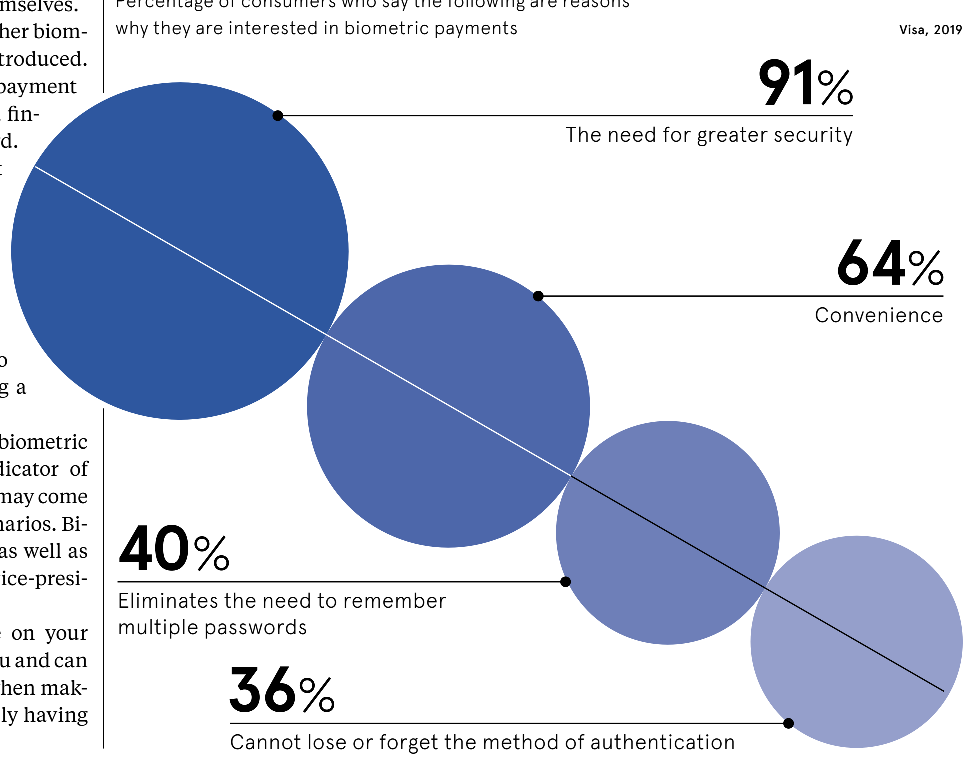
Any security-related technology inevitably involves risk. Mitigation strategies will have to evolve alongside the technology and as new vulnerabilities are discovered.

Biometrics are becoming an increasingly big part of our lives, from unlocking our phones to navigating passport control. It is a natural fit for the payment sector, thanks to the security and convenience it offers to customers. But this will work only if companies are prepared to understand the risks, properly mitigate them and support any reluctant customers as the technology moves from the cutting edge to the everyday. ●

THE BENEFITS OF BIOMETRICS

Percentage of consumers who say the following are reasons why they are interested in biometric payments

Visa, 2019



How tokenising digital identities can reduce fraud and protect data

By giving consumers greater control over their personal data, digital IDs can limit the risks of cybercrime and fraud while embracing the era of personalisation

Consumers are becoming increasingly concerned about the lack of control they have over their personal data and how it is used. More than eight in 10 Americans believe they have little or no control over their data once it is shared with a company, according to a study by Wakefield Research and Au10tix, an identity verification technology provider. Meanwhile, almost two in three Americans believe threats to their personal data are growing faster than companies can keep pace.

With cybercrime on the rise, financial services companies need to do more to protect their customers' personal data. Last year, the number of data compromises in the US hit 1,862 – the most on record and a 68% jump from 2020 – according to the Identity Theft Center's 2021 Data Breach Annual Report and the number of reported cases of identity theft increased to 51,629 last year, according to the FBI's 2021 Internet Crime Report. In 2019, that number was 16,053. The Au10tix and Wakefield Research study showed that more than half of respondents are worried about their personal data falling into the wrong hands, while 44% said they had already been victims of personal data theft.

"Currently, third-party organisations often retain the digital credentials people share with them rather than using them for verification and discarding them," says Guy Mordoch, chief operating officer at Au10tix. "That means every time a consumer shares a piece of themselves it enables others to capture that information and potentially misuse it in the future."

To reduce that risk, financial services companies should only be using the minimum amount of personal data required to properly authenticate an individual – something that is a deceptively difficult problem – says Mordoch. "The future lies in the tokenisation of digital identities; the ability to split these identities into modular elements, enabling consumers to share only the specific data points they choose," she says. "This tokenisation will lead to less information exchanged, limiting risk for the owner and the user of that identity data."

Companies also need to clearly explain in simple language how an individual's personal data is being used, while outlining the benefits of giving companies access to that data. Companies should also ensure they have clear procedures that govern the requests for the removal or transfer of an individual's personal data – made easier by the technology powering this tokenisation. Tokenisation is where we can not only verify the authenticity of an ID but can create a tokenised credential that sits within a 'digital wallet of choice.' This is just one of many examples of Au10tix's commitment to a self-sovereign identity infrastructure. One that furthers a safer, more inclusive world in which a user's identity is theirs alone.

"Users should be provided with different options for data sharing, and consent should be secured for the option that an individual is most comfortable with," Mordoch says. "Companies should take this one step further and educate their customers. Users can't trust you if they don't understand your processes."

W3C – which defines standards for the world wide web – has created a data standard called 'verifiable credentials,' which gives individuals control of their own digital ID and creates secure digital credentials that can be used and shared as they wish.

"Allowing consumers agency over their personal information proves that trust over transaction is the new global identity mandate for businesses," says Jonathan Wilson, chief risk and compliance officer at Au10tix. "Consumers proving their identity in an age of increasing digital fakery has become imperative and now is the time to safeguard personal data against security breaches."

> Every time a consumer shares a piece of themselves it enables others to capture that information and potentially misuse it in the future

Many consumers are also unhappy with the amount of personal information they are being encouraged to hand over. As many as 86% of Americans believe companies and organisations collect more information than they need, while almost two-thirds of consumers (64%) have quit doing business or working with an organisation because it has asked for too much personal information. Identity verification processes often involve pages of personal data being collected, companies have the opportunity here to meet consumer demands by doing more with less. This would require consumers to share the smallest amount of data necessary to achieve a specific purpose rather than providing excessive amounts of sensitive information that can be monetised or compromised. By understanding what a customer is intending to do, businesses can identify what information is required for that purpose. By limiting the amount of data requested, businesses can increase consumer trust while continuing to protect their customers against the risks associated with compromised data.

"With increasing pressure on organisations to keep identities safe, there is an imperative to create secure digital credentials for all aspects of life, truly putting individuals in control of who has access to which credentials," says Wilson.

While greater personalisation in financial services is being driven by insights generated from customers' personal data, organisations need to balance that with security and compliance considerations to increase trust with customers and improve operational resilience.

"Customer data is critical to innovation and growth for financial services companies, however misuse and failure to protect this data could wreak havoc on the financial services industry," says Wilson. "For businesses, not taking adequate steps to protect customer data could lead to regulatory penalties or reputational damage that could lead to a loss of customers and operational losses from fraud or other cyberattacks."

Nearly all of Americans (97%) expect organisations to take action after suffering a data breach, with 70% saying that businesses should alert all current customers if their personal data has been compromised, according to Au10tix.

"Another 69% believe that businesses that have suffered a breach have a responsibility to help victims recover stolen identities. That matters because also at stake are potential financial losses for customers, loss of privacy and potential exclusion from products or services due to perceived risks," says Wilson.

He adds: "Businesses that do not adequately address consumer privacy and data concerns will be left behind as this new era approaches. Businesses will have to not just stay in compliance when it comes to protecting their customers' data, they will have to maintain the customers' trust, which our data shows is paramount to doing business anywhere."

With the abundance of personal information collected during the application process for bank accounts, lines of credit, loans, and mortgages, financial services organisations are responsible for maintaining securing and protecting this sensitive data. "Currently, these companies routinely transfer large amounts of personally identifiable information (PII) through a complex web of data agreements, compromising both privacy and security," says Mordoch. "There is an opportunity for organisations in this sector to work towards a singular, secure repository where customer data lives and can be accessed through a certification system. Today's technology – particularly federated learning and trust networks – makes it possible to acquire insight from data without acquiring or transferring the data itself."

More importantly, technology can help reduce fraud. By automating identity verification, Au10tix's tech can detect fraudulent transactions in seconds using a combination of machine learning and computer vision.

"Consumers' online identities are the new currency, and the stakes around this currency are high," Mordoch says. "It's time for consumers to claim their digital identity, and like all forms of currency, it must be protected from theft and fraud."

Since the start of last year, Au10tix technology has prevented more than $4.5bn in fraud-related losses across a range of industries, including financial services.

DIVERSITY

The XX factor

As industry bodies seek to improve gender diversity in financial services generally, the payments sector must work harder to offer more female-friendly career options

Fiona Bond

alvarez via iStock

Gender diversity has become a hot topic of debate across boardrooms, perhaps nowhere more so than in financial services. Traditionally male-dominated, the industry is coming under growing regulatory scrutiny to close the gender gap.

Industry-wide initiatives such as the Women in Finance Charter – a Treasury-led scheme to which more than 400 firms have signed up – coupled with the introduction of gender-pay-gap reporting, have had a positive impact. A global study by the Oliver Wyman consultancy before the pandemic found that the sector was making the fastest progress on increasing the number of women in senior leadership roles since the start of its research in 2003.

The payments sector, which has grown considerably over the past decade thanks to increasing innovation and a spike in demand for digitalisation, has fared particularly well on female representation. A report by McKinsey found that in North America, almost 40% of C-suite positions in the sector are held by women, significantly higher than the industry average. In addition, women of colour make up 9% of the C-suite in payments – the highest representation among all financial services sectors.

Sophie Flynn, who co-founded UK-based payments firm Transact365 in 2017, has started to see an improvement in the gender balance in recent years. "I'm meeting more and more female counterparts in the sector and there's a steadily growing number of women looking for careers in payments, which is great and shows that we're slowly making progress."

In the UK, improvements have been driven by the Financial Conduct Authority's commitment to accelerating change in financial services. There is growing recognition here that gender diversity can improve culture and governance, boost innovation and lead to more positive outcomes in risk management. Yet in many ways, the conversation about gender parity is in its infancy.

"When we look at how things have moved on in the past couple of years, we've started to see a shift in the industry, but there's definitely a way to go," says Louise Buckley, COO at the Payment Systems Regulator (PSR).

In 2017, the PSR became a signatory of the government's Women in Finance charter. Buckley says that organisations can "demonstrate their commitment to doing their part by getting involved in initiatives like this, as well as by building and, importantly, sustaining diverse and inclusive workplaces".

Flynn echoes this sentiment. "There is still a long way to go. The fintech industry as a whole is still only made up of 30% women,"

> We need to make sure we are fostering a working culture that allows women to thrive

she notes. "What is worse is that only 1.5% of global fintech businesses are founded solely by women. That clearly needs to change."

While imposing quotas on businesses is undoubtedly helping to level the playing field, women in the sector believe that measures must go beyond regulatory requirements and box-ticking initiatives. This includes greater recognition of the challenges facing female employees.

Lorraine Deschamps is EMEA head of corporate citizenship at Fiserv, a financial services consultancy based in Wisconsin. She points out that someone's commitment to their career in a male-dominated environment – such as how well that person can balance their work and home responsibilities – is often judged by male standards.

"Not all women have the means to get round some of these challenges. Many will limit their goals because they think they won't be successful or they won't be supported," Deschamps explains. "The ever-growing momentum in diversity, equity and inclusion is making people more conscious of this thinking, but bias can still affect people-focused decision-making. It takes real commitment by organisations to be intentionally inclusive and to ensure that such commitment extends from the top to lower managerial levels."

Recent research by Innovate Finance has found that women in fintech still have less access than men to equity and debt funding. In 2021, only 10% of venture capital invested in the sector went to female-led firms in the UK – a figure that has remained stubbornly flat for four years.

"Female founders are unrepresented in venture capital funding. That might hinder women's business initiatives," says Denise Johansson, co-founder and co-CEO of Enfuce, a global payment provider based in Helsinki. "Hopefully, as the venture capital world has a shift in mindset and gains gender diversity, the gap in the distribution of venture capital funds can be bridged."

Arguably one of the greatest barriers that women face is a lack of confidence, combined with the persistent belief that finance is a male preserve. Education has a key role to play in shifting this and encouraging more women to enter the sector.

Monika Liikamaa is the other co-founder and co-CEO of Enfuce and she believes that young women need to see more female leaders in financial services.

"On a broader level, it is important to deliver diversity of all kinds. As female founders in finance, we want to show that there are no limitations," she says.

As gender diversity improves, it creates an upward spiral of inclusion in the industry and wider society, Liikamaa adds. "Through diversity of thinking, companies can create new services that solve new problems across the industry and take into account the needs of varied user groups, resulting in more inclusive services."

Deschamps believes that positive change starts at school. "We need to be reaching out to young female talent in the education system or to those who haven't yet entered the job market to build awareness of the opportunities and shape their aspirations," she says. "For those women in an organisation, we have to develop platforms that support their growth and educate everyone on why that matters."

Studies have indeed shown that a 'network gap' can disproportionately affect women. While men have enjoyed decades of networking, with many benefiting from the so-called old boys' club, the rise of women in senior positions has been a relatively new phenomenon. A study by LinkedIn has found that women are 27% less likely than men to have a strong network.

"We need to make sure that we are fostering a working culture that allows women to thrive and where their voices can be heard," Flynn says. "I know how important it is that their views are listened to."

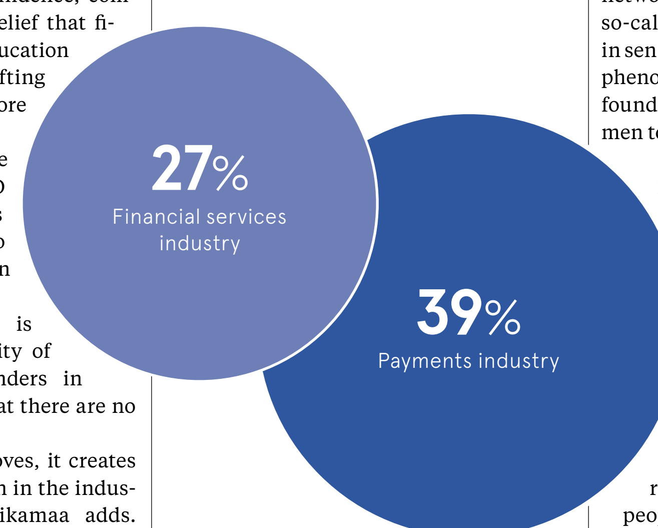
The power of female networks is similarly important to Johansson, who says that the success of Enfuce has depended on receiving help from others.

"As a female founder, I've come to realise that there is a strong network of people ready to support you if you just take every opportunity to build that network and ask for help."

She continues: "We had an idea and we knew how to realise it. But we lacked capital and deep legal competence, so we reached out to people we knew could help us. Not one of them turned down the chance to help. There is power in networks."

PAYMENTS SECTOR LEADS FINANCIAL SERVICES IN FEMALE REPRESENTATION

Representation by gender in the C-suite at the start of 2021, percentage of employees



Leanin.org, McKinsey, 2021

Commercial feature

Q&A

Innovation in global payments

Javier Pérez-Tasso, CEO of SWIFT, looks at what's next for international payments and the role of central bank digital currencies

Q Cross-border payments are essential to international trade and global economic growth. Where do you see the main areas for improvement?

A The smooth flow of value across borders fuels our economies and touches the lives of all of us every day. Making this as seamless and secure as possible is central to our mission. And, together with our community of financial institutions, we are making huge strides.

The majority of cross-border payments today are fast, settling within minutes or even seconds on routes where well-established direct links exist between countries.

But cross-border payments are by their nature more complicated than domestic ones. So when they do take longer, there are a number of factors at play. Our data shows that it's especially at the receiving end of an international payment where delays can occur, with the main factors being capital controls and associated compliance checks, local operating hours, fragmented or incorrect data, and the use of batch processing systems.

Solutions that address these areas are where we'll see the most impact and where we're focusing with our community.

Q What is SWIFT doing to help?

A At SWIFT, we're working hard to address all the elements that are within our control and to upgrade the industry's infrastructure even further to enable instant cross-border transactions 24/7, between more than 4 billion accounts on our network worldwide.

We've made great progress in recent years in speeding up wholesale payments. Today, thousands of financial institutions use SWIFT to send and receive billions quickly and securely across the world, with full transparency over where the payment is at, at any point in the transaction. This means that institutions can be confident when sending payments abroad that they'll know where their money is every step of the way, that all proper controls have been passed and it will arrive on time.

Building on this, we've also delivered other easy-to-implement solutions that address different friction points in the payments chain. This includes fixing avoidable errors upfront that could cause delays down the line, streamlining operational investigations for when things do go wrong and ensuring compliance processes can keep up with faster payments.

Q That sounds good for big businesses, but what about for smaller companies and individuals? Are banks able to meet their cross-border payment needs too?

A Small businesses increasingly need access to faster payments for their businesses to thrive. As small business and consumer behaviour trends shift from a largely domestic payments model to one that regularly sees them sending money abroad, the importance of a frictionless experience becomes clear.

We're committed to helping financial institutions improve the experience for consumer and lower-value business payments. The foundations we laid in the high-value corporate payments space have given us the opportunity to deliver the same experience in the highly competitive retail and consumer space as well, allowing banks to re-use infrastructure investments they have already made. With our SWIFT Go service, financial institutions can enable their customers to send predictable, fast, highly secure and competitively priced payments anywhere in the world direct from their bank accounts.

With a fast-growing community of more than 300 banks, and with many more to come, SWIFT Go is rivalling the offers of card players and fintechs but at global scale. It is quickly becoming the new standard in low-value international payments.

Q What about central bank digital currencies? What role will they play in the future?

A Nine out of 10 central banks are currently exploring digital currencies, covering economies that account for more than 90% of global GDP, according to a recent report from the Bank for International Settlements. Clearly this is a hot topic and one where SWIFT is actively engaging with the wider ecosystem to support this major shift and to make sure it doesn't lead to market fragmentation.

Central bank digital currencies (CBDC) are digital versions of central bank money. No one yet knows exactly what role they'll play, but what is certain is that interoperability and interlinking between different CBDCs on a cross-border level will be critical to fully realise their potential if they are adopted.

This is where SWIFT can play a key role. We want to ensure that value in all its forms can move around the world quickly, seamlessly and securely for as many people as possible, whether it is digital token-based or traditional account-based. We've carried out a number of experiments that demonstrate SWIFT can enable interoperability between different CBDCs, and between CBDCs and existing payment systems.

Q What else is SWIFT doing to innovate in the payments landscape?

A We're innovating the industry's global financial infrastructure and setting it up for success for decades to come. We're creating a digital foundation that banks, and others, will be able to innovate on top of, so they can continually raise the bar on the services they provide to their customers.

> We're innovating the industry's global financial infrastructure and setting it up for success for decades to come

And soon, SWIFT will be automating the end-to-end execution of payments on our platform, ensuring their data issues are a thing of the past, and that service levels are kept to. This way, processing transactions becomes faster, more efficient and cheaper, without compromising on security.

Underlying all of this is the rich data of ISO 20022, a standard for communicating financial information that is being adopted for cross-border payments across the SWIFT community from November this year. SWIFT has played a leading role in defining the standard and has been entrusted by the financial community to facilitate industry-wide adoption for cross-border payments.

This is a pivotal moment for the global payments industry as we head towards an instant and frictionless future. It's a future powered by better data, artificial intelligence, APIs and cloud-based solutions that are paving the way to new and exciting customer experiences. And it's a future that's being written today.

For more information please visit swift.com


Catherine Falls Commercial via Getty

CREDIT

All credit due

With consumers still looking to spend despite the anticipated economic downturn, how will credit at the point of sale change high-value transactions?

Tom Ritchie

Despite reports that the use of buy now, pay later (BNPL) is beginning to slow, new research reveals consumers are continuing to access credit at the point of purchase.

According to Barclays Bank and debt management charity StepChange, the average BNPL user was paying off 4.8 purchases in June 2022 – almost double the estimate in a similar study conducted in February (2.6 purchases per customer).

While this type of credit has so far been associated with low-cost retail purchases, it is becoming popular for high-cost expenditures such as car repair or holidays. Familiarity with BNPL – it's estimated 17 million Britons have used such services – means that other industries are now offering the payment option at checkout.

"The rise of BNPL as a preferred payment method will lead to more non-retail businesses touting it as an option at checkout," says Amy Gavin, lead competitor strategist at fintech consultancy 11:FS.

Travel and hospitality in particular have seen adoption levels increase. National Express recently announced a partnership with Clearpay, while Booking.com and Hotels.com now offer Klarna at checkout.

This could partly be due to the effect of the pandemic on consumer priorities. Even with a bleak economic outlook, interest in travelling remains strong. A study by travel technology firm Amadeus revealed that travel was the highest priority for consumers' discretionary spending over the next 12 months. Some 42% of respondents listed foreign travel as a high priority, with a further 32% expressing interest in domestic holidays, eclipsing eating out, home improvements or big-ticket items such as a new car. Three-quarters of those who took part in the survey were open to using BNPL to fund their holidays.

> **The rise of BNPL as a preferred payment method will lead to more non-retail businesses touting it as an option for customers at checkout**

"The travel industry has a strong use case for BNPL and providers have quickly latched on to it to increase conversion rates and average spend per customer," says Gavin. "Particularly as the current squeeze on disposable incomes is likely to restrict customers' ability to pay upfront for high-value trips."

While there has recently been an increase in adoption over the past 12 months, BNPL for travel is not a wholly new phenomenon. AeroMexico uses specialist travel BNPL provider Uplift's services at checkout. Customers have the option to purchase with no upfront cost, and then select a repayment plan for up to 12 months.

"Implementing BNPL was part of our payments evolution to offer our customers more comprehensive payment options," says Daniel Reyes Vega, director of digital solutions at AeroMexico. "When we started conversations five years ago, very few merchants in any industry were offering it."

Reyes Vega reports that revenue generated through Uplift has more than doubled in 2022 and customers using BNPL are 25% more likely to return. "We view Uplift not just as a payment option but as a marketing and revenue-generating tool. We partner in campaigns and use up-funnel marketing to reach our customers more effectively," he says. Later this year, AeroMexico will implement a 0% APR offer and a 'fly now, pay later Estimator tool' through Uplift. Reyes Vega believes this will allow sales to "grow despite the current economic situation".

Even with such offers, the likelihood of a global recession means many people will reprioritise spending. With budgets tightening, sudden and unseen expenditures are more damaging to finances, leading to consumers accessing BNPL services for transactions such as house or car repairs.

"My bet is that the impending recession will lead to an increased reliance on BNPL among consumers generally, potentially more so for certain non-retail purchases," says Gavin.

"It's a relatively easy choice for someone to avoid taking on debt if it is to buy a pair of trainers. But it is not so easy to avoid funding necessities like essential car repairs or medical care when you don't have the money readily available."

Boiler and air-conditioning supplier Boxt offers various credit options at checkout through the white-label checkout solution Divido. Its interest-free offering, available to repay over 12 to 24 months, has doubled in popularity since it started in 2017 and accounts for 40% of total business.

"This growth was driven partly by the impacts of the pandemic in terms of financial strain and attitudinal changes towards BNPL and partly by our interest-free plans launched in that year," says Andy Kerr, Boxt founder and CEO.

Unsurprisingly, Boxt anticipates that customers will need help with all aspects of their energy costs over the next few years. While they are exploring other options to help customers with rising costs, interest-free credit will be an integral part of the offering.

"Given the energy crisis, cost-of-living pressures and generally gloomy economic outlook, we do expect that the proportion of our customers who choose to spread payments with a flexible finance plan will increase over the next couple of years. Offering credit for big-ticket items will be important," says Kerr.

What does funding these transactions mean for the BNPL companies? As Gavin points out, these lenders have not had to closely vet customers, as spend is often relatively small.

"BNPL companies typically don't perform rigorous credit checks, meaning significant credit risk for businesses lending money to people who might not be able to repay it," she says.

But some players in the space are beginning to change their processes, ahead of greater regulation expected to be introduced in 2024.

"BNPL companies are changing the way they work from a risk perspective, as seen by Klarna's recent move to start reporting transactions to credit-reference agencies. Laybuy already shares its payment data with Experian, which means that transactions appear on customers' credit files," explains Gavin.

"This is designed to improve the accuracy of customers' credit scores and help lenders make more informed decisions about offering credit." ●

BNPL IS NOW AVAILABLE ACROSS AN ARRAY OF INDUSTRIES

Share of online consumers purchasing through BNPL in the UK by product category

Casual wear	33%
Eating out	31%
Beauty products	26%
Other clothes	23%
Tech	22%
Home improvements	19%
Holidays	19%
Entertainment	19%
Utilities	18%
Sportswear	17%
Work clothes	16%
Rent	14%
Designer clothes	14%
School uniform	11%

Money.co.uk, 2021

Commercial feature

Extracting greater value from in-person payments

Legacy payment systems used in physical locations fail to offer the level of data and analytics these businesses need to grow and become more profitable, argues **Yao-Yun (Yoyo) Chang**, co-founder and CEO of KodyPay

In-person payments by debit card, credit card or smartphone still rely heavily on legacy technology to take the payment and most businesses receive very little data back from that purchase transaction.

According to UK Finance, almost a third of all payments in the UK in 2021 used contactless methods, rising to 58% for consumer cards. Cash transactions also fell again; 23 million people used virtually no notes or coins last year and debit cards accounted for 48% of all payments.

This is a clear indication of where the future of payments is heading and it shows why bricks-and-mortar vendors will have to adapt. They will increasingly need to accept e-wallet and card transactions in their physical locations, whether stores and kiosks or restaurants and bars, and so they will want to gain access to the same wealth of customer or internal data that ecommerce already offers.

Today's legacy card machine technology has struggled to keep pace with the same features and functions offered by ecommerce dashboards and that is why the idea for KodyPay came about in 2018.

For me, at the age of 18 standing in the queue for the school canteen's checkout, it was clear there had to be a better and faster way to pay for food and drink. It would have been far easier to grab and go but the till had to manually handle each cash or card payment. Often by the time this was done, the meal was cold.

Since then, KodyPay has attempted to solve this simple problem and the company has transitioned towards a wider goal: to modernise the entire physical legacy payment system and combine that with the best features of today's ecommerce platforms.

23 million

people used virtually no notes or coins in 2021

Up to 60%

The proportion of savings customers of KodyPay can make compared to other payment solutions*

*based on active live venues

KodyPay, 2022

Real-time data with each transaction

We have raised more than $10m to help companies harness greater levels of granular data about their customers and the purchases they make in physical locations. We know analytics are critical for all businesses and so devised a way to collect that important information through a fast and seamless payment method using a smartphone or card.

The Covid-19 pandemic proved just how vital - and popular - contactless convenience was but in physical locations it is still an untapped opportunity.

Contrast this to ecommerce, which can match a payment to an order, understand what has been bought, know how this affects stock levels and recognise who has made the purchase. Physical venues and stores deserve this too.

KodyPay allows such businesses to accept any payment type they want, while benefiting from the data usually generated by an online transaction – all via a complete payment solution.

We have initially worked within the hospitality industry, challenging the status quo with an ecosystem that accepts digital, contactless and PIN-based payments via our KodyPay card-payment devices.

Inside these venues, our QR codes can be scanned to order and then pay directly from a smartphone without downloading an app, meaning food and drink can quickly be served to a table. On websites and apps, KodyPay's technology powers menu selection and payment methods for takeaways from restaurants and cafés.

Our platform generates a very accessible level of customer data analytics. Each business we work with has access to real-time data on best sellers, live revenues, total tips and service charges, average purchase value, returning customers and more.

A vision for physical locations to thrive

KodyPay is a complete payment solution, not a payment method. It allows for payment reconciliation across multiple systems. Our features can be quickly added to. For example, if a business wanted to accept cryptocurrency or establish buy now, pay later, we could easily incorporate this within KodyPay as a payment type.

Our hard work has brought the benefits of online payments into physical in-person locations - and we do things a little differently with transaction fees too. Our mission is to save businesses as much as possible in these individual fees, so we charge them at our operating cost, ensuring a better deal for KodyPay's customers.

They obtain sales data and customer analytics to help them grow and make greater profits, and can make up to 60% in savings compared to other solutions.

In less than 12 months, our platform has signed up 500 hospitality venues. They are businesses that usually generate between £25,000 and £50,000 of revenue per week from either a single physical location or a few sites. Each pays a competitive monthly fee and a percentage on their sales volumes.

Breakout expert quotes from Kodypay talent

"Payment habits are evolving everywhere, and across all industries. The way consumers pay, from smartphones to cards and cash, to the payment methods they use - including buy now, pay later, e-wallets or cryptocurrencies - are all changing fast. Merchants need to be supported through this transition with a solution for today and tomorrow. Card terminals, online ordering and payments must be manageable from a single tool."

Pierre Baigts, chief product officer, KodyPay

"Payments are rapidly emerging as a critical enabler of long-term business growth. Access to the most intelligent solutions are usually only available to larger organisations. This makes it hard for others to compete with the convenience and opportunities digital services provide. SMEs need an accessible payment system embedded with their services to benefit consumers with safer and better purchase experiences."

Joao Martins, chief technology officer, KodyPay

What started as an idea at school, has, four years later, transformed into a respected startup. KodyPay now has Hank Uberoi, the former head of technology at Goldman Sachs and chief operating officer at Citadel, as our chairman, along with some amazing tech talent and expertise across the wider team.

This includes an executive leadership with Sophie Haagensen, who is the former head of strategy at Atom Bank; Joao Martins, former founding CTO of Series B-funded Yapily; and Pierre Baigts, ex-vice-president of product at Series B-funded Tiller, which exited to SumUp, joining as chief operating officer, chief technology officer and chief product officer.

All physical location businesses already accept they must take contactless payments to survive. But to thrive they must be offered a way to tap into this transactional data.

That is where the true value of payments will come from in the future and KodyPay exists to extract it.

To find out more about the services KodyPay offers, visit kodypay.com

CRIME

More of the smooth, less of the criminal

Payment service providers are coming under regulatory pressure to counter the increasing threat posed by fraudsters. But how can they achieve this without adding friction to the customer experience?

Jonathan Evans

Although the digital banking revolution started long before the pandemic, the Covid lockdowns vastly increased the number of consumers relying on digital payment mechanisms to make transactions. But, as the use of payment service providers (PSPs) has rocketed among consumers and businesses, so has the number of highly skilled tech-enabled criminals targeting them.

Chief among these malicious actors are money-launderers. While the United Nations Office on Drugs and Crime stresses that calculating the exact amount of money laundered each year is nearly impossible, it estimates the total could be $2tn (£1.7tn), which equates to roughly 5% of global GDP.

PSPs are also vulnerable to other fraudulent activities, including the financing of terrorism, human trafficking and drug smuggling.

Given the increased level of risk posed to PSPs' customers, partners and reputations, many are having to upgrade their systems and procedures to keep the criminals at bay. But, as Kristina Nikipolska, chief compliance officer at UK-based PSP Ecommpay, observes, the need to mitigate such risks conflicts with the customer-centric attitude of many providers.

"They are working in a highly competitive environment, where customers are usually more worried about bank account maintenance than their relationship with a PSP," she says. "Unlike banks, which usually have lengthy onboarding processes to ensure proper risk mitigation, PSPs must react and work faster, usually in a digital and non-face-to-face manner, so that they don't lose customers."

One factor that's alarming industry regulators in light of the global rise in financial crime is the lack of a standard framework governing how PSPs should perform know-your-customer (KYC) checks. Although most providers have rigorous KYC procedures, some – particularly more recent market entrants – have less stringent controls in place, allowing new users to submit fewer details to open an account.

PSPs are subject to regulations designed to combat money-laundering and the financing of terrorism, as well as laws concerning bribery and other illegal payments. In the EU, the European Commission is planning to create a central regulatory body to "improve the detection of suspicious transactions and close loopholes typically utilised by financial criminals". Its proposed Authority for Anti-Money-Laundering and Countering the Financing of Terrorism will focus on the vulnerabilities that technological innovation is creating. In the US, meanwhile, the government's Financial Crimes Enforcement Network and the Federal Deposit Insurance Corporation have issued guidance to financial institutions about the higher risks presented by PSPs.

David Maisey is the co-founder and CEO of MultiPay Global Solutions, a UK-based PSP with customers in 22 countries. While he says that "complying with regulation can be costly and affect profitability", he accepts that "third-party regulation is crucial to ensure good business practices across the industry".

Nikipolska agrees, but adds that the sheer pace of innovation occurring in the payments sector means that self-regulation is also vital in the sector's battles against financial crime.

"The challenge is that the regulation always lags behind market developments, thus interfering with emerging technologies and businesses," she argues. "But what is necessary is uniformity across the EU and the UK – especially in terms of KYC – since businesses in our field usually work globally. There needs to be a seamless experience around the world. Ultimately, our shared goal is to keep clients' data and finances safe."

There is some appetite among PSPs to work together to establish a standard KYC process. But such an industry-wide collaboration remains unlikely, with many providers viewing the adoption of more stringent KYC requirements as contrary to their main goal of delivering a friction-free customer experience.

Prakash Pattni is EMEA managing director, digital transformation, at IBM Cloud for Financial Services. He says cutting-edge technologies such as machine learning offer PSPs a way to address the threat posed by financial criminals effectively without impairing the customer experience.

"You don't want your customers to feel they're being treated like criminals because they have to do multi-factor authentication or prove their identity more than once to complete a transaction," Pattni says. "PSPs are getting much smarter at taking data from your phone, location and spending habits, and then using artificial intelligence to link these, enabling contextual decisions to be made instantly. This process is smart enough to remove the need for much of the crude 'was that you and did you authorise this?' types of testing we've relied on in the past."

PSPs can gain two key benefits from embedding the latest AI-based tech into their fraud-detection systems. First, most PSPs aren't burdened with legacy IT, which gives them the flexibility to weave these advanced technologies into their processes at a much faster rate than others in the payment space, particularly the big incumbents.

You don't want your customers to feel that they're being treated like criminals because they have to do multi-factor authentication or prove their identity more than once

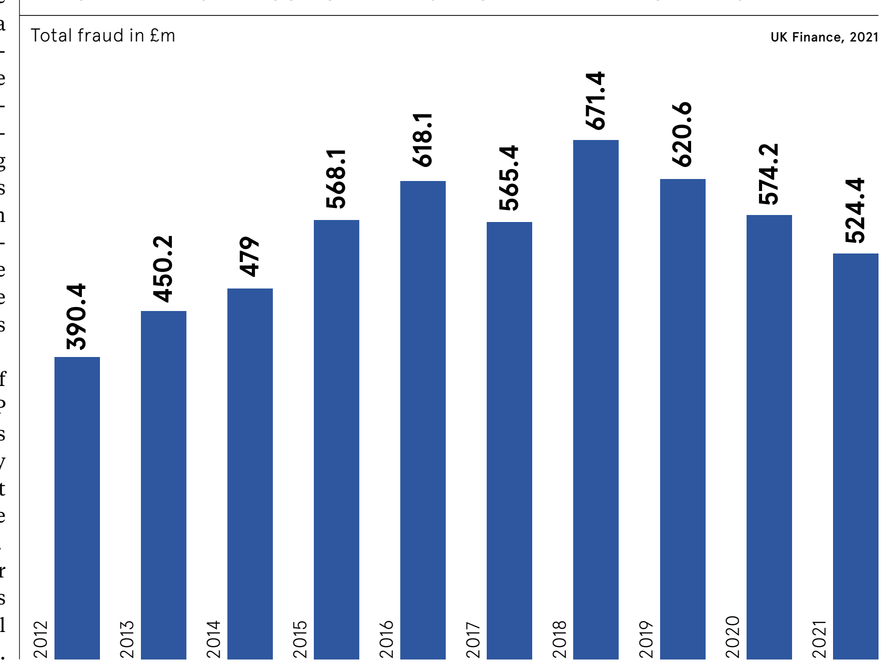
Second, using AI to make rapid contextual decisions enables PSPs to continue offering the level of service that many customers have come to expect from them. In recent years, real-time payments have become the industry standard, giving service providers less time to run checks for criminal activities.

"In the old days, you sent a cheque or made a transfer online and there was a delay in receiving the money, as banks took time to do the analysis and check for fraud. People won't tolerate that now." Pattni says. "You've got milliseconds versus hours for that process – and that's a big reason why the number of fraud cases has gone up."

In many ways, this sums up the double bind that many PSPs find themselves in when trying to counter financial crime. Although they may be under regulatory pressure to enact more stringent measures, many providers are selling to a consumer base that expects a seamless experience and instant results.

Finding the balance between these opposing forces will be a key challenge for PSPs as demand for their services increases and their market becomes ever more competitive.

FRAUD REMAINS A MAJOR CHALLENGE FOR PAYMENT PROVIDERS



Commercial feature

The journey to cashless must be more considered

Amid increasing economic insecurity, the move to a cashless society must be done in a careful way that ensures no consumers are digitally excluded or left behind along the way

The growth of digital payments over the past decade has been faster than many people anticipated it could ever be given cash has been a cornerstone of society for many centuries. Yet social distancing rules during the Covid-19 pandemic accelerated adoption of mobile banking even further. Research by UK Finance found 32% of UK adults had registered for mobile payments in 2020, an increase of 75%, or 7.4 million people, compared with 2019.

Given the UK has the third highest digital payment transaction value, after only China and the US, it was widely expected that virtual methods for paying for goods and services would continue this quite rapid ascent. Instead, something surprising has happened: personal cash withdrawals are on the up. The Post Office revealed that it handled a record £801m in personal cash withdrawals in July, an increase of some 20% on the same month in 2020.

Amid growing economic instability and soaring levels of inflation, which is already in double digits and is expected to rise further in the coming months, many Britons are retreating to the familiarity and tangibility of cash to manage their budgets. While card payment trends are showing no signs of decline, large parts of the UK population are making it clear they are not yet ready for a cashless society, which amplifies the payments challenges facing merchants.

"Covid undoubtedly accelerated the move towards digital payments, but the cost-of-living crisis has put the brakes on," says Hannah Fitzsimons, CEO of Cashflows, whose products and services make it easier for businesses to provide a seamless payments experience. "It's going to be a really tough 12 to 24 months where people are going to have to work really hard to budget, and the simple reality is that many people still feel more in control and trusting of cash.

It's really important that merchants are supported to be able to accept the full range of payments

"However, we also expect to continue seeing an upward trend from a card payments perspective as well. These parallel and somewhat contrasting developments highlight the need to tread very cautiously when considering how to phase out the use of physical currency. It's really important that merchants are supported to be able to accept the full range of payments."

To provide this support, the fintech community must adapt to serve shoppers impacted by the economic crisis and who might be reluctant to embrace modern technology and digital payments, as well as continuing to serve those who have already eschewed physical currency.

In 2019, only 20% of over-75s in the UK had a smartphone, compared to 95% of 16- to 24-year-olds, according to an Ofcom report and last year Age UK found that nearly 2 million over-75s in England were still digitally excluded. This is one clear reason why the use of cash prevails despite preference for digital payment methods among younger consumer groups.

"There is a big digital divide emerging where younger generations just don't want to deal with cash, it's alien to them, but older generations don't want to let it go," says Fitzsimons. "There is distrust with digital payments, or people don't understand how things work, which is becoming even more of an issue in light of new authentication requirements as regulators attempt to mitigate fraud. Not leaving anyone behind in the drive towards cashless is super important."

Merchants must consider these nuances in customer behaviour to ensure individual payment preferences are accounted for among different demographics. But meeting all of the differing expectations when it comes to payments, without any undue cost, is increasingly challenging.

The Payment Systems Regulator recently noted that businesses with card turnovers of less than £50m have been missing out on potential savings, due to a card acquiring market that is anti-competitive and too complex. Its subsequent proposals – to introduce greater transparency and engagement and make it easier for merchants to switch point-of-sale terminal providers – represent a welcome step to realising a fairer market that will ultimately help these businesses to prosper.

Meanwhile, it falls to the financial services ecosystem to both educate merchants and support them with all of the complexity they face in providing a seamless payments experience. There are areas of opportunity for merchants, such as showing support for their local community by offering access to cash withdrawals in rural areas where ATMs are lacking. But they also require intelligent solutions that enable them to offer multiple payment choices without this complexity.

Cashflows provides tools and trusted counsel to merchants to help them maximise sales by supporting all popular payment options in a cost-efficient way, while also enabling banks and ATM providers to get up and running faster via its BIN sponsorship model. At the heart of its approach is collaboration with the wider financial ecosystem, which it sees as essential to enabling merchants to make a considered move to cashless while ensuring no one is left behind.

"Our ethos is around making payments as easy as possible for the merchants that we serve, whether that is how we onboard them and they start processing day-to-day payments, how they make payments choices or how we educate them. It's about people connecting with people," says Fitzsimons. "But we also have to ensure we're an active part of the wider ecosystem, as that's integral to providing a truly holistic solution whereby merchants and consumers aren't passed around in the choices they need to make. It's all about ease and removing complexity.

"There are lots of different stakeholders, not just banks and fintechs but also governments. Being considerate about the pace at which we move is crucial. Maybe even pre-Covid that was happening too quickly and that's another reason we're seeing an adjustment now. The move to cashless will happen, but it has got to be considered, trusted and just not too complex."

For more information, visit cashflows.com

Cashflows