FUTURE OF PAYMENTS

Cashing in on payments tech innovations

Payments technology continues to evolve as businesses cash in on innovative ways of paying to not only improve customer experience, but also boost the bottom line

OVERVIEW

JOE McGRATH

The global payments industry is growing fast as go-ahead start-ups in financial technology develop emerging technologies and investment from big banks filters through.

A 2016 report by Boston Consulting Group estimates the transaction banking market will reach some $2 trillion by 2024, up from $1.1 trillion in 2014.

While the spotlight has been on innovation and technology, businesses are now beginning to realise the benefits of new payment methods to fuel corporate growth and improve the bottom line.

Matteo Stefanel, managing partner of catalyst investor group Apis Partners, says the international networks for making payments have been considerably upgraded in recent years.

"Payments infrastructure globally is continuing to move towards more efficient real-time, 24/7 ubiquity, such as the Faster Payments system in the UK and IMPS in India," he says.

Global businesses, such as taxi-hailing service Uber, owe much of their growth to the success of real-time payments. The Californian group, which started up in 2009, is now estimated to be worth more than $62 billion.

Its growth in profits has largely been down to harnessing disruptive technologies to gain a share in multiple markets.

Vaughan Rowsell, founder and chief product officer at Vend, says: "Uber offers a number of ways to pay, including Google Wallet and PayPal as well as credit card.

"Popular businesses are showing others that those payment solutions, which were new a few years ago, like contactless cards or mobile wallets, are now real, reliable and widely used. As adoption has been slow, but steady, the technology has been able to evolve and become better over time."

Mr Stefanel agrees, stressing that payments should be thought of in the context of their role in enabling commerce.

"The level to which payments are frictionless can determine whether online baskets make it to checkout," he says. "Amazon and Uber, with their one-click and invisible checkout processes, can very much attribute a portion of their success to this."

Mr Rowsell says there is a lesson here for businesses that the biggest part of growing the bottom line is the number of options on offer to the customer.

He says: "The payment aspect of the buying process is hugely important to the customer experience. Shoppers expect choice, they expect payment to be quick and painless, and they expect it to be modern – on mobile, for example. Our patience for standing in a queue to pay for an item is diminishing.

> More people are realising that using contactless with their mobile is easier than digging around for spare change when paying for lower-cost items

"By offering these new ways to pay, businesses can create a better customer experience, reduce queues and sell to more customers in a shorter timeframe, and therefore grow their profits."

So, for businesses, quicker, cheaper systems and increased customer payment options mean there is now less reliance on cash. However, it also means that customer expectations are increasing.

Nigel Hyslop, president and UK managing director of Global Payments, says: "We have seen a sharp increase in the number of people using their mobile phone to make purchases online or pay with contactless for items up to £30.

"More people are realising that using contactless with their mobile is easier than digging around for spare change when paying for lower-cost items."

In the last 12 months, there has been large-scale adoption of contactless payments at the physical point of sale (POS).

Figures from the UK Cards Association show the number of contactless transactions in January 2016 was up 212 per cent on the same month last year.

This has been spurred by banks continuing to issue contactless-enabled cards and retailers continuing to activate compatible POS terminals to take advantage of the lower acceptance costs of contactless payments.

However, payment innovation internationally goes much further than mobile and contactless payments.

Ian Foottit, head of UK financial services strategy team at consultancy group Deloitte, says small and medium-sized enterprises are benefitting from improved record keeping and integrated invoice management, while new fintech ideas are leading to flexible supplier financing and competitive foreign exchange rates for businesses.

"Large-scale retailers can use payments data to better understand the shopping behaviour of their customers and integrate payments with loyalty programmes," he says.

"Small-scale merchants may benefit from the scope provided by secure online payments and convenience of mobile acceptance technology."

Mr Foottit says businesses that embrace innovation in payments are likely to find they are able to streamline their operations and offer a greater customer experience.

Some of the largest companies in the world are using new payment methods to go one step further than paying for goods. They are using them to enhance buyer interaction with their products.

Starbucks is one example. The coffee giant launched mobile order and pay, which has been integrated with its rewards card system, enabling UK and US customers to pre-order through their mobile phone and collect on arrival.

The importance of the shifting payments landscape is probably best illustrated by looking at the world's banks.

A recent report by consultants McKinsey notes that 11 of the world's major banks have already started innovation hubs and a further six are directly investing in enhancing payment technologies.

Of those that aren't, five are partnering with fintech firms, three are looking to acquire specialists in the market and three more are building brand new divisions from scratch.

At the beginning of April, banking co-operative SWIFT announced that 21 banks had signed up to a brand new global payments innovation initiative intended to improve the customer experience by increasing the speed, transparency and predictability of cross-border payments.

Participating banks include some of the biggest names in banking, such as Bank of America Merrill Lynch, Bank of China, Barclays, J.P. Morgan Chase, Royal Bank of Canada and Wells Fargo.

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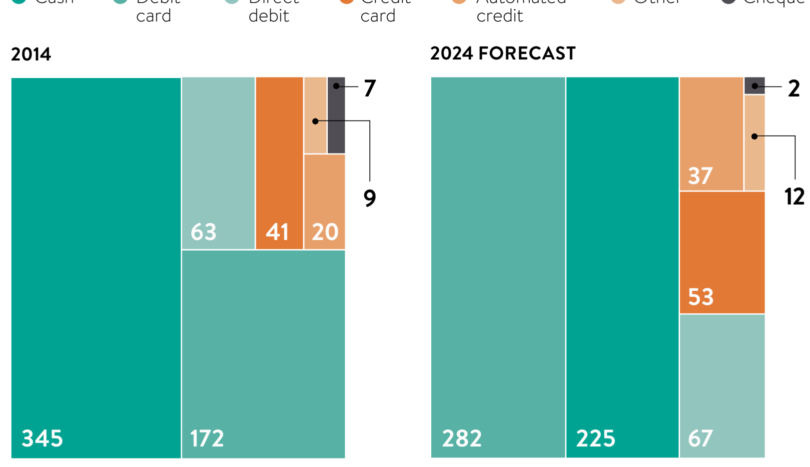
NUMBER OF ANNUAL CONSUMER PAYMENTS MADE PER UK ADULT

Cash · Debit card · Direct debit · Credit card · Automated credit · Other · Cheque



Source: Payments UK 2015

UK PAYMENT STATS

£74.52trn
was paid out in UK transactions in 2015, up 1 per cent on 2014

Source: Payments UK

212%
year-on-year increase in the number of contactless transactions made in January 2016

Source: UK Cards Association

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RACONTEUR

PUBLISHING MANAGER
Michelle Ingham

HEAD OF PRODUCTION
Natalia Rosek

PRODUCTION EDITOR
Benjamin Chiou

DIGITAL CONTENT MANAGER
Sarah Allidina

MANAGING EDITOR
Peter Archer

DESIGN
Samuele Motta
Grant Chapman
Kellie Jerrard

CONTRIBUTORS

DAN BARNES
Award-winning business journalist, he specialises in financial technology, trading and capital markets.

DAVID BENADY
Specialist writer on marketing, advertising and media, he contributes to national newspapers and business publications.

HAZEL DAVIS
Freelance business writer, she contributes to *The Times*, *Financial Times*, *The Daily Telegraph* and *The Guardian*.

CLARE GASCOIGNE
Formerly on the staff of the *Financial Times*, she is now a freelance journalist specialising in City and financial features.

LEO KING
Writer and editor, he works with the *Financial Times*, *The Sunday Times*, *Forbes*, *Bloomberg*, *The Economist* and *The Daily Telegraph*.

DAN MATTHEWS
Journalist and author of *The New Rules of Business*, he writes for newspapers, magazines and websites on a range of issues.

JOE McGRATH
Managing editor of *The Trade and Global Custodian*, he also writes for *The Wall Street Journal*, *Financial Times* and *The Times*.

COMMERCIAL FEATURE

THE CHALLENGER IN THE RED CORNER

In less than two years you will be able choose who manages payments from your bank account, but will more choice make paying easier or harder?

From January 2018, you will be able choose who handles the payments from your account. It does not have to be your bank. A host of other firms can be used; they will not have to be a bank and you will not need an account with them. This innovation is the result of a revision to the European Commission's Payment Services Directive (PSD 2), a set of rules designed to make payments within Europe cheaper, easy and better for customers.

"I think banks are struggling," says Liz Oakes, director at KPMG. "They have data on customers, but they have never really used it in the way that consumers might find helpful to them. The wave of challengers [to banks] is a fantastic thing because the competitive pressure they are generating makes the legacy incumbent banks sit up and start to produce the kind of services and the innovation that we all like to see as consumers."

> What they do care about is the here and now. Balancing cheque books is a lost art. Moving money from A to B without hassle is the expectation

PSD 2 will require banks to allow other firms to connect easily with their systems in order to facilitate payments. As a result customers can pick the best account for them – perhaps with a good interest rate – and also pick the best payment service for their needs.

It sets competition in banking at a new level. A whole new type of business will come into effect. Payment Initiation Services, which the Financial Conduct Authority says "initiate a payment transaction at the request of the user from an account held by the user at another payment service provider", and Account Information Services, online services that provide a consolidated view of the user's payment accounts from across payment service providers, will become regulated, viable businesses.

Introducing challengers to the status quo of banking is not new. The UK has seen startup banks giving the bigger firms a shove since the financial crisis first made them a bit wobbly, ranging from Ipagoo, six-year-old branch-focused Metro Bank, and soon-to-launch Atom Bank and Starling Bank, both technology-led startups. With the big banks currently focusing on streamlining their technology – the Prudential Regulatory Authority has referred to their IT as 'antiquated' – new entrants see this as an opportunity.

Under PSD 2, incumbent banks will face yet another challenge as they risk becoming disintermediated from the payments business by an entirely new foe.

"The new PSD 2 legislation really creates two different service propositions," says Ms Oakes. "One is banking, with the three functions of lending, deposit taking and payments. The other is the new entrants who don't necessarily want to offer lending or deposit taking. They just want to provide payment services. Consequently we will see different business models and different propositions."

Banks are naturally risk averse and have been conservative in their use of customers' personal data. It has been used to try and sell customers products at particular points in their lives. A new set of tools being offered by startup firms shows far more imagination, but they must really excite customers if they are to take hold.

"Consumer banking customers want a service to work every time and for the money to move to and from as ordered," says Thomas Collins, director at KPMG. "Consumers are not concerned about the mechanism that gets it there."

What they do care about is the here and now. Balancing cheque books is a lost art. Moving money from A to B without hassle is the expectation. Banks and service providers that can use data to offer financial management tools to help the digital customer effectively move their cash optimally are increasingly useful and viable.

For example, personal financial management tools that categorise spending, so the customer can evaluate the cost of latte consumption, really offer opportunities to save some money. When customers start to see patterns of spending it gives them the capacity to budget, potentially saving as a result. That support can only be welcomed in the current climate. The Chartered Institute for Securities and Investments suggests that 18 to 30 year olds should be saving £800 a month to get a pension of £30,000, yet the Office for National Statistics tells us this is 35 per cent of an average annual £27,200 salary.

"They will allow you to create a savings pot within your actual bank account, so that if you wanted to save up to buy a car, you could see that chunk separately from the rest of your current account," says Ms Oakes. "There are fantastic concepts around contingent payments. As society moves to an era where more individuals are self-employed or working freelance, the date on which transactions leave your account is more critical. It makes managing cash quite challenging."

Services such as direct debit that offer a fixed-date payment are looking increasingly inflexible in an environment where the mechanisms need to match customer circumstances. For example, contingent payments can be set up so that a bank or payments provider makes a payment on the day that money is due in, but not before those funds arrive.

These are great ideas, says Mr Collins, but the capacity for them to gain traction will rely on critical mass and that can be difficult to build up. "We have seen some people who have moved accounts since the process became easier, but the numbers are very low," he says. "The only drivers that really catalyse people have been financial incentives, but as new services are offered, we may see a profound change in behaviour and the use of the current account switching services."

A chicken-and-egg situation could develop in the near future as excellent service propositions are limited by customers who are conservative in their adoption and banks that are conservative in their offering. "Banks, in particular, are too nervous about crossing the threshold of providing advice," says Mr Collins.

> Startups will likewise have to manage their own operational challenges while maintaining simplicity of use

Many services that have been under the covers of the retail banking environment, such as dispute management services from credit card companies or bank account provision, will have been taken for granted by customers. Startups will likewise have to manage their own operational challenges while maintaining simplicity of use, warns Ms Oakes.

"The more third parties there are involved in a transaction, the more difficult it is to figure out where your money is as a customer and who you need to contact in the event of a problem," she says. "For challengers to succeed, they will have to grasp how complicated this is for themselves and for customers."

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New kid on the block is shaking up the system

An innovative way of managing financial transactions associated with the bitcoin cryptocurrency, is being adapted and could become mainstream

BLOCKCHAIN
DAN BARNES

On the island of Yap in the West Pacific, giant stone coins called *rai* have long been used to exchange value. Moving them is often impractical, so ownership is proven by repeating the oral history of a stone's ownership.

Bitcoins are transferred in a similar, but more secure, way. The history of every transaction is encoded cryptographically in a permanent record called the blockchain. When one person pays another, this payment history, which is distributed and accessible rather than centralised, is automatically checked to ensure the person has previously received the amount of bitcoins they want to spend.

This clever method of managing transactions is now being employed beyond the use of bitcoin as a digital currency. In many ways, blockchain improves upon the current system for payment infrastructure. It creates certainty of ownership and it creates transparency. At present there are centralised ledgers, but these need to reconcile transaction records with the accounts and records of anyone using an instrument, such as cash or shares.

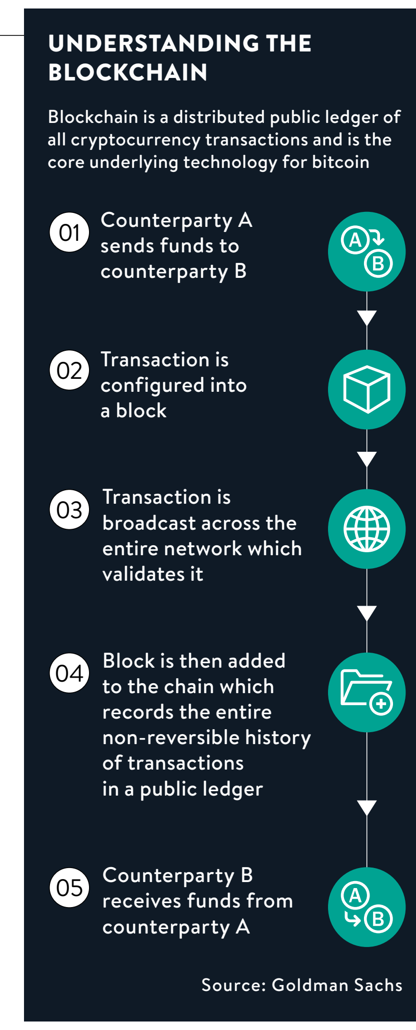
Maintaining a centralised ledger is expensive and relatively inefficient. Distributed ledgers like blockchain require a relatively simple technological set-up, just a computer network and some software, albeit pretty smart software, but the technology is open source allowing many people to use it for other purposes.

As people can only spend what they have received, counterfeiting is impossible and there can be no dispute over who has how many bitcoins. A distributed ledger of transactions can conceivably be used for any unit of value, from loyalty points to cash, to complex contracts. Many technology startups are building their own blockchain-inspired distributed ledgers to take advantage of this.

They can be divided into two types: private, which connect people who have specifically been given permission to join; and public, like bitcoin, which can be accessed by anyone downloading some software. Each has certain qualities.

The public blockchain of bitcoin is being used as a transfer system for real currency. BitPay allows a shop to receive payments via bitcoin as a transfer mechanism and receive funds directly to its bank account in the local currency, with lower fees than card schemes. Payment app Circle, which has just launched in the UK, allows consumers to make payments with a bank card that are transferred into bitcoin. Consequently, the use of the public blockchain by consumers and merchants could allow them to make payments from and to bank accounts without using card payment systems.

"We are really using it as a settlement network, not as a primary currency for consumers, and so consumers never see bitcoin. It's the token that we use because it can be transmitted and transacted and settled in a final and secure way," says Jeremy Allaire, chairman and chief executive of Circle. "There is enough liquidity on that platform to enable the crossing of currencies through it and so it becomes a very efficient global media."



> The ease with which blockchains can be established makes them of interest to firms operating in parts of the world that lack the infrastructure to transfer large-value contracts or amounts of money

Bitcoin is not a regulated currency and so transactions in it are not regulated directly by the Financial Conduct Authority (FCA). However, Mr Allaire says that an e-money issuer licence, which Circle has acquired, covers payment activity, currency exchange and cross-border payments for pounds sterling and euros.

For firms who feel uncomfortable about using bitcoin, creating private distributed ledgers that transfer other units of value is an option. Some, such as Ribbit.me, are seeking to use a distributed ledger for non-cash items like loyalty points, allowing them to become interchangeable and potentially driving up their value for multiple scheme users. Others are transferring property contracts or financial derivatives with the potential to trigger automatically contract conditions, such as a pay-out when interest rates move.

The ease with which blockchains can be established makes them of interest to firms operating in parts of the world that lack the infrastructure to transfer large-value contracts or amounts of money.

"A big area of interest has been the supply chain," says Hywel Ball, assurance managing partner at consultancy EY. "Gas companies especially can look at supply chains in remote locations and be assured that money is going where it should. A lot of focus has gone into financial services because that's where the big savings can be made, but private blockchains might get adopted in other areas first."

Perhaps the most fundamental unit being migrated on to a blockchain is real money, specifically that paid and received by the central bank. Setl, the firm that is proposing this shift, believes it is time to replace the real-time gross settlement (RTGS) systems, which were developed in the 1990s to make big transfers between banks, with something more efficient.

In the UK, the RTGS system uses central bank money to settle payments made through the CHAPS high-value payment system and the funds transfer mechanism which supports the CREST securities settlement system.

By settling through the central bank, big banks can have confidence that the transfer of value has taken place. However, this currently requires the big banks to hold large capital buffers at the central banks. By using a distributed ledger to conduct transfers, central bank money could be used to settle transactions 24/7, says Setl's chief operating officer Peter Randall, and removes the need for bank money to be tied up in a buffer account as the system would provide validation that the transaction can take place.

There are several hurdles to overcome before blockchain is more widely adopted. Processing blockchain payments is not fast enough to support large-scale operations. As chains grow they become unwieldy. This is one driver towards the development of private ledgers tailored to overcome this lag. Different ledgers would not interact, but groups such as the R3 collective, which has 41 banks as members, are seeking to overcome the challenge by developing technology standards.

The use of automated value transfer and a permanent transaction record do not eliminate all the problems that can occur in a transaction. If an account is hacked, a theft could be made to look like a legitimate transfer. Market abuse could still be conducted using legitimate transactions at any point and would need to be tracked around the clock, not just in office hours. Consequently, regulators will require some changes to the way finance is run and regulated.

"If you are running transactions on a blockchain, which operates 24 hours a day, 7 days a week, you have then got to have real-time regulation," says Mr Randall.

This raises further questions about the accessibility of a distributed ledger to authorities, notes EY's Mr Ball, and also the role of auditors in overseeing transactions on a distributed ledger network.

"A lot of the blockchains will be private networks, so would that blockchain be audited as a chain or would each of the individuals somehow have to form their own view?" asks Mr Ball. "There are several issues impacting the speed of adoption, not least of which is the computing firepower that will be needed to run significant blockchains, but the questions [around regulation] are also likely to slow down adoption."

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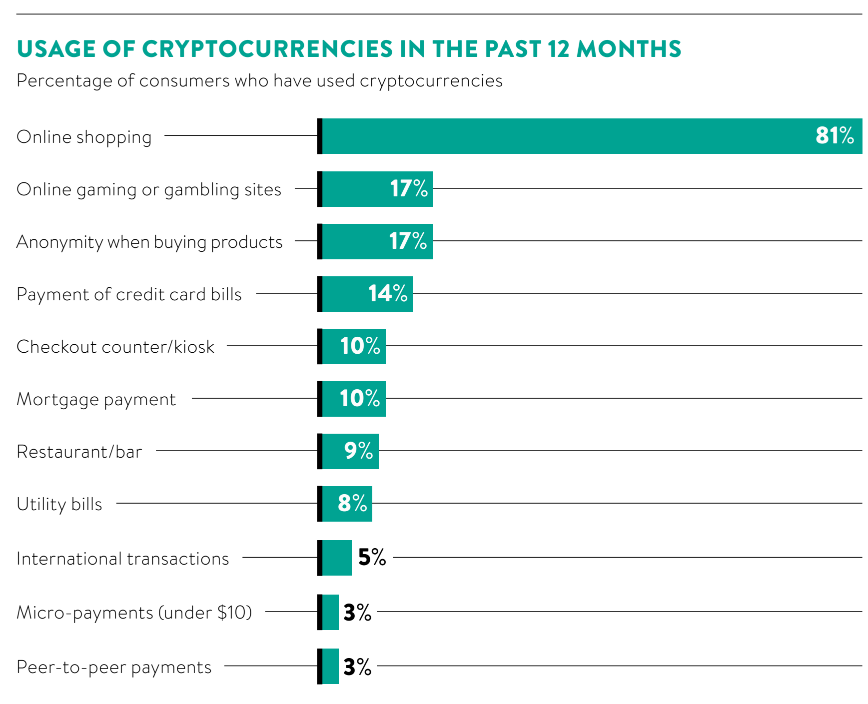


REGULATING BLOCKCHAIN

Authorities are keen to allow innovation to develop, but not on any terms. The Financial Conduct Authority (FCA) has developed a "sandbox" to allow new ideas to be tested in a regulatory environment before going live.

In March 2015, the UK government issued a policy paper entitled *Banking for the 21st Century: driving competition and choice* in which it pledged £10 million towards research into digital currencies while requiring digital currency exchanges to be subject to anti-money laundering regulations. This levels the playing field with existing financial services providers.

"The UK government, in particular HM Treasury, has been very focused on attracting innovative companies in this space," says Jeremy Allaire, chairman and chief executive of Circle, a payment app. "That had an influence on us being part of the FCA's Innovation Hub, a sponsored programme to bring companies through licensing. I think the fact that we are using this cutting-edge technology as part of what we do made it attractive for them to regulate us."

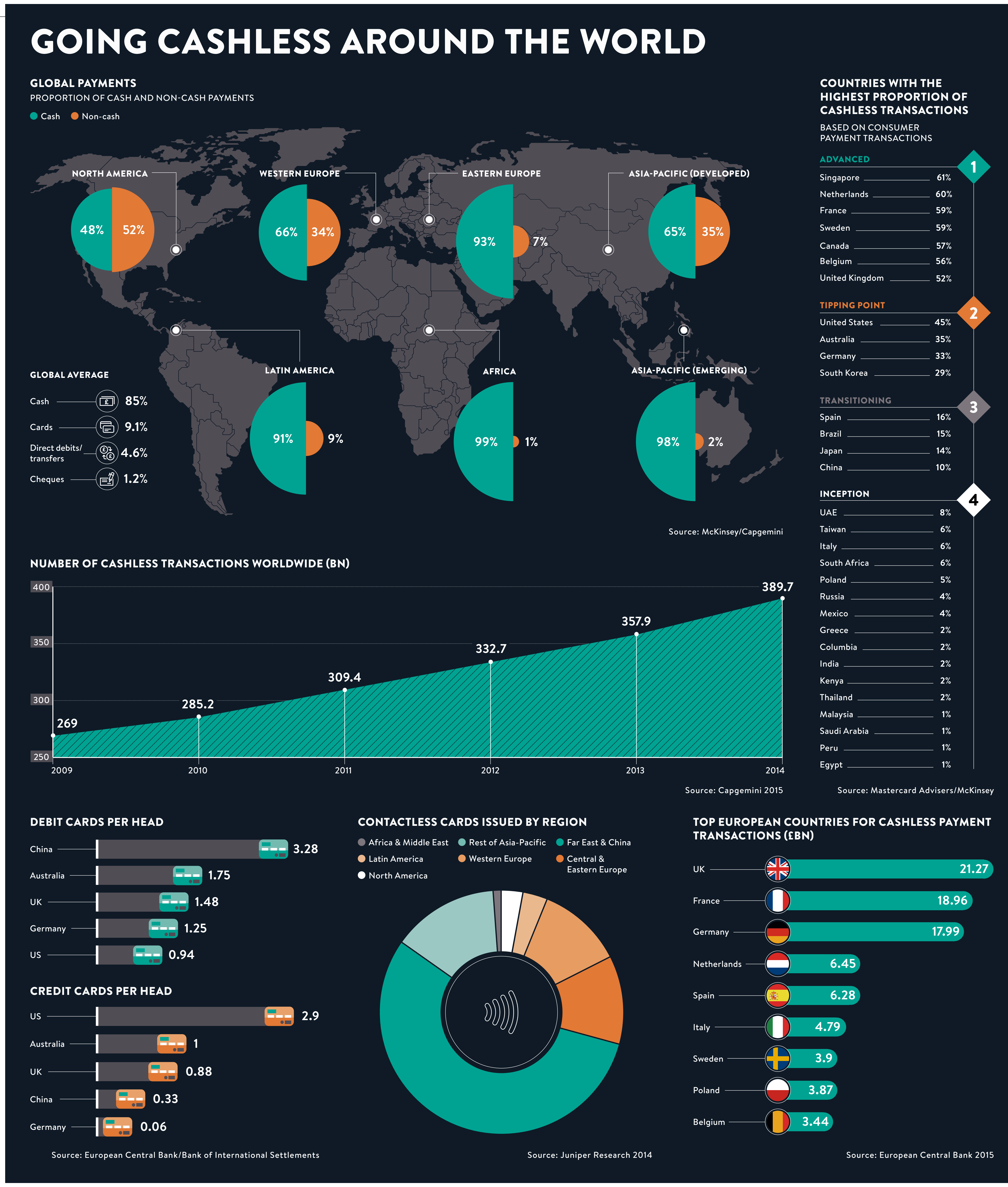
If regulators are able to use the blockchain to support supervision of financial services, they could become more effective, argues Setl's chief operating officer Peter Randall.

"It is possible on a blockchain to report every single time a bank fails to make a payment that it should have paid or fails to transfer assets that it had said it would transfer," he says. "With those things recorded indelibly on a blockchain, a regulator has the capacity to ask banks to reduce rates of failed trades. A regulator can see a bank starting to get into trouble then make the necessary policy adjustments in order to stop that bank from trading, or could inject some emergency liquidity."

Cash isn't going down without a real fight

The clash between cash and digital transactions is being fought around the world – and both ways of paying are still standing

CASH V DIGITAL
DAN MATTHEWS



It's not surprising that the UK is moving away from cash. The first recorded paper-money transaction took place in 7th-century China and, although banknotes were not issued here until the Bank of England was founded in 1694, cash is nevertheless starting to feel a bit old hat.

Cash transactions are almost quaintly anachronistic. The paper itself has only nominal intrinsic value, of course, and it serves as a "proof" that the carrier has wealth totalling the number written on its face.

To this day, every note carries a "promise to pay the bearer" made by the bank, meaning theoretically any of us could turn up in Threadneedle Street tomorrow and ask a clerk to swap a £20 note for a tiny ingot of gold. When you pay someone in cash, you essentially concede to them this proof of wealth, rather than wealth itself. How odd.

Granted, cash has an allure that is timeless. A suitcase stacked neatly with rows of high-denomination notes makes for a better movie scene than someone shiftily handing over a debit card. It's nice to see the big numbers, feel the crispness of treated paper and marvel at the intricate designs, but there is little else to recommend it compared with a tidal wave of new and sophisticated channels.

Electronic payments are less tangible, but more convenient and, in a world where everything happens in an instant, convenience is king. The move to new payments was evidenced last May when, according to the UK Payments Council, the value of card transactions overtook cash for the first time.

In this country, at least for those with a comprehensive view, the appetite for new ways to pay is vivacious. Contactless, online, mobile, e-wallets, apps, bitcoin, you name it, we're buying with it. And yet it's not the same story globally. The world is going digital, but not all at once.

The varied picture from country to country is painted with a number of factors – cultural, infrastructural, demographic and so on. But the differences are not straightforward; it's not as if the biggest economies lead the pack and developing ones bring up the rear.

"Many developing countries have the ability to leapfrog and adopt cashless payment systems to improve their trade," says Jerry Norton, vice president of financial services at CGI. "Countries in Africa have adopted mobile payment systems, such as M-Pesa, which in some respects are more sophisticated than those available in Europe and North America."

Across the developing world, technology is seen not just as a conduit for faster payments, but also a bulwark against fraud.

Chris Dutta, director of Piccadilly Group, says: "In emerging countries, traditional payment mechanisms have often been subject to crime. The growth in technology has allowed citizens and businesses to overcome this, which is reflected in the take-up rates of cashless payments.

"In Africa, for example, a quarter of people who have a mobile phone have a mobile wallet. Conversely in many countries in Western Europe, the reliability of cash-based transactions means citizens have been happy to rely on these."

Meanwhile in Japan, where technological opportunities are usually seized upon with gusto, cash is still favoured by the majority of people. A new study by MasterCard revealed that 85 per cent of payments in Japan were made with cash, compared with 48 per cent in the UK.

Separate research by the Bank of Japan showed that Japanese consumers see convenience as the main benefit of e-payments, while in the UK we also like safety, time-saving, the ability to pay online and better anti-fraud features.

Incidentally, this is good news for British-based retailers, according to Jo Allison, a behavioural analyst at Canvas8. She points to a Dun & Bradstreet study showing that people spend between 12 and 18 per cent more when they use credit cards over cash. "The method of payment has a sizable impact not just on how consumers spend, but how much they spend," she says.

More good news is that the UK is well placed to convert. Mr Norton adds: "The UK, Australia and Canada have a strong history and knowledge of electronic payment infrastructure and innovations. Because they were early adopters of electronic payments and innovations like ATMs and chip and PIN, they have a strong foundation on which to invest in and modernise.

"Elsewhere cultural and demographic differences, and maybe a lack of a credit economy, mean card payments have discriminated against and thus consumers remain accustomed to using cash."

This explains why two near neighbours such as Germany and Sweden can have such wildly different adoption rates. Germany, the engine room of the European Union and the world's fourth largest economy, should be positively buzzing with electronic payments, but it isn't, not at all.

Around 80 per cent of transactions in Germany are still made by exchanging sweaty clods of ex-tree. Broadly speaking, the Germans are sceptical about making card payments – second nature in the UK – let alone anything more virtual or cutting edge.

Ron Delnevo, executive director at the ATM Industry Association, says Germanic thriftiness and love of privacy could be the two main drags on e-payment pick-up.

"Culturally, Germans are extremely reluctant to have any intrusions on their privacy," he explains. "Using cash eliminates the risk of banks or governments tracing when and where you purchase something, how much it costs and even what it was.

> Electronic payments are less tangible, but more convenient and, in a world where everything happens in an instant, convenience is king

"The historical scars of hyperinflation have also influenced the German mindset. In addition, using cash means customers will only be able to spend the money in their pocket. Germany is a nation known for priding itself on its thriftiness, avoiding debt and shunning credit cards. That the German word for debt is the same as for guilt – *schuld* – is telling."

Now there's no suggestion here that Swedes are debt-hungry spendthrifts, but their attitude is very different. So keen are they on electronic payments that the government has created policies to discourage transactions using banknotes.

It may have to reverse these thanks to their alarming effectiveness. Cash circulation has plummeted since a high-point in 2007. Back then the average value of paper in circulation was just over 100 billion krona (£8.69 billion). In February Sweden's Riksbank said the figure had fallen to SEK62 billion (£5.39 billion), a drop of around 40 per cent.

It's no surprise then that when it comes to innovation in this area, Scandinavian countries are blazing a trail, according to Andrew Neeson, market intelligence manager at VocaLink. Here, pressure to update comes directly from the government and the financial system itself.

"Finland has the highest amount of non-cash transactions in the world, per head, and Norway is also very high. Scandinavian countries are early adopters of innovations, such as internet banking," he says.

Yet regional variations have created a patchwork of non-cash payment systems across Europe, says Myles Dawson, country manager for Adyen UK. The payments industry here is yet to condense into a handful of winners in the same way that, say, smartphones have.

"In Northern European markets, shoppers prefer debit-based payment methods, such as SEPA [Single Euro Payments Area] Direct Debit, which is particularly strong in Germany, or iDEAL, popular in the Netherlands, or open invoice payment methods in Scandinavian markets," he says.

It won't come as a shock to learn that further afield the payment landscape is different again; not just consumer preferences, but the very technology that's on offer. "China is a hotbed of innovation when it comes to mobile payments, but the methods people use to pay are completely different to the UK," says Mr Dawson.

"Two e-wallets – Alipay and WeChat Pay – lead the way. With hundreds of millions of users, they are essential for UK businesses to offer in order to reach the critical mass of potential shoppers in the Chinese market."

Are we witnessing cash's last hurrah? Not quite. In fact, globally its use is increasing, not declining, because of the net effect of fast economic growth in developing countries. Cash withdrawals in China increased 64 per cent between 2010 and 2014, growth mirrored in the other BRIC territories, Brazil Russia and India.

Even Sweden, a bellwether in e-payments, has put the brakes on its cavalier romp into a cashless society for fear of literally running out of money.

But the endgame sequence has been initiated and in the next decade, momentum, especially in developed countries, will continue to shift away from fivers and tenners. Soon, then, ransom movies will lose one of their most iconic scenes, but the film industry's loss will be the global economy's gain.

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CASE STUDY: KENYA PLAYS LEAPFROG

Getty images

Africa is not usually noted for its global technological leadership, but large swathes of the continent are adopting mobile payments faster than developed economies in Europe, Asia and the Americas. Jordan McKee, senior analyst of mobile payments at 451 Research, points to high rates of smartphone ownership as one reason for this apparently counter-intuitive trend. "Much of Africa, and specifically countries like Kenya, are leaders in the transition away from paper currency," he says.

"Here, the migration to mobile has been underway for some time, with initiatives such as M-Pesa essentially leapfrogging the use of debit and credit cards. Mobile serves as a vastly superior and sensible payment vehicle to existing alternatives."

M-Pesa was introduced in Kenya in 2007 and two years later it already had nine million customers or 40 per cent of the adult population, according to the World Bank. By 2013, this figure had risen to two-thirds and a quarter of the country's GDP flowed through the system.

It permits institutional transactions, allowing companies to pay salaries and collect bill payments, making it a convenient way to transfer money. Until very recently, before the sweeping growth of Uber, paying via a mobile phone for simple services such as a taxi journey was easier in Nairobi than it was in London, the financial capital of Europe.

"Mobile negates the need to spend upwards of a day travelling to pay a bill with cash – a reality across much of sub-Saharan Africa," adds Mr McKee.

"The unfortunate reality across many developing economies is that banks are not accessible. Mobile phones, however, are. As such, there are literally over 100 initiatives globally intended to pull the financially underserved into the confines of the digital payments ecosystem via their mobile devices."

COMMERCIAL FEATURE

THE SMART MONEY IS ON PUTTING PAYMENTS AT THE HEART OF INNOVATION

Small businesses can improve and simplify the movement of money across their organisation while, at the same time, transforming customer experience, says ***Seamus Smith****, chief executive of Sage Pay*

sage Pay

The proliferation of consumer-friendly technology has seen the payments industry accelerate and reshape itself at unprecedented speed in a short time period. The customer journey now consists of more touchpoints than ever. People check prices online before they visit stores, price compare via mobile when they're out shopping and seek out reviews on social media. Facebook and Twitter have already announced plans to move into the payments space, enabling users to pay using just a wall post or a tweet.

Businesses are being presented with evermore numerous methods of getting consumers to pay for goods and services. Contactless payment is part of this disruptive force pushing the payment sector forward. Widespread adoption in the UK has done much to whet consumers' appetite when it comes to innovative ways to pay. The technology that enables consumers to pay for goods up to the value of £30 with just a tap of their bank card is also the driving force behind connected watches, smartphones and wearables. In 2015 alone, £7.75 billion was spent in the UK via contactless cards in 1.05 billion transactions.

According to research we carried out for the *Sage Pay Payments Landscape Report 2015*, providing greater choice for consumers has proven to increase sales, profit and loyalty. Our research found that more than one in four consumers say they are more likely to shop somewhere that offers a greater range of payment methods. However, there are now more payment channels than ever before for businesses to manage. Orders coming in from the web or mobile, over the phone or face to face, all need to be processed, recorded, distributed and paid for. And that's just the payments coming into a business.

Managing the entire payments life cycle, whether incoming, outgoing or both, can be a time-consuming challenge for many small businesses. Since 2014, the number of businesses that say their payment channels are integrated has grown. According to our research, in 2015, 43 per cent of businesses said their online and offline channels were integrated. A fifth of those who had not integrated their offline and online channels said they were planning to do so in the next six months.

Diversification and disruption in the payments industry has made it hard for smaller companies to manage efficiently the money coming in and going out of the business. Thankfully, solutions that integrate the ability to make and receive payments with the technology small businesses use to manage their finances are making this possible for more and more companies.

For example, Sage Payments is an innovative new service that seamlessly integrates control of outgoing payments to suppliers and employees into the core accounts or payroll software, such as Sage 50 Accounts, Sage 50 Payroll and Sage 200 Standard Online. For businesses trading overseas, it also enables outgoing payments in 11 currencies to 24 countries and takes care of time-consuming exchange rate calculations.

Businesses can improve the movement of money by managing finances holistically. By integrating control of incoming and outgoing payments into the core accounting software, businesses can simplify the way money is managed, making payments more secure, more accurate and more efficient. This could mean businesses back hundreds of hours each year. According to our research, one in five small businesses spend at least four hours a week chasing payments.

With many of its customers browsing web and mobile sites before visiting stores, the management team at Office Shoes adopted connected mobile electronic point-of-sale (ePOS) units in the form of in-store tablets, supported by Sage Cloud Connect, a fully integrated cloud payments system. This allows them to provide a seamless experience for customers by integrating data collected through its website.

Customers can order any item from Office's entire online product range, in any store. If an item isn't in stock within that store, it will be shipped to the customer free the next day, decreasing the number of lost sales. The use of tablets also means customers can pay wherever they are within the store, cutting down on queues.

A connected mobile ePOS solution that runs from the cloud enables businesses to integrate online channels so all business data from products, stock, customer details, coupons, offers and refunds can be held in one place.

With a connected cloud ePOS, mobile devices such as tablets or smartphones can communicate with multiple payment terminals which can be used at any place to take payment. It also reduces the amount of time spent on manual data entry, cutting errors and saving time.

In addition, the payment system is integrated into a till system so businesses can reduce paper-based processes and manage stock more effectively. This sort of innovation helps cut queues and make services such as personal shopping much easier to offer.

Seamus Smith, chief executive, Sage Pay

The key to creating a customer experience like the one introduced by Office is consistency.

Businesses need to stop thinking about channels and start thinking in terms of experiences. As customers, we now have one constantly evolving experience of a brand and, such is our familiarity with technology, we've stopped registering how that experience is delivered, unless it disappoints or frustrates. Whether we're online, on our mobiles or in store, it should all feel like one consistent and seamless experience, rather than different stages in a purchase cycle.

> Sage Payments is an innovative new service that seamlessly integrates control of outgoing payments to suppliers and employees into the core accounts or payroll software

Businesses need to provide customers with a consistent experience that intuitively takes into account how customers behave and interact with technology. In practical terms, this means customers must be able to engage through a variety of channels, regardless of what stage they are at in the buying cycle. This could mean browsing the product on websites, in a shop or in a catalogue. It could also mean allowing customers to ask questions about products and services in store, via Twitter, a chat service or on the phone.

The starting point to achieving this is having a single view of money coming in and out of the business; something that can simplify all those separate channels and enable management teams to understand easily how money is moving around the business.

The future of payments needn't be as challenging as it first appears. Small businesses should view it as an opportunity. An opportunity to level the playing field with their larger, better resourced competitors by transforming the customer experience, but also to improve and simplify the movement of money across their entire organisation.

See www.sage.co.uk/payments for more information or call 0800 336633

1 IN 5
small businesses spend at least four hours a week chasing payments
Source: *Sage Small Business Panel Survey*

£7.75BN
was spent in the UK in 2015 on contactless cards, in 1.05 billion transactions
Source: UK Cards Association

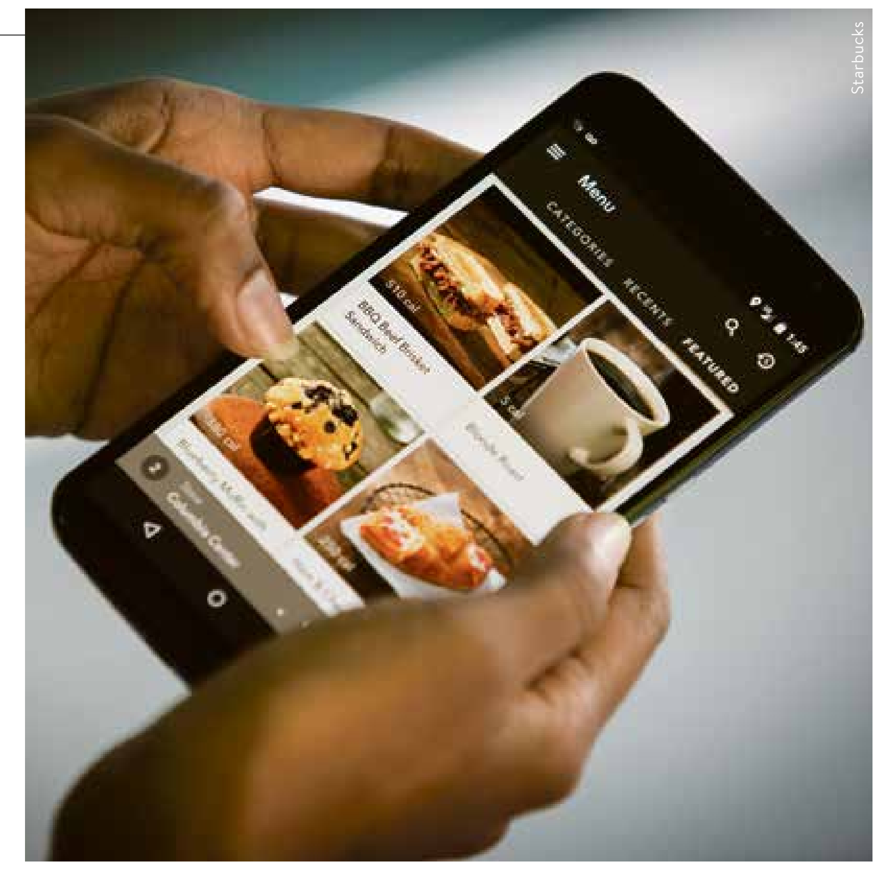
1 IN 4
of consumers say they are more likely to shop somewhere that offers a greater range of payment methods

43%
of businesses in 2015 said their online and offline channels were integrated
Source: *Sage Pay Payments Landscape Report 2015*

Making phones pay is still work in progress...

Retailers may be keen to advance towards a cashless society, but while mobile payments systems are disjointed, there is resistance from consumers

USER EXPERIENCE
CLARE GASCOIGNE



Starbucks

Starbucks has its own app through which customers can pre-order, pay, check their balance, and earn and track rewards

When Jonathan Pine of BBC's hit series *The Night Manager* used his phone to blow up evil warlord Roper's convoy of armaments, he was only able to do so because of the latest innovations in mobile payments.

Iris recognition, the banking security procedure that Roper mistakenly thought Pine was implementing, is a measure designed to encourage us to increase our use of mobile phones to make payments. But, warlords aside, is it really security that stops us?

Yes, up to a point. According to Deloitte's *Mobile Consumer 2015* report, 42 per cent cited security as the main reason for not making in-store payments with a mobile, but running it a close second, at 35 per cent, was the fact that we could not see any benefit.

"The customer's impression is that it's not secure, although that is not reality. But for consumers there are two things that really matter – saving time and saving money," says Kebbie Sebastien, managing director of Penser Consulting, a specialist payments consulting firm. "The benefits of mobile payments are still not clear for consumers in developed countries."

Contrast that, he says, with the phenomenal growth of M-Pesa, Vodafone's mobile phone-based money transfer service, which operates in Africa, India and Eastern Europe. The service processed 3.4 billion transactions in the year to March 2015.

"The traditional way of sending money home was to hand a wad of cash to a bus driver, with all the problems that implies. So the case was strong for person-to-person mobile payments," says Mr Sebastien. "But in developed countries, the current system isn't broken, so to change behaviour requires added incentives."

The problem for proponents of mobile payments in developed countries is that not only are many of us still quite happy with our cash and plastic, we are also hopelessly muddled about differing systems of payment. We are learning fast to use contactless. In the UK, the use of contactless on the transport system in London, for example, has habituated us to the idea. Also increasing the contactless card payment limit from £20 to £30 has meant an average monthly growth rate in contactless transactions above £20 of 19.1 per cent between October 2015 and March 2016, according to Visa Europe. But even so, contactless is far from ubiquitous.

"People often don't realise they have a contactless card. I have seen a customer hand over a card in a busy restaurant, and be surprised when the waiter hands it back and says the payment is made," says Lawrence Freeborn, senior researcher and banking technology analyst at IDC, a market research and analysis firm. "And mobile? That's a pain to use – people don't like fiddling with their phone at the front of the supermarket queue."

For consumers, mobile payments methods can seem disjointed and limited; the lack of a central nervous system for payment providers has meant each provider must negotiate separately with retailers and merchants. So, for example, you can download MasterCard's Qkr! app, which allows you to pay easily using your mobile, but at only three UK restaurant chains, with two more to be added in the coming year, it's hardly a comprehensive service for a night out.

To pay with a mobile, you might need to download an app from a bank for some services, from a phone provider for others or from the restaurant itself, for example. Why bother to try and remember at which coffee shops you can pay with your mobile, when you can just put your hand in your pocket and pull out a tenner that is accepted everywhere?

Yet the push towards a cashless society is very strong from the supply side since it enables retailers to capture information about their customers, and governments to reduce problems such as money-laundering and tax-dodging. The launch of Apple Pay 18 months ago changed the landscape too.

"Forty per cent of iPhone 6 owners used Apple Pay at least once within the first nine months after launch," says Sameet Gupte, executive vice president and global head of banking and finance at Virtusa, an IT consultancy. "There is clearly plenty of interest in mobile payments. But the lack of consistent, widespread engagement is a clear signal that customers still don't regard mobile payments as a more convenient way to spend – the onus is on companies to provide a seamless customer experience."

So what can payment providers do to persuade us to use our phones? "It's all about context," says Jeremy Allaire, chairman and chief executive of Circle, a tech company that is aiming to change how we use money. "The interaction isn't just about technology, it's about support issues, it's about communication with the customer."

19.1%
average monthly growth in contactless transactions above £20 between October 2015 and March 2016
Source: Visa Europe

40%
of iPhone 6 owners have used Apple Pay at least once since its launch
Source: eDigitalResearch

Earlier this month, Circle teamed up with Barclays to offer e-money for cross-border payments using blockchain, a ledger or database of cryptocurrency transactions. Circle believes it is not simply cash that is outdated – it's money itself. "This is not about mobile, it is about money becoming digital," says Mr Allaire. "Money is giving way to something defined by software – the future of money is messaging."

Just as we no longer have the gold standard backing our currencies, so we will no longer have physical notes and coins. But that may be a step too futuristic for many at the moment. Key to increasing mobile payments, say consultants, is the far simpler concept of a loyalty programme. So, paying for a meal with an app allows the restaurant to track and monitor its clientele, but then to encourage them back with special offers and discounts.

Technology such as blockchain is also allowing merchants to offer own-branded loyalty programmes. For example, at the end of last year, mobile payments processing network Boloro chose to offer their merchant customers a loyalty programme using blockchain technology from tech startup Ribbit.me.

According to Ann Camarillo, Boloro president and chief executive: "We wanted a way to further differentiate ourselves as we enter new markets, while at the same time help merchants in our network improve their revenues and customer loyalty."

Ribbit.me believes that the flexibility of blockchain, which makes it possible to exchange virtual currencies over the net, making cross-border payments quicker and easier, will allow loyalty programmes to swap and exchange in a similar fashion. RibbitRewards are tradeable loyalty "tokens", so customers can redeem their loyalty points from one sector to another, paying for a meal with air miles, for example.

Of course, success depends on merchants being willing and able to accept Boloro payments and, just as 50 years ago not all outlets would accept plastic or would pick and choose which plastic to accept, so not all merchants will accept mobile payments or will choose between competing processors.

"We have a huge problem with legacy point-of-sale [POS] systems," says Lisa Falzone, chief executive of Revel, which offers a POS system based on iPads. "POS is a three to five-year investment, so it is not going to change overnight."

The technology that allows us to pay for goods and services with a contactless tap of a card, and with mobile phones, has been around for decades; it was 1999 when Nokia and Visa piloted a mobile phone that could pay over the net. But will 2016 finally be the year when we reach the tipping point that makes cash redundant?

"Mobile payment has been about 15 months away for about 15 years," says Mr Sebastien. "But it has changed as smartphone penetration has increased [it is now at 76 per cent in the UK, according to Deloitte] and is rapidly gaining momentum."

Certainly the trajectory is only one way. The volume of non-cash payments at 52 per cent exceeded those made by cash for the first time in 2014, with cash accounting for just 17 per cent of the total value of consumer payments, according to Payments UK, the trade association for the payments industry. Just don't write off cash quite yet – even if you're an arms dealer.

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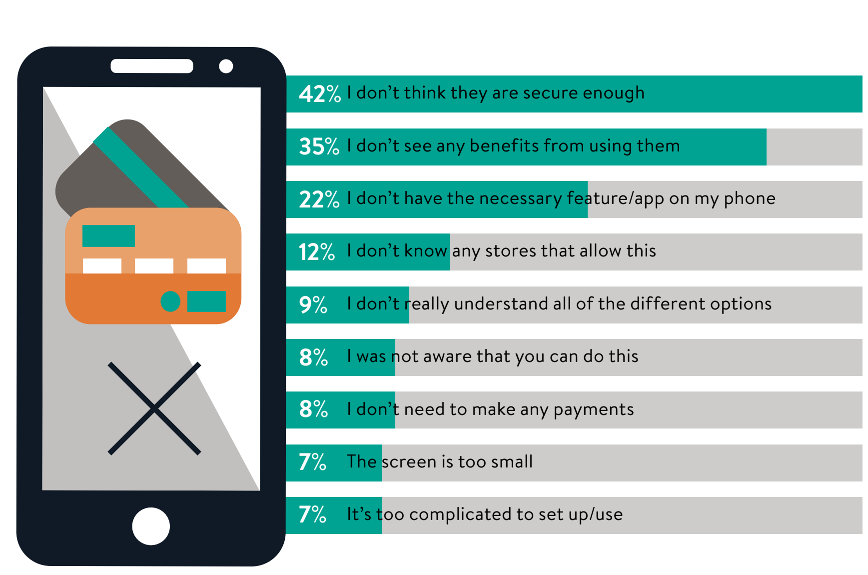
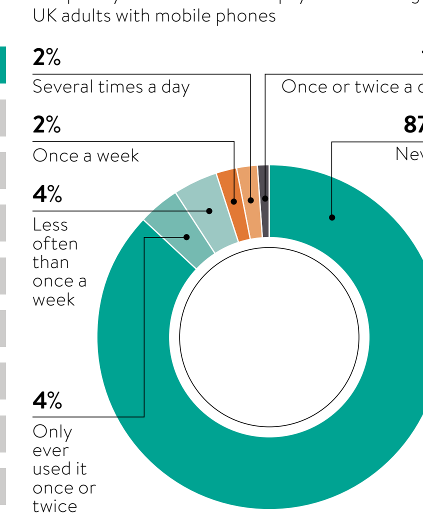
REASONS FOR NOT MAKING MOBILE IN-STORE PAYMENTS



USE OF MOBILE IN-STORE PAYMENTS

Frequency of mobile in-store payments among UK adults with mobile phones



Source: Deloitte 2015

Mixed fortunes in UK payments market

The aggressiveness of the payments market ought to deter those with bright ideas from entering, but there are routes to success

WINNERS AND LOSERS

LEO KING

There has hardly been a financial technology market so bitterly contested. In the payments sector, sudden collapses or even a gradual fading into the background characterise the history of hundreds of companies.

Yet some firms have a different story to tell, marked by highly sustained growth. So why are there such extremes?

Playing a major part is the market's utter fragmentation. An eye-watering 4,000 financial technology startups are active in payments, according to a recent report by BNY Mellon.

Then there is the problem of the speed of change. In the rush to replace cash, even chip-and-PIN credit card payments seem old hat. UK Cards Association figures show that, last November alone, £1 billion of contactless payments were made.

The myriad of companies trying to replace old payment methods are slogging it out and along the way there have been some breathtaking losses.

Two months ago, Powa, a startup that was to enable instant purchasing by scanning an item with a smartphone, crumbled into administration.

The company initially drew the praise of prime minister David Cameron and declared partnerships with a host of major retailers. It collapsed owing to a lack of direction and overspending, observers say. Crucially, the technology was overhyped.

Powa was not the first to suffer from its own concept and poor management. Over a decade before, Billpoint, a payments service that had been acquired by eBay, was left floundering in the wake of PayPal, which now has $9 billion in annual revenues.

Pay By Touch, which processed payments by scanning a customer's fingerprints, and Clinkle, a mobile app long in development, both disappeared. They were met with widespread early interest, but failed to match the hype, with additional blame attributed to mismanagement.

The aura around mobile wallets from the likes of Apple and Samsung has been at the centre of much of the recent market woes. The technology allows users simply to tap their phone for payment, but people have few places to use it.

The companies offering a safe solution to a real problem, without trying to reinvent customer needs, will succeed.

In this regard, the many peer-to-peer or P2P startups making it easier to send money between individuals are blossoming. By 2018, the annual value of P2P payments in the United States could multiply tenfold to more than $50 billion, according to BI Intelligence.

Some of the newest P2P firms, focusing on social media and mobile, are growing rapidly, including Venmo, which has its own social network and is owned by PayPal, and ChangeTip, which works across social media. Then there are the large Chinese payments companies, dominated by Alibaba's Alipay.

Easily used cryptocurrencies and cheaper foreign currency transfer services are also capturing real needs.

There is real potential for payment firms that make retailers' lives simpler. Among large stores, Worldpay's end-to-end systems are taking a foothold, as are iZettle's in smaller businesses.

Much of the expected retail success could come from Square, set up by Twitter founder Jack Dorsey. Smartly, it is trying to make it easier for shops to accept multiple forms of payment. Nevertheless, heavy investment means the company has not made profit.

The fortune of some payment technology firms has clearly been dictated by their decision to start with a niche.

Without vast financial resources, firms with specific innovation, such as FitPay in wearables, Blockstream in cryptocurrency technology and Zwipe in biometric payment authentication, all look promising.

There are other niche services, such as from Swedish firm Klarna. It not only processes payments for retailers, but aims to reduce the risk of cart abandonment by paying the shops itself and allowing the customers to cough up later. This model has led it to grow to more than 45 million users in a decade.

Some businesses place their focus on a particular industry, resulting in rapid growth. Paysafe offers a payment and mobile wallet system for the huge gaming market.

The established companies can go for massive scale. Businesses including PayPal, Apple, Google and Samsung stand the best chance in mobile, given their existing customer base. Banks, meanwhile, have the accounts infrastructure to make payment services possible.

The startups forging partnerships with banks and mobile services, or presenting themselves for sale, are the smart ones. They need the access to customers.

> “The companies offering a safe solution to a real problem, without trying to reinvent customer needs, will succeed

Among the collaborative young firms, Paym, which enables people to send money to friends using only a mobile phone number, nearly doubled half-year transactions to £76 million in the second part of 2015. Its link with UK banks has been essential.

Those selling in-store services must have a convincing case. Many retailers have had to grapple with a nightmarish array of systems.

For shops, there is a catch 22 around mobile wallets, according to research firm Planet Retail. Store chains are reluctant to invest in mobile wallets that do not have a proven user base and consumers will only pay with them when they can easily do so everywhere they shop.

There will always be innovation in payments technology, but there will also be a great deal of bloodshed. Success comes from effectively solving a real problem in a focused area.

The banks and big tech firms are best positioned, and there will be a handful of hit startups. But given the many surprises to date, today's expectations could soon be wide of the mark.

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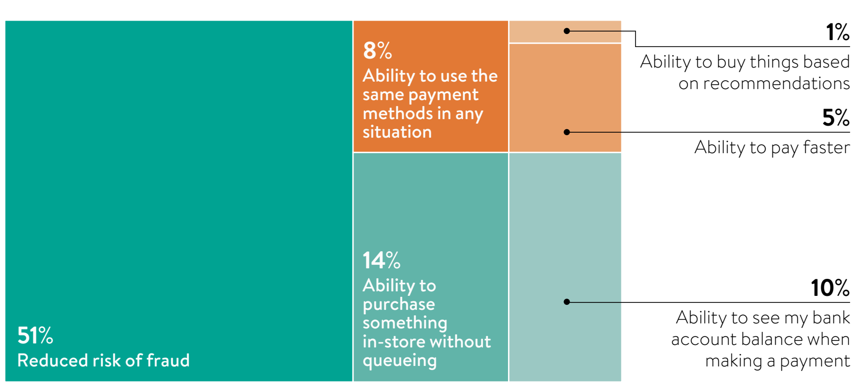
01
iZettle, ideal for smaller or remote businesses, allows users to accept chip-and-PIN and contactless payments through a smartphone

02
Jack Dorsey, Twitter founder, recently floated his payment company Square on the New York Stock Exchange

FUTURE PAYMENT METHODS

Which one of the following would you most like to see in payment methods of the future?



Source: YouGov/Cebr 2014

CASE STUDY: WALLET WARS

There is a new player in town – the mobile wallet. Consumers can pay by holding their phone near a terminal or tapping within an app. Google, Samsung and Apple are among those dominating.

The problem for some systems is availability. Apple Pay, the only one to launch in the UK so far, and Android Pay are limited to 700,000 retailers. Samsung Pay has a wider scope because, instead of needing specialist equipment, it works with traditional magnetic readers at more than 30 million outlets.

Official user numbers are not known. But research by InfoScout shows than on Black Friday last year, Apple Pay services were employed by less than 3 per cent of US iPhone users with the capability and only 2 per cent of relevant Android users paid with an in-built wallet.

Traditional bank and payment businesses, including J.P. Morgan Chase and PayPal, have their own wallets, as does retail giant Walmart. Startups such as Yoyo Wallet add their own tranche of loyalty, essential in increasing usage.

Who will win? You would expect Apple, Google and Samsung to take advantage of their clout as well as their ever-presence in people's pockets. But for many transactions they're beaten by contactless cards. Much now depends on consumers actually wanting a new form of payment.

COMMERCIAL FEATURE

WHY THE PAYMENTS ECOSYSTEM IS DUE FOR A SHAKE-UP

There's no doubt that the current payments ecosystem is inefficient and the landscape is cluttered

Ixaris Perfect Fit Payments | OPEN PAYMENTS THE OPEN PAYMENTS ECOSYSTEM PROJECT | Project co-funded by the Horizon 2020 programme of the European Union

Banks are facing pressure from all sides with new, more agile companies threatening to take away business and regulators pushing them to open up their systems to third parties.

It's no surprise the two industries have eyed each other with fear and suspicion but, although attitudes are changing, payments innovation is still being hindered. While other industries have embraced the idea of collaboration with gusto, and with great results for the industry and for consumers, the financial sector has lagged behind.

The desire for change is there, with a recent report from banking and payment technology provider FIS suggesting that 65 per cent of banks want to create a public app store, yet only 14 per cent actually have programmes in place to open up their systems with application programme interfaces (APIs).

So we're faced with banks, regulated non-bank players and unregulated innovators all fighting for survival, and contributing to overall inefficiency.

The European Commission's recently revised Directive on Payment Services or PSD2 regulation is forcing banks to open up accounts via APIs and provide access for third-party developers. This looks set to become law around the beginning of 2018.

The European Union, and the UK in particular, are at the forefront of developing technology to support the move to open up banking.

The EU-funded Open Payments Ecosystem (OPE) project was launched last year by payments technology provider Ixaris, along with key contributors Visa Europe, IDT Finance, Startupbootcamp, Locke Lord and the University of Malta.

The project aims to make it easier for developers to build compliant and secure payment apps using open APIs, and also provide the means of access to these apps to anyone that needs them through a curated payments apps marketplace.

The marketplace enables developers to create and publish payments applications using pre-existing financial components, and allows service providers to plug in a range of financial services, such as card authorisation, Swift and Automated Clearing House or ACH transfer, to support them.

> “65% of banks want to create a public app store, yet only 14% actually have programmes in place to open up their systems

In what is thought to be an industry first, the OPE will deliver automated compliance checking and a controlled environment that allows developers to facilitate access to financial or personal data that resides with banks, but without accessing such data themselves. This should solve the problems of security and compliance throughout the payments application life cycle.

Ixaris chief executive Alex Mifsud says: “Building on services we already provide to larger-scale financial and corporate customers, we're now creating a service that enables developers to innovate and create diverse and intuitive applications, which address a wealth of payment needs.”

This also means, says Dr Mifsud, non-bank financial institutions, where success depends solely on innovation, are able to underwrite the financial services required to power the new applications, and established banks are able to identify winning applications and provide the distribution networks to grow adoption to scale.

Fears about data protection are justifiable, he says. “Protection of data is critically important,” says Dr Mifsud, “and providing the mechanism for safe and compliant collaboration within the payments ecosystem will be one of the most significant catalysts for growth in payments options for consumers and small businesses.”

In the OPE system, developers will create applications using a simple modelling language, within a secure environment, which shields sensitive information, such as card numbers, securely within the OPE servers. All this means the connections between the consumer and the OPE cannot be intercepted by a third party. This centralisation of control significantly removes the security risk from uncontrolled developers.

The inevitable explosion in payments applications can only be a positive move for the industry and the economy, says Dr Mifsud. He concludes: “It allows smaller organisations and small and medium-sized enterprises to access payment solutions they wouldn't otherwise be able to. It democratises payments and shows a one-size-fits-all approach no longer works.”

www.ixaris.com

The OPE project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement number 666363

Top solutions solve the problem of easy payment

Smaller companies are increasingly turning to innovative payment solutions to transform their business, drive success and help compete with the big players

8 PAYMENT MODELS
HAZEL DAVIS

● Large company
● Small company

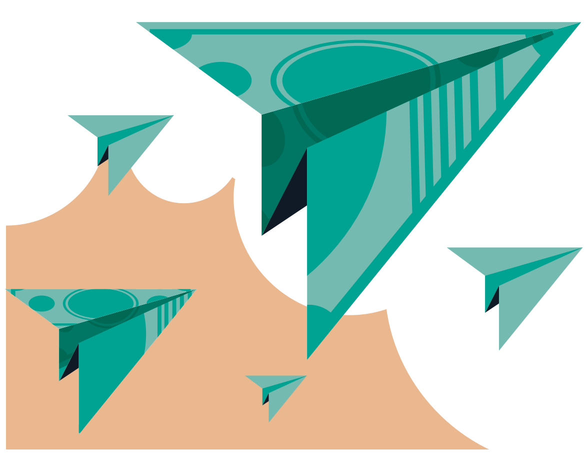
FOOD AND HOSPITALITY

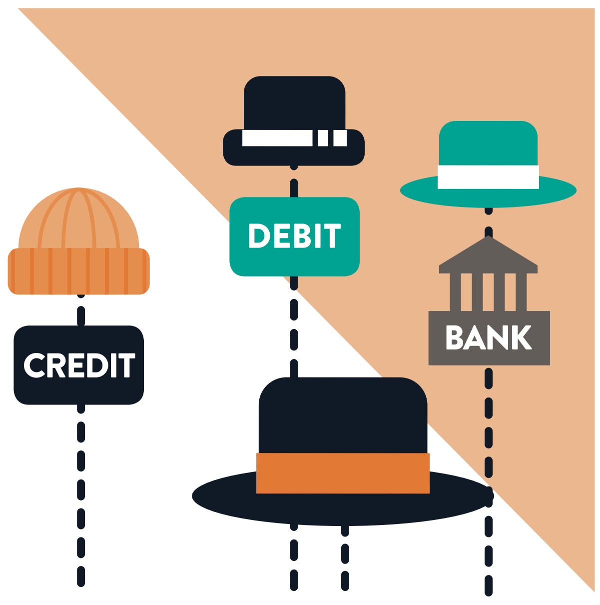
01 HANGFIRE SMOKEHOUSE

To stop missing out on card-driven sales during busy periods, this Cardiff-based southern-style barbeque food enterprise worked with EE to introduce a mobile technology-focused solution. "Customers increasingly expect to pay by card," says Shauna Guinn, Hang Fire Smokehouse's co-owner. The business had previously had to turn down customers who don't carry cash, but it now uses a 4G pop-up bundle, which includes an iZettle Pro contactless card reader. This has enabled the Smokehouse to process chip-and-PIN, contactless card and mobile payments over 4G. It's resulted in an increase in impulse purchases. "Transactions are now also a lot quicker, increasing the amount of customers we are able to serve," says Ms Guinn. "At Christmas 2015 we managed to serve hundreds more customers than the year before."

02 CHARLOTTE'S GROUP

Fast-growing British hospitality business Charlotte's Group has been pioneering its first fully cashless operation, Charlotte's W5, since January this year. The destination uses contactless payment methods – debit and credit cards, American Express and Apple Pay – but not cash. As it says on its website: "We're so 2016." Owner Alex Wrethman says: "It's saving us a significant amount of time and money. We save around three hours a day of a manager's time, lower insurance due to no cash handling on the premises, less room for human error in reconciliations, and a more seamless experience for both our staff and customers. The cost-savings also mean we are able to keep prices lower for our customers and add value in areas that are more important to them." The company is expected to roll this no-cash model out to its other destinations.





RETAIL

03 MONSOON ACCESSORIZE

Formerly known as e-receipts, Yocuda is changing the way high street stores can capture customer details and increase sales in the process. Retailers are able to get customer data at the checkout and send digital receipts as pdf attachments. The customer data can then be collected daily from the server. Monsoon Accessorize uses it to work with the shop's existing point-of-sale infrastructure and online platform as well as integrating with its product recommendation engine RichRelevance. The store has also partnered with Worldpay to implement tablet devices for assisted selling in-store. This puts more of the salesforce back on the shop floor where they can deliver a more personalised, consultative shopping experience. Linking these devices to the internet also means staff now have access to the whole retail inventory.

04 SSP HATS

Skegness family business SSP Hats wanted to reach a wider customer base, but realised it needed to offer a larger variety of payment methods. The company now uses independent payment service provider Sage Pay, a partner of cross-border e-payment specialist PPRO Group. Using Sage Pay has allowed SSP Hats to serve its larger merchant clients who were looking to sell their goods online in the European market, where traditional UK payment methods are not always accepted. Sarah Fennell, SSP Hats' finance manager, says: "Once we could provide customers with their preferred local payment options, we saw an increase in confidence in our service, which led to a boost in both customer and order numbers. For example, the order value has increased tenfold in Germany." Systems such as Giropay enabled the company to offer a speedier service to overseas customers.

ENERGY

05 TALKINGTECH

Payment technology provider TALKINGTECH works with some of the world's largest utilities and communications organisations, making it easier for customers to pay bills promptly. Pay by SMS is a new payment channel available to O2 customers in arrears, allowing them to resolve outstanding balances with a simple reply to a text message. Customers with a registered card are sent an SMS, alerting them to their outstanding balance and requesting payment. The customer replies "yes" followed by the last four digits of their card. Customers without a registered card are sent a one-way SMS asking them to call the automated payment IVR (interactive voice response) to pay and register their card for the future. The company says this has helped to reduce the cost of collections by 7 per cent.

06 ROBIN HOOD ENERGY

RHE is the UK's first local authority-owned energy supplier. Since launching in September 2014, the group has already attracted a significant number of clients from other suppliers, partly down to flexibility with payments. Contracts manager Rob Purdon says: "allpay provided the experience and expertise to manage our direct debit collections and, once in place, we added its extended range of payment channels giving payment flexibility to our customers. The majority of customers are paying by direct debit with the remaining credit customers paying upon receipt of a bill, which is where they have the option to pay online, through the automated phone or via the call centre." Working with allpay allowed RHE to contract with a single company for a range of payment channels, meaning less worry about separate merchant accounts or regulatory compliance.

FASHION

07 JOULES

Tom Joule turned cottage industry country clothing brand Joules into an international fashion exporter using international payment innovations from Computop. The company has been able to expand into the United States and Germany offering locally preferred payment methods and reducing the risk of fraud by eliminating high-risk transactions. This suits German consumers who prefer to pay by direct debit or invoice than credit card. So for the German market, the company introduced local payment methods such as electronic direct debit, Open Invoice with BillPay, automated bank-to-bank transfer via giropay and PayPal. "Computop's tokenisation functionality helps simplify the buying process for returning customers and we expect Computop's fraud protection tools will dramatically reduce overseas fraud," says director of e-commerce James Davey.

08 NUMBER SIX

Men's high-end street fashion store in East London's Brick Lane, Number Six uses Vend, a cloud-based point-of-sale software which provides smaller retailers with the kind of technology usually reserved for the giants. It has meant smaller businesses such as Number Six can have access to inventory management and customer data as well as the ability to integrate with other e-commerce sites. Owner Jake Hardy says: "There are a number of benefits of being in the cloud, including convenience and transparency. Data can be shared between apps and important business information is now available from anywhere. As it's cloud-based and therefore accessible from wherever I am, I can quickly oversee what we have sold and what our margins are in real time. I can also quickly and efficiently restock products."

Better ways to pay are opening up global trade

Improved payments systems have broken down geographical barriers to world trade and enabled more UK companies to export


Getty images

INTERNATIONAL
DAN MATTHEWS

Fuelled by advances in digital technology, cross-border payments have become faster, cheaper, safer and easier to fulfil. The world is in the middle of a technological boom and payments, spurred on by dramatic advances in financial technology, are leading the charge.

It all started in the 1980s with a spike in foreign property investments; it gathered momentum with the spread of internet connections, then mobile phones. Today market access is easy and a sector once dominated by global financial titans is now filling up with new players from outside traditional banking circles.

These are a broad range of companies located around the world. They are technology startups, global retail firms and everything in-between and they are providing a burgeoning assortment of different services to suit all customers.

Andy Brown, operations director of Equiniti International Payments, says: "These services were historically available from banks; however, the overseas property booms of the 80s introduced a need for international currency movements between legal practices and highlighted the market opportunity for money services business to provide these services.

"Technology has supported the entry of new providers into this traditional banking market, which has resulted in much more competition from non-banking organisations, driving down the cost of payments. These changes, coupled with the continuing growth of globalisation, have hugely increased both the size of the international payments market and the different providers in this market space."

Harper Reed is the co-founder of payments company Modest, which he sold to PayPal in 2015. Now head of commerce at Braintree, he is an avid observer of digital trends in the payment space. The explosion of mobile phone use around the world is cause for great excitement, he argues.

"Half of the world's population now has a mobile. Around 40 per cent of the world has an internet connection. In 1995 it was less than 1 per cent. By 2020, another 3 billion will have access to the internet – another three billion able to join the global marketplace – that is huge," says Mr Reed.

"Alongside this, people have become so much more comfortable with online purchases and invisible payment authentication in commerce experiences. With mobile, these seamless purchase experiences are becoming a normal part of our lives."

Technology has proliferated, but crucially it has also standardised, allowing systems in different geographies to work symbiotically. For example, common messaging protocols developed in the last ten years have smoothed the path, says Andrew Neeson, market intelligence manager at VocaLink.

"The European Union's SEPA [Single Euro Payments Area] initiatives along with the adoption of ISO 20022 messaging standards means that messages accompanying payments are standardised. However, the real advance will come from a global faster payments system and already the US, Singapore and UK are operating on fundamentally similar faster payments networks," he says.

Meanwhile, emerging security systems are underpinning the spread of global virtual currencies such as bitcoin as well as payment platforms including SEPA, says Neville Lacey, UK and Europe head of UKForex.

"Blockchain [a ledger of cryptocurrency transactions] is the latest technology to emerge in this space and has amazing capability in terms of tracking data records. It could also help make bitcoin a legitimate currency," he explains.

"Same-day SEPA payment now means that cheaper and faster payments to Europe will be available to everyone very soon, while mobile wallets will see payments made through mobiles more commonplace. Apple Pay is leading the way in this area.

"Additionally, PSD2 [revised Directive on Payment Services] will see EU payment companies forced to up their security for customers, with two-factor authentication potentially becoming mandatory."

The internet has broken down historical payment boundaries and has granted people access to financial services where doors were once closed. This spread of technology is opening up the world economy and creating opportunities to make money and improve lives simultaneously.

The growth of the market has multiple benefits for developing economies as well as businesses in developed ones with big ambitions. The globalisation of payments and reduced costs makes exporting a much more palatable option for all.

> This spread of technology is opening up the world economy and creating opportunities to make money and improve lives simultaneously

Businesses are keener to experiment in new markets, bringing with them jobs as well as new products and services, and creating a toehold for firms to develop.

"Now that payments can be made almost anywhere at any time, businesses of all shapes and sizes have a better chance of successfully expanding globally," says Venugopal Pappu Subrahmanya Venkata, senior manager for banking advisory at Capgemini.

"Small businesses in particular now have the opportunity to be better enabled to grow to a global scale through improved payment options. Businesses also benefit from low-cost remittances, which means that payments, smaller in size, but greater in number, can be made," he says.

Guillaume Pousaz, founder of Checkout.com, a platform offering international payment options for merchants, says the biggest beneficiaries are small businesses in countries where the banking system is underdeveloped or insecure.

"The biggest impact of new and alternative payments is in countries where there is an unbanked population. New and alternative payment methods are allowing them to shop online and across borders," he says.

"It has also lowered the set-up costs of businesses, meaning smaller businesses from developing countries can compete with more established businesses from Europe and North America."

Export-driven markets are the main beneficiaries, especially those which previously lacked payments infrastructure capable of dealing with external demand. But it's not just businesses that are benefiting. People in a whole range of different life circumstances are living better lives thanks to the improvements.

"People now require payment in currencies other than their own due to various reasons, including working overseas, travelling on a gap year, parents needing to provide funds, work placements and choosing to retire overseas – the requirements of each beneficiary are far-reaching," says Equiniti International Payments' Mr Brown.

But with all these winners there will inevitably be a few losers in the global payments race. Technology is redoubling so quickly that even the fastest startups can quickly become old news the moment another even newer startup invents something better.

Businesses outside the payments industry will have to adapt too. They must accept a greatly expanded field of global competitors, where only a few years ago competition was more predictable, localised and controllable.

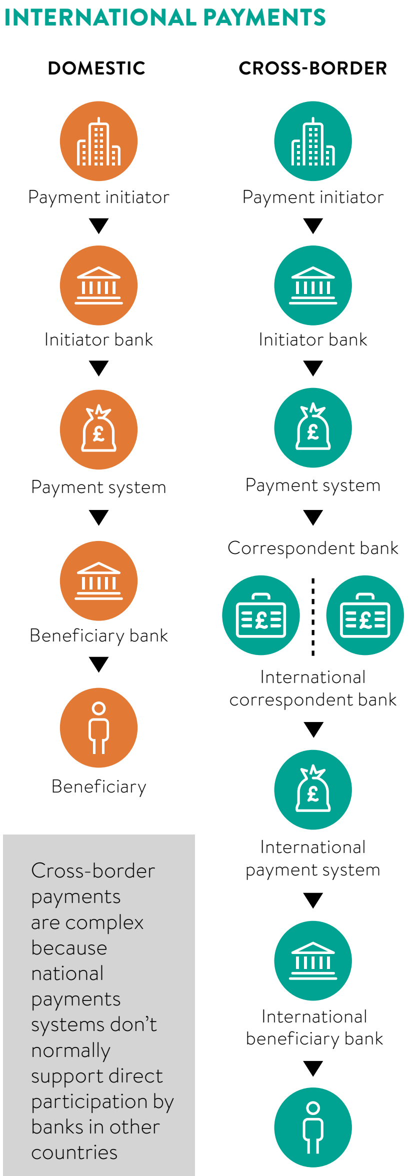
"With the pace being set now, more merchants risk losing out if they can't match their competitors' offering or their customers' expectations," says Mr Pousaz.

But there are other considerations, says Mr Neeson at VocaLink. "Some of these payment systems have limitations; electronic money services based on pre-paid accounts aren't operated by banks and may be excluded from clearing systems. Bridging between bank-operated and non-bank-operated systems may be crucial to long-term success," he says.

"A drawback to pre-paid accounts, which are common in developing countries, is that users find it hard to move on from them. Countries are looking at structural solutions, such as Nigeria's attempts to build a service providing access to bank accounts backed by central account money. This will enable further innovation and a platform upon which services can be built.

"Another drawback with regard to electronic payments is issues to do with indebtedness. Malaysia has had to restrict credit and bring in additional rules due to worries that people were becoming overindebted due to credit cards."

INTERNATIONAL PAYMENTS



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CASE STUDY: BRAZIL


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In Latin America, about half the adult population has access to a bank account. According to Simon Black, chief executive of electronic payment specialist PPRO Group, the invention of cash-based online payment systems, such as Boleto Bancario in Brazil and Oxxo in Mexico, has opened up the region to online trade.

This has proved a significant boost to the regional economy and persuaded many foreign businesses to start trading in the new payment structures. If you want to sell in Brazil, for example, you need to accept Boleto.

The platform gives merchants access to a large chunk of Brazil's e-commerce sector. More than 36 million Brazilians purchased products over the internet last year at a value of $37 billion, making it Latin America's biggest market for e-commerce.

"Boleto has rapidly become the second most popular payment method in Brazil and accounts for 24 per cent of all online purchases. So while Brazil presents an opportunity to sell to 200 million consumers, accepting Boleto is part of the code to cracking that market," says Guillaume Pousaz, founder and executive chairman of Checkout.com.

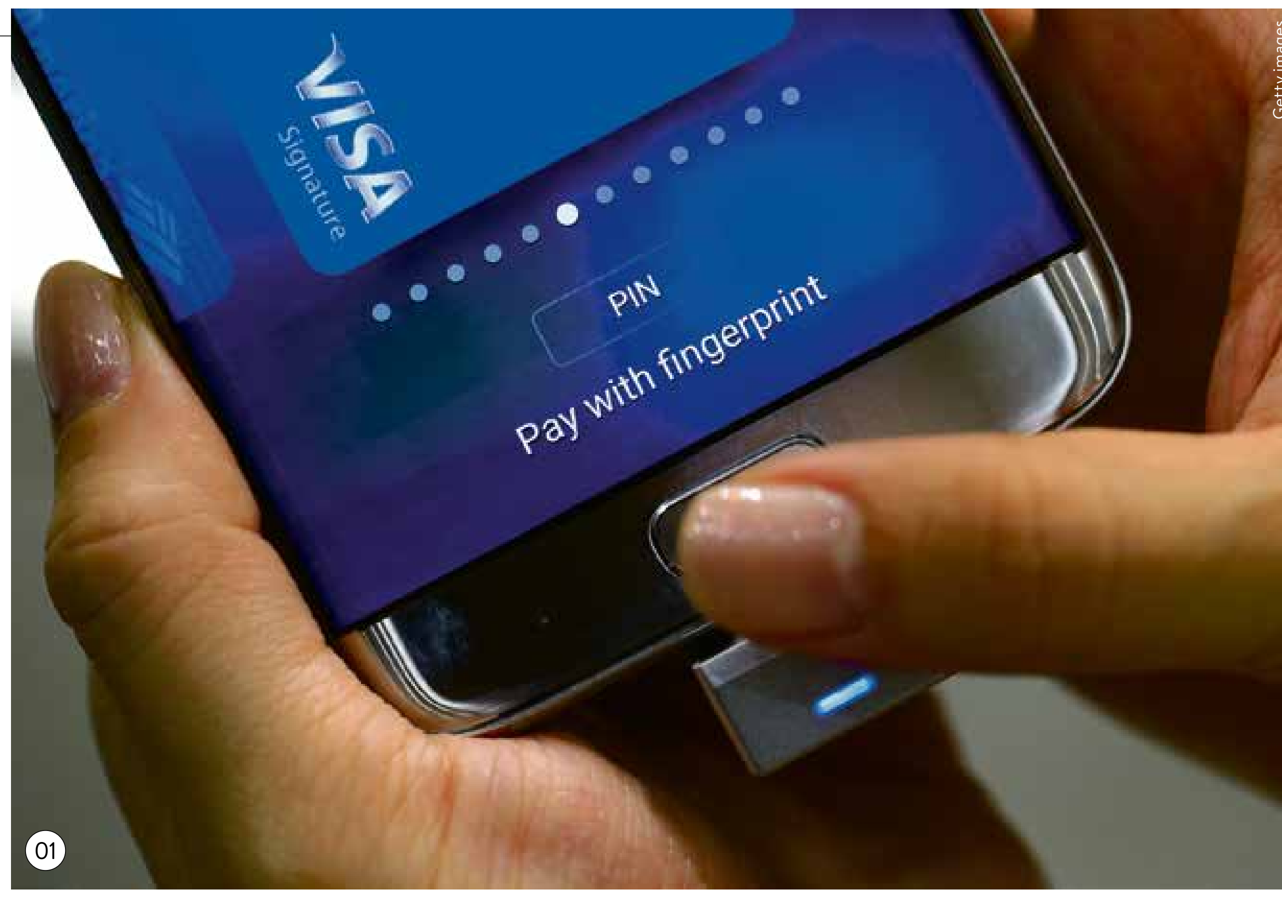
"E-commerce merchants offering alternative payment methods, such as Boleto and TEF, are able to then access a particular set of audience unreachable via traditional international credit cards."

The country has a mature telecoms infrastructure and mobile penetration rates are high. By 2017, it is predicted that half the population will have access to mobile internet via smartphones, meaning mobile payments are increasingly in demand.

Can mobile payments really get a move on by 2020?

Predicting the future of payments is a hazardous business, which has claimed victims big and small, but some are prepared to back mobiles as the way many will pay in 2020

OUTLOOK
DAVID BENADY



Five years ago, Transport for London had yet to launch contactless card payments and the old-fashioned cheque was heading for the dustbin.

Many were predicting a rapid and sweeping transformation of the payments industry through mobile phones. But forecasts about the speed of change proved optimistic, while assumptions about which companies would drive the future were also wide of the mark.

Looking back at predictions made in 2011 about what lay ahead for the payments industry shows that the future never runs as smoothly as you might expect. In mid-2011, cheques earmarked for the axe were given a reprieve and will be around "for as long as customers need them", according to the UK Payments Council.

But there would be no speedy introduction of mobile payments as predicted, nor was cash facing global decline as some thought. In 2011, the mobile network operators were confident they would dominate mobile payment, but their initiatives met with failure.

Banks and credit card companies have seen steady progress with contactless card payments, yet they are facing stiff future competition from Silicon Valley and mobile handset giants. Today it looks as though Apple, Google, Samsung and PayPal could sideline other players in the e-commerce and mobile payments markets.

While society has been transformed by digital technology and mobile phones, the payment industry has struggled to keep up with the pace of change. Back in 2011, there were already millions of cards bearing the contactless vector logo, but the tap-and-pay technology hadn't yet become mainstream.

Predictions that contactless payment would grow steadily over the coming years proved correct as one in ten card transactions are now contactless. The adoption of the quick and convenient payment method was boosted by London 2012 Olympics – the contactless games – and full introduction of swipe card payments by Transport for London (TfL).

TfL introduced contactless card payments on buses in 2012, rolling the system out to tube stations in 2014. Shashi Verma, TfL head of customer experience, says: "Contactless has been slower to take off than we would have wanted, but it has not been too far away from predictions."

Contactless payment was first introduced in the UK in 2006, but the following financial crisis interrupted its development as banks cut investment in technology.

Mr Verma believes an area where industry predictions have been proved wrong was mobile payments. Paying by mobile currently makes up less than 4 per cent of contactless transactions on TfL, he says.

The most effective technology to enable this is near-field communication (NFC), which allows mobiles to communicate with a card reader within 20cm. The take-up of mobile NFC for contactless payments has been a long time coming. It wasn't until Apple launched the iPhone 6, enabled with NFC, in autumn 2014, along with the introduction of Apple Pay, that NFC become more common. Apple Pay finally arrived in the UK in July 2015, though has yet to achieve wide usage.

Initially, NFC was developed by handset manufacturers such as Nokia. Then the mobile network operators decided they would take charge of the development of the technology. Their various attempts to implement NFC and enable mobile payments have come to little.

As Mr Verma says: "Sadly, they did nothing apart from messing up the entire solution, which slowed NFC for a long time. It is only more recently that Apple and Samsung have picked up the pace so the industry is finally beginning to take shape. But compared to the original predictions, it is years and years behind.

"Once upon a time, the telecom operators used to be the most interesting and innovative companies around – I think they have lost that mantle completely."

One of the first launches by a mobile operator was Orange and Barclaycard's Quick Tap in 2011, which could be used in the likes of Pret A Manger, Eat and McDonald's. It was axed in 2014. Likewise, some digital wallets, such as O2 Wallet and Visa's v.me, have also been closed. The road to the future of payments is strewn with the skeletons of failed systems.

For Mike Cowen, head of digital payment products for MasterCard UK, the introduction of contactless has been a steep learning curve.

01
Fingerprint payment security being demonstrated on the Samsung Electronics stand at the Mobile World Congress in February

02
A smartwatch pays for a London Underground journey

"It has been a slow burn here in the UK. In other markets it moved much more rapidly. The trend has been that the markets which launched earliest were the slowest to grow. The UK was probably one of those, second to launch after the US. We took some of the pain here of learning the lessons," he says.

When MasterCard launched contactless in the UK, it focused the launch on the London area. But this proved ineffective, so other trials have used national retail brands such as leading supermarkets and fast-food chains.

But Mr Cowen says that in the Czech Republic, for example, which introduced the technology later, contactless is more than 50 per cent of the market, while Poland is another big country for contactless.

However, Dave Birch, innovation director at payments technology consultancy Consult Hyperion, says his 2011 predictions about the gradual take-up of contactless were broadly accurate. And he correctly called the growth of faster payments, where money is transferred instantly between online bank accounts as these have rocketed. But he says an area where he overestimated was the potential for making internet payments much simpler.

"I thought internet payments would improve quicker than they have done. A lot of the time you are still typing in your bank account, credit card number and password, plus expiry date and name," he says.

"We need to move away from typing in credit card numbers because the security problems there are just massive as the continuous breaches have shown."

Mr Birch believes many predictions of the past few years have come unstuck because they assumed there would be greater co-operation between banks, credit card companies, mobile operators and the government. It was assumed they would all work together to improve digital security.

"Actually that co-ordination hasn't really happened in the intervening period. Internet fraud of all kinds, not just payments, has just got worse and worse," he says.

Yet fraud in contactless payments is still very low, as little as one penny in £100, according to TfL's Mr Verma.

Mr Birch adds that Apple's eventual adoption of NFC on the iPhone 6, which has ushered in Apple Pay and begun opening up mobile payments, should be welcomed.

"Apple was a sheep dog, not a wolf. Apple didn't come along to take away all the credit card companies' business or all the banks' business, it came along as a sort of sheep dog that got them organised and actually made things happen," he says.

For the future, he predicts that payments will eventually become embedded in mobile apps such as Apple Pay and all payment will become mobile.

An area where some may have overestimated the pace of change is the disappearance of cash as more people shop online. But as Kevin Dallas, chief product officer for global e-commerce at Worldpay, says: "What we missed was the role of emerging economies and cash as a measure of security in markets that don't have the same history of trust with merchants."

In emerging markets, such as India, e-commerce transactions are often paid for by cash on delivery rather than via online payments as many people still do not trust putting their bank details online. So cash is still huge in many parts of the world.

Mr Dallas foresees huge transformations in payments with the arrival of the internet of things, where devices have sensors and are connected to the internet. A much heralded example is the self-stocking fridge which orders replacement food as stocks run low. This could lead to a world of instant payment with minimal input from the account holder.

> "The road to the future of payments is strewn with the skeletons of failed systems"

But he warns that as spending cash grows ever easier, this raises big ethical questions. Consumers may find themselves making purchases without realising and running up bills. He says 85 per cent of consumers are worried about how much they might spend when there are no barriers to purchasing.

A big barrier to overcome before this free-spending society comes of age is in authentication and identification. Having to touch fingerprint identification on phones when paying slows down contactless mobile payment, making contactless cards quicker and more appealing than mobile.

For authentication, biometrics will be important, but as TfL's Mr Verma says, London Underground needs to usher people through terminals every second; there is not time for each commuter to stop and have their identity confirmed with biometrics.

A range of interesting biometric solutions are being developed, such as voice recognition, and MasterCard is introducing the so-called selfie-pay option, where cardholders can use an image of their face for identification, opening up an app on their mobile phone and scanning their face, blinking to ensure they are real people rather than a static image.

Kevin Jenkins, managing director of Visa UK and Ireland, says over the coming year there will be more ways to pay through a greater number of devices, with wearable payments like bPay, which can be a wristband, key fob or sticker put on any object. Then there is Apple Watch and Visa's collaboration with Swatch.

He predicts that in five years' time, more than half of Visa transactions will happen on a smartphone or tablet rather than via cards. "We can expect these devices to be joined by more wearables and, as the internet of things develops, cars."

It will be fascinating to see how the next five years pans out for the payments industry. It seems likely that some of the predictions will be broadly accurate, but others will be way off target.

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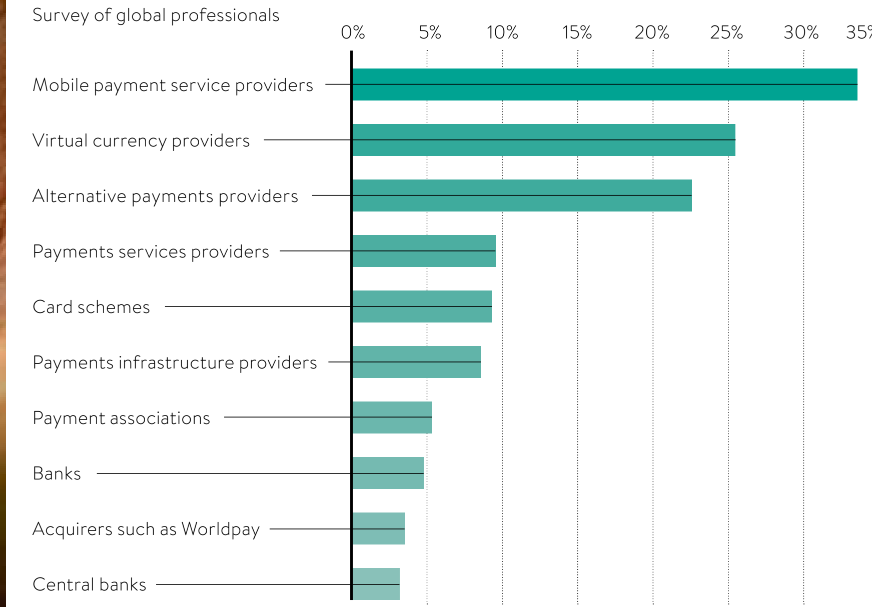
LEADERS OF INNOVATION IN PAYMENTS
Survey of global professionals



Source: Financial Services Club/Cognizant 2015

UK CONTACTLESS MILESTONES	Sept 2007	July 2015	Sept 2015	Nov 2015	Dec 2015
	Contactless payments rolled out with a transaction limit of up to £10, increasing to £15 in 2010 and £20 in 2012	Apple Pay launches, allowing iPhone 6 and Apple Watch users to pay using contactless	Contactless card limit rises from £20 to £30	Monthly contactless spending breaks £1 billion for the first time	Annual contactless spending totals £7.75 billion, a three-fold increase on 2014