

Moving Money 2025

The future of payments
and what it means to you

*Expert opinions on innovation
in the UK*

Foreword



Payments are an essential part of our lives and there has never been a greater choice of ways to pay. Almost everyone in the UK makes several payments each day and electronic payments have recently overtaken cash as the most popular payment method. In 2014, the average total number of transactions per person processed by VocaLink was 196, with an average of 57 Direct Debits throughout the year.

But making a payment is seldom an end in itself. It is invariably part of a bigger transaction, for example paying for groceries, transferring money to friends or making a charitable donation. Making a payment is a means to an end, because all transactions end with a payment. Most people simply want to make and receive payments conveniently, securely and with certainty.

Research carried out by VocaLink in August 2015 reveals that 65% of people cite transaction security as the most important factor when making a payment, with another 20% reporting ease of payment as a high priority. In many instances electronic payments have become a cash replacement and alternative payments, such as mobile, offer all the benefits of cash with none of the drawbacks.

A successful payments system requires a robust technical infrastructure to provide universal connectivity and to inspire user confidence. This infrastructure must also be scalable, secure and available 24x7x365 to enable consumers and business to pay who they want, when they want. The growth of online, and increasingly mobile commerce has driven the demand for immediate payment solutions. An entire generation (Generation Y) has grown up with unlimited internet access and 'one-click' purchasing. They expect to make and receive immediate payments and anything less is simply unacceptable.

With the launch of the Faster Payments Service (FPS) in 2008, the UK led the world in adopting immediate payments running on real-time technology. VocaLink designed, built and operates the technology infrastructure that powers FPS. This also provides a real-time processing backbone for

the UK economy. As well as boosting payments efficiency, this technology is driving payments innovation throughout financial services and beyond. New mobile payment services such as Paym and Zapp are firmly rooted in VocaLink's real-time technology, as are many other payment innovations.

In practical terms, a real-time payments system is the bridge between the digital economy and the real economy. With the growth of mobile, people expect to be able to make payments while they are on the go. This is reflected in the exponential growth of new payment services and mobile phone apps that promise to make payment easier than ever. So what about the future?

The global payments industry is in a state of constant flux and there are many disruptive forces. These include the disappearance of geographical borders with SEPA; the appearance of new market entrants; and the arrival of new technologies such as biometrics. This paper comprises a collection of expert views from those at the heart of the UK payments industry. It offers a glimpse of the future - of what might happen and how. We hope you find it interesting and that it encourages you to join in the discussion.

Paul Stoddart
Managing Director, Strategy, Products, Marketing &
Business Development, VocaLink

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Executive summary

An efficient and resilient payments system is critical to the functioning of our economy. Everyone expects to be paid on time, all the time. Without the means to make and receive payments, business cannot function, consumers are unable to purchase the goods and services they need, and those reliant upon state funding are deprived of a lifeline.

There is much more to payments than the bank card you carry or the mobile app on your Smartphone. These are just the tip of the iceberg. The rest of it, below the waterline, is the network of connections from banks and building societies where your funds are held, to the businesses, charities, government departments and all other organisations that make and receive transactions. Without a universal infrastructure, payments simply could not be sent or received.

This infrastructure is invisible but critical to our modern day-to-day lives, from receiving our salary payments to paying our gas bill on time. The UK payments infrastructure is truly world class – it is one of the very few real-time 24x7x365 payments systems in the world and it has set the standard for other economies to follow. In addition to facilitating payments processing, the UK real-time infrastructure provides the foundation for future payments innovation that will deliver strategic benefits to the entire economy.

The challenge is to identify these benefits – as a collective comprising banks, technology companies, retailers, consumer groups, charities, government and more – and then to work together to maximise the benefits for all. VocaLink will play a leading role in facilitating this change, which is already underway. An important part of our strategy is to facilitate discussion and to encourage collaboration between payments experts.

This paper comprises a collection of short articles from a wide range of specialists. It includes a number of predictions and an aspirational ‘wish list’ of innovations that could deliver significant end-user benefit by 2025.

Key predictions include:

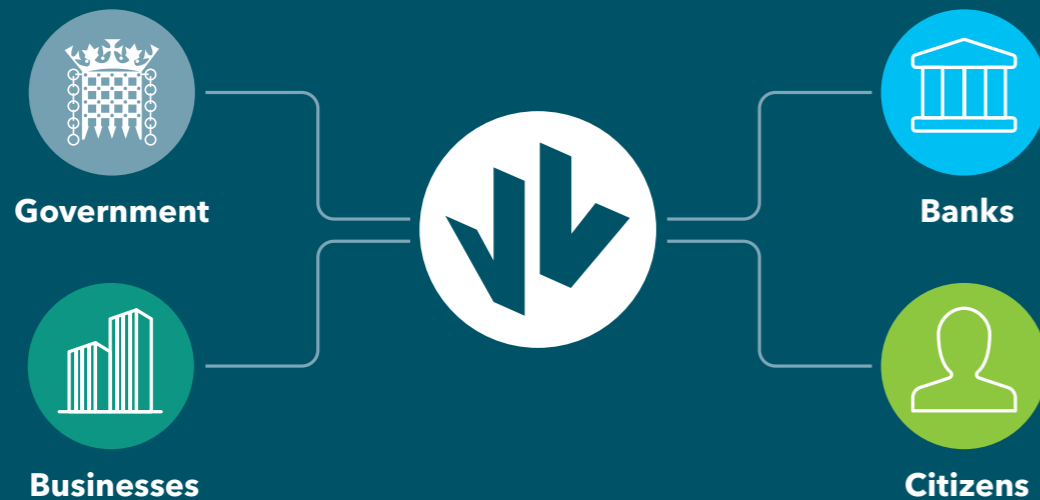
- Push Payment Platforms–built on instant payments –will be at the heart of a significantly changed payment system, catalysed by technology advances such as biometrics, the blockchain and the ‘Thingernet’. [Dave Birch, Consult Hyperion]
- As Smartphone security increases, credit and debit card information will merely be stored on the device itself, making the actual cards themselves redundant. Beyond this, the potential of facial recognition technology for reducing the friction of ‘paying’ is huge. [Nick Middleton, Nationwide]
- There will need to be stronger authentication processes to underpin payments innovation in the future. The use of dynamic processes, including the use of biometrics, will most likely become part of a multi-factor process to confirm the customer’s identity. [David Baker, UK Cards Association; & Katy Worobec, Financial Fraud Action UK]

- The employment market is shifting towards a situation where we see a larger number of workers who are reliant on multiple income flows, rather than having one predictable and periodic source of income. By 2025 this unpredictability of income will be even greater and should be matched by greater flexibility and more tools for people to manage their payments and finances. [Sian Williams, Toynbee Hall]
- The most attractive future innovation in the payments system from a recent survey was “having all payments clear immediately and shown in my account straightaway” followed by “knowing I’ll get the money back easily and without stress, if I accidentally send it to the wrong account”. [Tooley Street Research]

However if these aspirations are to be realised, the UK payments infrastructure must provide the stable platform for much of this future innovation. We are fortunate to be building on a firm foundation that is already trusted by consumers, business and government.

Part 1

Introduction



What is the payments system and how does it work?

The payments system is the mechanism that facilitates daily transactions whereby money is transferred from one account to another. It provides the network of connections through which transfers are made from payers to payees across the UK economy. It is essentially the 'bit in the middle' that connects the banks, building societies and other organisations with whom you have an account and from which these payments are made. Similarly, it is this infrastructure that thousands of corporate organisations connect to directly so they can conduct their daily business.

Whilst remaining largely unseen, it is this infrastructure that is critical to the functioning of the UK's economy and society and is relied on 24 hours a day, 7 days a week. This infrastructure has facilitated everything we have come to take for granted in recent decades, from salaries paid directly into our bank accounts, to buying shopping online to withdrawing cash from an ATM abroad. This infrastructure, one of the very few real-time 24x7 payments systems in the world, means that the UK payments infrastructure is widely regarded as world class.

VocaLink currently operates significant elements of this payments infrastructure, processing around 10 billion

transactions each year, with a combined value of about £6 trillion. VocaLink provides the central infrastructure for Bacs Direct Debit and Credit payments (VocaLink facilitates 90% of the UK's salaries and virtually all state benefits) and the Faster Payments Service (online and mobile payments), as well as managing the world's busiest ATM network (LINK), which connects over 70,000 ATMs.

VocaLink also operates the banking industry's 7-day Current Account Switching Service and the Cash ISA Transfer Service, as well as being a key platform for the banking industry's mobile consumer payments service Paym. The future launch of Zapp, which will allow consumers and businesses to make real-time payments to retailers or other businesses when shopping online or in-store via a smart phone app.

As many countries across the world - developed and developing economies alike - are recognising, having a real time system that is interoperable is the foundation upon which future innovation can be built. It is this interoperability that gives the UK an advantage over the rest of the world. We can start planning now how end users of payments systems - from individuals to businesses, charities to the state - can most benefit from the ways that they pay and get paid.

Did you know? In 2014:

- More than 22 billion transactions were processed by the UK's payments system and the infrastructure that supports it. ¹
- Of these, over 10 billion were processed by VocaLink; that's the equivalent of 3.7 times the UK's GDP, with a value of £6 trillion. ²
- The infrastructure VocaLink runs processed on average 196 transactions per individual. ³

¹ Payment Systems Regulator, 2015

² VocaLink data, 2014; HM Treasury

³ VocaLink data, 2014

In today's always-on society people expect their money to move where they need it to go, when they want it to, with a certainty that it will get there.

Paying the piper (and the supermarket, gas bill, cousin Tommy, etc...)

While cash use in the UK remains high, with over 18 billion payments made last year, it has declined in recent years. In 2014, for the first time ever, cash represented just under half of all payments made. ¹

In fact, the UK is one of the highest non-cash users in the EU. In terms of non-cash transactions on a per capita basis, the UK is above both France and Germany and has more than double the number of transactions of Spain and more than four times that of Italy. ²

In the UK, individuals and businesses are comfortable with handling and using multiple methods of making payments. This ranges from paying with a contactless card for a journey to work, buying a coffee with cash, buying your weekly grocery shop with a credit card and paying your utility bill by Direct Debit.

In today's always-on society people expect their money to move where they need it to go, when they want it to, with a certainty that it will get there. However, most people have little idea how the payments system itself actually operates.

To ensure that the payments system operates effectively, there are a number of infrastructures, each run by an oversight body or 'scheme'. Each scheme runs a particular payment service - such as Bacs, Faster Payments, LINK and CHAPS - and sets the rules for how that payment service operates. These systems are built and run by the infrastructure providers, including VocaLink. In some cases the scheme and the infrastructure provider are the same, such as Visa and MasterCard.

¹ 2015 UK Payment Statistics, Payments UK

² ECB Payments and Clearing Statistics 2014

Cheque & Credit Clearing Company

The Cheque and Credit Clearing Company (C&CCC) operates the UK's cheque clearing system. Cheque usage has been in decline for more than 20 years, falling from 4 billion cheques written in 1990 to 644 million in 2014. It is forecast that around 253 million cheques will be written in 2024. However C&CCC will be responsible for the future operation of the UK's cheque imaging system, which will allow users to take a digital image of a cheque (with their smartphone) and send this image to their bank for payment, reducing the time it takes for cheque payments to be completed.

CHAPS

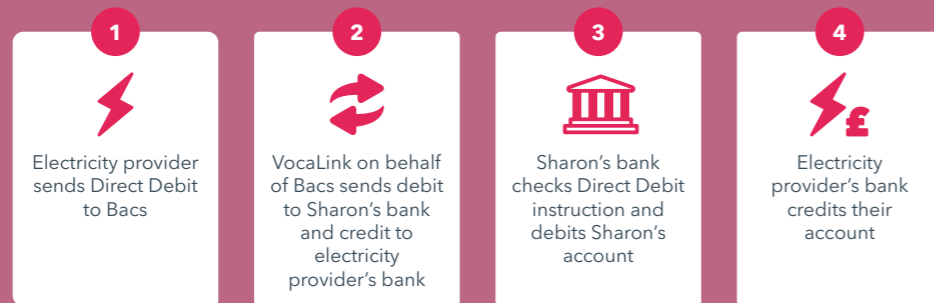
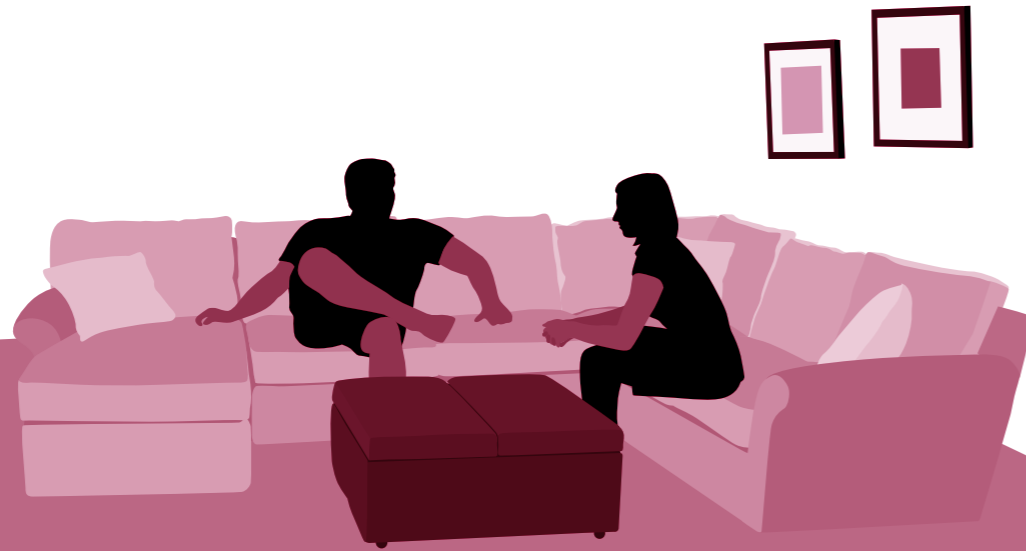
Launched in 1984, CHAPS (Clearing House Automated Payment System) operates in a similar way to Faster Payments but focuses on high value transactions over £100,000 - such as a deposit for a house or business payments. It also has an international service that allows, most notably, financial institutions operating around the world to make high value sterling transfers. CHAPS payments usually clear the same day.

Card schemes

Visa Europe and MasterCard provide the means for bank current account customers - and indeed customers of other payment methods run by these two organisations - to make purchases in shops, online and over the phone. And alongside this, AMEX allows customers to make purchases on credit, with balances due monthly.

Individual to energy company payment

Direct Debit



VocaLink enables the sharing of Direct Debit information between the originator and the bank so it is always up to date.

Bacs

One important use for Bacs is to enable Direct Debits, such as those to your electricity or gas supplier. Through the Bacs system, it is possible for you to put in place a system that automatically credits your utility company's account when you are billed for their services.

The Bacs system also processes Direct Credits, which includes 90% of all UK salary payments, and virtually all state benefits. The payment effectively takes three days to reach you after being initiated, but can be scheduled in advance so that you can receive or send the same payment with certainty of the timing.

Did you know?

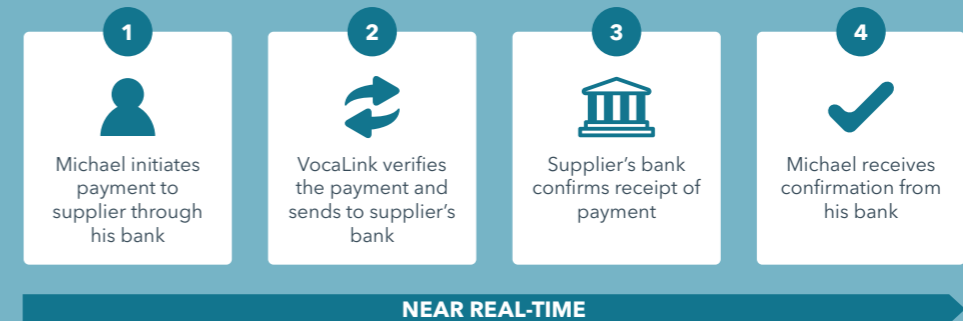
- Setting up a Direct Debit for the payment of some regular bills can often mean reductions in the amount you pay compared to making one-off payments
- Bacs processes £8.4 million a minute; that's £1 a minute for every person living in London ¹
- On average, VocaLink processes over 10 million direct debits every day from energy bills to mobile phone payments ²
- Every year, equivalent to 2/3rd of the average salary is spent through Direct Debits ³
- The total amount processed by the Bacs system in 2014 (including salaries, standing orders and welfare payments) is equivalent to the combined wealth of all living billionaires ⁴

1 Bacs data, VocaLink 2014; London population, ONS 2014
 2 VocaLink data, 2014
 3 Direct Debit data, VocaLink 2014; salary data, ONS 2014

4 Bacs data, VocaLink data 2014; The World's Billionaires, Forbes 2015

Individual to supplier payment

FPS



NEAR REAL-TIME

Faster Payments

Faster Payments, operated by VocaLink for the Faster Payments Scheme (FPS), is the UK's immediate payment system that enables individuals, businesses and government to make payments up to the value of £100,000 with the certainty that it will reach its destination in near real-time. Virtually all internet and telephone banking payments in the UK are now processed via this system. It allows individuals to transfer money to friends and family via their account details, and can be used for making immediate or one-off payments, as well as arranging forward-dated payments.

Did you know?

- The Faster Payments infrastructure is one of the few 24/7 real time payment system in the world ¹
- The maximum transaction time is 15 seconds, although the average is lower
- Over £103 million of Faster Payments transactions are processed by VocaLink every hour ²
- Transactions are irreversible - once it's gone, it's gone - so always check the receiving account details before confirming the transaction
- The current maximum transfer is £100,000, but this is expected to rise to £250,000
- The 4 billionth Faster Payment was made in October 2014, and we are racing towards 5 billion

1 As at August 2015
 2 VocaLink data, 2014

Mobile to mobile payments

Paym



ALMOST INSTANTLY

Mobile-to-mobile payments

FPS is also the platform that powers mobile payments through Paym and Barclay's PingIt. Whilst you need to register first, this can be done in minutes via your bank's website, or in some cases via your bank's mobile app.

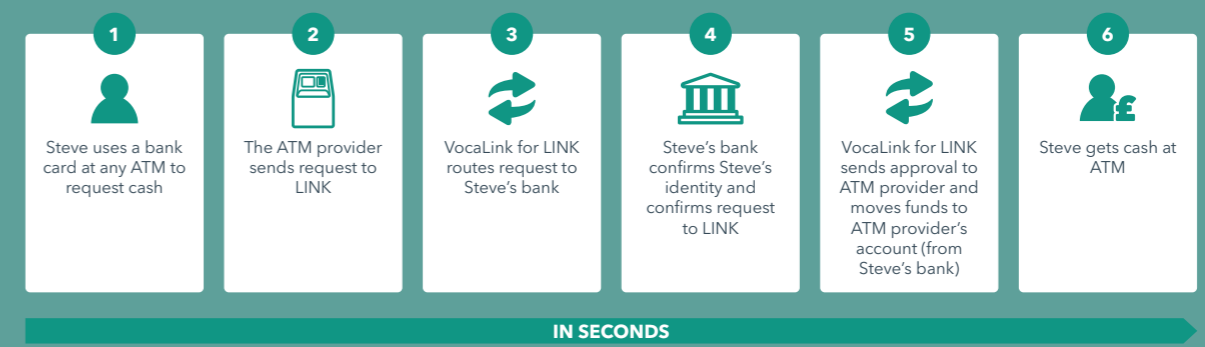
Did you know?

- Like Faster Payments, transaction time is almost instantaneous
- Paym protects your financial details as payees only need your name and phone number
- Since its launch on 29th April 2014, Paym has processed nearly £70 million of payments
- Paym is available through 16 banks and building societies covering more than 90% of current accounts, with 2.25 million customers' mobile numbers now registered
- If the upper limit of a Faster Payment increases from £100,000 to £250,000 (as expected), you could buy a 3 bed semi-detached house using your mobile phone...if you have £230,000 of course ¹

¹ House price, 3 bed house in Leeds, August 2015

Cash withdrawal

LINK



IN SECONDS

LINK ATMs

LINK is the network of ATMs, operated by VocaLink, that allow current account holders to withdraw cash from any of the 70,000 machines across the UK regardless of who an individual banks with.

You can also use LINK ATMs to top up pre-pay mobile phones and make donations directly to a number of charities, and foreign account holders are able to make sterling withdrawals from their accounts abroad.

Did you know?

- There are nearly 100 million LINK-enabled cards in circulation in the UK
- It is not the LINK connectivity that lets you withdraw cash overseas, instead it is the card infrastructure that services your bank (VISA or MasterCard)
- The average amount of cash withdrawn by a single individual via a LINK ATM in 2014 was £1,944 ¹
- There are 39,000 cash withdrawals from LINK ATMs every minute
- Every hour, an average of £14 million is withdrawn from LINK ATMs across the UK. £662 million was dispensed by ATMs on the busiest day of the year (24 December 2014), with an average withdrawal of £82 ²

¹ VocaLink data, 2014
² VocaLink data, 2014

Consumer attitudes to payments

VocaLink commissioned OnePoll research to speak to 2,000 consumers about their attitudes towards payments. Some of the key findings are below.

Most popular apps



Balance checking apps

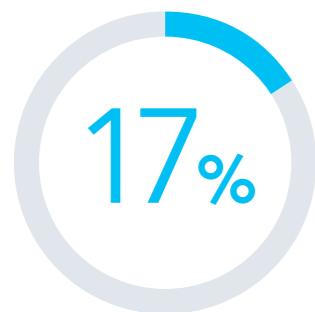


Budgeting apps

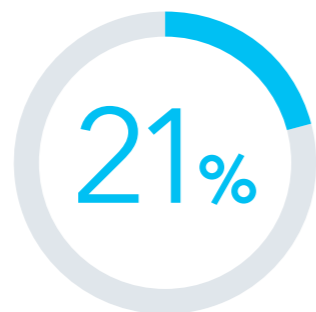


Rewards and loyalty bonuses

Paying by mobile technology



of people have paid using a mobile phone

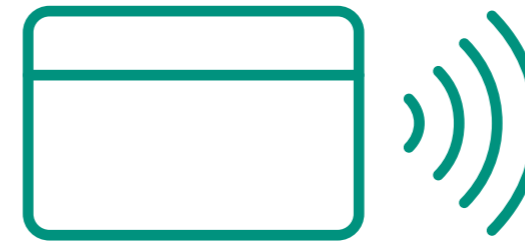


of males have used mobile phone payment technology



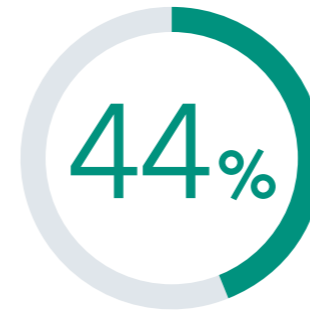
of females have used mobile phone payment technology

Use of contactless cards



£381m

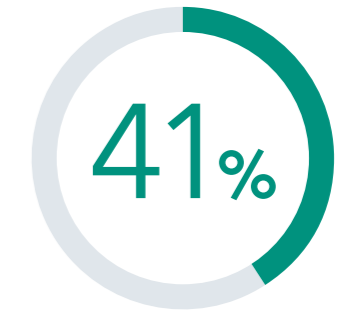
was spent in the UK in December 2014 using a contactless card, an increase of **28%** on the previous month and **331%** over the year. ¹



have paid using contactless card technology

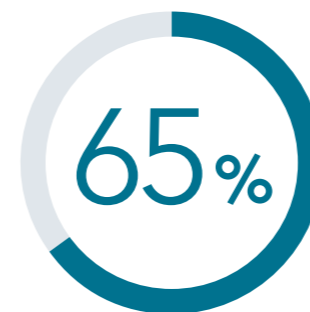


of females have never used contactless tech



of males have never used contactless tech

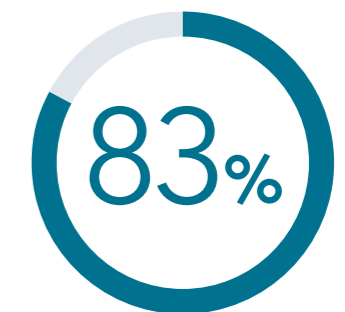
Concerns for consumers making payments



are concerned by security



are concerned by ease of use



check their bank balance before making a significant purchase

¹ UK Card Payments 2015, UK Cards Association

Part 2

Contributor articles

VocaLink approached a number of experts from across the payments system to give their views on how they saw the way we pay and get paid would and should change by 2025. These articles represent those views.

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The advance of push payment technology

Author: David G.W. Birch, Director of Innovation, Consult Hyperion



Fifty years ago, in April 1965, an article in the New Scientist magazine about the automation of cheque clearing predicted that in a generation the transfer of money would be completely automatic and “the payment of a birthday fiver from an uncle to a favourite nephew merely a matter of direction and timing of electronic impulses”. Within a year of this, the first Barclaycards were in customers’ hands and a year after that Reg Varney was launching the first ATM (in Enfield, North London). A year later, in 1968, the precursor to Bacs was formed and direct debits were launched. Yet that birthday fiver was still sent by post. As it was in 1975. And 1985. And 1995. Perhaps, just perhaps, it went by PayPal in 2005, by which time Bacs was processing two billion direct credits per annum. But today? In 2015, it could well be by Paym or the Faster Payments Service (FPS), WeChat or Venmo, Facebook or M-PESA. The payment times are finally changing. So how will that birthday five hundred pounds (adjusted for inflation) wend its way in 2025?

Perspective

How can we begin to think about the payments landscape a decade from now when we can see that so much is going to change on the technological, social, business and most importantly of all, regulatory fronts? Well, one of the techniques of futurologists trying to assess the magnitude and direction of technology-induced change is to find an appropriate point in the past to

compare with. If you want to imagine the changes coming a generation from now, they would argue, you have to look back two generations into the past in order to correct for the accelerating pace of change.

That line of thinking suggests that if we want to imagine the world of payments a decade from now, we need to look back two decades into the past and understand that landscape and the dynamics that changed it. A simple way of doing this, shown in Figure 1 below, is to look at the technologies that support products in the marketplace and, particularly, the security needed to make them useful.

This perspective-led approach makes good sense for the topic at hand because 1995 was a cusp in the co-evolution of payments, technology and security. Twenty years ago, the world was experimenting with different kinds of debit proposition, smart card technology, offline operation and electronification in the mass-market (salaries, benefits, bill payments and so on). Some failed and some succeeded, but the experimentation began a period of growth that saw the debit card rise to become the consumer’s instrument of choice. In the UK this year, cash was finally reduced to less than half of retail payments and the debit card is the proximate cause. The march of electronification means that the direct debit has become the way that most consumers pay most regular bills (eight out of ten UK adults have at least one).

The rise of the internet led consumers and business to want new solutions, yet it was another decade before work started on the immediate payments system that became the Faster Payments Service (FPS). The UK then led the world in introducing what we will call instant payments. FPS has been an outstanding success, bringing us to the point where British consumers expect to be able to use their mobile phones to send money from one account to another, instantly and reliably. Around the world, other countries are following in these footsteps and evolving that infrastructure still further by bringing in more sophisticated data representation and management to add the ability to carry value-adding data along with the payment. By 2025, the UK will have refreshed and done the same, completely transforming the potential for the infrastructure to support individuals, organisations and government to automate around payments.

This perspective also delivers an important lesson about the interaction between payments and technology: in Europe, the retail payments sector was focusing on making the most effective off-line payment system possible and using it to displace cash. The smart card was put to use in a variety of electronic purse schemes with the intention of displacing cash at retail point of sale. By and large these failed and had no impact on the world of retail, but the technology that was being used to build them - the smart card - became so widespread it is now unremarkable.

cheque clearing credit card MOTO ATM debit card CNP PayPal mobile money instant payments ???

1965 1975 1985 1995 2005 2015 2015

mainframe telecommunications magnetic stripe PC smart card internet mobile phone wearable

online authorisation hologram EMV one-time passwords biometrics analytics

Figure 1: A Payments Timeline: Products, Technologies, Security

If you want to be dramatic, you can bookmark the cusp, the end of the off-line era, on 9th August 1995 with the Netscape IPO. In the US, we then saw myriad efforts to create internet alternatives to cash and cheques and while most of those also fell by the wayside, one of them did not: PayPal. PayPal rode the existing rails to deliver a more convenient service to consumers, something that the established players could have done, but didn't.

Landscape

It is very tempting, in fact irresistible, when looking at the current landscape to see the current flurry of experimentation around Bitcoin through this lens. It may well be that the new payment mechanism never obtains traction, any more than Mondex or DigiCash did, and we will never use Bitcoins at the corner shop, yet the evolution of the underlying technology, the shared ledger, turns it into an infrastructure so pervasive it becomes as unremarkable as the smart card did. And someone other than the established players will find a way of making it convenient for consumers. Facebook? Apple? Amazon? Google? Microsoft?

We know where not to look. We are already past the inflection point. The installed base of smartphones and tablets is already bigger than the installed base of desktop and laptop PCs. The installed base of iOS devices alone will soon exceed the

installed base of all PCs. By 2020, global shipments of PCs will be less than global shipments of tablets.¹ And whatever you think of the smart watch now, smart wearables of all kinds will be growing. The Internet of Things era is upon us and this thingternet (as I cannot resist calling it), which the McKinsey Global Institute says will have an \$11 trillion impact in our timescale, will naturally stimulate entirely different business models.² As Figure 2 shows, we can already see these growing around us.

The impact of these changes will of course extend to retail. The US Food Marketing Institute predicts that by 2025, customers will no longer wait in lines to check out at grocery stores, but will walk out the door and a "frictionless checkout" will automatically account for products in their carts. So how will this change the payments business? Given this kind of environment, what are the pain points that the next generation of payment solutions will need to address?

While we've done well in electronifying regular payments and in-store payments, in some other areas we haven't done as well. Take a look at the curves around card fraud, for example. The co-ordinated transition to chip and PIN at retail point of sale, building on the expertise gained in smart card technology and offline processing, successfully stopped card fraud from spiralling out of control. But the poor and uncoordinated response to the growth of online business led

to continuing increases in card-not-present (CNP) fraud. Indeed, in Europe last year, card fraud as a whole rose by 8%. The cynical observer might say that we've managed to keep a cap on European card fraud by exporting much of it to the USA (which accounts for around a quarter of the world's card volume but half of the world's card fraud) but that doesn't alter the fact that it's time to make some radical changes and the industry is responding with the shift to stronger authentication, tokenisation and analytics.

These come together in the mobile phone, shifting to an app-centric model, in which mobile devices co-ordinate fast, safe and transparent solutions. One in five payments in Starbucks is already mobile, so this is not even a radical view.

A simple (and possibly overused) example will serve to illustrate. Right now, my gym has my card on file or bank account details for direct debiting. Either way they pull money from my account on a monthly basis. Most of the time this works fine, but when it doesn't (because of errors or fraud or failures) it costs time and money to repair. A decade from now, my phone, watch, hat, earrings and key fob will all contain cryptographically unforgeable tokens generated for them by my bank and when it is time to pay the monthly gym fee I will use the token to instruct the bank to send the money from my account to theirs. I will soon get bored with authorising

¹ Forecast for global shipments of tablets, laptops and desktop PCs from 2010 to 2019 (in million units), Statista, 2015

² By 2025, Internet of things applications could have \$11 trillion impact, James Manyika and Michael Chui, McKinsey Global Institute, 22 July 2015

	Internet	Thingternet	What does it mean?
Value creation			
Customer needs	React to existing needs	React to emergent needs	Payments become a constant flow between devices and the data around payments becomes more valuable than the fees earned from the payments.
Offering	Stand-alone products Obsolescence	Product always-on and refreshed	
Role of data	Single point data used for future product requirements	Information convergence creates services	
Value capture			
Path to profit	Sell the next product	Enable recurring revenue	Payments are no longer a product managed by banks but part of multiple overlapping ecosystems that transfer many kinds of value
Control points	IP and brand	Network effects between products	
Capability development	Leverage core competencies and existing resources	Create platforms to help partners to build their businesses	

Figure 2: The Thingternet Mindset

With acknowledgement to Smart Design, Harvard Business Review (hbr.org, July 2015)

the individual transactions, naturally, and so I will give my watch permission to respond positively until I tell you otherwise. Now, the money is being pushed from me to the gym. Instantly and securely.

And when I don't want to go to the gym any more, I will tell my watch not to pay any more. So there will be no need for mandates or instructions, and no treasure trove of personal details for hackers to steal from the gym or from the watch.

We must be aware, of course, that the shift to instant payments will be accompanied by a significant increase in risk. Criminals will make every effort to exploit any weaknesses in our defences to steal money more quickly and more efficiently just as we work to move it around more quickly and more efficiently. The defences that are now being deployed in the world of mobile phones, that tokenised infrastructure that sits behind Apple Pay and soon Google Pay and then Samsung Pay and then every other pay, adumbrates a generalised tokenisation that will deliver similar security benefits throughout the whole payments ecosystem.

Projection

Our infrastructure is solid and has delivered amazing benefits. Yet we still live with the consequences of decades-old decisions. Instruments such as standing orders and direct debits, mail order-telephone order (MOTO) rules

and continuous authorities, sort codes and account numbers. These are all in effect, hacks. They are suboptimal ways to make the previous generations' banking infrastructure do something useful for modern consumers.

We are, however, coming to the end with that architecture. At the last cusp, the world went online just as the payment industry was perfecting offline. Now, the world is going mobile and we mustn't get caught out! We must meet the raised expectations of consumers in an online all-the-time environment and in order to do that we have to make the infrastructure work in a different way.

Regulatory pressure for banks to open up and provide access to non-bank players, the technologies of transparency such as the blockchain, the always-on and permanent connection between financial institutions and their customers, advances in biometrics, "big data" and the emerging Internet of Things come together to prescribe a different kind of API-centric banking industry, one which may well see payments begin to detach from banking as a whole.

The business pressure to make these payments work more efficiently and effectively will inevitably drive a change from "pull payments" to "push payments" and this will be at the heart of the changed payment landscape a decade from now. In fact, what we might call the Push Payment Platform (PPP) is already being delivered

through services from Vocalink and Paym and Zapp (amongst others) in the UK today. McKinsey estimate that the provision of instant payments on these kinds of platforms will create \$80 billion of additional value, revenues even in the very short term (by 2018).

¹ By 2025, payments will no longer be a boring backroom banking function, but a crucial platform for business invention and sustainable innovation.

Author biography

David G.W. Birch is Director of Innovation at Consult Hyperion, the secure electronic transactions consultancy. He is an internationally-recognised thought leader in digital identity and digital money; was named one of the global top 15 favourite sources of business information (Wired magazine) and one of the top ten most influential voices in banking (Financial Brand); was listed in the top ten Twitter accounts followed by innovators, along with Bill Gates and Richard Branson (PR Daily); was ranked in the top three most influential people in London's FinTech community (City A.M.), was voted one of the European "Top 40" people in digital financial services (Financial News) and was rated Europe's most influential commentator on emerging payments (Total Payments).

¹ The Future of Global Payments, Philip Bruno, Florent Istace, and Marc Niederhorn, McKinsey Global Insights, November 2014

Simplifying payments for consumers

Author: Nick Middleton, Head of Payments Strategy & Architecture, Nationwide



The importance of being able to pay people, bills, buy things, send donations to charity, send money to your kids and the many other reasons we need to pay doesn't really change that much over time. For thousands of years stretching back to pre-Roman times, a way to exchange value without having to exchange physical things - barter - has been a problem that has been solved in many different ways.

There are many different ways to pay today: physical money in the form of coins and paper; promises to pay in the form of bills of exchange, cheques, letters of credit; electronic ways to pay using internet banking, mobile banking, direct debits, credit and debit cards using magstripes on the backs of cards, chip and pins and now even contactless. In very recent history there has been a significant move to using these same types of payments but in different ways. For example, when paying for your eBay purchase using PayPal, you aren't really paying with PayPal, simply using existing credit/debit cards or bank details held on file with PayPal. However, the result is a simpler, safer shopping experience. PayPal has succeeded in branching out from just payments on eBay, and now many online suppliers use the service to improve the experience for their consumers. As the service proved itself to be safe, simple and secure, more and more people have started to use it.

Over the next several years, the ways in which you pay will evolve in a very similar way. Apple, Samsung and

other mobile wallet providers allow you to store your card details on your phone safely and securely and to use your phone to purchase things both online and in-store. The proliferation of smartphones in many countries across the globe means that the technology that enables these ways to pay will be in most consumers' hands in the very near future. And even where mobile handset technology is not as advanced as in the UK, they can still be used to exchange value - a trend seen in places like Africa and India where innovative solutions are being developed to address individuals' problems. Nationwide recognises these ways to pay will be important to our customers and will work with our members to ensure we are delivering the right solutions for our members at the right time.

Regulatory and governmental pressures are opening access to customers like never before. The Payment Services Directive 2 coming from Europe will introduce a standard way for any licensed third party to access accounts and initiate payments on behalf of any customer that authorises them to do so. This will mean a revolution in the way customers interact with their banks. Small start-ups that don't have the overheads of regulation, political and media pressure and legacy systems will be able to offer innovative products that they can bring to market faster than traditional banks. At Nationwide, we look to work with these innovative firms and technologies to ensure we

deliver the service our customers expect at the right time and cost. We have a history of seeking out innovative partners that help us to deliver best in class service for our customers.

The way we physically exchange value is also likely to change. For thousands of years, paper and coin were the medium used to exchange value. It is only in relatively recent history that we have seen other ways to do this electronically. Today, paper notes and coin are still used but are in decline, and cheque usage is declining at 12% a year in the UK. Credit and debit cards have been around for years, and are so mainstream that anyone under 30 will struggle to remember a time when they weren't used, and contactless credit card usage is on the rise.

The proliferation of smartphones is widespread and there is a market shift to using phones to pay for things. This is just a way to take your credit and debit card information and store it on your phone and use your phone instead of a card to make a payment. And as security improves on these devices, you will be able to replace card tokens completely.

In the future, you can expect to walk up to an ATM, securely sign in to an app on your phone, wave it at the machine and do anything you wanted to!

In the future, you can expect to walk up to an ATM, securely sign in to an app on your phone, wave it at the machine and do anything you wanted to! But will you need to if we don't use cash or cheques? We will eventually get there but for the next several years, what a great way to interact with an ATM! Nationwide is looking to see how we could implement this exact technology in the near future.

Wearable devices are now starting to grab the market, with Nationwide Building Society launching the first UK smartwatch banking app in November last year and we recently launched the same service on the Apple watch. Whilst not yet mainstream, the financial strength and marketing budgets of the companies behind these devices mean that new services for consumers will become mainstream in a relatively short amount of time. The Apple watch has only recently launched and already we see a number of ways to use that device in your everyday life - check balances, purchase goods, get alerts when you are nearing credit limits or 'proximity pay' a friend. That list will grow as time goes on. As Nationwide leads on wearables, we are in a unique position to continue to drive innovation for our members in these new and exciting technologies.

In the fight against fraud, how we protect our digital identity and validate it when making a payment will also change.

It's all very well and good having the technology to make these payments but if it takes several key presses and more than 10 seconds to do it, the process slows down and becomes cumbersome.

The process also needs to become simpler; at present, we have to remember countless passwords, and none of them secure. Every time I have to put a new password into a website, my computer suggests something like Kfs98%-JHG:L870gf-LKJHG*&VC\$). How am I supposed to remember that?!?!? A frictionless experience with little interaction but a high degree of security is the desired outcome.

Apple has launched phones with fingerprint recognition. App stores like Amazon allow you to authenticate yourself with your fingerprint rather than a password. Apps for the Apple Watch are already being tested that allow you to identify yourself with your blood flow through your wrist,

At present, we have to remember countless passwords, and none of them secure...a frictionless experience with little interaction but a high degree of security is the desired outcome.

with sensors on the back of the watch monitoring blood pressure and flow. Experts tell us this is more distinguishable than a fingerprint. Fantastic, but not if you have a tattooed wrist as the ink interferes with the process. This tells us that not all technology is right for all people and for a number of different reasons. Facial recognition technology already exists. Couple that with beacon technology in a shop and as you walk in, you are identified, ads throughout the store are targeted at you, coupons targeted for you are delivered right to your phone, items that you pick up as you walk through the shop are identified and recorded so by the time you get to the "till", all you have to do is put the stuff in a bag and walk out because the shop knows what you have and has identified you through facial recognition and taken payment from you - in any number of ways that you prefer! How is that for frictionless? This is certainly an area where banks can't do this on their own and Nationwide is already working with cutting edge firms who are looking to the future of identification for our members.

But how will people react to this technology? Many of the technologies we are talking about were showcased in 2002's Minority Report starring Tom Cruise. Back then, people thought there would be no way the technology in the film would exist in their lifetime, and even if it did, people wouldn't want it used on them. I was definitely one of those people. But after 13 years, am I more receptive to it now? Perhaps. And that brings us to the next issue about ways to pay and how things will change. Even today, the mass market is not ready for major leaps in technology. Everything that has happened to date has been evolutionary rather than revolutionary. When it comes to people's hard earned cash (see, we still think of it as cash even though it is 1s and 0s stored in a computer somewhere), we aren't ready for the revolution. But we do want our lives to be easier. At

Nationwide, we recognise that our members stay with us because they trust us. As these new technologies take hold, we need to show our members how they can benefit from these technologies that we will ensure are safe, secure, and reliable and make our members' lives easier.

Author biography

Nick Middleton, Head of Payments Strategy & Architecture, Nationwide

Over the past 10 years Nick has worked as a Senior Programme Director, Head of Payments Risk and Head of Payments Strategy and Architecture for VocaLink, RBS, Lloyds Banking Group and Nationwide Building Society. He was responsible for delivery of the Payment Services Directive (PSD) in 2009 and 2012 for Lloyds Banking Group, as well as delivering SEPA Direct Debit compliance and Current Accounts Switching compliance for them. Nick then moved into an interim Head of Risk for Payments role at Lloyds for a period of 6 months focusing on BAU risk management in a changing regulatory framework. Nick is currently the Head of Payments Strategy and Architecture at Nationwide and is responsible for the successful delivery of new EBA guidelines on the security of Internet Payments, PSD2, Future Cheque Clearing Model and other regulatory changes. He is also responsible for setting and driving forward the Payments strategy over the short, medium and long term within Nationwide.

About Nationwide

Nationwide is the world's largest building society as well as a top three provider of savings and mortgages in the UK. It is also a major provider of current accounts, credit cards, ISAs and personal loans. Nationwide has around 15 million customers.

Customers can manage their finances in a branch, via the mobile app, on the telephone, internet and post. The Society has around 17,000 employees. Nationwide's head office is in Swindon with administration centres based in Northampton, Bournemouth and Dunfermline. The Society also has a number of call centres across the UK.

The future of payments in retail

Author: David Baker, Head of Card Payment Innovations, The UK Cards Association

With contributions from: Katy Worobec, Director, Financial Fraud Action UK

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Working together to prevent fraud

In looking at the future payment landscape it pays to take note of the habits of our children, the so-called millennials or Generation Y. The future primary economic units of the mid 2020's have a very different outlook on the world; they are the true digital natives having embraced the connected technology that is increasingly available to them. Watch them as they live their lives through their mobile phones, see how they interact with each other through social media and importantly how they access the services they want and the goods they want to buy. It becomes clear that they have very different attitudes to commerce, demanding instant access to the things they want and getting frustrated with the legacy systems that support commerce today.

To aid the development of a vision of commerce in the future we must also look at the compelling evidence of today's successful digital service providers. Look to the likes of Shazam and Blippar with their revolutionary user interfaces, in the success of the digital content providers like Netflix and Spotify, in the popularity of one click payment solutions from PayPal and Amazon and in new age payment service providers like Stripe. All of these have grown out of developments founded on the needs of the digital natives and none of whom conform to the normal ways of doing business today.

For retailers, responding to the changing face of commerce has

become the biggest challenge they have faced since the introduction of the supermarket in the 1950s. To compete for the digital customer retailers must provide solutions that allow consumers to engage through whatever channel they choose. They must be able to navigate seamlessly through the shopping process with the fewest interruptions to fill forms or register details. The search for a platform that does this drives omni-channel programmes that blur the distinction between online and traditional retailing. Successful customer engagement platforms are now being enhanced by connecting all of the back office functions to deliver truly connected services.

The payment becomes just one small part of this retail engagement. In recent discussions with the retail community it has become increasingly clear that payment is way down the list of their priorities. For retailers, payment must be a background function that does not interrupt the shopping experience: yes, it must offer the same or enhanced security and guarantee as today, but it cannot be as invasive as it is today. The single click services that are so popular today must become more prevalent.

So how will the payment industry adapt to this changing demand? First it must recognise its role in commerce. We cannot continue to assert that 'payments drive commerce' and assume that payment brands are at the top of mind when consumers shop.

We must be aware that the 'Generation Y' population is far more technically savvy than it was before and will drive new behaviours by voting with their feet, adopting the processes that best suit the needs of the day. In short, the payments industry must recognise that it must provide the products and services to meet the demands of consumers and retailers and cannot continue to push services convenient to the payments industry on unwilling partners.

One might consider the rise of the third party payment initiators as a reaction to a perception that traditional players are not responding to the demands of the digital age. This may be a view that is supported by the regulators who now demand open access to account and payment initiation services. Opening the doors to the more agile FinTech companies which are more used to developing products and services fit for the digital age could spell danger for the incumbent players with their legacy systems and antiquated business processes.

For the incumbents to survive, the industry must play to their strengths. There is no doubt that consumers still trust and assume that the payments industry provides the security and consumer protection that allows them to shop safely with their cards and other payment instruments. It is the payments industry that is leading the fight against the fraudsters and who will continue to look for ways

The use of dynamic processes, including the use of biometrics, will most likely become part of a multi-factor process to confirm the customer's identity.

to improve the security of payments across all channels. Above all, increasingly they will need to work collaboratively with an ever more diverse set of partners.

In adapting to the demands of the new age the payments industry will no doubt look to new technologies to see how it can incorporate them into the payment process to deliver the seamless experiences demanded by retailers and customers. This means that the potential vulnerabilities of new technology, and the capability of the fraudsters to exploit them, need to be considered, tested and monitored. At the same time, the increased use of digital channels provides opportunities to use the rich information about location and device that can be included in the risk assessments of each transaction and help defeat the fraudster. We can learn more about the customer from their digital footprint than we ever could from the offline processes that existed in the past. This, coupled with the developing management of risk through behavioural and transaction monitoring, provides the opportunity for the payment industry to fulfil its part in the processing of payments in the background, rather than as an obvious 'out of band' step, and is more in keeping with market needs.

The more challenging opportunity will be to find ways to provide the stronger authentication processes that will be needed to underpin payments in the future. We are sure that processes based on the entry of static passwords will be a thing of the past. The use of dynamic processes, including the use of biometrics, will most likely become part of a multi-factor process to confirm the customer's identity. These processes may need to be adaptable based on the transaction risk, so that the challenge response increases in line with the risk.

Rather than layer more plaster over central legacy host systems and processes, a more radical overhaul is required. If we are to deliver the payment services that meet the needs of the 'digital natives' there

is a clear case for cross industry collaboration. Not necessarily in the creation of solutions, nor of new front end payment mechanics, but in the agreement of standards and codes of conduct that will underpin a perhaps less glamorous information technology infrastructure.

Collaboration will also be essential so that all the players in the process, whatever their part, take responsibility for ensuring that they are not the weakest link. It is also vital to ensure that law enforcement is suitably equipped by industry to understand the new technology and what it can harness by way of evidence in investigating payment fraud. They in turn will need to work with the payment industry to ensure that information on criminal intent and capability is fed back to further tackle fraud and criminal intent.

Finally, collaboration will be vital to ensure that customers understand their own risks and vulnerabilities, for they too are part of the payment chain and they, more than any other part, can be the weakest link. Generation Y may be increasingly technically savvy, but they can still be victims of professional scams which circumvent security measures. In addition, the parents and grandparents of Generation Y will be using the same technology too. There will be a need for clear and consistent messages for the end user about the steps they should take to avoid being a victim of fraud. This will prevent fraudsters taking advantage of the confusion and misinformation which often surrounds increasingly sophisticated products and processes.

David Baker

David is a cards and payment expert having worked in the payments industry for more than 30 years. He is currently the Head of Card Payment Innovation at The UK Cards Association, the trade body for payment card issuers and acquirers in the UK.

About the UK Cards Association

The UK Cards Association promotes co-operation between industry participants in order to progress non-competitive matters of mutual interest; informs and engages with stakeholders to shape legal and regulatory developments; develops industry best practice; safeguards the integrity

of the card payments industry by tackling card fraud; develops industry standards; and co-ordinates other industry-wide initiatives such as those aiming to deliver innovation.

Katy Worobec

Katy has overall responsibility for the industry fraud reduction strategy, including the Industry Threat Management Process, education and awareness campaigns for consumers and businesses, intelligence sharing through the Financial Fraud Bureau and the industry's Fraud Intelligence Sharing System, collation, analysis and publication of industry statistics, and the Dedicated Card and Payment Crime Unit (DCPCU), the industry sponsored police unit.

About Financial Fraud Action UK

Financial Fraud Action UK (FFA UK) is the body that leads the collaborative fight against fraud in the UK payments industry. Its Members are UK retail banks, card issuers, card payment acquirers.

Diversifying payments for modern ways of working

Author: Sian Williams, Head of National Services, Toynbee Hall



As I move through my day, the payments system is essential in helping me get things done. How do I travel to my office in London? My electronic payment card, Oyster, allows me to tap in and out at stations with minimal effort. I can withdraw cash fairly easily from the ATM network, and I can use my contactless payment card to buy lunch on the run when I've got no cash. Whilst I'm busy writing this article at my desk, somewhere far away an automated system is paying my mortgage, utility bills, Council Tax and phone bill by Direct Debit. I have an automated tool on my bank account which sweeps the pennies from each debit card transaction into a savings account. And I can see all my finances at a glance through any one of a range of web- and phone-based tools. Admittedly, I haven't yet found the easiest way to avoid bank charges for paying electronically overseas, but seen within the context of my typical day in a salaried job, the payments system allows me to get most things done. Our payments system works effectively, on the whole, for the mainstream amongst our society, for those of us with regular jobs paying a monthly salary, living in stable accommodation, with predictable income and outgoings and little change in our life.

But over the next ten years my "mainstream" life will become increasingly unusual. The employment and housing markets are already shifting away from the kind of permanence I know as normal, towards

shorter-term and ever-changing conditions. The employment market has seen a rapid rise in unpredictable work patterns; official figures¹ show that already around 1 in 40 people in employment have a zero hours contract as their main job and this figure is likely to rise. There are around 4.5 million people registered as self-employed, higher than at any point over the past 40 years. And although the rise in total employment since 2008 has been predominantly among the self-employed, the average income from self-employment has fallen by 22% over the same period. The data also shows that self-employment is likely to be both an alternative to long-term unemployment amongst all income ranges and a top-up option for those past the formal retirement age. Consequently there will be an ever growing population who do not have a single job with a monthly salary, and who increasingly rely on irregular and unpredictable work as their main source of income.

What are the implications for the payment system needs of consumers within this new environment of unpredictable or irregular income streams? We already have substantial insight from looking at another client group with whom Toynbee Hall have worked with for years - those on very low incomes, including from welfare benefit payments. Our work with the financially excluded, people living below the poverty line and people experiencing financial difficulties have taught us much about the payment

needs arising from coping with unpredictable, irregular or "unusual" income flows within a payments system primarily designed for the mainstream customer.

Within the payments system context, the key difference between my "single salary" life and that of someone on irregular or multiple smaller payments can be captured by the concept of "flow". I have a single injection of funds on a known date once a month, and I know that amount will need to cover all my outgoings until the next payment. I can use any combination of payment methods and tools to regulate the flow of money out of my account. Most of us in this situation choose to use Direct Debits for regular outgoing payments, and we receive financial benefit as utility companies often discount their prices as a reward for paying by Direct Debit in return for a guaranteed, regular and reliable income stream. Contrast that to the money "flow" for the self-employed, someone receiving multiple smaller income payments across the month, or someone with a mixture of work and state benefit, including pension, income streams. For them, trying to balance this irregular and often unpredictable "flow" of income against the same set of obligations to pay for housing, utilities, travel and food becomes much more complicated. Committing to fixed payments, such as Direct Debits, start to become high-risk, as the "pull" nature of a Direct Debit means that the customer cannot change the amount or date to accommodate a shift in their

As the employment market shifts towards a larger number of workers reliant on multiple income flows, we will see a corresponding demand for more flexible, transparent and controllable "push" payment options.

income flow, and thus they become exposed to missed payments, payment penalties and potentially adverse credit scores. And if the customer decides to take a lower risk option and make one-off payments, they lose access to the range of discounts usually only available through Direct Debits. So attempting to manage their more complex income-expenditure flow costs them both more time and more money than for a more "mainstream" customer.

We have seen this same scenario repeatedly amongst low-income workers and those dependent on welfare benefits. We have routinely found that the range of payment methods available for balancing their expenditure against their actual income flow often costs them more money, either through missed payments or higher prices. But it also costs them considerable time and effort, constantly needing to check their account balance before they can decide when and how to make a payment, and then needing to recheck to ensure that a payment has been made successfully. And the more complex the work pattern, such as managing multiple jobs, the less time remains available for checking balances, particularly for those who are less comfortable with digital methods. Our work - both supporting such consumers and conducting research¹ into their experiences - has highlighted nine key criteria for meeting their payment needs. Consumers managing highly complex income and expenditure flows need:

- Control over their money. They need to be able to vary the timing and scale of payments in line with their income flow and other outgoings, and they need to be able to see their actual balance easily and effortlessly with an audited trail of payments.
- To feel safe from unexpected outgoing payments, and from any subsequent penalties or increased costs due to missed payments as a result of inadequate funds. Like all consumers, they also want to feel safe from the risk of fraud and making payments to the wrong person. And they want quick and easy redress when things go wrong.
- Flexibility within their payment options, allowing them to balance their payments against an ever-changing income flow. And they need this flexibility to maximise the benefit from their available funds rather than cost them through being ineligible for "good customer" discounts.
- Transparency, so that they can know their real-time balance at all times, thus enabling them to make complex decisions about the timing and value of payments in line with their irregular income flow.
- Predictability, so that they are not caught out by unexpected changes in the timing or value of payments, or by unexpected fees or charges associated with payment systems and products.
- Payment systems to make their complex financial flows manageable. They need their financial tools to reduce the amount of time, effort and risk involved in managing complex income and expenditure flows, and to increase the purchasing power of their available income rather than reduce it.
- Affordability: they don't want to pay disproportionately more for having to cope with more complex financial circumstances through additional fees and charges or higher prices. They want their payment options to increase their purchasing power so that they can afford more products and services with their available income.
- Accessibility: Consumers need to be able to access their payment options and products through the most convenient and comfortable method to suit their personal circumstances. Individuals will have different preferences for digital versus human interaction, so providing both options will be essential. For those who still find cash useful, they will want continued access to cash without incurring additional time, travel or financial costs. And as people's life circumstances change due to the short-term nature of the

¹ ONS Labour Force Survey, 2014

¹ Payments Council, The electronic payment needs of people on low incomes (Toynbee Hall and Policis)

Consumers want their financial products to meet their needs in a way that feels intuitive, simple and effective.

employment and housing markets or other life factors such as illness or disability, they will want payment options which effortlessly adapt to their changing needs.

- And, finally, simplicity: in an ever complex work and home environment, consumers want their financial products to meet their needs in a way which feels intuitive, simple and effective.

Awareness of this mismatch between payment needs and available systems has so far remained low as the percentage of the population coping with such complex financial flows has been relatively small, mostly limited to those on welfare payments and on very low incomes. But as the employment market shifts towards a larger number of workers reliant on multiple income flows, we will see a corresponding demand for more flexible, transparent and controllable “push” payment options which give the customer instant control over their payments and serve to maximise the purchasing power of consumers’ irregular incomes. This will make coping with the financial flow implications of the complex employment market easier, more manageable and significantly more secure. So it’s exciting to see Payments UK prioritising this issue within its World Class Payments programme. By 2025, then, the payments system needs to have become much more responsive to the growing complexity

and individuality within people’s lives, moving away from “one size fits all” solutions towards a greater emphasis on giving the customer visibility, control and choice, and finding ways to help consumers do more, more easily with their money.

Author biography

Sian Williams is Head of National Services at Toynbee Hall. Sian has been responsible for Toynbee Hall’s financial inclusion programmes since October 2009, including Transact (the UK’s national forum for financial inclusion), financial inclusion training, research, evaluation and strategic consultancy.

Taking a whole systems approach to financial well-being, Sian’s programmes support organisations to develop policies and practice which make it easier for people to make the most of their money. Within Tower Hamlets, she developed and co-led the Financially Inclusive Tower Hamlets programme, which adopts this environmental approach within one of the UK’s most deprived communities, and oversees the development of programmes such as the Community Money Mentors programme. Sian’s team have also created a ground-breaking needs and impact digital measurement tool for financial health, the MAP Tool, to fill the gaps around knowing “what works” in financial health interventions.

Sian provides advice on financial inclusion to financial services

providers, is a commissioner on the Financial Inclusion Commission, and is a member of advisory groups for the LINK Scheme, the British Bankers Association, Department for Work and Pensions, HM Treasury and the Big Lottery. Sian is also a member of the new Payment Systems Regulator Panel, and a trustee for the Money Advice Trust. Prior to joining Toynbee Hall, Sian had a 15 year career with the Foreign and Commonwealth Office, during which she reported from Hong Kong on the 1997-8 Asian Financial Crisis and from Beijing on the development of the Chinese economy from a state-planned to market-led model.

About Toynbee Hall

Toynbee Hall is a community organisation that pioneers ways to reduce poverty and disadvantage. Based in the East End of London, we give some of the country’s most deprived communities a voice, providing access to free advice and support services and working with them to tackle social injustice. We have been a catalyst for social reform in the UK for 130 years, and continue to bring together communities, organisations and policy makers to create new ways to help those who find themselves in poverty today. We are a leader in financial inclusion and literacy policy and practice, and provide consultancy, research and frontline delivery services and products to a wide range of government, commercial and third sector agencies.

Towards world class: the consumer view of current accounts and payments

The following excerpts are taken from a recent paper published by Tooley Street Research and commissioned by Barclays. The paper covers three key areas: innovation in payments, peoples’ level of engagement with their current accounts and awareness of switching options; and finally account number portability. For the purpose of this collection of articles, the excerpts are taken from Tooley Street Research’s focus on payments innovation, as they relate to the future of the payment system; and future innovation that those surveyed would most like to see.

The full report can be found at: <http://www.tooleystreetresearch.co.uk/wp-content/uploads/2015/06/Towards-world-class-report-by-Tooley-Street-Research-for-Barclays-FINAL-web-version.pdf>

Towards World Class: The Consumer View of Current Accounts and Payments
A Report by Tooley Street Research Ltd, for Barclays plc June 2015



Introduction & methodology

The UK payments system has experienced considerable change in recent years, and will continue to do so. Advances in technology have transformed the way in which consumers undertake everyday transactions while actions by policy makers, be it government, regulators or competition authorities - both in the UK and at the EU level - are also affecting the payments landscape.

Whereas twenty years ago it was seen as innovative to be able to

authorise current account transactions by speaking on the phone to your own provider, now people use smart phones to send payments through new front-end systems without appearing to interact with their bank at all.

Meanwhile, regulators are placing greater emphasis on the need to promote competition and innovation by simplifying the switching process; are considering the rise of paid-for accounts; and there is a desire to maximise financial inclusion which is exposing the potential of newer

technologies to help individuals to budget more effectively.

Against this background, Tooley Street Research was commissioned by Barclays to understand more about what consumers wanted to see from their current accounts and payments system in future. Our aim is to help align the investment decisions of firms and the priorities of policy-makers with what is viewed by the public as valuable.”

Figure 1: Ranking of potential future innovations from the quantitative poll

Innovation	Proportion of people who named it in top 3 most useful changes
Having all payments clear immediately, and shown in my account straight away	51%
Knowing I'll get the money back if I accidentally send it to the wrong account	38%
Being able to securely shop online without having to enter my credit card details	27%
Having more control and visibility over when direct debits are taken out of my account	23%
Not having to change account number and sort code when switching banks	22%

Future innovations

In a...follow up survey, we asked people to choose their top three from a list of possible innovations. We asked them to prioritise between the options by selecting a maximum of three that they would find the most

useful from the longer list. The most attractive possible future innovation in the payments system out of those tested was "having all payments clear immediately and shown in my account straightaway" followed by "knowing I'll get the money back if I accidentally send it to the wrong account". The

next most attractive was "being able to securely shop online without having to enter my credit card details" followed by "having more control and visibility over when direct debits are taken out of my account" and "not having to change account number and sort code when switching banks".

Figure 2: Summary focus group responses to each potential innovation

Being able to shop securely online without having to enter my credit card details	<ul style="list-style-type: none"> This was not seen as particularly different to what is possible now with Paypal. There were some concerns about the security of the password if it is available for all online purchases. Some also report having problems remembering passwords
Being able to send payments to a person securely through online banking by clicking on their photo or email address to know it's them	<ul style="list-style-type: none"> Respondents were very dubious about the security of paying via email or social networking site. It was not seen much more innovative than apps that already exist to enable peer-to-peer payment (like Ping It).
Knowing I'll get my money back if I accidentally send it to the wrong account	<ul style="list-style-type: none"> This was a 'no brainer' in terms of providing a consumer benefit and reassurance. However, there were some questions of how likely banks would be to provide this and whether it could be open to abuse.
Being able to pay in a shop by just using my fingerprint or tapping a button on my mobile phone	<ul style="list-style-type: none"> This was not perceived to be particularly different to current contactless banking. There were concerns about security related to the mobile button option in particular. In addition, some people were worried about the reliability of the fingerprint option and what they would do if their print wasn't recognised if they didn't have any other form of payment with them (this happens from time-to-time with fingerprint recognition in other areas e.g. on mobile phones). Overall, it was seen as a bit of a gimmick.
Not having to change account number and sort code when switching banks	<ul style="list-style-type: none"> The current 7 day time frame was not felt to be a problem, so making it faster was not regarded as being particularly important. Some felt that speeding things up could introduce more risk to the reliability of the process.
Being able to compare the costs and benefits of bank accounts using a comparison website	<ul style="list-style-type: none"> This was not seen as new as there are several existing websites which enable comparisons to be made. That said, some felt that current websites are more focused on other banking services (credit cards, mortgages, savings and ISAs) than current accounts.
Being able to take a photo of cheques to pay them in (using my mobile phone), rather than having to deposit them at an ATM or in branch	<ul style="list-style-type: none"> This was regarded as a very useful innovation that addresses what is a current inconvenience for customers in a clever yet straightforward way.

Having more control and visibility over when direct debits are taken out of my account	<ul style="list-style-type: none"> This was a popular idea as it addresses a problem area for some consumers in managing the timings of incoming and outgoing payments. Some knew that the payee rather than the bank was responsible for setting the timing of direct debits.
Having all payments clear immediately and shown in my balance straight away	<ul style="list-style-type: none"> This was a very popular idea as it addresses a problem area of not always being able to keep on top of latest expenditure or to make/receive payments as quickly as is required. Some providers were reported already to be moving close to this by paying out more quickly and by showing pending payments.
Receiving offers, deals and money-saving tips from my bank based on my spending patterns	<ul style="list-style-type: none"> There was some in-principle interest particularly in the deals side of this idea, as long as what is offered is relevant and attractive to the consumer. However, there was an aversion to intrusive tele-marketing and also to generic junk mail. The appeal of this proposition would therefore be contingent on how tailored the offers are and what channels are used to reach consumers.
Being able to talk securely face-to-face with your bank using your mobile phone, computer or tablet - like Facetime or Skype	<ul style="list-style-type: none"> There was seen to be no particular advantage to 'seeing a real person' over speaking to someone by phone or interacting with a virtual customer service agent online. As such, this was seen as another gimmick.

Overall, the ideas presented were appealing as they were felt to be an improvement on what is currently available and to represent a tangible benefit for consumers day-to-day.

The clear top two winners were 'Having all payments clear immediately and shown in my balance straightaway' and 'Having more control and visibility over when direct debts are taken out of my account'. Given the small sample size of qualitative research, this is consistent with the results of the omnibus polling.

'Being able to take a photo of cheques to pay them in' was also attractive. In addition, 'knowing I'll get the money back if I accidentally send it to the wrong account' was of interest, although there was a credibility gap among some people, particularly if they had personal experience of lengthy delays in receiving a fraud refund.

Experiences and perceptions of current accounts

Responses from the groups indicated that the consumer relationship with current accounts is predominantly functional. Respondents said that they did not give their current account much day-to-day consideration. When prompted, almost all reported being satisfied with the service they received; the account meets their expectations.

What consumers valued most about their current account is its smooth running and absence of problems.

"As long as your money's safe you're not really bothered...A current account sounds like we just perhaps take it for granted and we're not bothered with what they're doing as long as everything's working, everything's going in and out." (Sheffield, C2D, 30-49)

"You just get paid into it and then the majority of it gets spent unless you're putting it into a separate savings account... I don't have a lot to do with my bank, that's why they're ok. I do it online and I don't really speak to them ever." (Leicester, C2D, 18-29)

"There's nothing about it which excites you. Money goes in and comes out and that's it. I mean it doesn't present negative feelings in the fact that I haven't had any issues with my bank like for example cash machines haven't crashed like in the case of Natwest and it does what it needs to do." (Leicester, ABC1, 30-49)

Two specific features are perceived to contribute to the effective running of current accounts: the convenience of automated payments and security of antifraud protection.

"All these direct debits you have to pay for your phone, water, this and that. It's all paid without hassle. Because in

the old days they sent you this cheque book and you'd forget and were late, and then you had all these letters. But now everything automatically goes via direct debit which is a greater help and saves lots of time. I couldn't live without a bank account." (London, C2D, 50+)

"It makes life easier for me... I like to know that my wages have gone in and my bills are paid. I set my direct debits up for everything and it's like something less to worry about." (Sheffield, C2D, 30-49)

"I went to Scarborough the other weekend and used my card, and within 20 minutes the bank phoned me to say 'your card's been used in Scarborough, is that you?'" (Leicester, C2D, 18-29)

Technologies such as online and mobile banking were highly used and valued across all ages and socio-economic groups as they made it quicker and easier for consumers to monitor and manage their accounts (e.g. checking balances, making payments, setting up and modifying direct debits etc.). Some also used automated facilities where available in branches and ATMs for paying in cash and cheques.

"Technology is fantastic, you're able to save lots of time. I do everything on the internet and only go into a branch if I have to." (London, C2D, 50+)

The most attractive possible future innovation in the payments system out of those tested was 'having all payments clear immediately and shown in my account straightaway'.

"I've got this balance app for my phone which is quite useful so I check it quite a lot, keep my eye on it." (London, ABC1, 18-29)

"The reason I'm happy is they've got automatic machines there so you don't have to go and wait in the queue if you're going to put some money in your account. You just put it in the machine and they even give you the receipt there and then." (London, C2D, 50+)

Conclusions

[In summary,] a world class payments system in the eyes of UK consumers is one where (a) they have maximum control and transparency over transactions on their current account in real time and (b) the whole system works smoothly without them having to worry about it. If errors are made they can be corrected easily, including by the customer, without stress or concern.

Generally speaking, our research suggests people are satisfied with the service they get from their current accounts. They also have a positive

appreciation for the technology that is now available to help them manage their accounts. They are attracted by potential future innovations that would continue this trend, for example real-time clearing of all payments, secure ways of paying online without having to remember their credit card details and having more control and visibility over when direct debits are taken from their account...

...In general people have confidence that their current accounts work for them. They don't spend much time thinking about whether they need to take action to alter their arrangements and neither do they worry on a day-to-day basis about whether payments will be lost...

... More broadly, consumers feel disempowered if they do experience errors on their account, for example if they themselves mistakenly send payments to the wrong place or if they are a victim of a fraudulent transaction. This was expressed by strong support for a theoretical future option to have the ability to reverse incorrect payments.

[In summary] customers would welcome future innovations in the payments service that give them more control and flexibility on how payments are taken from their accounts, and on how to correct errors if they are made."

About Tooley Street Research

Tooley Street Research Ltd is an independent research company that specialises in providing content for policy-related thought leadership programmes. They use economic and statistical analysis, qualitative techniques, large scale literature reviews and bespoke analysis to scope out independent, rigorous content designed to engage a wide variety of high-level stakeholders.

Back to the infrastructure (for the future)

Author: Chris Dunne, Market Development Director, Vocalink



The way we make and receive payments in the UK will change significantly over the next few years and by 2025, it is likely that some of the predictions for the payment system that we are making today will have become part of our everyday life.

With the fast pace of technological change, innovations are likely to be superseded as quickly as they enter the marketplace. A nod is due here to the short-lived existence of MiniDiscs in the early 2000s, superseded by MP3 music files, the basis for iTunes and other music downloads that we all now enjoy. From a payments perspective, the Mondex card, conceived in the UK in the mid-1990s and touted as the 'cash killer' was itself killed off after its ill-fated trial in Swindon in 1996. Its primary existential challenge was that it wasn't widely accepted; you could use it in one establishment, but not the next. The trial fizzled out and the challenges of 'closed loop' systems have persisted ever since.

To continue the film theme of some of the articles in this collection, take Back to the Future Part 2, released in 1989 but set 26 years in the future in 2015. The projections made in the film - from self-tying laces to the mass use of flying cars and an inexplicable preference for wearing two ties rather than one - were tongue in cheek and many were never intended to be a serious prediction of the future. Yet, a number of predictions have come to fruition and surprisingly some of them include payments.

Robert Zemeckis, the director, nailed it with wall mounted televisions, video conferencing and handheld tablets. He also came remarkably close with his prediction that people would pay for a Pepsi, a donation to a clock tower restoration fund or a game on an old 80's arcade machine (Wild Gunman, if you were wondering...) with a thumb print rather than hard currency. This doesn't seem too far off the trajectory we are currently on, although - as with flying cars - we might need a few more years to get there.

Of course, making concrete predictions about future innovation is often a fool's errand, as viewers of BBC's Tomorrow's World programme will testify. If floating bicycles and robot snooker players were going to form a central part of our lives, they probably would have done so by now. However, if we had access to a Flux Capacitor, and could jump ten years into the future, what sort of payments innovation might at least be possible, given current trends and change?

It's all about real time and certainty. And mobile.

The appeal of Faster Payments today is obvious. I can pay you in a matter of seconds. It's as final as me putting cash in your pocket and walking away. In fact, it might actually be better as there is no need for a face to face interaction.

Until relatively recently, if I wanted to send a faster payment I had to use

telephone or online banking. There were mobile banking applications but a combination of clunky apps, small phones and poor signals meant that it was almost more trouble than it was worth. However the proliferation of smart phones and a vast improvement in the quality and functionality of banking apps has meant that the potential for Faster Payments is finally being opened up.

A culture of 24/7 communication, brought about through improved mobile and computing technology, has fundamentally changed customers' expectations of service providers and is creating demand for immediacy of service, an immediacy of payment.

Over the next ten years we will likely see an increase in the use of Faster Payments and an increase in innovations which build on this existing system. These new services will accelerate the move away from cash and cheques and start to challenge the dominance of debit cards when we pay online, on our mobiles and in store.

In the longer term it is likely that more and more people and organisations will take advantage of the fact that an immediate payment system is readily available. Larger businesses will be able to make supplier payments, particularly as the value limit on transactions rises past the current level of £100,000. And for small businesses, paying staff salaries will be increasingly easy, as a payment can be made at the end of a week to reflect the exact hours

worked with the employee receiving their salary immediately.

HM Government could also take greater advantage of an immediate payments infrastructure to deliver a key facet of their policy to reduce late payments and the impact these have on SMEs.

Faster Payments is essentially the foundation that much of the future innovation in the payments system will be built upon, and will help to shape broader industries as immediate payments are increasingly expected by all individuals and organisations. As such one of the priorities of the recently established Payment Systems Regulator will be to ensure that this and other payment systems are even more accessible to challenger banks, so that they can offer you, the customer, a greater choice of service.

Ease of use and greater functionality for users

We will always need to pay for things and it is highly unlikely over the next 10 years that making a payment – regardless of how we do so – will become anything beyond a means to an end, rather than a pleasure in itself. So where possible, the likelihood is that ‘paying’ will become more integrated into our everyday lives. i.e. when we do not want to have to initiate a payment, we won’t have to, it will have already been programmed to happen automatically. Early examples of this are already in existence today, such as automatic top-ups of Oyster cards for travel around London’s transport network. Contactless has gathered significant momentum in recent times and this will of course facilitate greater take up of wearable payment technology. One might argue, however, that the difference between waving a watch and waving a card, in terms of ease of use for a consumer, is negligible.

The really interesting developments are likely to stem from forthcoming regulation, such as the second Payment Services Directive (PSD2), which will improve the customer experience through essentially opening the door for third parties to sit in between the bank and the customer making a payment. Given the proliferation of smart phones and other portable consumer tech, we are likely to see ever-more advanced and user-friendly apps, that could fulfil

a number of functions ranging from reducing the ‘faff’ of making a payment either in store or online, to helping people manage their expenditure or improve their saving habits.

These third parties could also act as a data aggregation service, ‘interpreting’ the data held about you by your bank, and automatically recommending the best financial services and products (such as loans or current accounts) based on your own personal spending and saving habits.

There are obvious implications here for maintaining customer trust, and this is something that the banking and payments industry must get right if they are to be successful, and beneficial to consumers.

With our research showing that 83% of consumers in the UK checking their balance before making a significant purchase, and over half interested in an app that would allow them to quickly check their balance and help them budget more easily, there is a market eager for innovation. It is likely that in ten years’ time, making informed decisions on expenditure will become even easier as portable communication devices (from smartphones, to watches, glasses, etc.) help us budget more effectively, giving us more options for ring-fencing funds within our bank accounts in seconds and even automatically helping us seek out better ‘deals’.

Another area that would warrant further exploration would be making it easier for those who have made a payment to the wrong person or organisation – currently nearly 1 in 4 people in the UK rising to nearly 1 in 3 for the under 45 age group – to recoup their funds as quickly and easily. Of those who had sent money to the wrong destination, approximately three quarters eventually got their cash back whilst the rest simply did not see their money again.

In all likelihood, there will be an ‘app for that’ for many of these issues sooner than 2025, but as has been the case with the explosion of useful apps across all areas of our lives on our smart phones, once you have the platform in place as it largely is now, necessity will then drive invention.

Digital currencies – thrive or fade away?

Arguably digital currencies – and bitcoin in particular – as a means to pay for goods and services are regarded by many as a passing fad and unlikely to become a mainstream form of payment because of their volatility, their lack of oversight and their complexity.

The Bank of England is examining the possibility of ‘digitising’ part of Sterling in the future, in order to reduce some of the limitations of a national currency, and there may be some merit to this. For instance, without having to make substantial changes to the existing real-time central infrastructures (such as Faster Payments and CHAPS), a digital currency could be programmed to fulfil a set of transactions in sequence, such as the purchase of a property involving a chain of transactions e.g. payment from the purchaser to a solicitor (where it is held in escrow until relevant documentation is signed) and then onto the vendor. Additionally a digital currency would deliver greater user control over a payment if, as bitcoin is, it is based on a ‘push payment’ model and as such would not involve giving customers’ data to businesses, reducing the likelihood of fraud. Due to the international nature of most (but not all) digital currencies, there would be no exchange costs which may be appealing to individuals and businesses that undertake significant cross-border activity.

Yet there are risks – quite a few of them actually, including potentially contributing to monetary and financial instability. However the most significant from the perspective of an individual or a business is the sheer lack of oversight and therefore means of redress. The distributed ledger technology that underpins most digital currencies means that it is virtually impossible for a regulator to provide some sort of protection for those that use a digital currency. Transactions are essentially unmonitored which is of course good for criminal activity, but not so good if you are the victim of it.

It will be interesting to see if and how the Bank of England decides to implement a digital currency in the future; and if it will issue it itself, will leave it to the government or effectively ‘outsource’ it to a third party. However, the more interesting question should be how the

technologies underpinning many digital currencies could be adapted to better serve the existing payment system and its users, rather than trying to replace it just because it’s new and shiny. This technology, and the thinking around it, is in its infancy and it would be a brave commentator, or confident film director, that would hazard any sort of predictions on this one.

Digitising ‘The State’

The UK’s payments system plays a significant role in keeping the wheels of civil society turning. A significant proportion of the interaction between citizen and state involves a transaction of some sort. Unsurprisingly, HM Government is the single largest user of the UK’s payments system, including payments to the DVLA, through to HMRC, with virtually all state benefits being paid electronically through VocaLink’s infrastructure.

Clearly, an efficient and reliable payments system is critical to ensuring that money reaches its destination on time. As citizens’ expectations of immediacy of service are driven by their interactions in other areas of life, so will their expectations rise in their dealings with government.

When the Department for Work and Pensions moved from paying benefits by cheque to electronic payments straight into recipients’ bank accounts, it was essentially a case of taking advantage of an infrastructure that already existed. The government itself saw huge savings, with the cost of a transaction falling from a pound, to just a few pence. Significantly some of the most vulnerable in society benefitted and did not have to rely first upon the UK’s postal service, and then the cheque clearing cycle for payments that would support them and their dependents. However, a significant proportion of transactions between citizen and state (both ways) relies upon cheques and cash. This is both inefficient from the perspective of a government that is applying further pressures across the public sector for efficiency savings, but also for the citizens and small businesses that will be increasingly benefitting from immediacy in their non-state transactions.

The Government Digital Service has recognised the potential for the payments system to provide value for the delivery of public services, in line

with the digitisation of the role of the State. Ten years from now, it is likely that the GDS’ work and the pressure of citizens’ expectations, will mean both the citizen and the State will have benefitted from a true digitisation of transactions in both directions.

‘Where we’re going, we don’t need roads...’

The UK has one of the very few national real-time 24x7 payments system in the world. It could (of course) be better exploited, but very few countries currently have this starting point from which they can deliver the future innovation and benefits for all users. In most cases they are having to invest in establishing this foundation first, before they can even think about building on top of it.

This is a critical point. We are more likely to achieve the aspirational payments innovation set out by contributors to this paper, and that will in future be set out by bodies such as the Payment Strategy Forum (PSF), if we do so by building on the infrastructure that is already in place. VocaLink, which provides significant elements of this world-leading infrastructure is already working to fulfil the future requirements of those that rely on the UK’s payments system, through innovation such as our Payport access solution for challenger banks and FinTech innovators; and our Zapp technology that will allow all with a smart phone to pay directly from their bank account to merchants, retailers, utility companies and many others.

The 40th President of the United States, Ronald Reagan, referred to the original ‘Back to the Future’ film in his 1986 State of the Union address, capturing the positivity of a new presidency and stating that “where we’re going, we don’t need roads”. Similarly with the UK’s payments system we have much to be positive

We are more likely to achieve the aspirational payments innovation set out by contributors to this paper, and that will in the future be set out by bodies such as the PSF, if we do so by building on the infrastructure that is already in place.

about today; and an enviable platform upon which future ways of ‘moving money’ can be built.

Author biography

Chris Dunne is responsible for thought leadership and developing new markets for the company. He is also responsible for managing the executive relationships with the payments industry, Bank of England and Government. Chris is also a member of the Payment Systems Regulator Panel. He joined the company in 2004 and has played a key role in the successful implementation of the Bacs technology renewal programme, the delivery of Faster Payments and the new Current Account Switching Service. He has held several senior roles as Customer Services Director, Strategy Director and Payment Services Director before taking on his current role.

Part 3

What next then?

It is hoped that this paper will help to catalyse debate, not only on what the future for the UK payments system might mean for consumers ten years from now, but also on what is should mean. We have some flexibility now, to shape the way that that we pay and get paid in ten years' time, if all parties from end users to banks; technology providers to business collaborate to build a shared vision that delivers universal benefits. There are, however, a number of factors that will shape how the payments system evolves in the shorter term:

The FinTech evolution...

One area that is already generating more consumer choice in banking and payments is the growth of the financial technology - or FinTech - sector. The concept of technology underpinning the financial services industry is not new. However, the concept of technology firms competing with established banks to provide specific 'banking' services directly to consumers, at lower cost and in more innovative ways than many banks are able to is a more recent market dynamic. It is a growing 'movement' that has the potential to deliver greater value and choice to consumers, increasing the options for individuals and businesses to pick and choose the services that they want, which at present they may receive from a single bank.

This FinTech movement is supported by HM Government, which has an ambition to make London the global FinTech capital, complementing the City's current position in the global financial system. It also offers significant future potential for the UK economy with FinTech already contributing £20 billion per year to the UK's GDP and directly employing 135,000 people.¹ A significant proportion of this innovation will be in payments and as such, as the infrastructure that this will be built on top of is already widely regarded as world class (it's all about real time..) we are in the better position than most to maximise the benefit that FinTech can deliver.

Regulatory and legislative requirements driving change...

The Payment System Regulator (PSR), which launched in April 2015, intends to open up access to payment systems and also drive greater innovation to benefit consumers, businesses and other users. Alongside this, the Financial Conduct Authority (FCA) has established its own Innovation Hub - Project Innovate - to help (mostly) start-up technology companies overcome regulatory hurdles and enter the banking, and payments, market. It is expected that both these initiatives will drive short term change in the delivery of benefits to users of the payments system.

And the EU's second Payments Services Directive (PSD2) will provide a platform for e-commerce to thrive through allowing third party providers to initiate payments from consumers' accounts. In parallel, HM Treasury's Open Data and API initiative will require UK banks to provide account information through an Application Programming Interface (API) to account aggregators and similar service providers. This offers huge potential for the development of services that are driven by the data held by banks about their customers, or that can improve the payments experience for end-users. Banks, FinTech providers and established e-commerce companies are already evaluating the services they can offer on the back of PSD2.

Identifying and mapping end-user needs

Alongside the PSR, the newly created Payment Strategy Forum (PSF) has been established to set a future strategy for the payments industry, based on the needs of those using the payment system: a difficult task given that both needs, and the capabilities to deliver against these needs are constantly evolving. The PSF's work over the next couple of years will certainly drive more immediate change, and it will be important that it takes on board existing work that has been undertaken to address this difficult issue. Foremost amongst this is the World Class Payments project, initiated by PaymentsUK which will set out where future innovation will map against the future needs of individuals, businesses, charities and other organisations.

Conclusions and summary

The payments system forms the beating heart of the UK economy, facilitating funds transfers from one account to another. But the real-time infrastructure that powers the payments system is also a platform for innovation and an engine of economic growth. We must seize the opportunity to build on our unique world-class infrastructure – but this requires discussion and collaboration.

Over the past four decades, the UK has developed an advanced payments system, one of the very few real-time 24x7 payments systems in the world. As well as facilitating efficient transfers, this provides a bedrock for future innovation. In this respect, the UK currently has a significant competitive advantage over most other economies. The big challenge for the UK is to decide what to do next to remain at the forefront of innovation. Success requires careful planning and collaboration to ensure that benefits are maximised and available to all parties.

VocaLink will play an important role in facilitating change and collaboration. As the provider of much of the UK payments infrastructure, we occupy a unique position at the heart of the UK economy. We also have relationships with all the key players in UK payments, which empowers us to inspire collaboration and drive progress. Moving Money 2025 brings together several articles from a range of important contributors. It offers a window into the future; a glimpse of what might happen, when and why.

The predictions made in these articles affect the lives of everyone. No doubt some will materialise while others will not. The inescapable truth is that ten years is a long time in payments history and change is inevitable. However, what form this evolution will take and to what degree it will benefit those that rely on the payments system, will depend upon two key factors. Firstly we must acknowledge that the infrastructure currently in place is a key platform for future innovation, whatever direction it may take. As other countries are realising, this infrastructure must be allowed to develop as such and provide the foundation for a more digital economy and society.

Secondly, and as importantly, we can all play a part in shaping the future of UK payments. We must all ensure that change is directed by what the requirements of different corners of our economy and society, if the full benefit of change is to be enjoyed universally.

As such we hope you find 'Moving Money 2025' interesting, informative and that it encourages you to join this important discussion.

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