

## FINANCIAL SERVICES TECHNOLOGY

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THEY'RE HOT AND DON'T TAKE RISKS	FIGHTING TO FOIL THE FRAUDSTERS	TECH CITY STAR ON LEVEL39

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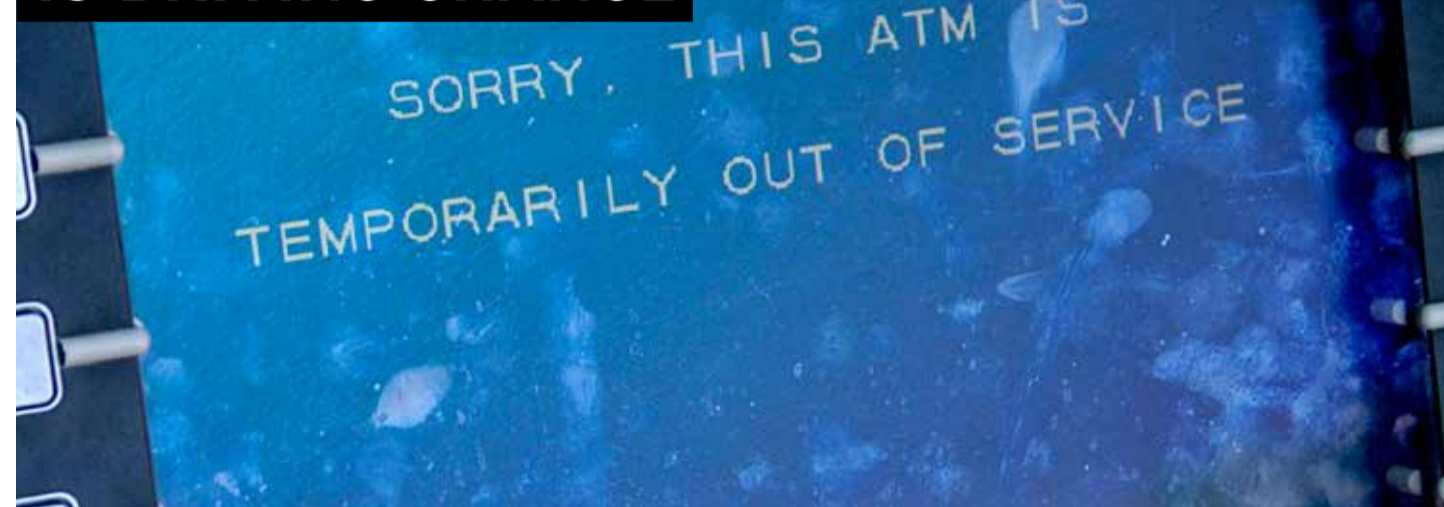
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## OBSOLETE TECHNOLOGY IS DRIVING CHANGE



Computer hardware failure, which last Sunday shut down some cash machines and blocked debit cards, was the latest technical glitch to hit the high street – evidence that the financial services industry must throw off the legacy of outdated technology and modernise, writes **Pádraig Floyd**

### OVERVIEW

Financial services is an information-based industry, yet technology has never been a strong suit. Some experts estimate perhaps as many as 80 per cent of financial services organisations are sitting on core systems which are 25 to 30 years old where the current ratio of 80:20 in terms of maintenance and innovation needs to be reversed.

"Large swathes of financial services remain dependent on so-called legacy systems; outdated, patchwork platforms which rely on manual processes and ancient technology to function," says John Mayr, marketing and partner development at SimCorp.

The dominant view in banking, insurance and asset management, has been that if it ain't broke, then don't fix it, because in the past these systems have been exceptionally cheap to run.

"Boxes have sat there for ten or fifteen years and people are afraid to go near them, so they are patching systems on top," says James Haycock, managing director of Adaptive Labs.

This presents considerable risk. Adding new to old doesn't make the system better and every year there are fewer technicians who understand the systems that underpin the core. As a result,

businesses are spending increasing amounts of money maintaining obsolete, inefficient systems.

The financial space, and in particular retail banking, is moving faster than before, says Mr Haycock, and technology is levelling the playing field.

Obsolete technology is not the only driver of change. Regulation is increasing and fines for those who fail to meet the standard are becoming punitive. Yet despite this, financial services is dominated by "salami-slicing" and cost-savings, says Jean Lassignardie, head of sales and marketing for Capgemini Global Financial Services.

"Financial services cannot do cost-cutting only," he says. "Businesses cannot continue to compromise the engine of growth for the future."

Mr Lassignardie says outsourcing will increase with banks and insurers adopting third-party technology that allows them to integrate their creaking core systems with 21st-century flexible applications.

This may not seem like a major step, but sharing technology is a radical departure in such a competitive industry, according to Steve Vinnicombe, a partner at Capco. This will happen in areas

where competitive advantage is not as important.

"Though this does allow them to share in others' utility," says Mr Vinnicombe. "There is a risk and fear of what may happen in a disaster."

The consensus is that core systems will continue to be maintained, while interactive systems are layered on top.

However it happens, technology used by banks has to catch up with the technologies employed by its customers, says Guy Bunker, senior vice president of products at Clearswift.

imise the opportunity, yet have been slow to understand that technology isn't a channel to exploit; rather it is something to integrate all channels.

Some of the more innovative retail banks have understood this, says Rahul Singh, president, financial services and business services at HCL Technologies, making customer interactions easy, relevant, transparent and cost effective.

"They do this by focusing on customer data and analytics, integrating the different channels a

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"Financial services and companies in general face a tsunami of personal information and company critical information flowing between mobile devices and smartphones, and this is going to get ten times worse in the next three to five years," says Dr Bunker.

Individuals already expect a high level of integration of technology with their various accounts and this is set to increase.

This extends far beyond the digital native for whom "gamification" – literally to make the navigation of a process gamelike and therefore "cool" – was developed. It now includes those who have become more sophisticated at accessing data remotely and increasingly expect interaction to be both swift and efficient.

"However, the way they wish to access this data is at loggerheads with the security and methods of handling data at banks," says Dr Bunker. But they're going to have to get over it.

Banks have managed to silo each business channel in order to max-

customer might use and also fundamentally re-engineering business processes by looking at how technology can not only improve the customer experience, but also reduce the cost of business," he says. And it's not only in retail banking. This is happening in investment banking where real-time risk management is considered essential and in corporate banking where parties engaged in mergers and acquisitions activity demand access to information, not through the appointed bank, but their own trusted provider, whoever that may be.

The business world functions on data and it is the customers of financial services companies who will determine how that data is exchanged, not the providers. This means more collaboration, greater sharing and placing the customer before the limitations of their internal systems.

It's a hard lesson for the industry to learn, but learn it they will, because the world has changed and if they don't cotton on fast, they'll go the way of the dinosaurs.



The financial space, and in particular retail banking, is moving faster than before and technology is levelling the playing field

# THEY'RE HOT AND DON'T TAKE RISKS

Greater regulation, following the financial crash, has increased financial services firms' focus on risk management, writes **James Dean**

**RISK**

Armies are being raised in the City. Not of champagne-quaffing traders, nor Rolex-bling brokers, but of a new breed of worker with the hottest skill in the Square Mile – compliance officers. Compliance, according to a recent report, is where it's at. Demand for compliance officers is at a record high, as the financial services industry begins to accept that strong internal controls are essential in an age of intensifying regulatory pressure. The demand is expected to fuel the biggest hiring spree in the City since records began in 1989, according to the Confederation of British Industry and PwC, the professional services firm.

**Fighting cyber crime**  
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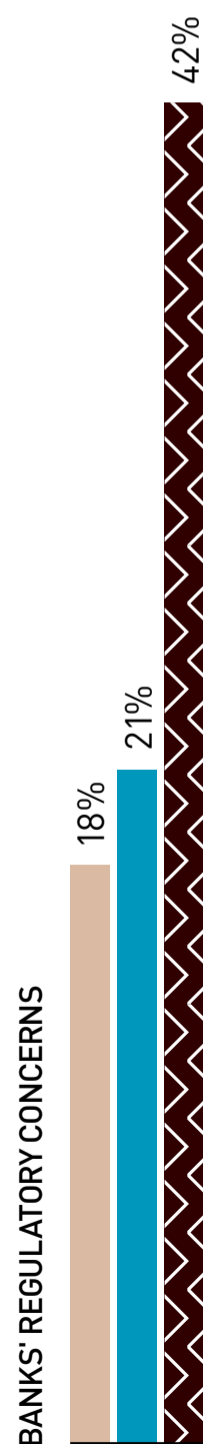
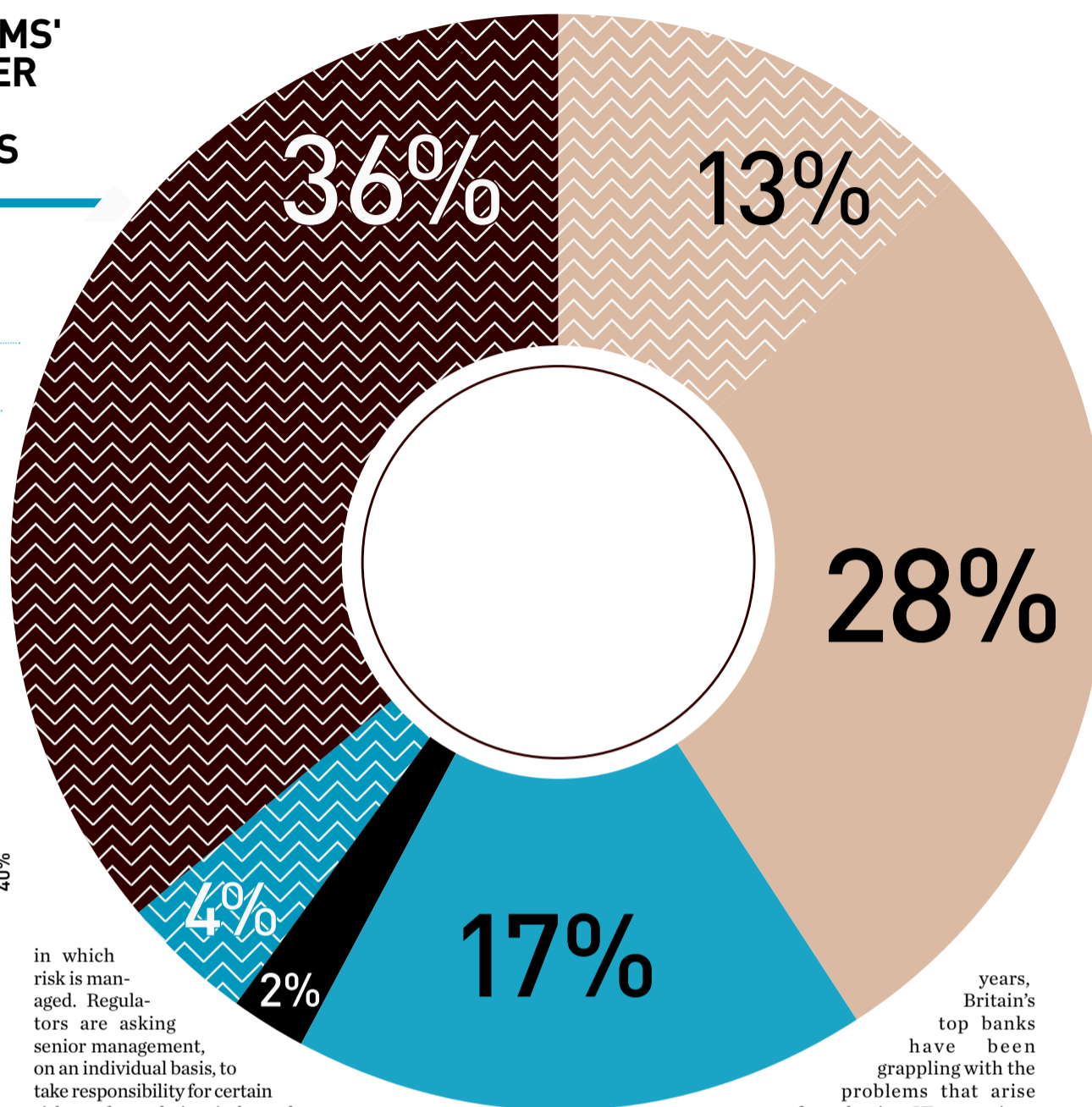
The demand for ranks of compliance officers is borne from the deluge of rules and regulations that followed the financial crisis. After years of toing and froing between lawmakers and industry at home, in Europe and even further abroad, many reforms are becoming reality. "We're going through unprecedented regulatory change coming off the back of the financial

crisis," says Julie Coates, head of financial services risk and regulation at PwC. "yet there's so much more to come over the next few years. Some of these reforms are so far reaching that businesses will have to rethink how they make money in the future and perhaps even change the way they work completely." On the horizon is the possibility of new European rules based on the US Volcker reforms, clamping down on banks' use of depositors' funds for speculative trading. British banks, on the orders of the Basel Committee for Banking Supervision, have long been increasing their capital reserves. "Ring fences" between the retail and investment sides of too-big-to-fail banks are still on the cards. Not all the changes of the last six years have come from new rules, though. Nik Kiri, a partner in the financial regulation group at Linklaters, the law firm, says that while "black-letter regulatory reform" has increased financial services firms' focus on risk management, more significant, perhaps, is the way that regulators' expectations have changed when it comes to the way firms and their senior management teams address risk. "Regulators are asking much more searching questions of institutions," he says. "There's much greater engagement with senior management about the way

## FINANCIAL FIRMS' CONCERNS OVER REGULATORY REQUIREMENTS

ALL COMPANIES

- FATCA
- Dodd-Frank
- Basel III
- Anti-money laundering and sanctions compliance
- All the above
- Don't know



in which risk is managed. Regulators are asking senior management, on an individual basis, to take responsibility for certain risks, to focus their minds on the importance of risk management and to make it easier to hold them accountable if there is a subsequent failure. "It's at least partly a reaction to the fact that regulators have struggled to hold individuals accountable for the problems a number of large firms faced during the financial crisis. "The legal changes will have a very significant impact in terms of firms' business models, structures and capital arrangements. But in terms of day-to-day risk management and governance, it's not so much about legal changes as the way that regulators are using existing rules to get management to focus on the way risk is being managed in their businesses. There has been a step-change in the dialogue between regulators and firms."

Because regulatory scrutiny has intensified, company boards must be able to respond. "Broadly speaking, the role of the chief risk officer has changed from analysing credit risk to understanding compliance in a much wider sense," says PwC's Ms Coates. "It's now about looking at company-wide procedure even to the extent that they might recommend a comprehensive restructuring of the business." Responding to new data streams is a challenge, she says. "Long gone are the days that 'technology' meant 'minimise IT spend'. In the digital age, companies need to respond quickly to customers, suppliers, government – anyone in the chain. "Management information systems used to stream lagging indicators, but that's just not the case any more; it's all real-time data, or at least it should be. Having more up-to-date information at your fingertips allows you to be more responsive. Then the key is to filter out the most important indicators from the myriad of data – customer complaints or breaches of internal controls, perhaps – in order to best inform decision-making." Despite the benefits, technology also presents its own risks. For

years, Britain's top banks have been grappling with the problems that arise from having IT operations that are of such a big scale. In the last two years, Lloyds, Halifax, the Co-operative Bank, Royal Bank of Scotland, NatWest, Ulster Bank and Nationwide have all had to fix issues with transactions from customers' current accounts. Problems often arise when IT systems have to be bolted together; for example, after a merger. "Legacy systems are a major hazard when it comes to putting everything together," says Ms Coates. Also, increasingly, regulators want to ensure that management know how their computer systems work. They ask when they look at a business: "Do senior managers understand the complexity?" Companies have a lot of work to do, but getting to grips with the new regulations and making changes early on will make it easier to navigate the choppy waters, she advises. As the reforms bed down, customers should get "more inventive, better tailored" products and better service. In time, and with continued effort, customers should start to trust financial services again – lack of trust perhaps being the biggest barrier to success. And once the customers are happy, the shareholders will also be happy because improved sales tend to mean stronger earnings. ■

ANALYSIS

## THE TAXMAN COMETH... FROM AMERICA



They once provided a haven for the inestimable wealth of the Western elite. "If you can't trust a Swiss banker, what's the world come to?" asked James Bond in 1999's movie *The World Is Not Enough*. Now, though, the allure of the Swiss bank account appears to be fading among wealthy Americans and Europeans. Credit Suisse and UBS, Switzerland's two biggest banks, have long reported that Western money is flowing out of their private accounts, (they're not worried, though, because money from the Middle and Far East is flowing in). The outflows have come as Western governments crack down on tax evasion and avoidance by citizens using offshore bank accounts. The Americans have been leading the charge. Last year, the US Internal Revenue Service (IRS) won a case against Wegelin, Switzerland's oldest private bank, which pleaded guilty to helping American clients shelter \$1.2 billion from the taxman. As the bank was forced to close, one Zurich-based newspaper screamed "gunboat diplomacy". Four years before, UBS paid a \$780-million fine to US authorities in relation to tax evasion charges, also agreeing to disclose details of the Americans holding money at the bank. To aid the clampdown, American lawmakers passed the Foreign Account Tax Compliance Act (FATCA) in 2010, which requires every US citizen to disclose the existence of bank accounts held abroad. Unusually, it also requires foreign financial institutions to tell the IRS about their American account holders. It is all part of a bid to reclaim an estimated \$100 billion in taxes withheld from the Federal Treasury every year. Such sweeping changes to accounting systems have presented big challenges in the recent past. After the Enron scandal, financial reporting standards were radically overhauled by the passing of the Sarbanes-Oxley Act. From the off, companies struggled to accurately calculate tax across their operations. "Those rules were the single biggest driver behind audit qualifications for some time," says Alan MacPherson, leader of the global tax governance, risk and compliance practice at Deloitte, the professional services firm. As a result of the complications, companies spent huge amounts on updating their systems. Businesses impacted by the FATCA rules – and perhaps also mindful of the increasingly adversarial nature of international tax authorities – might do well to overhaul their tax-calculating systems ahead of the changes, which come into effect in July. The complexities brought about by American lawmakers can, to some extent, be assuaged with the help of computers. Generally, the idea is to use technology to automate small, repetitive processes that have a high error rate and standardise the process of taking data from one place to another. Many companies are also choosing to outsource certain tax functions to specialist centres, in part for cost-savings and in part because it frees up management to concentrate on other issues. India, of course, is a leader in this field, with its highly educated workforce and increasing levels of business experience. FATCA is looming. Any institution that fails to update their systems is likely to receive an unwelcome visit from the American taxman – and financial penalties to boot.

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# Sustainability is now the driver of innovation

An increasingly competitive and dynamic financial services landscape means organisations need to be able to innovate sustainably, without compromising security or financial control



The UK is one of the most advanced countries in the deployment of digital channels, with customers interacting through mobile channels, on smartphones and tablets, as well as online, through branches and call centres.

"Most people in the UK now have a smartphone and mobile banking actually overtook online banking for some banks in terms of log-ins or transactions in 2013," says Serge van Dam, segment lead, digital channels at Fiserv. "It's no longer an emerging channel; it's actually the preferred way through which consumers want to interact with their bank."

Financial institutions need to remain current and respond to this constantly evolving trend. Some are already offering customers the ability to "live chat" with customer services representatives, and over the next few years all serious players will look to increase the range and quality of the services they offer through mobile and online channels.

Some banks in the UK are now reducing their branch and call centre infrastructure in response to this, adds Mr van Dam; a trend seen in other mature markets, such as the United States and Australasia, and which is likely to continue in the future.

Alongside this, other global trends are developing, contributing to a fast-moving environment in which banks need to be able to react quickly. Non-cash payments are growing at a rate of 8-10 per cent a year, says Sunil Sachdev, managing director, international payments at Fiserv, and the nature of these payments is changing with the arrival of digital, such as payments made through mobile phones, whether at the point of sale or between individuals, as well as online transactions.

"In emerging markets you see strong growth around newer

channels in the mobile and online space, given the dearth of traditional payments and banking infrastructure in those markets," he says. "In the developed markets, cards continue to dominate the non-cash space, due to the lack of standardisation, which fragments the user and merchant experience."

Much of the growth in non-cash can also be attributed to a rise in innovative pre-paid products across the world. These products support a wide variety of uses with the common theme of combining financial discipline with greater portability and security of funds.

In developed markets pre-paid products have helped unbanked and under-banked people gain greater access to the convenience offered by online and mobile channels, something they did not necessarily have before.

The rapidly changing landscape in the financial services sector means institutions need to quickly identify and stay abreast of both consumer trends and changing customer demands. Mr van Dam points to research conducted by Fiserv which highlights that consumers view the various digital channels very differently, and as such require different and well-

thought-out approaches.

"Mobile is all about doing things quickly and on the go, while a tablet is more like a magazine-type experience, often on the couch at home. It's a portable rather than a mobile device and people expect that user experience to be very digital-like," he says. "Online has become the channel for work, mostly for data input and manipulation."

The notion of having an "omni-channel" strategy is not a one-size-fits-all solution, he believes, referencing the different ways in which consumers use social media sites on their phones and PCs, as a template for the future development of digital financial services.

Yet despite the need to innovate, or partner with organisations that can do so on their behalf, financial institutions also need to ensure they have robust real-time security and back-end systems that can cope with the demands of new channels.

"There are a lot of exciting technologies around mobile and digital payments, and new payment corridors opening up, whether that's to the under-banked or cross-border transactions," says Andy Mellor, product manager for financial control solutions at Fiserv. "But

all the traditional controls that were in place in typical branch or head-office infrastructures – fraud detection, money laundering and tax evasion monitoring, compliance or fundamental processes such as reconciliation – also need to be taken into the new world."

From a security perspective, ensuring robust processes are in place which can detect and prevent malicious activity is essential, says Greg Hughes, information security officer at Fiserv. Simply developing software to accomplish certain tasks is not enough.

"A complete understanding of the financial services landscape and the security controls necessary to prevent fraud, and to properly provide financial services and process transactions is critical here," he says. "Institutions need to ensure their technology providers follow and embed practices which ensure the variety of threats facing the industry are proactively and continually addressed."

Fiserv facilitates the movement of more than \$1 trillion every year, through 20 billion electronic transactions, and its online banking systems are used by more than 55 million customers. This means its process and security set-up is tried and tested across the full range of traditional and digital channels, while demonstrating a strong track record in developing innovation required to ensure customers and their brands remain at the forefront of their markets.

"Banks need to focus on being banks as opposed to technology companies," Mr van Dam concludes. "That's where we come in as their partner, to ensure that through sustainable innovation they continue to be relevant to the customers they have today and their customers of tomorrow. It's part of our DNA."



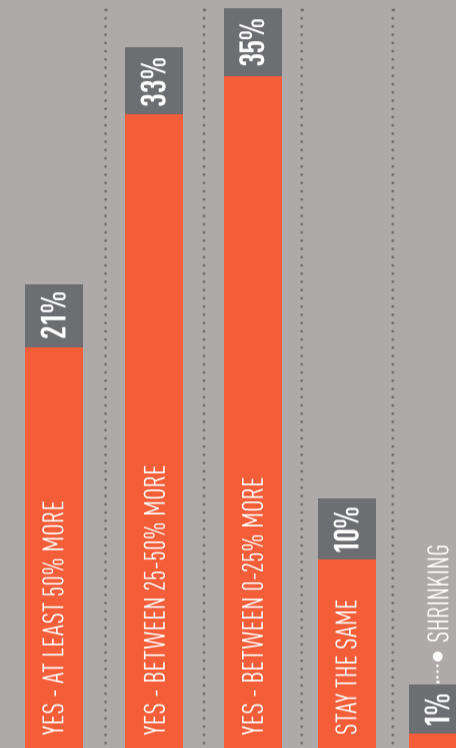
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## FUTURE TECHNOLOGY TRENDS

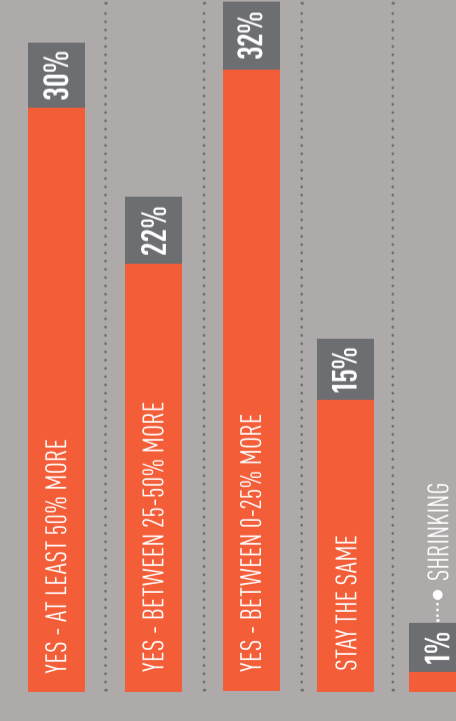
\* Source: Fiserv Survey, 2013  
78 respondents at a recent global financial services industry conference

A CONNECTED ECOSYSTEM

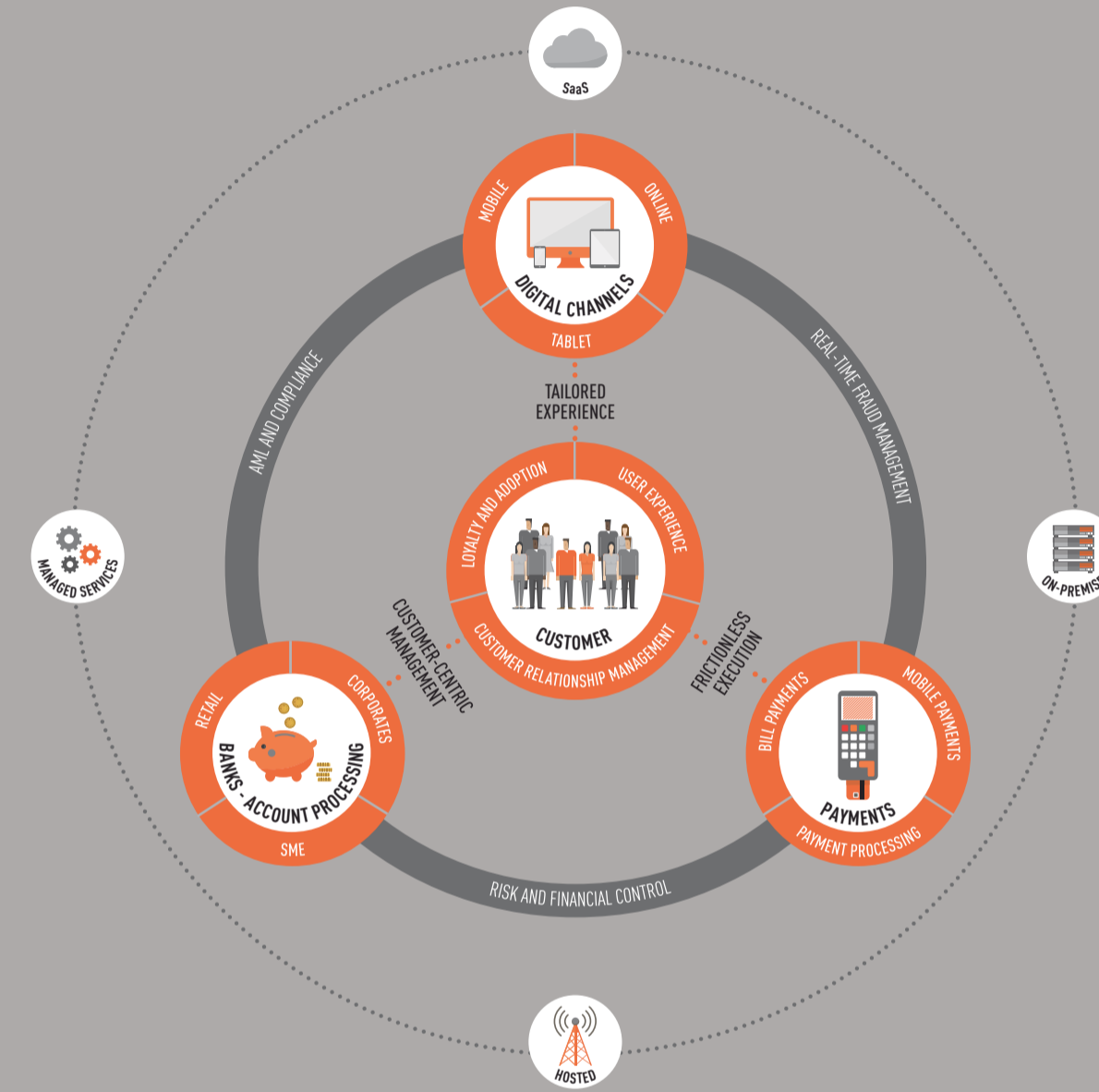
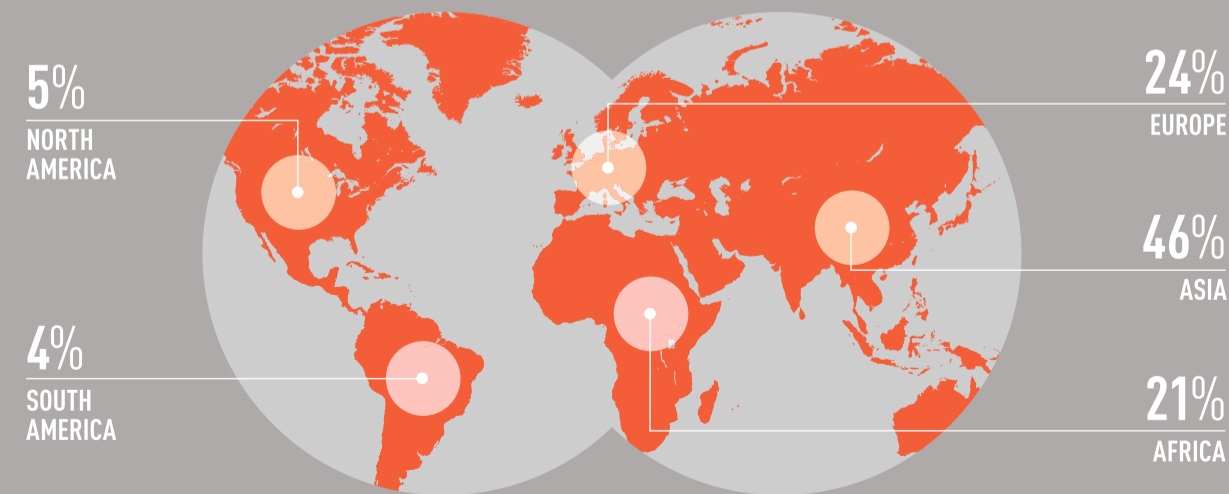
DO YOU EXPECT TO SEE SPENDING ON COMPLIANCE WITHIN YOUR ORGANISATION INCREASE OVER THE NEXT 12 MONTHS? \*



DO YOU BELIEVE THAT YOUR ORGANISATION WILL BE INVESTING MORE MONEY IN MOBILE BANKING AND PAYMENTS OVER THE NEXT 12 MONTHS? \*



WHICH REGION WILL SEE THE GREATEST INVESTMENT IN MOBILE BANKING AND PAYMENTS OVER THE NEXT 12 MONTHS? \*



Source: Fiserv, 2014

## Q&A

**Steve Tait**, president – international group, Fiserv, addresses the market dynamics that have influenced the company's transformative move to consolidate international operations – and why Fiserv is one to watch



**Q What's happening in the financial technology sector? And how is this impacting Fiserv's clients and Fiserv itself?**

**A** Fiserv is one of only a few companies that has strategic front, middle or back-office technology operating in pretty much every major financial institution in the UK and Ireland, but is a company name that many people may not have heard of. Our business outside the United States focuses on mobile, online and core banking platforms, payments, risk management, compliance, cash management and logistics, and investment services.

Focus on all these areas is increasing, driven by our clients' top-of-mind agenda to better serve their customers, increase operating efficiencies and, of course, grow their own businesses. To address this agenda, our clients want us to help them look more holistically at strategy and enabling technologies, and develop a more consultative approach, based on in-depth understanding of their customers' needs and requirements. Fiserv realised 18 months ago that we could better serve our clients by bringing the entire international organisation together – around 5,000 people in total, supported by an additional 15,000 people in North America.

**Q Can you give any examples of how financial institutions benefit from this?**

**A** We are basically a one-stop shop for financial sector technology. We have the depth of knowledge and "best of breed" solutions, along with a cohesive

organisation for our clients to deal with. That's pretty powerful. Ensuring security around digital channels and emerging payment types is a good example of banks benefiting from this approach. It's much easier now for our clients to engage with us on next-generation digital banking and payment strategies with essential financial crime risk management and financial controls as an inherent part of the technology offering.

**Q What is different about Fiserv? What's at the heart of what you do?**

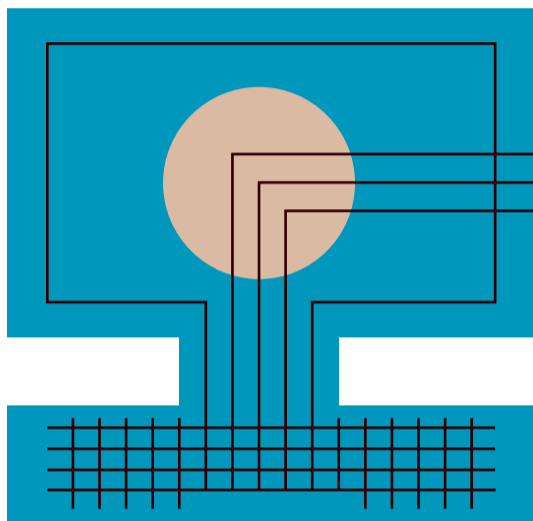
**A** It sounds a cliché, but our people are at the heart of what we do and give us our difference. More than 14,500 financial institutions around the world rely on Fiserv. Our people help to move our clients' goals from possibility to reality, earning their trust each day through engagement and leadership, and by delivering on our commitments. I was at a large financial services conference in Dubai the other week, talking about ACLEDA Bank's Unity mobile banking service in Cambodia, which is literally changing people's lives. Fiserv associates spoke with passion about the service and their involvement, which focuses on helping people migrate from being under-banked to banked customers, through the bank's Unity service.

**Q So, what's on the horizon for Fiserv? How are you going to make sure that the success continues?**

**A** We continue to evolve strategy because it intelligently informs the decisions we make, such as which countries to move into, which technology to invest in and so on. I used to think of Fiserv as financial services technology's best kept secret, but with our new initiatives in global payments, increasing adoption of our mobile and online banking platforms, and associated risk and compliance technology, all that is about to change. Watch this space.

# BANKS BID TO FOIL THE FRAUDSTERS

Cyber criminals are the new bank robbers – and online raids are increasing, as **Liz Phillips** reports



CYBERSECURITY

With financial transactions increasingly moving into the virtual world, it's vital that the technology used is secure.

Banks are shutting branches in small, unprofitable areas, removing counter service in others and encouraging customers to transact online or over their mobile devices whenever possible.

Even cheques are going paperless and moving online. Rather than having to go to the bank to pay in a cheque, from next year you'll be able to take a picture of your cheque on your smartphone and send it to your bank.

Cheques, those bastions of paper payments, are not dead yet. Last year they still accounted for 10 per cent of all payments by individuals, although consumer spending online has increased by 495 per cent over the past ten years, according to the UK's Payments Council.

With such spectacular growth, it's no wonder cyber security is becoming the main concern for financial services in 2014 as they are the target of 47 per cent of phishing attacks netting cyber criminals £7 billion a year worldwide, security vendor Check Point warns.

Its managing director Keith Bird cites one of the cleverest mobile attacks, Eurograbber, as an example. In autumn 2012, the virus stole £30 million from more than 30,000 customers of 30 banks in Italy, Spain, Germany and the Netherlands by bypassing the SMS-based security account authentication used by banks for mobile and online bank customers.

The fraudsters were able to trick

customers into downloading a virus on to their PCs and mobiles, which allowed the attackers to intercept the authorisation codes. It allowed the crooks to make transactions themselves over a period of months before being discovered by Check Point.

There's also the problem of users knowing whether they are accessing the correct website. This is known as a "man in the middle" attack where the connection to the bank is intercepted by the cyber criminal after the user has authenticated it.

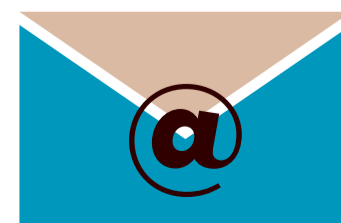
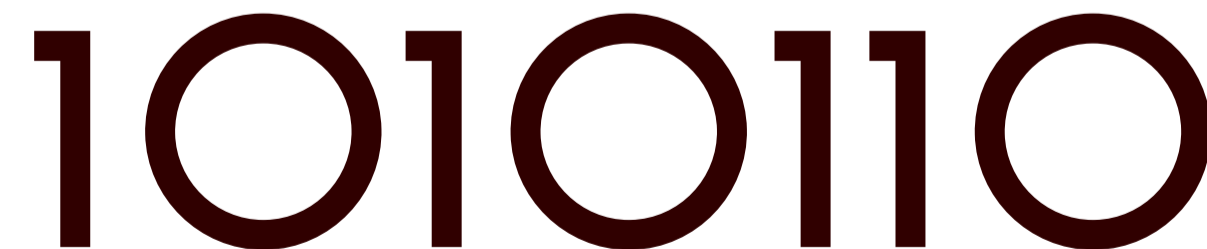
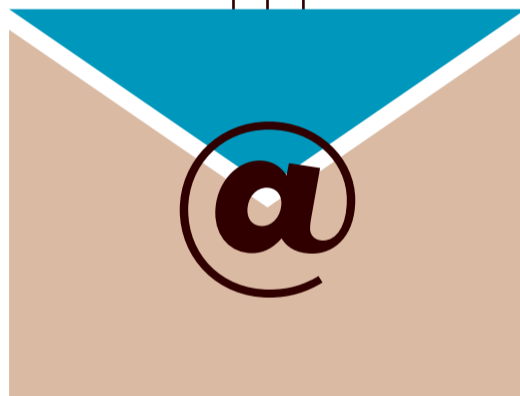
One way to prevent this, according to Colin Tankard, managing director of Digital Pathways, specialists in design and management of security systems, is two-factor authentication to re-validate transactions as well as software, such as Rapport, which checks if the website is correct.

The trouble with multi-layered security, such as a password or a PIN plus a token, is that it needs to operate in a hassle-free way for the user. If it's too complicated or tiresome, the customer won't use it.

Research by Intelligent Environments, which provides digital banking software, found that almost a quarter of consumers



**The trouble with multi-layered security is that, if it's too complicated or tiresome, the customer won't use it**



27%

OF SMARTPHONE OWNERS ARE UNCONCERNED ABOUT ENTERING FINANCIAL INFORMATION ON THEIR PHONES

28%

OF SMARTPHONE AND TABLET OWNERS ARE UNCOMFORTABLE USING THEM FOR ONLINE BANKING

30%

OF USERS THINK MAKING E-PAYMENTS ON SMARTPHONES AND TABLETS IS UNSAFE

33%

NEVER USE A MOBILE DEVICE FOR ONLINE TRANSACTIONS

Source: Kaspersky

are frustrated by the need to use a card reader.

"Similarly, while complex 12-digit passwords can help improve security," explains Intelligent Environments' Clayton Locke, "they can also undermine it. One in four consumers admits writing down their password as they simply cannot remember it, while a further quarter uses the same password for all online activity."

Biometrics like the fingerprint scanner on the new iPhone 5S or retina scanners for tablets and wearable technology, such as Google glasses, solve this problem.

But no matter how fancy the technology becomes, the consumer will always be the weak link. Leaving mobiles or tablets lying around, with little or no protection, makes them easy targets for criminals as does using untrusted public wi-fi networks for financial transactions which can be easily intercepted.

Clicking on links in e-mails, no matter how authentic they look, and downloading apps to mobile

phones from cyber criminals are tricks that are all too easy for unwary victims to fall for.

There are now 150,000 examples of malware and 104,427 of these were found in 2013 alone, according to identity assurance firm HID Global. And new Trojans are being rapidly developed all the time.

Trojans plant malicious scripts on smartphones or tablets, which capture usernames and passwords as they are typed in, if the device's security is not kept up to date.

A survey by security software company Kaspersky last summer found that 30 per cent of users do not feel safe making e-payments on smartphones or tablets, 33 per cent never use a mobile device for online transactions, and 28 per cent of smartphone and tablet owners aren't comfortable using them for online banking.

However, 22 per cent of tablet users and 27 per cent of those with a smartphone are unconcerned about entering financial information on their gadgets.

Despite the fact that some consumers may be too casual with their online finances, regulators are all too keenly aware that they need to ensure financial institutions themselves try to keep ahead of the fraudsters.

There are new European Union regulations in the pipeline focusing on improving customer authentication, to bring in multi-layered controls, as well as improving consumer education and awareness of the dangers.

"The regulators are also keen that organisations understand the risks they face when providing online and mobile payment services," says Alex Petsopoulos, who leads financial services cyber security for Deloitte.

"At the moment, mobile banking and payment services are very limited in functionality, so there is little incentive for fraudsters to attack them, but as these services develop, is security keeping up?"

In the UK, the government's Financial Policy Committee has said that, by the end of the first quarter of this year, banks and infrastructure providers must ensure there's a plan to deliver a high level of protection against cyber attacks.

Last month, David Willetts, minister for science and universities, launched a new guide for the corporate finance sector outlining practical steps for businesses to manage cyber security.

The impact on the bottom line for major UK businesses is huge. Deloitte estimates it costs them each an average of £2.1 million a year.

In addition, security breaches can drive away consumers who have had a bad experience. There are also costs involved in handling a large-scale failure, including compensation for any losses, increased demand on customer service staff, and the need for crisis management and public relations to limit damage to brand reputation.

COMMERCIAL FEATURE

# Agile technology in a digital age

The digitisation of financial services is changing everything for banks and insurance companies, bringing with it both immense opportunities and challenges, says **OpenText**

CHALLENGES FACING AN AGILE BUSINESS



Customers now expect to interact with providers through a variety of channels and receive the same experience through each one



Businesses need to develop an agile culture supported by agile technology



Many organisations are failing to fully examine the business processes which sit behind the front end

Customers now expect to be able to interact with providers through a variety of channels – in branches, on the phone, online, and through mobile and tablet applications or a combination of these – and receive the same experience through each one.

For every financial services organisation, reacting to this is now a board-level issue and one that is right at the top of the agenda. Executives are increasingly asking where they will be in five years' time and what would happen should a credible digital player enter their marketplace tomorrow. Those who are honest do not like the answers.

Factors other than fear are also creating pressure to provide better levels of customer service. The negative publicity the sector has endured over recent years means the perception of financial services, and individual brands within it, has been tarnished. Regulators, too, are pushing for greater transparency around costs and, with it, more efficient processes.

To date, most organisations have focused on transforming their customers' experiences. This is the right approach, but many are failing to fully examine the business processes which sit behind the front end. The strategy has often been to attempt to bolt digital offerings on to existing processes that are no longer fit for

purpose and can sit on aging IT platforms, some of which are not agile enough to be able to accommodate new requirements in the timelines the industry should now be demanding.

For a bank or insurer to only focus on customer experience and not the underlying processes that drive the business may only result in an increase in cost line with no appreciable improvement. It can also result in an opportunity lost; some analysts calculate that up to a 30 per cent improvement in net profit is at stake for those who get this right.

The technology, though, is not the only issue. Banks and insurance companies also need to be able to change their culture, with the business itself taking the lead in identifying what they want to be able to achieve, and then working in partnership with IT on a solution to enable this, and driving it through the organisation in a timely fashion.

A good example would be an insurance company, which generally tends to approve the majority of its claims. From a customer service and retention perspective, insurance companies know they need to move away from interrogating people who make a claim, making them feel under suspicion just because they have had an accident. They also have plenty of information and expertise which can help them identify claims

that are more likely to be fraudulent, and technology now exists that can enable them to interact with their data to identify the claims on which they need to focus.

Yet organisations cannot afford to wait five years to rebuild monolithic IT systems, by which time customers will have been lost and the marketplace moved on. Instead, they need to identify the areas of the business on which they wish to focus – those which incur the most cost or where the greatest value to customers or the bottom line can be found – and develop both the broader strategy and business processes required to support it as they go. In short, they need to develop an agile culture supported by agile technology.

Those developing a customer-centric strategy, which will allow organisations to deliver better customer service, take advantage of emerging channels, and join up all their processes and other offerings, will be the ones who emerge from the challenges of the recession ready to flourish in the digital age. The future for those who fail to put in place such measures is far less certain.

**OpenText is a leading global supplier of solutions and services that support corporate growth, lower operational costs, and reduce information governance and security risks**

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OPENTEXT



**Some analysts calculate that up to a 30 per cent improvement in net profit is at stake for those who get this right**

# SMARTPHONES BOOST MOBILE BANKING IN UK

Despite concerns about security, mobile banking and payments look set to take off, as **Tom Groenfeldt** discovers

## MOBILE TECHNOLOGY

Smartphones are changing the way people around the world get paid, make payments, send money to family, research agricultural or fish prices before taking their goods to nearby markets, decide where to put their savings, compare financial services providers, manage their budgets and save for the future.

Mobile banking's rapid global growth threatens traditional banks with a reduction of income, loss of information about their customers and lower margins as banks with expensive branch networks compete against all-electronic providers with few overheads.

"If banks sit on the sidelines they are going to lose their audience," says Mary Monahan, research director for mobile at Javelin Strategy & Research in California. The firm's annual survey of the 25 largest US banks found that for the first time all offered mobile solutions.

Mobile payments is a very fluid business. O2 recently announced it would stop offering a mobile wallet about 18 months after launching it, but the carrier has also unveiled an alliance with Monitise, a global mobile payments system vendor. In addition, Zapp and VocaLink are introducing a service that will provide a way for 18 million UK bank account holders to pay for goods and services with their mobiles, as Barclays' Pingit already does.

Banks are on a second or third generation of mobile banking software. Monitise sales reps are revisiting banks they called on five years ago, offering a polite "we told you so" about the complexities of developing their own proprietary software for mobile.

While the first generation of mobile built on the foundations

of banks' online banking systems, the newest versions are all-mobile and allow banks to reach new customers who can do everything, including enrol in mobile banking, through their phone or tablet.

Competition is coming from players new to financial services. The 4,200 people attending Money2020 in Las Vegas last autumn heard presentations from the usual suspects, MasterCard, PayPal, Visa, First Direct and Amex, which have launched innovative smartphone banking services that bypass bank branches entirely. But presentations also came from Square, the innovator in card processing, Amazon which lets customers pay for wi-fi on planes from their Amazon account, and Facebook which helps users buy items they see on the site with just a click or two in 55 currencies with 80 payment options, at the rate of one million transactions a day.

Mobile payments is a global business. Ex-pats from emerging markets can send payments to their families in remote villages by mobile, while in London RBS says that it gets mobile log-ins from 287 countries, including 4,800 from the United States, in one day.

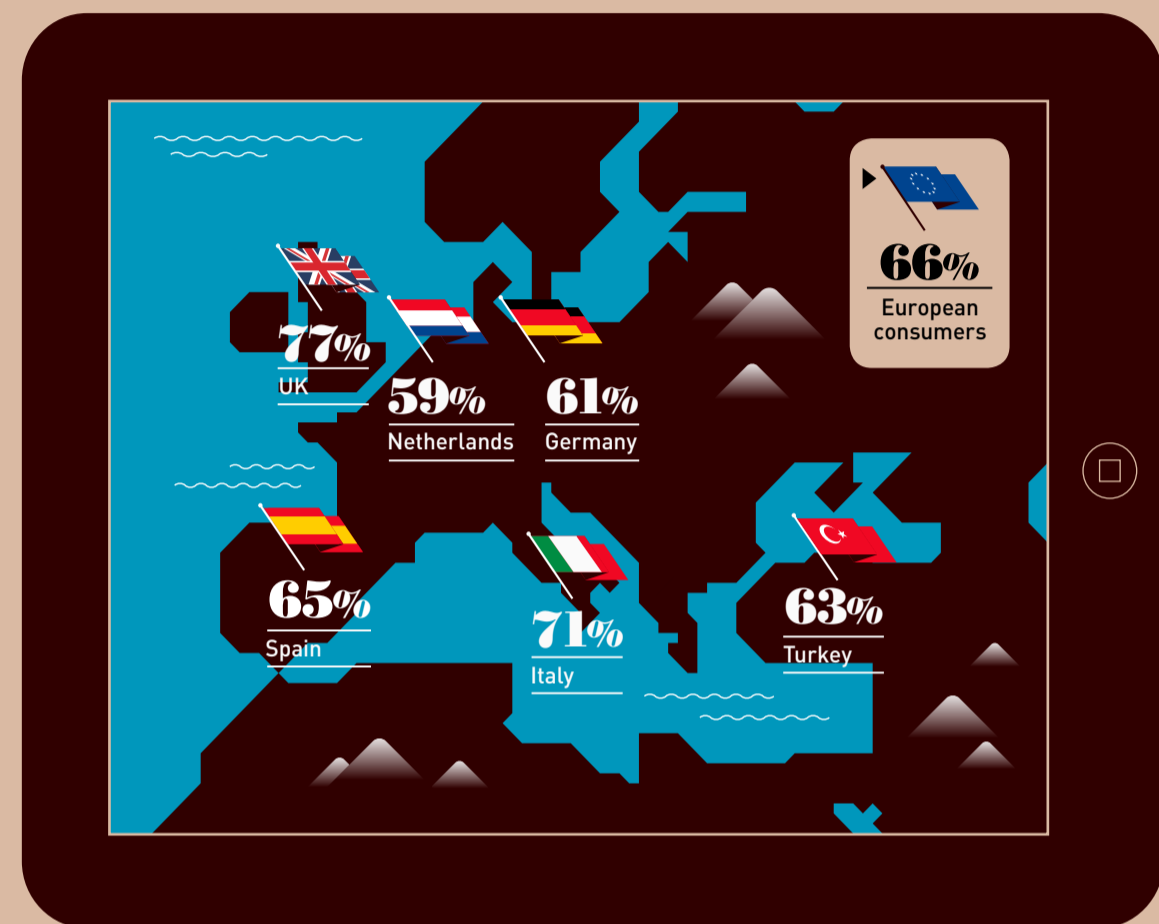
The leading innovator in mobile banking innovation is probably in Africa where Vodafone and partners have expanded M-Pesa, originally launched in Kenya with Safaricom. Now 70 per cent of adults in Kenya use M-Pesa and it is live in nine other countries - Tanzania, Mozambique, India, South Africa, Lesotho, Democratic Republic of the Congo, Egypt (where it is called Vodafone Cash), Fiji and Qatar.

Indian banking regulations required Vodafone to work with

# MOBILE BANKING AND PAYMENTS

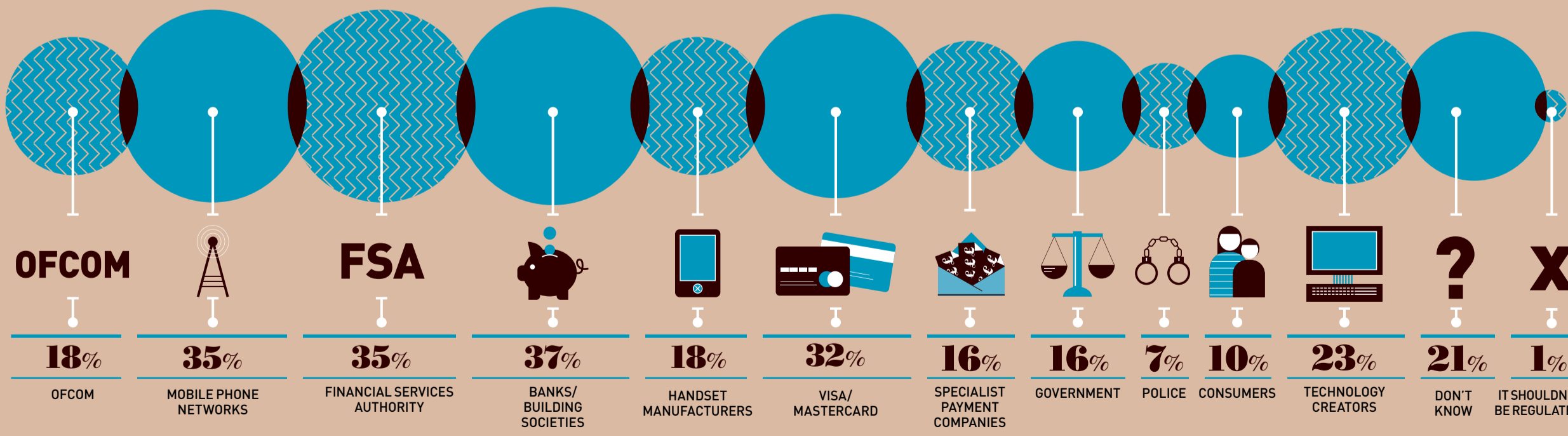
## DO YOU FEEL MORE IN CONTROL OF YOUR MONEY BECAUSE YOU USE MOBILE BANKING?

Percentage who answered "yes"



Source: Financial Empowerment in the Digital Age, ING, July 2013

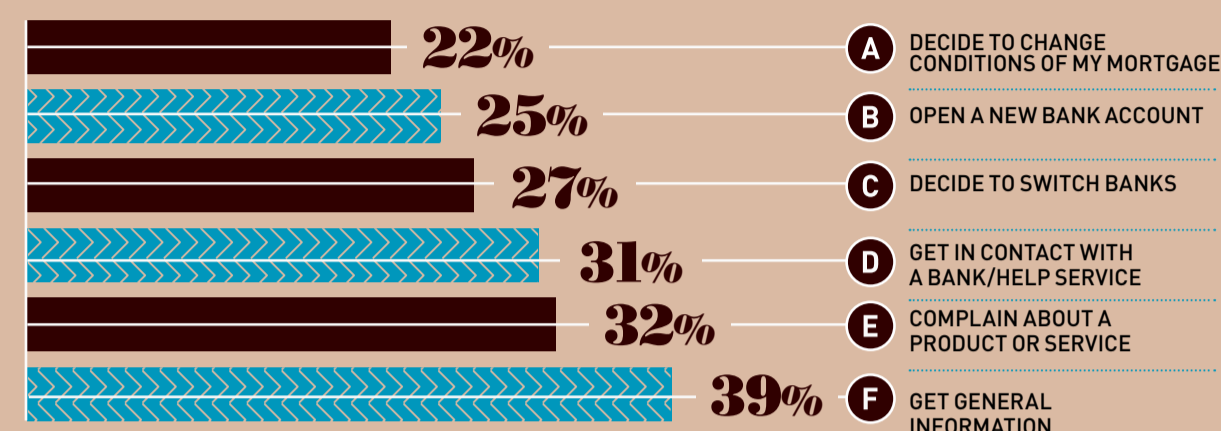
## WHO DO YOU THINK SHOULD BE RESPONSIBLE FOR REGULATING MOBILE PAYMENT TECHNOLOGY?



Source: eDigitalResearch, November 2012

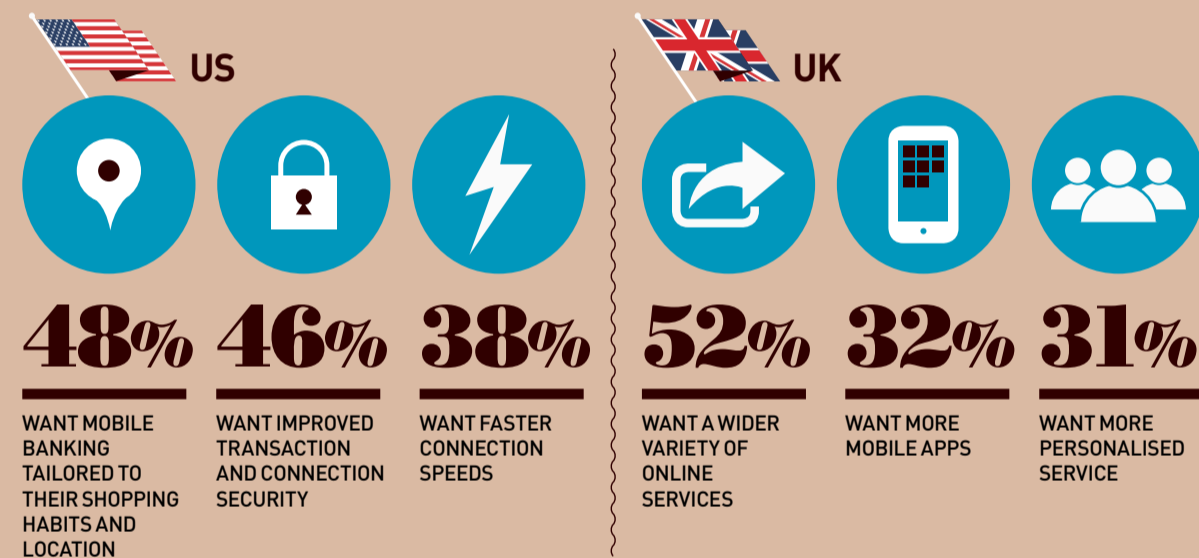
## WOULD YOU USE SOCIAL MEDIA TO...

Source: Financial Empowerment in the Digital Age, ING, July 2013



## CUSTOMER WISH LIST

Source: FICO, 2013



ICICI Bank to launch a mobile banking service there, but the Reserve Bank of India appears to be on the verge of issuing new rules that will allow Vodafone and other carriers to set up their own banks.

Javelin Research divides mobile banking between transformative, the introduction of mobile banking services in areas without bank branches, and additive, where branch networks exist, but banks want to increase the frequency of engagement and provide new services.

Spreading use of mobile phones in payments in emerging markets coincides with major campaigns by MasterCard and Visa, often with substantial support from national governments, to make more payments, including salaries, pensions and welfare benefits, electronic through stored value cards. The Egyptian civil service, South African welfare recipients and more than 60 million Russian government employees now receive their payments through such cards. The cards can be used at ATMs, some point-of-sales terminals or linked to phones for payments.

Smartphone adoption is moving faster than anticipated and not just in the developed world. eMarketer says that 4.55 billion people around the world will use a mobile phone in 2014 and smartphones will count for 1.75 billion of those as penetration reaches 50 per cent during the year. Forrester Research projects global mobile commerce revenues will reach \$119 billion by 2015.

At the Cards and Payments Conference in Dubai last spring, Brett King, co-founder of Moven, said the Gulf has 227 per cent mobile penetration as residents carry more than one mobile device each.

"Gen Y [people born between 1982 and 2002] will turn to mobile banking first; you don't have five or ten years to get it right," he adds. "This is happening right now. It is the fastest growing segment in retail banking and payments today."

Adoption is fastest among young urban dwellers who use their phones frequently, especially for low-value payments such as travel or coffee. The Aité Group has a name for the enthusiasts - smartphonatics.

Some 36 per cent of Gen Yers are smartphonatics as are nearly one third of Gen Xers (people born

between 1962 and 1982), says the analyst group.

"Seventy per cent of smartphonatics have used their mobile device to make a payment and 80 per cent have used their device for banking purposes in the past six months," according to a 2012 Aité survey with ACI Worldwide. Smartphonatics place high value on mobile payments and are interested in replacing payment cards with a mobile device.

Apps include Moven which links a debit card to a mobile so clients can track those small expenses that can add up, pay friends, transfer funds and plan savings.

Bloomberg Businessweek reports that Chinese savers can move funds from a bank account to a money market mutual fund by tapping an icon on their smartphones.

Monitise is behind an RBS service that allows a customer to send her daughter at university, for example, a mobile code she can use to obtain cash from a nearby RBS ATM without using a bank card.

US Bank and Monitise are working on ways to take a picture of a print ad with an invisible watermark and go directly to that product on a company's website, then order it with a few clicks for size and colour; a big improvement over QR codes which often just dump a user on the company's home page.

Hana Bank in Korea has eliminated paperwork for many loans which can now be obtained through a smartphone. At the EFMA-Accenture conference in Paris, Hana said it lent \$4 billion in credit through mobile without requiring a bank visit from applicants.

Emirates NBD has launched Shake n' Save, an app where customers can select, with just a shake of their mobile phone, a range of savings between AED 50 and AED 2,000. The amount displayed is random and the customer shakes the phone until they are happy with the sum, which is then transferred to savings.

Imaging has made a major impact on finance with innovations such as Mitek's app which allows bank customers to deposit a cheque by taking a picture of it with a smartphone. Users will also be able to make an image of a credit card or bank statement and shop around for better rates with little or no typing.



Smartphone adoption is moving faster than anticipated and not just in the developed world

# STAR ENTREPRENEUR WHO LAUNCHES FINTECH COMPANIES INTO NEW SPACE

Raymond Snoddy talks to one of the most influential businessmen in London's booming Tech City



Eric van der Kleij of Level39

INTERVIEW

There could hardly be a more appropriate person than Eric van der Kleij to run Level39, the largest technology incubator in Europe.

As entrepreneur in residence on the 39th floor of Canary Wharf's One Canada Square, he can highlight pitfalls to small start-up companies, alongside cutting-edge financial technology companies.

But Mr van der Kleij has made the mistakes, suffered the blows and bears the scars of a serial entrepreneur who made it in the end.

It began when he tried, and failed in 1996, to buy flowers online for his wife Alison.

"Wouldn't it be great if I could type my number into a box on the screen, and a computer somewhere makes two phone calls and connects me with the flower seller," thought the ebullient Dutch national, brought up in South Africa, but who has lived in the UK since he was 15.

RealCall was set up and money raised, but too few were using the internet and even fewer would pay for automated phone calls, even delivering share and news alerts, never mind flowers.

Then in a lesson for his young charges, he deployed a classic business manoeuvre – the pivot.

"You have one leg in your technology and swing your other leg round to do something you didn't originally think of which hopefully makes money," he explains.

The pivot produced Adeptra, automating credit card fraud alerts, which involved working with huge American companies, such as First Data and Fair Isaacs, now FICO.

More than \$40 million in venture capital was raised and eventually in 2011 Adeptra was sold to FICO for \$115 million.

Before that the struggling company flirted with bankruptcy. By then his wife was owed endless bunches of flowers.

"I had to give back the house. It was quite a serious thing handing back the keys when my wife was pregnant with our second daughter," he recalls.

Another lesson for the budding entrepreneurs of Level39: if you don't get it right quickly enough, even when the business you founded is sold for \$115 million, you don't become a multi-millionaire because your stake has been so diluted.

The way forward for Mr van der Kleij included advising Prime Minister David Cameron's team on a variety of entrepreneurial schemes, from attracting US technology entrepreneurs to the UK, to setting up the Tech City Investment Organisation.

He knew exactly what was needed – greater access to investment and talent, plus a positive economic and policy environment.

"I looked in their eyes and they really did care about the tech sector. We are lucky in this country that we do have a government that really does care and understands why the wider tech sector is so important," he insists.

Lobbying produced fast-track visas for high-calibre entrepreneurs from abroad and tax breaks for those investing in young tech companies.

Level39, opened by London Mayor Boris Johnson, and which celebrates its first anniversary next month was a result of another entrepreneurial moment.

Mr van der Kleij met Sir George Iacobescu, the Canary Wharf chairman, at an Olympic Legacy Business Dinner. Sir George wanted to know about the Shoreditch Silicon Roundabout and whether it could be replicated in Canary Wharf where there were already 7,000 tech workers.

The answer was not "copy and paste" Shoreditch. Instead play to your natural credentials by focusing on three thematic areas – fintech, retailtech and future cities tech.

The 39th floor was the highest floor ready for occupation and Level39 was born.

Young entrepreneurs can have "drop-in" membership for £600 a year, which offers two days a week

on the floor, and free wi-fi, coffee and contacts. A hotdesk costs £300 a month. For a fixed desk it's £500 a month.



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When the companies expand they can move up to Level42 where you can get a desk in your own office and space for ten for around £600 a month.

"The most exciting thing is when you see companies coming

here with two or three people, and you work with them, and they start hitting it out of the park and they say I am going to need space on Level42. We should get a bell and ring it or something," says Mr van der Kleij.

Apart from mentoring, chief information officers from major companies controlling multi-billion budgets on lower floors, can pop up for a chat over lunch and regulators from the Financial Conduct Authority have come to hold seminars.

As a result the accelerator effect is considerable. The mistakes and remedies that would normally take years to work through are telescoped into a matter of months.

Fintech companies on Level39 include Digital Shadows, which protects banks from cyber attack, Growth Intelligence, specialising in real-time data on company performance, and Crowdrooster, a crowdfunding specialist.

Mr van der Kleij has no doubt about the importance of the fintech sector to the future of the UK economy as some of the world's best computer scientists go to work in the powerful British financial services sector. They are creating start-ups like Monetise, the mobile banking group.

"Monetise with a £2-billion market cap is one hell of a start-up. That's why I say London has the potential to compete globally. Could we rival Silicon Valley? I would say, in fintech, yes we certainly could," the Level39 chief maintains.

He and other influential people in financial technology have now been asked by 10 Downing Street to set up an organisation for UK fintech companies to represent their voice to government.

Although Mr van der Kleij is an employee of Canary Wharf, he can stay current by setting up his own new companies, such as Pivotal Innovations, which runs innovations competitions and accelerator programmes for large corporates. A number of other ideas are close to the launching pad.

Even when switching off at the weekend, it's not a complete shutdown. He flies iPad-controlled Parrot AR quadcopter drones and is fascinated by the complex software involved.

"Of course, it made me think when I recently saw the announcement by Amazon on drone automated delivery. When you think about all that white-van traffic in London... watch this space," he says with a chuckle in his voice.



The mistakes and remedies that would normally take years to work through are telescoped into a matter of months

# TECHNOLOGY TO GET UP CLOSE AND PERSONAL

In a digital age which demands ever-faster response times and instant gratification, banks must catch up with customers' expectations, as Anna Leach reports

CUSTOMER EXPERIENCE

It used to be that banking involved going to a bank and talking to someone. Now you can send cash with a mobile phone number, be greeted by a robot in Brazil's Bradesco Bank, or track changes in the stock market by listening to a sound that rises or falls with market performance.

The sound of stocks is an app from the Spanish bank, Caixa, and the robots are fringe developments, but banks have changed a lot in 20 years. And another thing is different: customers want more choice.

"Twenty years ago the bank would just ask customers 'what kind of loan do you want?'" says Alistair Newton, research vice president on the banking sector at Gartner. "It was black and white. Now you've got a customer used to a multiplicity of choice in the non-financial sector."

sonalised a product because they are trying to appeal to everyone. Their product just has to fulfil basic banking needs," says Jon Bedford, marketing associate at Kiboo, a New York start-up offering a dashboard aimed at helping young people control their finances with graphs and reminders.

The company is just one among many targeting this soft spot in the current financial sector and internet generation.

But can the banks be more customer-centric? They want to be. A 2013 report from Infosys, *Innovation in Retail Banking*, showed that after speeding up bureaucracy, increasing customer centricity was the second biggest motive pushing banks to change.

However, as the report also showed, they usually don't manage it as only 21 per cent of banks have some form



Personalisation means more goods, more services, more control and more transparency for customers

The result? People are used to on-demand services that respond instantly and give them a choice.

"The trouble for banks is that it is no longer a case of putting a single product out there that satisfies all your customers. What happens is that, even though banks put in significant investment, a new product may only cater to 5 per cent of their customers," says Mr Newton.

That's why the key banking trend in his eyes is fragmentation and the big challenge how to use technology to satisfy that fragmented customer base.

It's not just a new loan offer every six months. Personalisation means more goods, more services, more control and more transparency for customers.

Some people have bet their business that this is indeed what customers want.

"Generally, the big players are not interested in making as per-

Beyond simply making the customer happy, there are interesting pay-offs for banks in personalisation, especially if they are able to use data effectively.

"Banks have not dealt well with their historical data held on customers," says Mr Newton. "They store reams and reams, but it is only used for small-scale solutions; and not very well."

If this data could be used for analytics, banks could discover a lot more about the context of the customer and really personalise services to their time, location and habits.

That's not an easy ask, but it could bring big gains.

"If banks can get their contextual computing right, then I think they could start to really rebuild this trust relationship. But there's a world of difference between offering me a discounted loan and knowing I'm outside a Boots store so you can send me a mobile voucher," Mr Newton adds.

Technology is an opportunity for banks, yet it's also a problem. According to the Infosys report, the biggest barrier to innovation is outdated IT.

There's also a yawning danger; witness the recent string of failures across the retail banking sector. The guts of banks' technology still rely on mainframe computers – technology from the 1970s. They work, but the quantity and particularly timing of transactions puts them under pressure.

And though you can add new tech on top, the core remains the same.

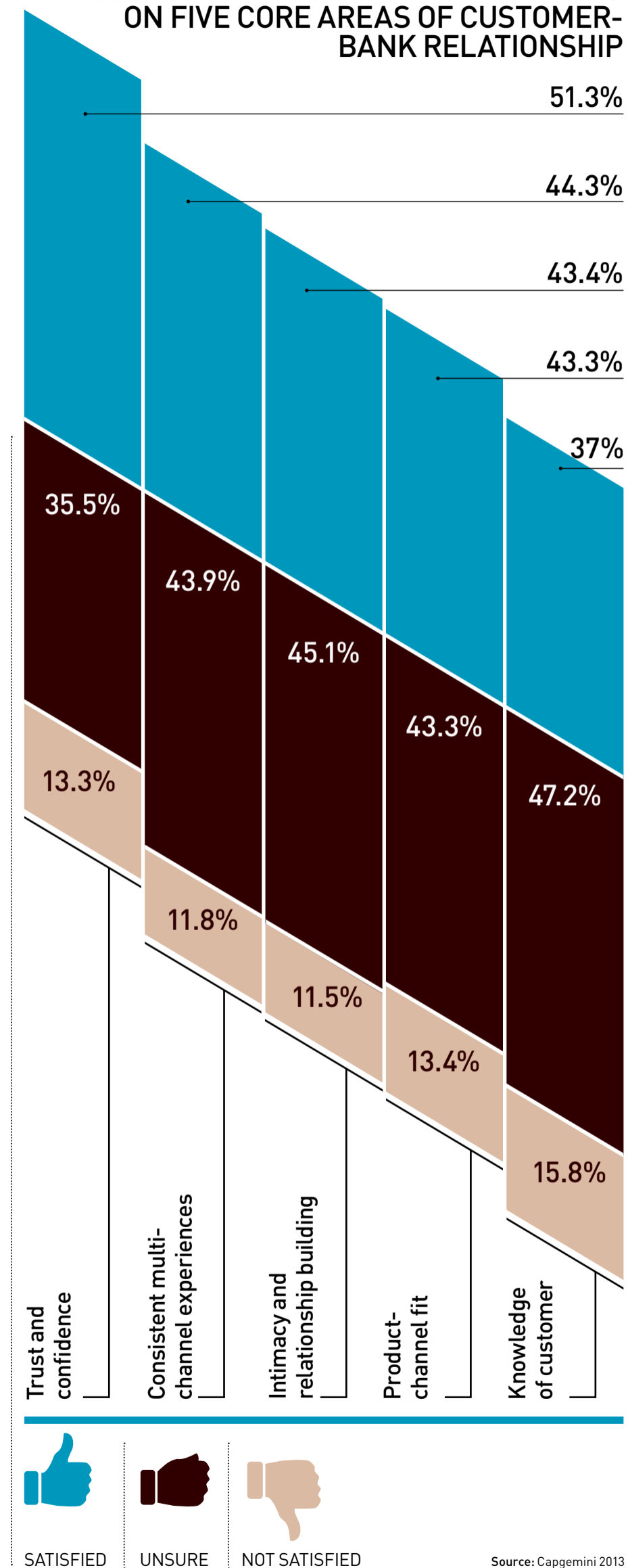
"Every time we do a contactless payment there is a transaction that goes across a mainframe somewhere," says Frances Coppola, an independent banking technology expert and former IT worker at RBS.

But banks don't have time to fix up the mainframe, then deal with new consumer needs. They have to be doing both from the get-go or risk falling behind.

"It doesn't matter how many glossy adverts you have if the basics aren't working," Mr Newton concludes.

"Generally, the big players are not interested in making as per-

## CUSTOMER SATISFACTION WITH BANKS ON FIVE CORE AREAS OF CUSTOMER-BANK RELATIONSHIP



Source: Capgemini 2013

# BIG IDEAS ARE COMING FROM USING BIG DATA

Bankers and asset managers are increasingly mining big data to create new products and services for customers, writes **Lynn Strongin Dodds**

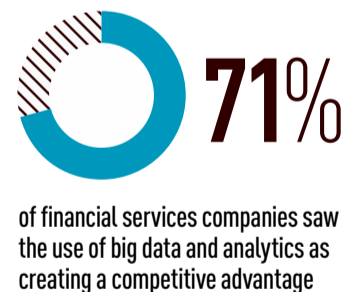
## BIG DATA

Big data may be one of the hottest topics in corporate circles, but many companies find it challenging to efficiently corral and capitalise on the vast quantities of information being generated. One exception is financial service firms who are increasingly using the information to sharpen their competitive edge and restore profitability in the fallout of the financial crisis.



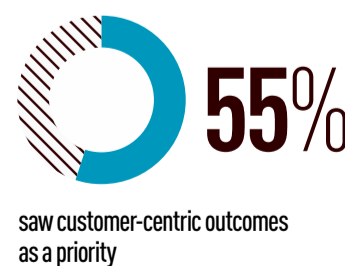
Source: NewVantage Partners

This trend has been well documented in a crop of studies, including a report conducted last May by the IBM Institute for Business Value in conjunction with the Saïd Business School at the University of Oxford. *Analytics: The real-world use of big data in financial services*. It found that 71 per cent of the 124 financial services companies polled believed that the use of big data and analytics could create a competitive advantage. This was up from the 36 per cent two years ago and slightly higher than the 63 per cent of cross-industry participants. Overall, 1,144 business and IT professionals in 95 countries were canvassed.



Source: IBM Institute for Business Value/ Saïd Business School

Customer-centric outcomes were also a priority for 55 per cent followed by risk/financial management (23 per cent) and new business models (23 per cent). It noted that almost 75 per cent of the financial service firms had either started developing a big data strategy or implementing big data as pilots or into process, on par with their cross-industry peers.



Source: IBM Institute for Business Value/ Saïd Business School

A separate report published last September by US-based consultancy NewVantage Partners, *Big Data Executive Survey 2013: The*

*State of Big Data in the Large Corporate World*, showed that financial service firms were at the forefront. It revealed that around 75 per cent were spending more than \$1 million on big data with 94 per cent planning to do so by 2016, compared to 44 per cent and 67 per cent for health and life science firms, respectively. It polled 90 executives representing more than 50 organisations, of which around 35 hailed from the financial services arena.

"After the financial crisis in 2008, banks and asset management firms were looking at big data to meet regulatory and compliance requirements," says Randy Bean, co-founder of NewVantage. "That has changed and over the past year, they have begun to not just use the data for defensive reasons, but also offensively in terms of identifying new products and services for customers. It also allows companies to reach decisions and test out new products in a faster and more efficient way. For example, in the past it might have taken a firm \$1 million to \$1.5 million and several months to test and validate a new product. Today, it could take 30 to 60 days and cost around \$500,000."

Uwe Neumann, technology and telecom analyst at Credit Suisse, adds: "The key advantages of big data are that it helps a bank to better understand its clients, improves decision-making and strengthens the competitive position. A bank is able to develop solutions and more-tailored products for a person's specific budget."

Lenders are also able to enhance their credit-rating processes with social and behavioural data sourced from social media, according to Christine Schmid-Frey, bank analyst at Credit Suisse. Together with standard financial data, this big data would provide a more complete picture of the prospective borrower and allow the bank to more accurately judge his or her risk profile.

To date, US banks, asset managers and insurance companies are ahead of their UK and European peers. One reason is the difference in data protection laws between the two regions, according to Bernd Richner, partner at Capco. "The rules are not only stricter, but they are also not harmonised. For example, the European Union, through

its Digital Agenda for Europe, drives all members towards a 'digital single market' with a unified data protection law, while each EU country today has its own set of regulations. It is much easier in the US which has one market and set of laws."

Creating a strategy though is



challenging regardless of location. "The questions being asked are how does big data complement and fit within an organisation's existing information architecture, and what govern-

ance and new roles should be created," says Stephen Mills, big data analytics strategy lead at IBM UK & Ireland. "Although each organisation will have their own approach to big data analytics, it is important to have someone at the top of the organisation to champion a data driven approach to change."

This is why the role of chief data officer has been gaining in stature. Citi was a pioneer, having created the position in 2006, but others, including Bank of America and Visa, have more recently followed. Although the job continues to evolve, the main thrust is to

develop, drive and implement an enterprise-wide, unified data strategy. Others, such as Wells Fargo and State Street, are establishing separate divisions. For example, last year the latter launched the State Street Global Exchange, a big data division devoted to portfolio modelling, investment analytics, data management and data projections. The aim is to better analyse client data, detect risks and monitor the

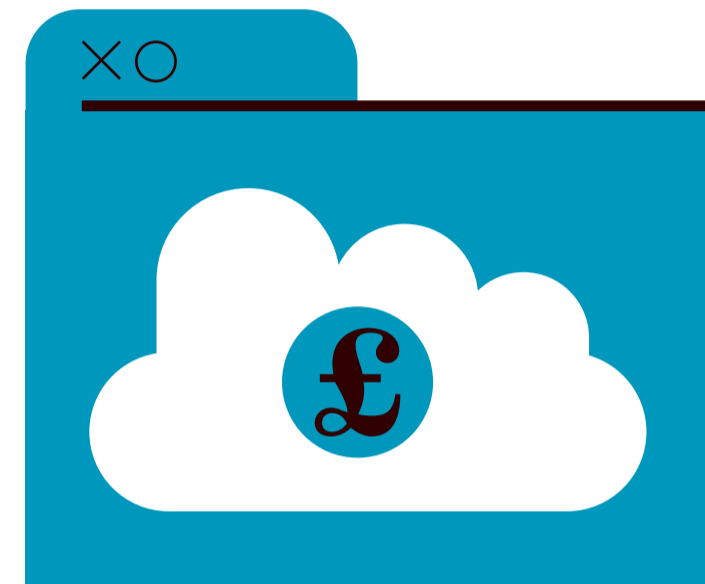
efficiency of portfolios. Wells Fargo, on other hand, set up its own enterprise big data lab to better detect fraud, but also to more accurately pinpoint each customer's needs and interests. "We wanted to understand the activity across the different channels of the bank - ATM, internet, voice or mobile - to identify patterns of behaviour," says John Ahrendt, senior vice president, enterprise data and analytics at Wells Fargo. "This enables us to provide a better customer experience and answer questions more quickly than in the past. However, it is not a silver bullet, but a complementary analytical tool to our other data warehouses."

European banks, albeit lagging their US counterparts, are also restructuring. HSBC Securities Services: "Initially HSBC asked its internal people to investigate the possible business benefits of big data. We then brought in some external experts to put together a high-level strategy that would allow us to execute on the high-value business uses that we had identified. This has taken us into a build phase where we are currently cross-training our staff and hiring new talent to allow us to execute on our planned implementations."

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# CLEAR VIEW OF CLOUD AHEAD FOR BANKS

Banks and financial firms are beginning to see beyond initial doubts about storing data in the cloud, and look ready to take the plunge, as **Brid-Aine Parnell** reports



## CLOUD

Just five or ten years ago, the idea that banks could run any systems in the cloud, even non-critical ones, seemed very far off. But a global recession, legacy IT systems and customers who are rapidly embracing new technologies has changed all that.

Ask market observers now and they'll tell you the cloud is coming for banks and financial firms; some might say it's already here. Thawing attitudes in the UK led to a flurry of announcements at the end of last year, with building societies leading the charge. In October, HP Enterprise Services announced that Leeds Building Society would be joining Yorkshire Building Society in a shared services alliance that had been launched just a month earlier. The building societies have moved their core mortgage and savings application processes into a virtual private cloud running on a UK data centre, with HP managing the service.

Another three building societies, Ipswich, Loughborough and Dudley, signed a similar deal with Unisys for a software-as-a-service

solution for mortgages and savings in November.

Bigger banks have been slightly more reluctant, but most are at least beginning to dabble. Barclays has taken the rather unusual step of offering the cloud to its own customers, with its Cloud It service designed to store customers' important documents. In Spain, banking giant BBVA signed up with Google almost two years ago, using its enterprise tools for internal communication.

But even these success stories highlight a hesitancy that remains in the financial sector. Although the building societies are shifting core systems, they're sticking with private clouds, while others like BBVA have only signed up for superficial systems. Most major UK banks meanwhile, remain tight-lipped on the cloud.

Jane Tweddle, industry principal for financial services at SAP, thinks the technology is there, but challenges for cloud adoption remain. "The solutions and the vendors, and the market, have matured tremendously, so all the concerns about security and data technically

aren't that valid," she says, "but emotionally and regulatory-wise, they are still valid."

That emotional attachment to their software and their data comes from two places for banks - customers and control. Most financial firms are afraid that customers won't be happy with a bank that doesn't hold their data onsite; BBVA was quick to point out at the time of signing with Google that data and key systems would be staying in its own data centres.

Banks are also keen to keep tight control over their IT, an issue that's already led to problems with legacy systems.

Frederik Bijlsma, Europe, the Middle East and Africa business unit manager of cloud for Red Hat, says banks need to change the way they think about IT. "Banks need to think of their IT programmes as a portfolio of services and classify their workloads according to criteria like quality, cost and agility metrics," he says. "With that public and hybrid clouds become just another part of the standard portfolio."

As well as the emotional issues, banks have to be wary of the regulatory environment. The recession, while giving banks the same reason to love the cloud as everyone else - cost - has also resulted in greater scrutiny of their systems. Regulators expect banks to be able to lay their hands on important data quickly and react fast to new requirements, which makes financial firms wary of the cloud.

But cloud could be a part of the solution to these problems as much as the cause. Like Mr Bijlsma, Ms Tweddle expects hybrid systems to be a stepping stone into greater adoption, helping to ease the emotional stress of letting go of customer data and core systems.

"On-premise and cloud are not mutually exclusive," she points out. "You can have a hybrid environment, where you can have some solutions through the cloud and others onsite, or you might have a solution that can be consumed by different parts of the organisation through cloud or on-premise."

She also sees cloud as a way for banks to customise their IT systems without needing the complex and clunky machinery they're dealing with now.

"Traditionally banks and some insurers have customised their core systems to give them that outside differentiation - sort of customising at the wrong end of the scale," she says. "Some of the customers we've worked with, who have transformed their systems, have built one that shows all that standardisation on the inside, but still allows them to differentiate themselves on the outside."

**Ask market observers now and they'll tell you the cloud is coming for banks and financial firms**



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# UK BANKS PAYING PRICE OF LEGACY TECH SYSTEMS

Out-of-date core technology is no longer sustainable in an era of real-time banking, as **Dan Barnes** discovers

## CORE SYSTEMS

UK banks have been pushed to update their core technology, following a string of IT failures and criticism from the regulator.

For a bank, changing its core system is like moving house. It is a rare event, it is complicated, risky and expensive. So rather than move from their 1960s and 1970s core platform “bungalows”, the bigger banks have preferred to build “extensions” on them to cope with change, until now.

Following an investigation of major banks’ technology, triggered by very public failures at RBS in 2012 and 2013, Sam Woods, a director in the Prudential Regulation Authority (PRA), reported the regulatory body discovered a number of deficiencies with the top eight UK banks and that “there is a programme of remediation under way”.

Speaking before a House of Commons committee in January, Mr Woods described banks’ technology as “antiquated”. According to PRA, a lack of investment in new technology has had consequences, including unreported failures across the other banks as well as the RBS systems breakdowns.

Although banks spend a huge amount of money on technology, it has always been around the edges of the main core, says Cormac Flanagan, product director for BankFusion Universal Banking at platform provider Misys.

“Banks have picked off everything to do something with, but the core,” he says. “Everything else is quicker to do, there is quicker payback. They have looked at channels, they have looked at payments, anything rather than the core systems.”

The core system holds all the information on customers

and products, so any front-end activity on a mobile channel, for example a balance query or a payment, requires the mobile technology to connect with the core system and the customer’s account.

That might sound easy, but the systems were designed in the 1960s and ‘70s when payments were processed overnight, rather than in real time. Accounts were held at bank branches, hence the need for a branch sort code. Customer records were linked to products, so a mortgage record and a loan record would be held separately. When ATMs were introduced in the 1980s, offering real-time payment and account checking, banks ran them alongside this old branch system, instead of replacing it.

“As far as I know, no bank running branch accounting has ever

replaced it,” says John Schlesinger, chief enterprise architect at core system supplier Temenos. “In the 1990s and 2000s several banks tried and failed.”

For 30 years, banks have attached new technology to antiquated technology, building layers of middleware to manage records on mainframe computers that pre-date decentralisation in an era of real-time electronic currency. When they merged, banks would simply run the systems side by side.

Nick Brewer, product strategy director for banking at Misys, reports finding up to 20 core systems within a single bank.

“Five main functions might make up one core banking piece and then you have a merger of three or four banks, which have all had their platforms left running,” he says.

The effect of these Frankenstein-bank platforms has been to drive up costs, reduce reliability and impede customer service.

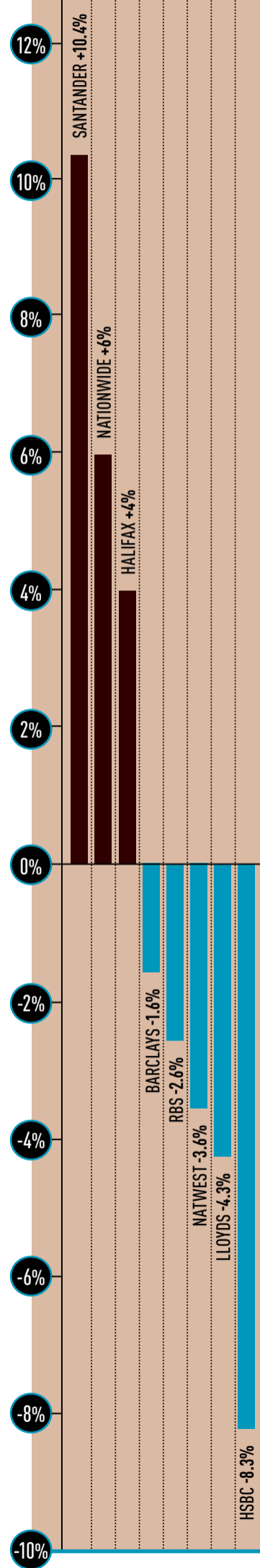
José María Fuster, chief information officer at Santander, says: “By storing transactions according to the product bought, the old core banking platforms had no single view of a customer. In the case of the UK, everything is also tied to the sort code of the branch, creating an additional constraint. If a customer bought a new product, the bank created a new record, linked to a branch, instead of simply adding the product to the existing customer record.”

Santander began migrating customers of Abbey, Alliance & Leicester and Bradford & Bingley on to its home-grown Parthenon platform in 2007. Although the transition was far from smooth, the end-effect has been to deliver a real-time customer service that offers a single view of the customer.

“Parthenon is customer-centric, so any transaction instantly updates the customer position so there is no need for heavy-duty overnight processing,” says Mr Fuster. Santander claims to make savings of £480 million a year by operating a single core system and has seen customer satisfaction continuously improve over the last three years.

## CUSTOMERS MOVING ACCOUNTS

(net monthly mean average, Q4 2013) Source: TNS



Nationwide has also bought a new core platform; a five-year project resulted in a new mainframe-based core platform from software giant SAP being installed in 2012. New accounts from its current account range – FlexAccount, FlexDirect and FlexPlus – have been running on it since September 2012. Older customer accounts are held on Nationwide’s original Unisys platform and will be migrated across to SAP later in 2014.

Other banks may now be forced to follow suit. The introduction of a seven-day account switching procedure in September 2013 has seen traditional banks losing customers. The UK Payments Council reported 306,240 account switches in the fourth quarter of 2013 – 17 per cent up on the same period in 2012. The winner in this process of customers moving accounts has been Santander followed by Nationwide, while HSBC has been worst hit, followed by Lloyds. Improving service quality is paramount.

Dan Latimore, senior vice president at analyst Celent Banking, says: “With the introduction of mobile, customers are hitting the core more often for balance checks and they expect real-time information rather than wait overnight for the batch to run.”

However starting out on a six-year project is not easy, if no one in the bank has any expertise to call upon. Martin Vonk, general manager at the Competence Centre Core Banking for ING Bank, says: “It is hard to build and capture any experience in core banking migration projects. Complex by nature, often embedded in a specific home-grown legacy environment with multiple customisations and interfaces, these projects are executed with low frequency, so the repetitive learning is limited.”

ING developed a unit that specifically aimed at capturing these skills and experiences. As requirements can and will change overnight, he recommends that functions be composed of building blocks that you can take apart and put together, instead of putting all the functionality in one core engine.

“Business as well as IT architecture questions should be addressed upfront. Clean up the database, get rid of obsolete functionality and data, diminish the number of products, redesign and simplify processes,” he says. “Decide what is in, what is out in a core engine – the general ledger, regulatory reporting, CRM [customer relationship management] capabilities. As a result, a so-called logical application architecture and target operating model provide the guidelines or roadmaps behind any core-engine transformation.”

# Making electronic payments work

Immediacy, flexibility and security are watchwords for mobile and online transactions, says **VocaLink**



The electronic payments industry is a hive of innovation, and developments are currently focused on injecting immediacy and flexibility into transactions. But the real task, according to VocaLink chief operating officer Chris Rawson, is to do all this with a high level of security that protects both consumers and businesses.

VocaLink, the provider of the payments infrastructure for UK banks, makes its services available through a network of data centres in the UK. At the core of the company’s offering is security and resilience. The VocaLink Faster Payments platform, for example, is “always on” and can be accessed 24 hours a day, seven days a week.

Security is indeed of paramount concern to the payments industry and to major players, such as the UK government and the Bank of England. A National Cyber Security Strategy, launched in November 2011 and backed by £860 million of government funding, is charged with tracking security threats and keeping ahead of developments.

“VocaLink is playing a full part in the strategy,” says Mr Rawson. “We’re speeding up the payments process, reaching out internationally, providing a better mobile experience for private and commercial users, but we never stop thinking about how to maintain a secure environment.”

“All our systems have been built with security at their very core. The challenge for providers of highly resilient, always-on solutions is to stay ahead of the game. It’s vital for us to keep our systems up to date with the latest security technology and ensure they surpass international security standards. It is absolutely our bread and butter.”

VocaLink technology powers the Bacs Direct Credit and Direct Debit schemes on behalf of Bacs Payment Schemes, the Faster Payments Service on behalf of Faster Payments Scheme, as well as connecting the world’s busiest network of more than 65,000 ATMs through the LINK Scheme. In short, while most people won’t know the VocaLink brand directly, they will almost certainly have used its services.

VocaLink’s systems process more than 90 per cent of UK salaries, over

70 per cent of household bill payments and nearly all state benefits provided by UK government institutions. Last year VocaLink processed ten billion payments with a total value of around £5 trillion – or approximately three times the value of total UK GDP.

The company is continuing to innovate and deliver cutting-edge technology that empowers consumers. “The Faster Payments Service, which runs on the VocaLink real-time payments platform, was a big evolution in the payments industry and we processed nearly a billion transactions in 2013,” says Mr Rawson. “The growth in demand for immediate payments in the UK has been considerable since the service was launched in 2008 and we’re now receiving a lot of interest from overseas.”

Given the consumer demand for efficient and secure real-time payment options, it is inevitable that the technology will underpin a whole new market for user-friendly payments applications. Zapp, a mobile payment technology service, is one such market entrant.

Zapp will be available to 18 million current account holders with HSBC, First Direct, Nationwide, Santander and Metro Bank when it is launched later this year. The main aim is to provide a new and secure means for consumers to buy goods from merchants through banking apps on their mobile phones or tablet computers.

The demand for mobile banking tools is certainly present. A YouGov survey published in January revealed that 64 per cent of people with a bank or building society account prefer to conduct banking online or via a mobile app, compared with 29 per cent who preferred telephone or in-branch banking.

“Using Zapp, customers don’t have to divulge their bank account details, so it’s a much more secure way of transacting between merchants and consumers,” says Mr Rawson. “It’s a great example of a service that targets growing consumer demand for new, flexible ways to pay. All payments made through Zapp happen in near real-time, as well as being completely secure.”



Zapp is good for consumers, because there is no requirement for multiple digital wallets, long card numbers, new passwords and usernames to remember. The added ability for consumers to check the health of their bank balance before they make a Zapp transaction offers a practical solution which is aligned with the government’s desire to combat excessive debt.

VocaLink’s immediate payments capabilities are being rolled out beyond UK borders and are providing in-demand payment solutions enhancing the speed, security and

flexibility of transactions in territories around the world.

The company has, for example, formed a partnership with BCSIS, the Asian payments solution provider based in Singapore, to enable banks to offer consumers and businesses the ability to transfer funds between bank accounts in real-time, and to deliver innovative products and services based on mobile and online channels.

“The evolution of real-time payments has become a Holy Grail for territories around the world, and is underpinning mobile applications for payments and a vast array of other services,” says Mr Rawson. “All these provide consumers and merchants with a materially better and more reliable service.”



**Last year VocaLink processed ten billion payments with a total value of around £5 trillion**

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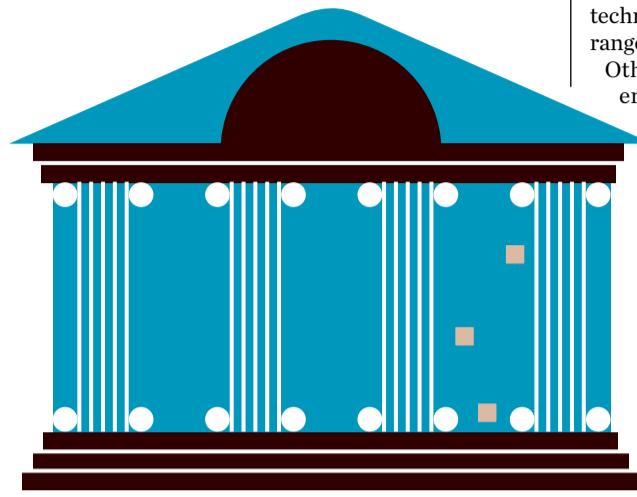
**64%** of people with a bank or building society account prefer to conduct banking online or via a mobile app  
Source: YouGov 2014

**90%** of UK salaries are processed by VocaLink’s systems

**18m** current account holders will have access to Zapp – the new mobile payment technology service

# BANKS FIND SAVINGS IN OUTSOURCING TECHNOLOGY

The banking world has changed – and the signs are it has changed for the better as banks reach out to IT partners, writes **Stephen Pritchard**



## PARTNERING

The financial crisis brought the banking sector new regulatory burdens, as well as the need to regain the trust of customers, many of whom blame the banks for the crash itself.

And it buffeted banks' and financial firms' balance sheets, forcing them to think again about costs. "It was especially true of global and investment banks that they could afford the best of everything. They invested in IT as and when it was needed without too much worry about the business case," says Neville Howard, a partner in financial services at Deloitte, the professional services firm.

Now, commercial and regulatory pressures on banks have brought a new focus on those costs. And financial firms are also investing in technology to meet regulatory and compliance requirements, from anti-money laundering to consumer compensation and the settlement of mis-selling claims.

Then there are the new demands being placed on financial systems by changing retail and consumer behaviour, and emerging technologies.

Consumers want to access bank accounts around the clock, to obtain multiple quotes for insurance policies and make instant cash transfers to friends.

Demand is also being driven by the growing importance of data, especially customer data, to banks,

insurers and other firms. This is the so-called big data phenomenon. And the data has to be gathered, processed, secured and stored.

"Technology allows us to open new direct digital channels of communication to many more customers. With big data technology we can use the power of data to drive value for our customers and our organisation," says Erik Hietkamp, IT director at Dutch insurer Aegon.

This is all forcing banks to update systems that are often three decades old – and it's far from easy.

RBS, the banking group which recently suffered from a serious system failure on one of the busiest shopping days of the year, has conceded that under-investment in IT contributed to the problem. Tellingly, the admission came from the bank's chief executive himself.

But even investing in technology can bring risks. "The track record of big bank sector [IT] jobs has not been a great one. Often projects run late and cost more than expected," says Mr Howard.

Coupled with the growing demands on technology, this is prompting bank boards, with their chief technology and chief information officers, to think again

about how they organise their technology. More banks are now looking externally for IT and technology resources. Some, including the large investment banks, are doing so for the first time.

"Increasingly technology is a critical dependency, but not a core competence," says Daniel Meere, a financial services expert at PA Consulting Group. "Big data is transforming financial services because of requirements from regulators and the need to understand customers. But the call on IT is also much greater."

Mr Meere cites consumer banking transactions, from providing mobile banking to using transfer services, such as Barclays' Pingit, to multiple searches on price comparison sites, as developments that are increasing the stress on financial firms' IT. Systems designed

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around green-screen terminals used by trained clerks in the back office were simply not designed for our always-on world.

To respond, financial firms are having to look beyond their own resources to find technology providers and partners that can help them to innovate and grow, but also to manage risks.

Some of these partners are bank-

ing or financial sector specialists, who can spread the cost of their technology investment across a range of financial firms.

Others are generalist IT providers, drawing experience from other sectors, especially retailing, but also areas such as communications, marketing or even logistics.

"Obviously we've gone through an unprecedented crisis and there is unprecedented pressure for change," says Peter Leukert, head of the Capco Institute.

"Banks are taking a much more sophisticated view of the value

chain and looking at what can be 'industrialised'. Can we partner with technology providers? If the provider is doing work for several banks, it can be more cost effective. We are starting to see the industrialisation of the banking industry. It will become a normal industry, not doing everything in-house, but using suppliers – a true division of labour."

Some IT suppliers will be providing standardised services, such as e-mail or IT infrastructure. But the more interesting projects go much further.

"Financial companies are reaching out to service providers to 'co-innovate' in new ways of doing things," says Rahul Singh, president for financial services and business services at HCL Technologies.

"Firms have their own IT departments and relationships with

existing service providers, but innovation is more likely to happen in uncontrolled environments. You can't have a 'boxed' model of innovation. So we try to bring in external processes or talent to the issue."

Aegon's Mr Hietkamp adds: "Early in the process, we are very conscious of defining, together with our business lines, the business value the technology partner can deliver. And alignment with our business strategy is crucial."

And, as PA Consulting's Mr Meere points out, finance firms are increasingly holding innovation days or competitions, where technology partners meet to work through a business problem.

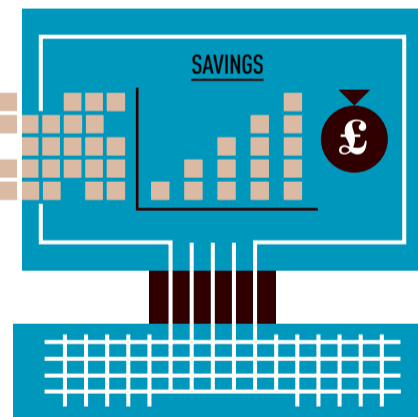
Technology provider SunGard recently held a "hackathon" in New York to develop ideas for financial firms. Chief technology officer Steve Silberstein recommends: "Make sure there is a good shared interest, a problem to solve and agreement as to the solution."

And this is likely to be an ongoing relationship as financial firms draw on more external expertise to create new products and, down the line, greater profits.

"Technology that was a choice is now a must-have, such as more innovation inside the branch, more efficient customer service or new channels to market," says Nic Merriman, UK chief technology officer at IT provider Avanade. "IT is not just a back-office operation but, increasingly, a partner of the bank." ■



More banks are now looking externally for IT and technology resources





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# THE BANK OF 2020: WEARABLE, DIGITAL AND A LITTLE MORE

Glimpse a vision of the future, when banking is very personal, with **Chris Skinner**



Chris Skinner is chairman of the Financial Services Club and author of the new book *Digital Bank*, a vision of the next generation of banking

## OPINION

We saw a huge surge of technology being released at the Consumer Electronics Show (CES) in Las Vegas earlier this month, with much of the buzz being about wearable technologies and the Internet of Things. What these technologies mean is that you will soon be wearing clothes, jewellery, wigs and more that communicates your whereabouts, wants and needs everywhere. You might even have the technology inside you, with nanochips monitoring your heartbeat, brain activity and general health.

It may sound scary, but this world of technology was buzzing a decade ago. For example, the Baja Beach Club in Barcelona became famous for offering to insert smart chips inside their customers' arms. Why would anyone want such a thing? Well, in the case of the Baja Beach Club, it enabled you to party in your swimwear without having to carry a wallet. You would just hold your arm over the contactless payments terminal and your Mai Tai or Pina Colada was paid on your account.

This is where banking, money, payments and commerce is headed. Banks are digitising every aspect of their operations in order to service customers better remotely. They are starting to mine all their data about customers' transaction records, and leverage that information to proactively market and manage customer accounts. A little like Amazon's recent announcement that they can predict your next orders, banks are trying to achieve the same by predicting your financial needs. With wearable technologies communicating non-stop through the mobile internet, they will very soon achieve this.

As you walk past a car showroom, your Google Glass or Samsung

Smart Watch will vibrate or buzz to tell you that there's a great loan available if you want to buy that BMW. As you drive home, your car will alert you to the houses that are available in the price bracket you are searching for, as you look for your next home. Or, as you leave the casino, the bank might bump up your credit limit to allow you to walk back in one last time and lose or win a fortune.

This may all sound like a frightening or fantastic vision of the near future, dependent upon your view, but it is a very realistic one. Banks are working on predictive, proactive, proximity-based services as we speak, and they are already partnering with retailers, manufacturers and government agencies to share and leverage information about you at the point of relevance.

The block to this Orwellian vision is, of course, you. None of your data can be leveraged or shared if you don't want it to be. Banks and their partners will only offer such services if you give them permission. In other words, they have to create value for you to feel this is relevant or appropriate, and that value will be based around gifts and discounts. You can get that BMW for 5 per cent less than everyone else; you can buy that house with a mortgage 0.25 per cent cheaper than any other; or you can make that bet knowing that the casino will chase the bank, not you, if you lose.

These are the developments of commerce and money that have been bubbling for a decade and the digital, wearable reality of CES, Google Glass and Samsung's Galaxy Gear mean that the capabilities for wearable, digital banking are right here and right now.

So, soon that chip inside you might be used for seamlessly dealing with anyone and anything – and if you don't like it, don't have one. ■



Banks are working on predictive, proactive, proximity-based services as we speak

## COMMERCIAL FEATURE

# New multi-currency account servicing... virtually

The banking industry is going through a period of change, in part driven by new client expectations and in part forced by the regulatory environment, says **Tieto**



Mats Wikström  
Director of operations

Banks are looking for alternative operating models to drive down cost and provide new revenue streams from information-based client propositions. Cloud-based services are also essential in this context in order to achieve necessary flexibility and global coverage.

Tieto, a recognised Nordic-based technology innovation company, has responded to these changes by developing a Virtual Account Management (VAM) platform which is currently being deployed by a number of major banks.

According to Mats Wikström, director of operations, financial services: "This new operating model, driven by self-service provisioning, enables significant improvements in efficiency and associated cost reductions, for both the bank and its clients."

Self-servicing in VAM changes the client experience, enabling virtual accounts to be opened and administered by the client in a real-time environment, outside the traditional banking process. VAM allows clients to rationalise the number of real accounts held in the bank, and gives the flexibility to open and close virtual accounts quickly and easily. This capability can in turn be extended to the client's clients, thereby enabling the client to improve its own customers' experience.

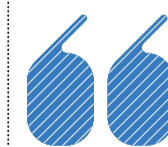
VAM can be easily integrated into a bank's traditional payment and accounting operating environ-

ment, giving a bank the possibility of rapidly creating state-of-the-art transaction services in a virtual front-end environment, with minimal impact on existing business-as-usual processes.

Traditionally, a company might have a large number of accounts in a bank which are used for different purposes, such as treasury, accounts payable and accounts receivable. VAM gives such a company the opportunity to reduce the number of real accounts on a bank's ledger into a much smaller, more manageable number, while facilitating the self-service administration of an unlimited number of virtual accounts. These accounts can be set up as single accounts or in hierarchical structures and each virtual account is assigned a structured account number against which payment receipts can be noted.

"VAM is probably the most comprehensive solution in the market in terms of functionality and also incorporates a full cash management suite, including sweeping, pooling and netting, as well as payment validation and reconciliation services" says Tieto's Mr Wikström.

"There is no real money in these virtual accounts – the real money resides in a number of aggregated client accounts on the bank's ledger – so VAM can actually be considered



This new operating model enables significant improvements in efficiency and associated cost reductions

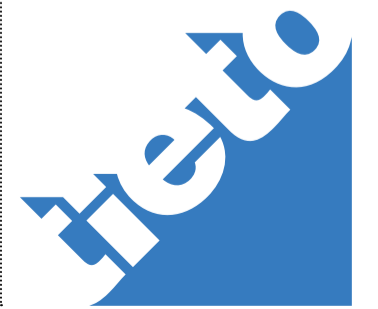
as a real-time reporting tool and management information system, unlocking the real value of the data held in the ledger."

The VAM solution is particularly relevant for the clients of banks who have a large customer base of their own, where VAM allows a client to open an account on behalf of their clients and to actually allow these clients to self-serve themselves. A practical example might be a fund manager with a lot of clients in the form of investors who could all be running virtual accounts in a VAM environment as part of the servicing model of the fund manager. The real funds are aggregated and held in real accounts in the books of the bank.

"A significant differentiator in this operating model is to allow a bank's clients, and their clients, to self-serve. VAM is part of the evolving business environment serviced by transaction banks and is expected to become the transaction banking norm within the next three to five years. It's a niche solution that could be a game-changer in the market," says Mr Wikström.

Tieto is a large Nordic IT services company, with multiple industry touch-points servicing both private and public sectors globally. Founded in 1968 and headquartered in Helsinki, the business employs 15,000 people and turns over €1.8 billion.

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