

Driving forward
Big Data and the FS sector

Cloud computing supplement
Features on security, virtualisation
and the future of cloud computing

The next big wave
Looking at the future of FS technology



April 2014

FS*tech*

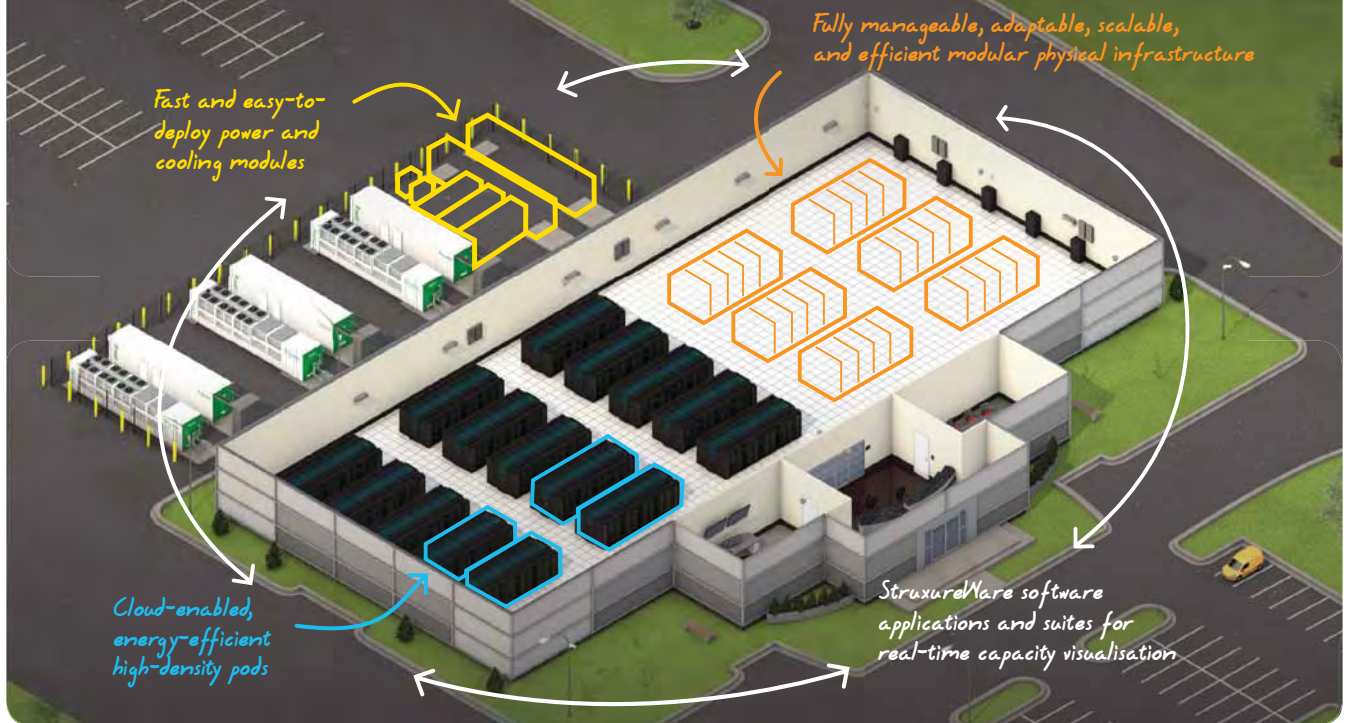
Formerly FST - the leading audited business title for UK financial services technology decision makers

A person seen from behind, wearing a dark tank top, with their arms raised in a celebratory gesture. To the right, there is a cluster of colorful balloons in shades of blue, red, and white. The background is dark with a bright light source creating a lens flare effect.

That winning feeling

Who won what at the 2014 FStech Awards?
We reveal all on pp. 28 - 35

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That winning feeling

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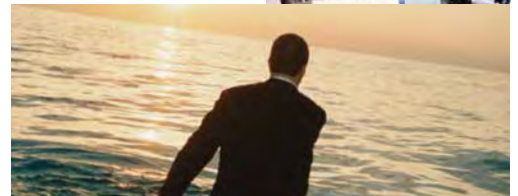
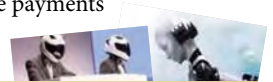
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The smart money is coming to Northern Ireland

Northern Ireland is becoming a magnet for the financial sector. According to the Financial Times FDI Benchmark, in 2013 Belfast was the No.1 city globally for financial services technology investment projects. Global institutions in banking, insurance, asset management and capital markets including, Citi, the Allstate Corp, First Derivatives and Liberty Mutual, are investing and expanding here.

Fund administrators Augentius and Heritage have joined Lloyds, Chicago Mercantile Exchange, NYSE Euronext, Mercer and Cowen International in opening technology and operations hubs in Belfast. Established professional services firms like KPMG, Deloitte and PwC are delivering technology and business intelligence analytics to the sector internationally using their Northern Ireland centres.

All are attracted by the wealth of talent and expertise, abundant enough to deliver the entire spectrum of activities: software development, technology support, risk management, quantitative modelling, operations and compliance. These activities are backed by strong capability in related professional solutions such as tax, audit, accounting, corporate intelligence and legal services.

Northern Ireland has built an international reputation for trading technology, data analytics, predictive modelling, software development and cyber security. Clusters of excellence flourish in insurance, asset management and capital markets.

Northern Ireland's competitive advantages quickly add up, starting with

a highly-educated workforce strong in quantitative skills. GCSE and A-level results outclass the rest of the UK, and post A-level, 75% of students progress to third level with 66% of university graduates attaining the top two degree classifications.

To ensure courses fit employers' future needs, universities and colleges partner with government and business. Both Queen's University Belfast and the University of Ulster prioritise student internships and work placements and align their programmes with industry need. They have developed new modules in areas such as software testing and big data together with new undergraduate and postgraduate degree pathways in cloud computing, cyber security, and computational finance. This collaboration ensures graduates are work-ready.

In 2012 Queen's University Belfast (QUB) launched the First Derivatives Trading Room supported by Invest Northern Ireland (Invest NI). Offering Bloomberg terminals, financial information feeds and software, the Room gives students the experience of trading in a busy stock exchange, dealing in real-time equities, bonds, foreign exchange and derivative instruments. QUB has developed modules on financial trading and launched an MSc in Computational Finance last year.

Both QUB and University of Ulster participate in the Capital Markets Network: where world-class financial services companies collaborate to offer career opportunities in capital markets technologies through an intensive training academy and

co-sponsorship of PhD projects. The network sets challenges and shares results, teaming with government to facilitate innovation.

Northern Ireland's talent and low turnover has enabled inward investors such as Fidessa and indigenous firms like First Derivatives, financial software technology specialists, to upscale rapidly. Yet operating costs and salaries are significantly lower than in Dublin, London and other traditional financial services centres. Property in Belfast averages around £12.50/sq ft compared with London at £55, and Dublin at £22.

For UK and US partners, Northern Ireland speaks the same language in numerous ways. And the region's well connected, with Dublin, the US and London all easily accessible.

Above all, government, business and academia work closely to support success; together creating a dynamic pro-business climate and ensuring Northern Ireland offers a nearshore solution with all the right answers.



To find out more about what Northern Ireland has to offer your business visit: investni.com/invest

New horizons

Our Editor, Scott Thompson, unveils a new look FStech and sets the scene for our 2014 Awards review, starting on p. 28

Welcome, ladies and gents, to the rebooted FStech, including a redesigned cover, layout and new features and columns. I'm rather chuffed with it, but of course reader feedback is what really matters so feel free to drop me a line with your thoughts at the email address below. With this issue, we also welcome onboard a new Deputy Editor, Michelle Stevens, who will be working with me on both FStech and sister title, Retail Systems. You'll find her tweeting @FStechology.

This issue also includes a review of the 2014 FStech Awards, which took place in late March. This year I was particularly excited about a new category, Most Disruptive Financial Sector Technology. This award goes to a company who the judges feel have come up with the most disruptive financial sector technology during the past 12 months, one that has the potential to change the way the FS sector operates, displacing an earlier technology. The aim is to champion FinTech startups with strong solutions/services that identify a gap in the market or look to improve current ways of working, companies that could well become gamechangers by helping to redefine financial services in the coming years.

I got the idea for the category during the 2013 Awards judging day when a couple of the judges remarked it was a shame startups weren't able to put forward submissions. The rules state that a clear timeframe must be given in the submission and that the nominated project/solution should have been

launched or come to fruition in the past 12 months. Which, for obvious reasons, makes it difficult for new ventures to get a look in. No such rules apply when it comes to Most Disruptive Financial Sector Technology and we were duly rewarded with a large number of entries from newcomers covering various pockets of the sector, many of them

“With many of the banks and payment service providers onboard, it's fair to say Zapp has some serious momentum ahead of its launch this year”

hugely impressive. There can be only one winner, however, and this year it was Zapp. In January, the venture announced that HSBC, first direct, Nationwide, Santander and Metro Bank are to offer Zapp mobile payments to 18 million customers across the UK. RBS, Lloyds and Barclays (which has already rolled out its Pingit mobile payments offering) are notable absentees. Nonetheless, getting five banks onboard for a 2014 debut is pretty good going. Zapp has been set up by VocaLink; it bypasses the card networks and offers real-time payments on consumers' mobile phones through their existing mobile banking application via the Faster Payments service. It also recently achieved near total coverage of UK merchants with the addition of Elavon to its roster of supporting payment service providers (joining WorldPay, Optimal Payments, Realex and SagePay). So it's fair to say it has some serious momentum ahead of its launch this year. Well done to the guys at Zapp for landing the award. And congrats to all the other winners and Highly Commended companies, to name but a few, LV=, Nutmeg.com, Citi and Barclays. It was, as always, a really enjoyable evening and very well attended. Now I move on to planning the 2015 event. Phew, an Editor's work is never done...



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at a glance

[Rounding up the essential FS technology news from the last two months]

Strange days indeed at the Co-operative Group as chief executive, Euan Sutherland, took to Facebook to criticise a top-level information leak which revealed that eight executives at the struggling business were in line to double their salaries. The Observer reported that the Co-op's Board was planning to endorse a £12 million wage bill for the senior management team, with Sutherland set to pick up a £1.5 million salary and £1.5 million retention bonus next year, irrespective of performance. He wrote on the Co-op employees Facebook page: "It appears that, once again, the leak has come from our Group Boardroom. We seem to have an individual, or individuals, determined to undermine me personally, my team and the rest of the Group Board regardless of the uncertainty and disruption this causes to our 90,000 colleagues and our supportive members. Despite this, I am determined that we will see through the vital transformation of our business." He then promptly resigned, with Richard Pennycook, the finance director who was expecting to be promoted to chief operating officer, agreeing to take on his role temporarily.

Nationwide lay claim to being the

first High Street financial services provider to offer its customers 24/7 Twitter coverage. The building society uses the site to answer questions and queries via its @AskNationwide account, as well as providing customer service information and support.

Tony Prestedge, COO, said: "The massive success of Nationwide's mobile banking app proves that people want to be able to manage their money on the move and at any time of day. With that in mind, we have opened up our popular @AskNationwide Twitter to ensure our customers can also tweet us and get a fast response at any time of day. In the short time that businesses have been using social media, Twitter has quickly become the channel of choice for customers who want to talk to companies, whether it is to ask questions or share their opinions. Yet so many organisations are either not using Twitter properly or see it as a poor relation to traditional channels such as the phone. At Nationwide we have embraced Twitter and are using it as an integral part of our customer service and support strategy."

Despite growing awareness of the new current account switching service, the rate of customers

moving their money is not accelerating. That's according to the TNS Current Account Switching Index which shows that awareness is highest amongst the over 45s (63 per cent). This is not translating into action, however, with only 47 per cent of switchers coming from that age group. The ABC1 demographic also has high levels of awareness (60 per cent) with 58 per cent of switchers coming from this group. Those making the move continue to be highly satisfied with both the process and with their chosen new bank (84 per cent). Customer service is still the strongest reason for leaving their previous bank. Logistical considerations, access and branch opening hours are the strongest reasons for selecting a new FS provider.

14,174 current account holders were interviewed between 29 January and 21 February. 516 switchers were identified. Whilst Santander has continued to be the biggest gainer with 22 per cent of switchers now choosing them compared to 17 per cent pre-switch, Nationwide is the biggest net gainer when comparing this period with the last reporting period. 11 per cent chose it and only three per cent left, a net gain of eight per cent compared to three per cent in the previous period. Those moving to Nationwide cite interest rates and reputation as reasons for choosing. Santander is chosen for its rates and rewards but is let down by its customer service. Almost 4 in 10 of those leaving the bank gave poor customer service as the reason.



Nationwide scores a social media first.

A new £1, pitched as the most secure circulating coin in the world, is set to be introduced in 2017. It comes amid concerns that there are an estimated 45 million forgeries of the current coin in circulation. The new version will be based on the design of the threepenny bit. A public consultation will be held over the summer focusing on how to manage any impacts before a final decision is made on the precise specification of the new coin, including the metal composition. The Royal Mint will work with key industry stakeholders in order to understand the potential impact for industry. A public design competition will be held at a later date to choose the design for the reverse, or 'tails', of the coin. It will be constructed from two different coloured metals and contain an iSIS security feature. Project iSIS is the work of The Royal Mint's in-house technology team and involves the application of a security technology present in banknotes. George Osborne, the Chancellor of the Exchequer, said: "After 30 years loyal service, the time is right to retire the current £1 coin, and replace it with the most secure coin in the world. With advances in technology making high value coins like the £1 ever more vulnerable to counterfeiters, it's vital that we keep several paces ahead of the criminals to maintain the integrity of our currency. I am particularly pleased that the coin will take a giant leap into the future, using cutting edge British technology while, at the same time, paying tribute to the past in the 12-sided design of the iconic threepenny bit."

Mobile phone banking transactions made by UK customers have nearly doubled



Shiny and new for 2017.

in just one year, according to new figures from the British Bankers' Association (BBA). Its report showed that customers used their smartphones for 18.6 million transactions per week in 2013, up from 9.1 million in 2012. More than 457.7 million SMS balance alerts and other text messages were also sent last year. Customers of the UK's five biggest retail banks have downloaded more than 12.4 million bank apps, and now make more than 5.7 million transactions per day – nearly 40 million a week – using smartphones and other internet-enabled technology. The BBA's latest figures also revealed that there were now 28.4 million debit and credit cards fitted with contactless technology. Anthony Browne, chief executive, BBA, said: "A revolution is underway in how people spend, move and manage their money. This is not just about the phenomenal growth of mobile banking, which has already allowed millions of British customers to make billions of transactions from the palm of their hand. Consumers are also rushing to use contactless cards, text alerts and a range of other easy-to-use technology."

Unite accused RBS of turning its back on local communities by embarking on a major 'stealth attack' on High Street branches. The bank announced during April

its plans to close 44 branches, 14 of which are classed as the 'last banks in town'. RBS has said the move is down to increasing numbers of customers using online and mobile banking. It recently issued research showing that one in five of its customers now only bank through a tablet or mobile phone, a 43 per cent increase on 2013 figures. The number of online and mobile transactions has now surpassed those taking place in branches and at ATMs and by the end of the year RBS and NatWest expect four million customers to be using their mobile apps.

But Unite is urging the government to intervene and demand that the state-owned organisation reverses its decision. It said in a statement: "Since November 2013 the bank has announced the closure of 48 branches...Despite being majority owned by the taxpayer, RBS has reversed its decision not to close any of its branches classified as the last bank branch in town, despite this commitment being part of its customer charter. RBS has stated that the bank has to rebuild trust with customers following the banking crisis and mis-selling scandals, but with 44 bank branch closures this year, commitments such as those contained within the charter are more likely to be viewed with cynicism."

IN BRIEF

Hiscox has expanded its partnership with Maxymiser. The deal is in addition to established campaigns in the US and the UK, and will focus on supporting the insurer's direct-to-consumer operations in France and Germany. Maxymiser says it will be working with Hiscox to use real-world data to enhance user journeys and improve customer engagement.

Bank of America is using the DocuSign Security Appliance to provide encryption key management and document auditing. The solution is available for customers of DocuSign's digital transaction management platform, who can use its datacentres while keeping control of their own encryption keys.

The Student Loans Company has announced an IT transformation programme to advance its lending and payments services. HCL Great Britain has been brought in to manage the replacement of core systems. It will lead the programme as prime systems integration partner, with support from Deloitte as an implementation partner, alongside banking software from Misys.

Santander has signed a five year contract to deploy Experian's Originations and Customer Management products on its PowerCurve platform. Customer Management will provide Santander the ability to create unique profiles for each of its customers, encompassing their entire relationship with the business. This includes scores and metrics for risk, propensity to pay and lifetime value. Originations will work alongside Customer Management to identify the right products for the right customers.

A plethora of pitches

Scott Thompson and Michelle Stevens review Finovate Europe 2014, which took place in London during February

Don't say it too loudly but Finovate Europe, a showcase of the best innovations in financial and banking technology from a mixture of established companies and startups, has lost some of its lustre. The event, once fresh, genuinely innovative and stuffed full of exciting new technologies, still has appeal but this year FStech found it lacking a wow factor. There were lots of nice solutions on display, but nothing that really rocked our world. Perhaps it's because this was our fourth Finovate Europe in a row, perhaps an element of fatigue has crept in on our part. Maybe we need to spend some time apart... Whatever the reason, of the 67 presenting companies fighting for attention, here (in our humble opinion) are the ones that won the day and the key lessons from the event for FS executives...

Long live PFM

Despite what those in the know have



M-payments loomed large this year.

been telling us for some time now, PFM is still all the rage... Among the Best of Show winners were Tink for its mobile PFM tool that helps users stay connected with their finances. The company was founded in June 2012 and, in September 2013, the service was released to the Swedish market. An international launch is planned this year. There was also

“Let me tell you a little secret, consumers don't like going into branches, especially on days like today when it's raining, there's a tube strike and then you get there and you have to wait in line”

Toshl, recognised for its quirky PFM that aims to make finances fun. We're not sure if finances can ever really be fun, but certainly Toshl gave it their best shot with an offbeat presentation showing how people can use its apps to find out where their money is going, keep on top of bills and spending,

set up budgets and live with financial peace of mind. The latter also picked up the FStech award for Best of Show Jacket (kudos to CEO, Matic Bitenc, for ditching the standard jacket format for a Mark Zuckerberg-style hooded number).

There was a strong focus this year on helping SMEs manage their finances. By way of example, efigence and Poland's Idea Bank. Andrzej Szewczyk, managing director and Steve Sutton, innovation manager, efigence, formed an amusing double act (we hope you get that electric car some day, guys) to demonstrate a new, private cloud-based, all-in-one banking platform which is connected with accountancy systems and a company's cash flow analysis. The pitch in a nutshell: smart solutions for the customer and benefits for the bank.

Mobile banking has moved beyond being solely a vehicle for transactions...

Something of an obvious statement, we know, but we were struck by the popularity of mobile image capture this year; witness the presence of such companies as Backbase, Jumio, PhotoPay and Kofax; the latter gave a particularly interesting presentation about its technology which turns smartphones into intelligent document capturing devices, “it’s like having a little banker in your mobile device who can read the data, pull out the important information and enter it into the system of record; it allows a bank to turn a mobile into a branch.”

Meanwhile, there was precious little in the way of branch technology...To quote one presenter: “Let me tell you a little

secret, consumers don’t like going into branches, especially on days like today when it’s raining, there’s a tube strike and then you get there and you have to wait in line.”

That seemed to be a popular sentiment, with branch innovation cast out to the margins of the show. OK, bricks and mortar isn’t

as cool and sexy as mobile apps and social media, but the fact remains that branches aren’t going away any time soon and banks need to invest in both their branch and digital channels to remain competitive. Here’s hoping the High Street has more of a presence at Finovate Europe 2015.

Nul points

Finovate Europe sometimes plays out like the Eurovision Song Contest, with European presenters attempting to be amusing and quirky, only for their gags and banter to fall flat. There were several instances of bemused delegates wondering where the hell the presentations were going. Having said



Daft Punk invade Finovate Europe...not really.

that, sometimes the forced quirkiness and lost in translation jokes have a certain charm, for instance, IND Group (recently sold to Misys) sidestepping ‘the usual boring vendor pitch’ in favour of ‘real’ clients; a beleaguered 30-something accountant (‘accounting is so cool, I

love the financial world’), his stropky teenage daughter who marched on stage and gave him what for, declaring it was time for people to know that the world has changed and demonstrating how her generation can use banking apps to manage their finances, and his grouchy father (‘just because I’m

a professor of archaeology, doesn’t mean I only know about old things’). An entertaining performance, then, and one which also got across how mobile banking can bring together different age groups.

Dream jobs

Technology start ups have the best job titles. Step forward Alexander Borodich (co-founder and chief dreams officer) and Olga Kazmina (marketing fairy) of social crowdfunding platform, MyWishBoard.com. Launched in Russia in July last year, the company reports that more than 650,000 ‘dreams’ have already been pinned to personal wishboards by its 80,000 users. Though

QUOTE / UNQUOTE

Choice quotes from this FStech

“Although some larger banks are taking the lead and making use of Big Data, they want clear RIO and a clear picture on what they spend their money on; and what they get out of it. The majority don’t want to spend on something that is a risk.” Jaroslaw Knapik, senior analyst, financial services technology, Ovum (p. 24)

“Digital interaction provides a lot of really valuable data for marketing purposes and for pushing campaigns and personalised messages to customers and banks are only just starting to explore that.” Daniel Mayo, chief analyst and practice leader, financial services technology, Ovum (pp. 20 - 22)

“After 30 years loyal service, the time is right to retire the current £1 coin, and replace it with the most secure coin in the world. With advances in technology making high value coins like the £1 ever more vulnerable to counterfeiters, it’s vital that we keep several paces ahead of the criminals to maintain the integrity of our currency.” George Osborne (p. 7)

“In the back of the mind of the CIO, CSO or CEO is the thought of them going in front of the board of directors, shareholders, or, worse, the Public Accounts Committee and being asked why they thought it was a good idea to put this or that piece of data in the cloud.” Duncan Brown, director, PAC (pp. 42 - 43)

IN BRIEF

Aviva has become the first insurer to publish reviews on its website from customers claiming through its car and home insurance policies. The move will allow people to see how consumers rate their experiences before making a decision on whether to buy a policy from Aviva. The company said that, until now, people have been buying insurance without knowing what to expect during the claims process, arguably the most important part of a policy.

SCOBAN has selected Lombard Risk Reporter as its fully automated, end-to-end regulatory solution for Bank of England, FCA and EBA reporting. The new private bank plans to open its doors in summer 2014, headed up by Ray Entwistle, executive chairman, formerly chairman of Adam & Co and Graeme Hartop, managing director, with its head office in Edinburgh and an operation in London.

Transactor Global Solutions is to provide a new software solution to replace Direct Group's existing administration and trading platform. A multi-phased implementation process will see the new Transactor system playing a key role in the evolution of the UK insurance services provider's operations, following its recent move to a simpler business structure.

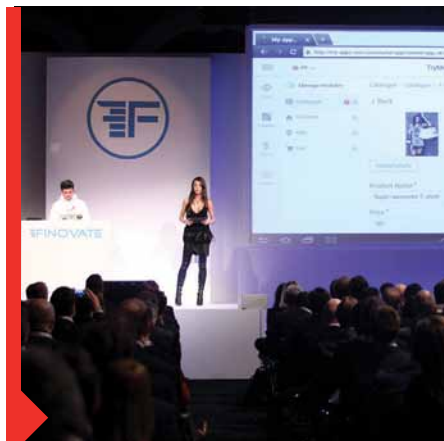
Cumberland Building Society is gearing up to migrate its NCR ATMs to Windows 7. It will also be using Fractals and Authentic software from Alaric, recently acquired by NCR, as it rolls out contactless card payments to its customers. Microsoft's Windows XP support for ATMs is expected to end in April.

quite how many of them have raised enough cash from their friends to purchase the Harrods lipstick used as an example during their presentation, is not clear.

Some demo presenters handed over part of their pitches to children in a bid to win the popular vote. And a slick performance by the schoolboy presenting Luxoft's iStockTrack – showing that monitoring investment portfolios on an iPad really is child's play – propelled the brand to a Best of Show gong.

Unsurprisingly, mobile payments was a major theme at Finovate Europe, with companies including payworks, Pixeliris, Mobino and Fiserv showcasing their wares. The universal CopSonic payment system from Pixeliris allows peer-to-peer transactions between phones – a function also being touted by Mobino. But the potential integration of Mobino's technology into cash registers and vending machines offers an enticing prospect for merchants as well, with the firm proclaiming that its "dream is that money should be as fluid in the digital world as in the physical world." In the case of payworks, the firm has gone a step further and pushed its cloud-based payments platform into wearable technology, syncing consumers' smartphones with smartwatches to enable transactions with the press of a watch button.

But it wasn't all about smartphones and



The pitches as always came thick and fast.

apps. Dynamics – a veteran of the global Finovate circuit – demoed its latest open loop and closed loop card technology. CEO Jeff Mullen explained how the long-life, battery-powered cards carried two push buttons, enabling customers to select payment either from their bank account or rewards account at the point of sale. The London delegates obviously saw the potential of the technology, gifting Dynamics another Best of Show prize to sit alongside its previous successes at US-based Finovate events.

Finally, a special mention goes to the duo with the unenviable task of wrapping up the eighth and final demo session on day two. Raphaël Kriving of AXA Banque, and Patrick Bucquet of Chappuis Halder & Cie, strode out on stage pumping their fists to the blaring sounds of Daft Punk. Dressed as the elusive pop pairing (the helmets did muffle some details of the presentation) the audience heard about SOON, a new smartphone solution. Already launched in France, it allows customers to open a bank account on their mobile, using Facebook account data to pre-fill the required fields.

And SOON was just one of several products featured at this year's event which was designed to encourage users to log in or connect to banking channels via their social media accounts. But as two fellow audience members were heard observing, just how likely is it that customers will want to go to Facebook to do their banking? A question that will no doubt be raised again at the 2015 gathering.

2014 Best of Show winners

- Backbase
- BehavioSec
- Dynamics
- Etronika
- Misys
- Luxoft
- Tink
- Toshl
- YourWealth



FStech

FStech magazine is now also available as an e-edition for tablets (iPad and Android devices), and can also be read on a PC.

The new interactive digital format allows readers to easily search, browse and navigate the latest news stories, in-depth analysis, features, commentary and even adverts.

All content is hyperlinked for a richer online experience.

Through the print magazine, website, e-newsletter, Twitter and LinkedIn accounts, videocasts/interviews and now the digital edition, *FStech* ensures that our readers always receive the latest news and comment from the financial services technology industry, in the most convenient format for them.

To sign up, visit: www.fstech.co.uk



Driving forward

Despite its benefits, Big Data still has a long way to go in the financial services industry. Kate O'Flaherty reports

Tight regulation and a reluctance to invest have so far posed obstacles to Big Data in the financial sector. But this does not mean the trend has gone unnoticed. The prominence of Big Data is increasing across the industry, with some of the big institutions already investing heavily: HSBC is in the process of implementing a programme, while Bank of America has apparently hired 'Data Tsars' to guard its information across the business.

And these cases are not isolated; investment is steadily increasing across the board. This is backed up by analyst Ovum, which is predicting that worldwide spending on management information systems in the retail banking industry will increase from \$6.9 billion in 2013, to \$9.3 billion by the end of 2018.





Big Data, which refers to the large amounts of information that is generated by organisations on a daily basis, can increase efficiency and help target customers. Among its benefits, data from customers, banking channels, back office systems and third-party sources can yield insights useful for customer marketing, risk management, and infrastructure optimisation. But projects in the financial sector face issues. Regulatory barriers, as well as a reluctance to invest in an area of technology that is not proven, are holding many firms back. Financial businesses such as banks are often compiled of many units, making them hard to unite in one Big Data project. Meanwhile, many are dealing with legacy IT systems, leading data to be fragmented.

Revenue generation and risk management are a big challenge, experts agree. "Although some larger banks are taking the lead and making use of Big Data, they want clear RIO and a clear picture on what they spend their money on; and what they get out of it," says Jaroslaw Knapik, senior analyst, financial services technology at Ovum. "The majority don't want to spend on

something that is a risk."

Regulation is often stifling innovation in the financial services industry, says Andrew Holley, partner at Holley Holland. "Organisations need to manage that holistically. To do that, they need to aggregate all the information with a low level of detail for things like capital liquidity and they must demonstrate this on a daily basis."

The finance sector is driving towards Big Data, but budget issues are a major challenge, observes Holley's partner Mark Holland. Richard Bentley, VP of financial services at Software AG agrees: "One of the things you see across lots of industries is a real pressure on profitability as customers are more savvy than they used to be."

"Now the message is about giving customers a context-sensitive experience, marketing the right thing through the right channel, to the right people. To do this you need to collect, store and continually analyse types of data and the success of offers: all real Big Data problems."

Managing this is complex, and has led a number of firms to adopt a strategy dubbed 'hub of hubs', Holland says. He explains: "Each business unit has a 'hub' of data and you have a single point of entry. Then there are 'micro-hubs' where you can get information from a specific business unit."

Meanwhile, bespoke products for the financial sector are also helping to manage the deluge of data. For example, Eagle PACE software is aimed at investment banking. Holland says: "You buy it off the shelf so you don't have to reinvent the wheel. These save several years creating a description of your business within your database."

Unstructured v structured data

It is essential for businesses to understand their data, as knowing whether it is structured or unstructured will dictate their architectural and analytical approach. According to Javier Cabrerizo, vice president, global business development, Exadata and database at Oracle, Big Data has become economically feasible due



to the advent of NoSQL technologies, which allow firms to manage to manage high volumes of information at an affordable cost. “That doesn’t give you the management capabilities you have in the relational database world, but it gives you affordable cost and a scalable platform for certain parts of the data,” he says.

John Glendenning vice president, EMEA at DataStax agrees on the importance of NoSQL: the biggest value is in understanding what’s happening in real-time, he says.

With the ability to scale up quickly and deal with data in real-time, NoSQL databases such as Apache Cassandra are growing in popularity in the financial services industry. So much so that at least six of the world’s top 10 banks have deployed a project on Cassandra, according to Glendenning.

This is because NoSQL has many applications: for example, real-time fraud analytics is useful in banking, says Glendenning. “We have a major retail bank that has deployed a fraud analytics

platform on Apache Cassandra. They want to do real-time fraud analytics and understand what’s happening; and they want to do this with both unstructured and structured data.”

On the investment banking side, it’s about risk management, Glendenning believes. “How can I manage the risk in real-time and how can I make it easy to be compliant? The more data you deal with, the more you need to access it.”

But NoSQL does not have the security and data management capabilities of relational databases. As such, Oracle’s solution is composed of non-relational and relational technology, says Cabrerizo. “So you have the transactional data capabilities of SQL and the low cost and ease of use of NoSQL.”

Big Data in use

Big Data is already being used with success by several financial organisations. One such firm is Spain’s CaixaBank, which is using Oracle’s solutions for the deployment of its new Big Data infrastructure. The bank is developing a 360-degree view of customer activities, integrating the data created in its channels.

This enables it to create predictive models and enable personalised offers to customers. It is also using Big Data to reinforce risk management and brand protection services, fight fraud and streamline current processes to reduce time-to-market.

Another good example is Zions Bank in the US, says Knapik, which is leveraging Big Data in addition to tools in its fraud department such as web analytics in order to identify fraudulent behaviour. “This kind of functionality was also good for customer analytics,” Knapik says.

Meanwhile, Bentley cites the example of DBS Bank, which Software AG worked with in Singapore. “A couple of years ago they had a high profile issue where an organised crime ring had worked out its fraud systems were overnight; so DBS couldn’t see what was going on during the day. We brought in our technologies so they could see emerging patterns as they were occurring.”

So, usage is growing in the financial sector, but the area is still far from mature. The technology does offer benefits, but regulation combined with tight budgets means it is likely that tangible use cases are years, rather than months, away.

Despite obstacles, adoption is happening to some extent, says Knapik, but it’s not the end of the story. “What Big Data analytics brings to the table is new types of insights and analytics that you can leverage. It’s not a holy grail and won’t replace other technology but it gives you the opportunity to try new things.”

“Although some larger banks are taking the lead and making use of Big Data, they want clear RIO and a clear picture on what they spend their money on; and what they get out of it”



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We need a stable Co-op

Euan Sutherland's resignation from the Co-operative Group is the product of stand-off between democracy and managerialism. Sutherland wanted to introduce typical managerial reforms such as restructuring, selling off parts of the firm's portfolio of businesses, and streamlining governance procedures. This would have made the Co-op look very similar to more mainstream businesses. Traditionalists in the group want to preserve the values of democratic decision making, and the slow and often unwieldy processes this entails. It is difficult to see how you can reconcile these two very different visions for the future of the Co-op. The conflict over the CEOs pay-package bought the clash of these two values to a head. By tendering his resignation, Sutherland was laying down the gauntlet to those who were questioning his more managerial approach. Sutherland declared the Co-op to be ungovernable, but it is really only ungovernable according to standards of a traditional corporation. Despite attempts to reform the group, the Co-op is not a traditional corporation. Sutherland should have accepted that one standard of good governance does not apply to all organisations.

The news comes on top of a series of other disasters for the Co-op Group. While Sutherland's resignation is likely to make some members of the co-operative movement happy, it will further undermine the Group's reputation. This means stakeholders are going to get even more jittery. It will also make finding a new candidate for the job difficult. A faltering Co-op is bad news for the UK economy as a whole. It is a significant player in many sectors such as retail, funeral care and banking. It also offers an alternative business model to many mainstream firms. Andre Spicer, professor of organisational behaviour, Cass Business School

Stopping fraudsters from coining it in

Changing the Pound is a welcome move. In today's digital age, most people are cautious enough to regularly change passwords so a similar approach with our finances makes perfect sense. With around 45 million fake £1 coins in circulation, the Treasury faces a constant battle against increasingly sophisticated criminals. It's not easy to stay ahead of them, but this is the latest clear signal of intent that fraud and counterfeiting will not be tolerated. The danger now, though, is that there is a risk of counterfeit currency flooding the market as fraudsters seek to dispose of their coins whilst the current Pound remains legal tender, and also create more counterfeit coins while they have the means to do so. Consumers and businesses, alike, must be particularly vigilant. Yet their focus must not be diverted entirely towards the Pound in their pocket; the digital age means that just as much vigilance must be paid to online transactions and payments in different currencies. Hitesh Patel, UK forensic partner, KPMG

On the right track

Re. the latest Financial Ombudsman complaints data, it is reassuring to see that the number of overall complaints against banks has dropped during the second half of last year; this is clearly an improving picture, thanks in large part to the banks' hard work and on-going investments in this area.

However, there is still a lot of work to be done and customer complaints will remain on the agenda for some time to come. The FCA has made its commitment to consumer protection extremely clear, which means that all financial services firms will need to ensure that rebuilding consumer trust and building goodwill remains a top

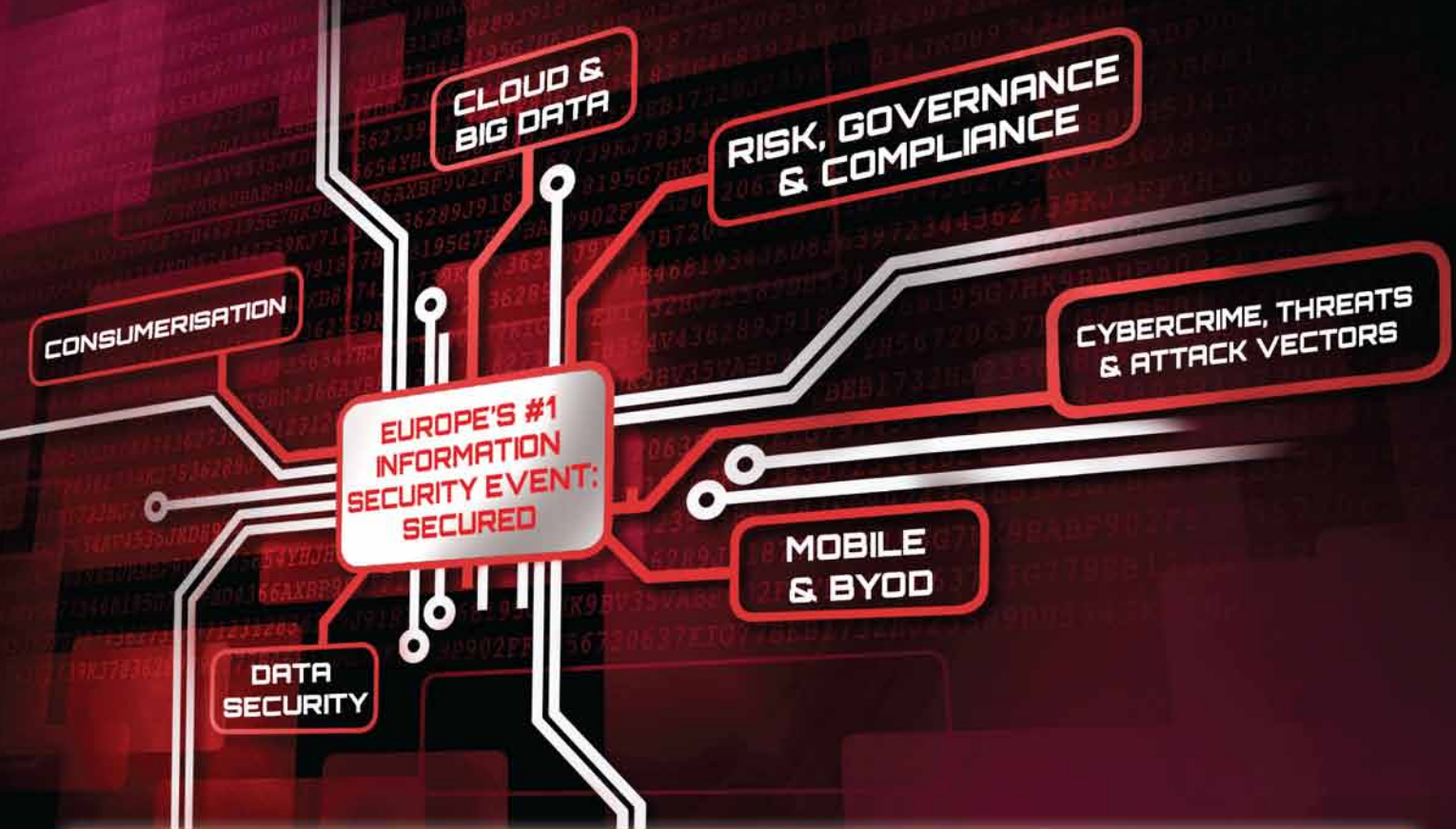
priority. It is also worth noting that the FCA is due to take over responsibility for consumer credit from the OFT on 1 April, which will create a single regulator for conduct in retail financial services.

In order to ensure that customer complaints continue to follow this downward trend, financial services firms will need to look very carefully at how they interact with their customers; effective business process management is key to ensuring that interactions within the business and its customers happens seamlessly and can also help to enhance customer service.

Tony Armour, managing director, DST

Letters to the Editor should be sent to: scott.thompson@fstech.co.uk





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Andrew Howells, head of workplace strategy, Condeco Software

FS*tech*: How did you get into the sector?

Andrew Howells: I have worked in IT nearly all my working life and started at The Woolwich back in 1994 just after leaving University. At the time, I didn't quite know what kind of job I wanted but my business degree gave me a broad understanding of business life. The Woolwich opportunity came up and I took the plunge. During my time there, I started to question operational processes and started to look at the IT services that supported the company's current offering. I was suddenly known as 'The Good Ideas Man' and I became the head of current account technology, and set about rationalising and improving the overall service offering which improved the service for our customers, making significant savings for the company. In the late 1990s I moved to Barclays where I worked my way up the IT ladder to become global head of IT for FM, responsible for improving its system and operational performance. During my last four years in Barclays I was made responsible for the bank's global facilities systems and set about standardising the number of systems we had, integrating everything onto a single platform to allow staff to have a seamless facilities experience regardless of their home location.

FS*tech*: Who has been the biggest influence on your career?

AH: David Stockton, an old boss of mine at Barclays, really shaped me to become more rounded in my IT delivery capability. He was head of desktop, and we spent most of our time firefighting an IT system that 'had issues', while at the same time trying to deliver a new improved IT platform across the UK and moving over 6,000 people into a new central London HQ. This was a very busy time and Dave taught me the importance of stakeholder management skills, whilst taking everyone on a journey which was underpinned with good documentation and data.

FS*tech*: Who in the sector inspires you?

AH: Another old boss of mine called Wendy Cuthbert really inspired me to become a better IT manager. Wendy was head of facilities and managed to run a global operation and a home with two teenage children effortlessly. Her commitment to the cause was clear for everyone to see and she was always composed and professional in everything she

did. Wendy was always trying to make a difference and she allowed me to get on with what I was doing and always knew everything, even when I thought she wasn't paying attention!

FS*tech*: Which IT professional do you most admire?

AH: Global visionaries like Steve Jobs and Mark Zuckerberg are obviously top of my list and have shown determination and passion in getting their products to the number one slot. The biggest problem with most visionaries is what happens when things grow too big too soon; this is where most fail but both of them developed as quickly as their product range did, and have stood as figureheads to a global brand being used by millions around the world.

FS*tech*: Is there anything that frustrates you about the sector?

AH: I dislike people who say they have an IT solution but actually have very little. The IT market moves at such a frantic pace that companies want to stay ahead of the curve and will say anything to save a deal. At Condeco, we have developed our product range over many years and are comfortable with our 'global leader' tag for offering scheduling software and hardware to the market. From time to time, though, we do come up against competition that is clearly distorting the truth and selling something which may be on the drawing board but nowhere near production.

FS*tech*: What was your last banking experience both online and on the High Street?

AH: I bank with Barclays and they are improving all the time. I have been with them for such a long time I can't really compare them with anyone else but believe banks 'are all the same'. The technology side of the transaction is definitely improving though and I do most of my Barclays banking through an app on my iPhone. The app allows me to see all my accounts and transactions and make payments from account to account or pay my bills. The world is definitely moving into a digital age where most transactions will be in the cloud. I personally think this is a good thing and as long as the security of these systems continues to keep up with the tech then long may it do so.

People on the move



Mark Harrap

Trade finance software specialist Bolero International has appointed Mark Harrap as its new VP of technology. He joins the firm from talent measurement specialist SHL Group, where he held overall responsibility for managing the design, development and support of online products. Harrap's experience working with clients and in-house and outsourced specialists on long-term technical projects was a crucial factor in the appointment.



Steen Blaafalk

Saxo Bank has made Dansk Bank veteran Steen Blaafalk its new global head of finance and risk operations and a member of the Board of Management. Most recently he was head of group treasury and a member of the executive committee at Danske Bank. In a 30-year career there, Steen also served as head of Danske Markets. He is responsible for all legal and compliance, finance, risk management and BI within Saxo Bank.



Peter Hill

SimCorp, a provider of investment management solutions and services, has appointed Peter Hill as MD of its UK, Ireland and Middle East business. Hill was previously MD, SimCorp Asia Pacific where he oversaw the company's expansion in Australian and Asian markets, with particular focus on client satisfaction and development of the business. He joined the company from Fiserv Asia Pacific and has also worked for IBM Australia.



Matt Simester

Piran Consulting has brought Matt Simester onboard as director of cards and payments. He has worked for many of the world's leading banks, lenders and processors and the key services he will oversee include: payments strategy, partnership development, business insight and research, mobile payments, value management and loyalty, merchant acquiring and acceptance, as well as programme design and management.



Jean-Luc Brach

Jean-Luc Brach is the new CIO at KNEIP, a service provider for the production and disclosure of legal, regulatory and contractual information for the fund industry. "KNEIP is a well-established source of regulatory expertise for fund managers and I'm looking forward to helping build on this success as we strive to become the go-to service provider for the industry," says Brach, who was previously at PwC as EC programme manager.



Laurie Edmans

FS group True Potential has appointed Laurie Edmans as non-executive director. He is currently chairman of Marine & General Mutual and of Trinity Mirror Pension Plan Trustees, a non-executive director of the Money Advice Service and also a Trustee of NEST (the National Employment Savings Trust). Previously, he was chairman of the Safe Home Income Plans Group and of peer-to-peer banking organisation, Funding Circle.



Scanes Bentley

Vizolution, provider of the screen sharing solution vScreen, has announced the appointment of Scanes Bentley, MD at Accenture UK & Ireland for the past 12 years, as non-executive chairman. "I have been following the growth of Vizolution for some time now and I'm hugely impressed at the inroads they have made with three of the top five UK lenders and two of the top five UK insurers already using vScreen," he says.



Simon Anderson

Baringa Partners, a management consultancy working across the energy and FS sectors, has appointed Simon Anderson as a partner within the Markets & Trading business unit. He joins from Deutsche Bank, where he was responsible for transaction management business architecture. As director and senior business architect in the Corporate Banking & Securities division, he focused on the trade lifecycle operating model.



The next big wave

Michelle Stevens takes a look at a rapidly changing FS landscape and the impact upon it of Big Data, wearable tech and mobile payments

Make no mistake, this is an exciting time to be in the FinTech sector. Emerging technologies and a customer appetite to embrace them has broadened the horizons for developers, spawned a myriad of innovate start-ups and compelled financial institutions to consolidate their digital strategies.

But how is the market going to shape up in the near future? There are a number of technologies with the potential to disrupt –



“Banks have seen the prospect of being able to generate another revenue stream from their customers, but if they are not quick in sorting out a wallet themselves, they will lose that opportunity to whoever the dominant provider becomes”

and naturally, a wide range of predictions about what is going to succeed or fail.

Arguably one of the most interesting moves in the sector of late has been the launch of 'wearable banking' by CaixaBank. The Spanish group announced that it would be the first in the world to let customers follow international stock markets via smartwatches, as well as locate branches and convert currencies using Google Glass devices.

The smartwatches – which synchronise with smartphones – use a newly available app to display recent price information for each stock and index, as well as fluctuations since the start of the market session. The augmented reality Google Glass solutions will also go live once the app market for the device officially opens this year.

CaixaBank says that it wants to pioneer the use of new consumer technology. The bank tells FStech: "Our multi-channel strategy is based on extending the bank's services to every available channel, with the aim of providing the best possible service to customers. Part of our commitment to leading innovation in the financial sector includes extending services to new wearable devices."

The race for valuable customer data has seen providers bring to market a variety of new reporting and analytical tools. And with many financial institutions keen to embrace new innovations, Big Data is still an important evaluator, according to CaixaBank. "Information from all electronic channels, including the

branch channel, represents a valuable tool to support customer analysis, aimed at improving services and verifying the need for new commercial products and services," it adds.

But has Big Data been overhyped for the banking sector as a whole? "In one sense there is some disillusionment with it, but on the other side most banks are starting to use the approaches that sit within Big Data," argues Daniel Mayo, chief analyst and practice leader, financial services technology, Ovum. "Whereas it was often a separate pilot project for banks a couple of years ago, we are starting to see this become part of the mainstream technology portfolio."

Shifting sands

The shift to digital channels is still very much a key trend in FS, says Mayo, and provides an opportunity to mine some rich customer analytics. "The next big wave is the digital marketing aspect of it," he explains. "Digital interaction provides a lot of really valuable data for marketing purposes and for pushing campaigns and personalised messages to customers – and banks are only just starting to explore that."

With more than 56 million smart connected devices shipped to the UK in 2013 – up 11 per cent on 2012, according to the International Data Corporation – the growing proliferation of tablets and smartphones will continue to influence the emergence of new products and services from financial institutions. But will one device become more important when it comes to prioritising the development of FS technology?

Alex Bray, channel solutions director for retail banking at Misys, thinks not. "It's going to be equal but different – people will use tablets and mobiles in a number of very specific ways," he explains. "When looking at tablet-based applications, you can imagine that customers are sitting down with a bit more time, whereas with mobile devices they are likely to be standing up or on-the-move, so that will very much define the kind of transactions they will be doing."





“You can see how a tablet-based solution could incorporate some fairly complicated sales processes – you could integrate face-to-face customer conversations with staff, or illustrations and videos,” he continues. “But to render that on a mobile device you’re probably looking at much more simple, one-touch sales processes. It’s a different way of approaching business needs on those two different types of devices.”

One area where tablets and smartphones are driving some of the most significant changes is payments. Apple is yet to enter the NFC ring, but the technology giant is looming large on the payments landscape.

“The industry has long been expecting Apple to become much more active in payments,” says a recent research report from Celent, entitled *Apple in payments – what to expect?* “Apple has a number of relevant assets that can be configured creatively to develop an attractive payments proposition, including access to customer card details registered at iTunes, the Passbook wallet app, Touch ID, iCloud Keychain, AirDrop and iBeacons.”

But Celent’s analysis concludes that the company will not build a “truly open

wallet” available on all mobile devices – including those using Android and Windows operating systems – instead focusing on “providing a seamless payments experience for customers using Apple’s own hardware devices.”

This could be good news for other digital wallet players who are occupying what is starting to look like an increasingly crowded space. Consumers are unlikely to want to have several different mobile wallets on their phone – but while a dominant provider is yet to emerge in this young market, one group that hasn’t yet announced its intentions are the retail banks themselves. Could this be a future development to look out for?

“Banks have seen the prospect of being able to generate another revenue stream from their customers, but if they are not quick in sorting out a wallet themselves, they will lose that opportunity to whoever the dominant provider becomes,” warns Katherine Thompson, equities analyst at Edison Investment. “Banks providing wallets isn’t something that people talk about a huge amount...but if they made it easy for people to link their cards and accounts to them, customers may be willing to use that for m-commerce.”

Thompson highlights research from the Future Foundation, which was commissioned by Monitise last year among smartphone users in the UK, Spain and Germany. After PayPal, banks were cited as the most trusted transactors of mobile payments – ahead of card providers, retailers, phone operators and other software companies.

So what does the development of mobile technology mean for High Street bank branches? Some commentators argue that physical branch networks will start to become redundant or be relegated to a support role function. But could this infrastructure be ripe for some digital developments of its own?

Bray argues that smooth customer interactions are key – which also means adopting the same facilities in a branch as customers can use remotely, such as personal finance management. “We need to ensure we are giving branch staff access to the cool functionalities that banks are delivering to digital channels. It’s not particularly complicated to start thinking about how to make those kind of analytics available to customers through branch systems,” he notes.

But there are, of course, many other areas starting to hot up in financial sector technology, such as the untapped potential of social media, biometrics and augmented reality. And just a quick glance at the burgeoning number of FinTech start-ups heralding their new innovations means there are surely even more exciting things on the horizon.

“In one sense there is some disillusionment with it, but on the other side most banks are starting to use the approaches that sit within Big Data”



Data centric

In the latest FStech video interview, Deputy Editor Michelle Stevens talks to Kevin Brown, Vice President, Data Center Global Offer for Schneider Electric, about the changes in data centre infrastructure and the forces behind the spread of prefabricated data centres

FStech: What changes do you see in the way that companies are sourcing their data centre infrastructure requirements?

Kevin Brown: Conversations about a company's data centre strategy are changing from being purely about physical infrastructure to a more integrated discussion about the IT strategy and business process. Customers are looking at their application and asking "where is the right place to put it – does it need to be in my own data centre, or is it more appropriate and flexible to put it into the cloud or a co-location facility?"

FStech: Why do you think that companies will continue to want to build their own facilities?

KB: There is much rhetoric that in the future there will be no data centres because everything will be in the cloud. However, I think there will be a mixed approach, where customers have their own data centres but also put things into the cloud and into co-location. Although analysis shows that the 10-year TCO of building your own data centre is cheaper than going to a co-location facility, financials are not always driving the decision. It may be cultural issues, regulatory and security concerns, or how quickly customers can get staff to IT equipment.

FStech: What is wrong with traditional approaches to data centre design and construction?

KB: There is not anything inherently wrong with the traditional approach, but there are some challenges customers need to understand. It is generally a very unpredictable process, things can happen on-site that cause delays and cost overruns. Then customers might end up with a data centre that does not match design, may have taken longer to build, cost more than budgeted, and as a result does not perform as well as it should.

FStech: How does the prefabricated modular approach to data centre builds and upgrades change the game in favour of the owner-operator?

KB: Ultimately, a prefabricated data centre removes some of the build complexity, by taking it out of the field and into a factory where things can be controlled. This brings several benefits to the owner-operator. The speed of deployment is much faster – instead of shipping thousands of devices that need to be assembled on-site, it might just be three or four larger



pieces. The time from financial outlay to having the data centre running also becomes shorter. And, perhaps most importantly, is the predictability. In a factory we can test that all of the software is running as it should before it goes out into the field.

FStech: What has been holding back adoption, and why is it now a perfect storm for prefabricated modular data centre solutions?

KB: The idea of prefabrication is not new – many industries have been using the approach for years. But there has been a lack of data centre designs for the entire physical infrastructure, or a reliable comparison tool looking at a traditional versus modular build. Customers also want more help through the whole lifecycle, as there is a perceived risk when going to a modular design for the first time. We are trying to address all of those concerns, and as a vendor the onus is on us to provide the right options.

FStech: Do companies have to make any trade-offs or compromises by adopting a modular approach?

KB: There are times when a modular prefabricated approach is going to be difficult, but there are inherent benefits and scalability with modular. We would like to see customers start by asking "is there any way that I can prefabricate? Or what parts can I prefabricate to get the benefits from speed of deployment and predictability?" We want to help customers build the best solution for them, and find that many are now leaning towards a hybrid approach, where we might prefabricate the powertrain but keep the IT room as a traditional build.

FStech: Is there a framework that companies can use in order to evaluate the benefits to their business of outsourced, stick-built or modular data centres?

KB: Schneider Electric has invested in a number of white papers, score cards and trade-off tools to help companies think through this, which are available on our website. We have recommended a specific framework for considering building versus outsourcing, or a prefabricated modular approach versus traditional. Our trade-off tools also help with the financial analysis.

*See the full interview at: www.fstech.co.uk

*For further information, please contact Lavina Dsouza: lavina.dsouza@schneider-electric.com

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coming up

[FStech rounds up the must-attend FS technology-related shows taking place in the next 12 months]

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11-12 June: PayExpo 2014
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 Website: www.payexpo.com

16-18 June: Enterprise Architecture Conference Europe 2014 and Business Process Management Conference Europe 2014
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 Website: www.irmuk.co.uk/eac2014

19 June: FStech Omnichannel Banking Conference
 London
 Website: www.fstech.co.uk/conference

23-24 September: Finovate Fall
 New York
 Website: www.finnovate.com/fall2014

29 September-02 October: Sibos 2014
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08-09 October: IP Expo
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30 October: 2014 Retail Systems Awards
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For further information on our forthcoming roundtable events, contact Rebecca Reeves at: rebecca.reeves@fstech.co.uk. Or on: 020 7562 2417. For sponsorship enquiries, contact Sonia Patel: sonia.patel@fstech.co.uk. 020 7562 2430.

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The big night

Welcome to our review of the 2014 FStech Awards. This is a great time to cover the financial services sector, as various technologies emerge with the potential to disrupt the way businesses operate, and the Awards reflected this fact. During my welcome speech, I observed that the likes of peer to peer lending, mobile payments and virtual currencies, fuelled by digitally savvy new entrants, mean the shape of the industry is fundamentally shifting. Now it's down to FIs to work out how they will respond. "Technology, of course, has a vital role to play here, but what progress has been made since this time last year? Well, mobile wallets still haven't taken off. But 2014 will absolutely, positively be the year it happens, say the mobile wallet providers, although to paraphrase Mandy Rhys Davies, "They would say that, wouldn't they." And what about our old friend NFC? Will it come to stand for Nobody Effing Cares or New Found Credibility? Perhaps the general public would be more excited about NFC if they knew what it was? And don't get me started on QR codes, HCE and BLE. FYI there's no such thing as TMI when it comes to payments education. Let's ban acronyms ASAP," I commented.

So, which victorious companies stormed the stage, posing for photos and generally doing their best impersonation of an introspective Matthew McConaughey at the Oscars? Turn the

page and all will be revealed. A big thank you to the judges for helping to decide the winners. It was no easy task, believe me, and we really do appreciate the time they devote to sifting through the entries and giving their feedback. Joining me on the judging panel this year were:

Simon Barrows, head of FS, Glue Reply
 Simon Burrows, director, PwC
 Carl Houghton, partner, Clearwater Corporate Finance
 Georgios Kolovos, director strategic marketing & customer insights, GE Capital EMEA
 Alex Kwiatkowski, research manager - EMEA banking, IDC - Financial Insights
 Glenn Murphy, chief information officer, London & Capital
 Alistair Sergeant, director, Purple

Thanks to everyone who attended the event and congratulations to the winners and those who were highly commended. And on with the review!



Scott Thompson,
Editor, FStech



2014 Overall Winner: LV=

Best of the best

FS

tech reviews its 2014 Awards, which took place on Thursday, 27 March at the Lancaster London Hotel, and reveals who won what

LV=, Nationwide Building Society, Barclays, Nutmeg.com, Eze Castle Integration and



Best Use of Social Media

National Savings & Investments/Atos were among the winners at the 2014 Awards. The event, into its 14th year, kicked off with a welcome speech by FS

tech Editor, Scott Thompson, who remarked: "What a year it has been so far for the financial services sector. BBVA's acquisition of Simple has made it clear that the traditional financial services landscape is changing fast. We've also seen the Co-op Group go from national treasure to laughing stock, plenty of twists and turns in the controversial Bitcoin story and a string of high profile IT glitches. And let



Best Use of IT in Retail Banking

us not forget the BBC's bombshell that the next series of Doctor Who will see the Doctor face his greatest villain yet. Yep,

you've guessed it: a banker. You know you've got a serious image problem on your hands when bankers are considered to be worse than the daleks."

And he added: "There's more unfortunate news. I hate to break it to the bankers in the audience, but you're just not cool in the eyes of millennials, the Hollyoaks generation, Generation Y or whatever it is they're being called this week. Nearly three quarters of America's millennials would rather go to the dentist than listen to what their banks have to say, according to recent Scratch research looking at attitudes towards various sectors. Banking emerges as unloved and unwanted and the sector considered to be most at risk of disruption. A third said that they won't need a bank at all in five years and three quarters would be more excited about a new offering in financial services from Amazon, Google, Apple, PayPal or Square."

Thompson concluded: "Anyway, enough of that and back to the reason you're here tonight, to celebrate financial sector technology innovation whilst crying into your wine glasses stroke quaffing champagne and punching the air, depending on whether you've won or not. Congratulations to all of you who made the shortlist and a big thank you to the judges for helping to decide the winners."

Dinner was then served, after which the host for the evening, comedian and writer, Simon Evans, took to the stage to reveal the 2014 winners.

Going for gold

So, who secured their place in our 2014 Hall of Fame? First up was Best Use of Social Media which went the way of Social



Best Use of IT in Wholesale & Investment Banking



Best Trading System



Best Use of IT in Insurance

Advisors. Financial advisers navigated clients through the global financial crisis while simultaneously re-engineering for RDR. Providers improved social client engagement, while advisers operated with one hand tied behind their back, until now. Social Advisors enables advisers to be compliant using social media across all devices.

Nationwide Building Society and IRESS UK picked up the award for Best Use of IT in Retail Banking. Nationwide continues to drive its technology solutions to transform levels of efficiency, flexibility and customer service expected of the largest building society in the world. To deliver this transformation it chose to partner with IRESS to develop and implement a class leading multi-channel mortgage sales and originations platform.

Best Use of IT in Wholesale & Investment Banking was awarded to Bank of America Merrill Lynch (Trade Pro). Trade Pro was launched to deliver a fully integrated online trade/supply chain experience from a single treasury platform (CashPro Online). It allows global buyers/suppliers to easily originate, process, view and data mine trade finance transactions online, while optimising working capital, effectively managing risk and reducing administrative costs.

LV= landed the Best Use of IT in Insurance award. The company's Change, Innovation and Operations (CIO) department have harnessed the Mendix platform and embraced a new way of working to fast track innovative projects onto the strategic agenda. Ideas are flourishing, with many new innovations being spawned and rolled out in record time to the benefit of their suppliers/partners, customers, people and the overall business.

In the Best Trading System category, Portware won out. The company recognises the roles of the trader and portfolio manager have become more challenging and has spent the last year enhancing its platform, automating strategy selection, optimisation, and execution with artificial intelligence, and creating a new kind of decision support tool – a thinking EMS.

In the Data Governance Project of the Year category, National Australia Group Europe impressed the judges. The current focus of its data strategy is customer data and the bank has recently compiled a set of 27 critical customer attributes. The Customer Hub is viewed as a key strategic data asset which will deliver a single source of trusted customer data for use throughout the organisation.

Best Use of Technology in Customer Service was picked up by Barclays Mobile Banking (Call Us). Barclays was the first bank in Europe to launch an intelligent Identity & Verification (ID&V) solution, allowing customers to call from within their mobile banking app without the need to verify their identity once more. The telephony agent now instantly recognises the customer and can offer a personalised service. This solution was developed in response to customer and colleague insights.

Santander/Vizolution were Highly Commended in this category. Santander wanted to improve conversion rates for remote credit card applications while delivering exceptional customer experience. It implemented vScreen within its telephone distribution division, to provide a visual, secure, compliant solution.

Best Use of Online Services was won by online investment management service Nutmeg.com. CEO and co-founder Nick Hungerford commented: "It's a real honour to win, especially as we were up against some of the biggest names in the finance industry. From day one Nutmeg has been committed to putting the customer first and building a fantastic online user experience that is convenient, secure and transparent. It's a testament



Data Governance Project of the Year



Best Use of Technology in Customer Service



Best Use of Online Services



Best Use of Mobile



Anti-fraud/Security Strategy of the Year



Compliance Project of the Year

to the hard work of our entire team in delivering that vision and, in the midst of ISA season, it comes at a time when we're seeing more customers than ever sign up with Nutmeg."

Best Use of Mobile was a particularly competitive category; the winner was Barclays Bank. In July 2013, Barclays was the first UK bank to launch in-app instant lending on a digital channel for retail customers. The lending functionality is offered to customers in the secure environment of Barclays Mobile Banking. Real-time integration to the Barclays Loans engine allows instant response and immediate access to the authorised loan amount.

Nationwide Building Society/SAS triumphed in the Anti-fraud/Security Strategy of the Year category. The award-winning system allows Nationwide to quickly and easily flag unusual account



Systems Integration Project of the Year

activity and key fraud threats. For example, the building society can monitor outbound CHAPS payments, with an alert sent to an investigation team if any activity is considered suspicious.

It has also helped create major cost savings through identification of instances such as money being fraudulently added to accounts. In addition, the system has enabled Nationwide to identify a series of money launderers to help ensure

regulatory compliance. And it has automated previously time consuming activities such as the daily production of reports in order to provide in-depth analysis of fraud losses. "SAS has helped to eliminate three quarters of our fraud losses in the space of just a few years," says David Parsons, senior manager fraud analytics at Nationwide. "That is a real, bottomline saving that we are making. Plus, we've been able to enhance the service we provide to our customers, who trust us to keep their assets safe."

Compliance Project of the Year went to Lloyds Banking Group. The LBG Finance IT team achieved excellence in Business/IT collaboration in its delivery of the Group & Divisional Reporting Solution (GDRS) solution. GDRS now provides a single integrated platform; bringing together finance, risk and commercial data to deliver statutory, regulatory and management reporting from a single integrated data set for all legal entities.

Systems Integration Project of the Year was awarded to Citi. Designed as an end-to-end reconciliation management system, Global Reconciliation Utility (GRU) brings together various recon platforms under one utility, and offers reconciliation, metrics and monitoring with a single-window view for users. It uses best-in-class technology solutions for the global enterprise, delivering strategic and tangible benefits.

Best use of Networking/Cabling winged its way to Visa Europe/BT. BT completed a major enhancement to Visa Europe's communications environment, which helps the company process millions of payments every minute. BT provides connectivity for its corporate applications, card authorisation and clearing and settlement services, linking more than 350 member sites in 37 countries and Visa Europe offices throughout the European Union.

Outsourcing Partnership of the Year recognised the work of National Savings & Investments and Atos. Their entry outlined how the mutually beneficial relationship between Atos and NS&I has transformed the latter into one of the most modern operations in both the public sector and wider financial services sector in the UK.

WorldPay headed up the Payments Innovation of the Year category. It was recognised for its Global Shopper campaign which has seen over 480 retailers offer more payment options for international visitors. The UK is fast emerging as a shopping



Best Use of Networking/Cabling



Outsourcing Partnership of the Year



Payments Innovation of the Year

hub for international visitors, giving retailers huge potential from countries like China, Russia, UAE, Malaysia and the US. In 2013, WorldPay processed payments worth over £18.9 million by Chinese shoppers visiting the UK. Russian cardholder payments nearly doubled in 2013. UAE customers were the biggest spenders with an average sale size of £167 – double that of Americans and over eight times that of Russian cardholders. WorldPay has seen a marked increase in take up of their payment types, as businesses adapt to attract more international visitors.

IT Team of the Year saw LV= return to the stage. In just two years, by transforming its culture and ways of working, LV='s Change, Innovation and Operations (CIO) department has dramatically increased productivity. Every individual in the team is now an IT champion and innovator, reaching out to colleagues both across CIO and the wider business to share ideas and run with innovative projects.

In the supplier categories Cloud Computing Innovation of the Year was hotly contested. There were a number of innovative suppliers in contention but in the end Mambu emerged victorious. A startup whose roots lie in Berlin, it enables FIs to launch and deliver loan and deposit products by making core banking infrastructure available via the cloud. Mambu thus allow banks to spring up in areas which were almost impossible for the 'traditional' financial industry to serve. By delivering this service, it has brought a huge number of previously unbanked individuals into the banking system.

The other supplier category winners were as follows...Risk Management Software of the Year: TM Group. Financial crime and mortgage fraud is an increasing problem for lenders; battling this issue has typically been complex and time-intensive. Addressing this, TM Group developed TMSecure: a simple, comprehensive system helping everyone involved in buying/selling property to connect with, monitor and analyse transaction risks.

Most Innovative Product of the Year: Platform Black was recognised for its new invoice finance product, effectively creating a new technology driven marketplace for businesses' invoices. Businesses seeking finance selectively auction their invoices on their terms including setting prices based on their customers' credit scores. Investors include funds, asset based lenders, cash-rich companies and HNWIs.

Technology Provider of the Year: Eze Castle Integration, a company meeting the unique technology needs of hedge funds and investment management firms.

It has a presence in major financial centres including eight United States offices, London, Singapore and Hong Kong. Since 1995, it has been building and managing IT environments for financial firms, and today over 650 firms entrust Eze Castle Integration with the integrity of their businesses and their connections to the financial markets

Online/Mobile Technology Provider of the Year: Quintessential Finance Group, a fast growing, UK-based, technology-led consumer finance group. It develops market-leading technology-based financial products and services to support consumer finance businesses and websites. Its approach has fuelled strong sales growth, tripling turnover in the last year, with operations expanding into four countries.

Mobile money specialist Monitise, meanwhile, was Highly Commended in this category.

Most Disruptive Financial Sector Technology: Launching this year, Zapp has been set up by VocaLink; it bypasses the card networks and offers real-time payments on consumers' mobile phones through their existing mobile banking application via the Faster Payments service.



IT Team of the Year



Cloud Computing Innovation of the Year



Risk Management Software of the Year



Most Innovative Product of the Year



Technology Provider of the Year



Online/Mobile Technology Provider of the Year



Barry Holland Memorial Award for Outstanding Individual Achievement



Most Disruptive Financial Sector Technology

The penultimate award of the night was the Barry Holland Memorial Award for Outstanding Individual Achievement. This champions the contribution of an individual to the financial services industry, looking at his or her role in the successful implementation of projects and strategies. The award commemorates Barry Holland, a four-time awards judge and advisor to FStech, who sadly passed away in 2010. Therese Tucker, CEO and founder of BlackLine Systems, was this year's

winner. She received recognition for growing the company from a home project (whilst retired to raise her children) to a multi-million pound SaaS provider for the finance sector.

And finally, Overall Winner. This went to a company championing innovation and encouraging colleagues to share ideas which benefit the business as a whole. And that company was (drum roll please)...LV=.

Congratulations to the 2014 winners and those who were highly commended and thanks to our sponsors: BT, China Telecom, Eze Castle Integration, LMAX Exchange, Truphone and Atos. Information on the 2015 event will be posted online in the near future at: www.fstech.co.uk/awards



Drinks reception in full swing.



Scott Thompson gives the welcome speech.



The 2014 judges say cheese.

With thanks to our sponsors



IRESS UK triumphs at 2014 Awards

Nationwide Building Society and IRESS UK picked up the award for Best Use of IT in Retail Banking

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W I N N E R

Nationwide continues to drive its technology solutions to transform levels of efficiency, flexibility and customer service expected of the largest building society in the world. To deliver this transformation it chose to partner with IRESS UK to develop and implement a class leading multi-channel mortgage sales and originations platform.

The objectives of the project were to increase efficiency, improve customer service, increase flexibility and reduce costs. And, the solution delivered this, with increased sales, costs cut by up to 40 per cent, reduced time to offer by 36 per cent and improved customer satisfaction. It also removed over 180 manual processes and reduced the amount of customer data needing to be entered manually by around 50 per cent.

The MSO solution was designed and implemented as a result of a close working partnership between Nationwide and IRESS mortgage specialists and new ideas and innovations were the key drivers in the design to transform mortgage sales and processing.



The MSO solution was implemented on a phased basis with the first release for the intermediary market, NFI Online and Mortgage Trading Exchange (MTE). Following this, the second release included the Nationwide Retail Branch Network and the Nationwide Telephone Channel. The final piece of the jigsaw saw the MSO solution launch on nationwide.co.uk, the first direct to consumer channel for IRESS' Mortgage Sales and Origination (MSO) platform. IRESS' MSO is the only fully multi-channel system of its kind, bringing all Nationwide's service channels under one single technology platform.

With all channels integrated on the mortgage platform, customers will benefit from improved efficiency and speed in the sales process and won't need to spend time re-entering their data as they switch from the online channel to a branch or call centre.

Consumers will now be able to research, compare and choose a product, get a quote and pay any fees online, and new Nationwide borrowers will have the ability to complete an application online. The new direct to consumer capability will not just benefit new customers, but allow existing Nationwide borrowers directly to research and switch products, borrow more or port their existing loans when they move home, and confirm any change to their mortgage product.

MSO has had a phenomenal impact on Nationwide's mortgage business and helped the building society secure a place as the third largest mortgage lender in the market with over £16.5 billion being lent to customers through the MSO platform. Incredibly, during 2012, this meant one in three home movers and one in five first time buyers were helped with an MSO mortgage. This solution has helped Nationwide in taking a major step forward towards achieving an integrated mortgage channel distribution model.

Scott Thompson, Editor, FS tech and head of the 2014 Awards judging panel, comments: "Congratulations to Nationwide Building Society and IRESS UK for winning this award. Across all the categories, it was one of the stand out entries this year, mapping out a major technology implementation in a clear and concise way and demonstrating tangible business benefits."



Disruptive technology is driving change to data centre infrastructure



suppliers, the fact that solutions are becoming available for most applications, and some high profile case studies.

However, whereas the analyst believes that buyers of prefabricated modular offerings will have to make some compromises if they are to fully realise the cost, speed of deployment and efficiency potential of prefabrication, a recent spate of announcements from Schneider Electric has given lie to that idea.

At DatacenterDynamics London 2013, the company introduced 15 prefabricated data centre modules with 12 new prefabricated data centre reference designs. The reference designs detail complete data centres scalable in 250kW to 2MW increments to meet Uptime Tier II and Tier III standards. The modules range in capacities from 90kW to 500kW and are customisable to meet end users' specific requirements.

This announcement was followed in January 2014 with the news that Schneider Electric had acquired AST Modular. Based in Barcelona, AST has a strong record for innovation and has deployed containers and modular data centres in more than 450 projects in 30 countries around

Kevin Brown, VP Global Data Center offer at Schneider Electric, discusses the benefits of deploying prefabricated data centre technology.

the globe. The company had been the latest in a series of modular specialists to move beyond standard ISO sizes to develop more versatile designs using several modules to assemble a data hall.

With the market demanding more flexible and scalable data centres and faster deployment speeds, prefabrication enables data centre managers to maximise the speed of business through rapid installation, easy expansion and improved cash management. The prefabricated approach also inherently increases the predictability of the build process, since most of the construction occurs in a factory instead of in the field. Reference designs are "pre-engineered starting points" for data centre managers who want to optimise parameters like deployment speed, performance, reliability and cost for specific situations.

A Matter of Definition

Modularity and standardisation are key concepts for the commoditisation of data centres. Schneider Electric has begun to apply those concepts across the

After a prolonged infancy, prefabricated modular (PFM) data centres are now rapidly evolving and gaining mainstream market support, says 451 Research, a global analyst and data company with established credentials in the sector. Factors which will serve to facilitate this transformation is the number of credible products and

board into all their hardware and software offerings for data centres. However, the company has also built-in customisation capability specifically to enable the customer to avoid making compromises in data centre design.

However, one thing which has held back the adoption of Prefabricated Modular data centre solutions is a degree of confusion caused by terminology. One issue is that the terms 'container' and 'modular' are being used interchangeably. Containers are certainly one form of modular solution - all containers being modular - but not all modular solutions are containers. It would be a mistake to only think of ISO containers when you think of modular approaches.

Schneider Electric provides some of their solutions in traditional ISO container dimensions, however, the company believes that the definition of what constitutes modular is less about size and more about concept. The modular concept extends to include skid-based, pod-based, mobile, portable and all-in-one solutions, however, the important distinctions are prefabrication and pre-assembly. Modules should arrive ready for integration and with a minimum requirement for on-site engineering services.

Prefabricated data centre modules also answer the questions of organisations which have globalised operations. What Schneider Electric are able to provide is a step-and-repeat approach to data centre design and build, with enough breadth in the offering to adapt to different geographic and climatic requirements anywhere in the world. The benefits of



Prefabricated data centre modules.

predictable performance together with a standardised approach to operations and maintenance, provides better reliability and a basis for higher capacity utilisation.

Does Modular Mean Lower Cost?

The reality of prefabrication is that if you take into account the entire construction cost of a data centre, and were able to make a like-for-like comparison between modular and traditional builds, in almost all cases the Prefabricated, Pre-assembled approach would show some cost savings.

Where organisations like BSRIA have done extensive studies of modular building constructions, they have found the prefabricated approach to be significantly more efficient than traditional builds. Schneider Electric has found in conversations with customers, that they focus very much upon ease of the design phase, the fact that the infrastructure is an agile solution which can be adapted throughout the lifetime of the facility, and the advantages of prefabricated

modularity during the construction phase. In addition, with standardised building blocks, it becomes easier to train people to operate the data centre. The data centre lifecycle becomes a much simpler process which is in turn less expensive and more efficient.

Up to date there have been no tools that enable customers to make a reliable comparison between prefabricated or "stick built", traditional data centres. An effective tool would need to account for the total installed cost, including all of the installation services and site work during the build. These are costs which are complex for customers to account for, which is why Schneider Electric has developed an online Trade-Off Tool to help make this comparison possible.

The prefabricated modules are integrated with best-in-class DCIM software, which results in addition to improved reliability and a more predictably performing data centre. For more information please visit: www.apc.com/products/category.cfm?id=22



Chico's Prefabricated Data Centre

Steven Ross, Vice President of Technology for specialty women's retailer Chico's, discusses the value of implementing Schneider Electric data centre technology

Chico's FAS, Inc. is a supplier of women's fashions with a portfolio consisting of four brands: Chico's, White House | Black Market, Soma Intimates and Boston Proper. In addition to over 1,250 boutiques and outlets primarily throughout the US, it also has significant online sales. The last nine years have seen its business nearly quadruple in size. With increasing success as an online retailer, its primary IT and Infrastructure requirement was flexibility: to have the ability to scale quickly they needed a reliable, ready-to-deploy data centre solution that would provision growing demands, whilst keeping uptime at an all time high. Chico's original data centre provision was retrofitted in office space at the company's HQ. This presented challenges in terms of adding power, cooling and capacity to meet the demands of a fast growth rate. Over 24 months, the company implemented a plan to relocate the data centre north to its distribution centre in Winder, Georgia. Here the weather changes would not be so harsh, with a lower risk of flooding or searing temperatures. Additionally their IT and Infrastructure could be managed directly from where products were shipped.

Chico's enlisted the help of Schneider Electric to create an

architecture that would take advantage of the latest data centre design and technology to deliver a solution that would meet all of their business requirements, whilst having the option of adding capacity predictably, easily and with minimal disruption. Having identified Schneider Electric as the ideal partner for the project, Chico's quickly adopted the idea of a prefabricated, modular data centre solution. Schneider Electric provided a portable, optimised data centre, or POD, together with power and cooling modules, that would meet its need for fast deployment and added capacity. Benefits of deploying a prefabricated modular data centre were that it provided a secure, efficient, and cost-saving solution in which it house its infrastructure. The 140 mph wind rated container allows IT to be kept outside with the added value that efficiency is significantly improved. In most prefab installations CapEx is broadly similar to the original data centre, however in Chico's case, deploying a prefabricated solution also resulted in a lowered budget requirement. "The new prefabricated data centre is around one fifth of the size of the company's original data centre solution in Fort Myer", said Steven Ross, Vice President of Technology for Chico's. "It also contains

about three times the amount of power in terms of capacity. From a financial perspective, and for ease of use and flexibility, it made the most sense. It took much less time than building a traditional data centre from the ground up, and it's around 50% less expensive than housing it in a new building. As an added bonus, the solution is pre-tested and pre-assembled which means it's significantly more efficient than our original data centre." Power and cooling for Chico's data centre is provided by Schneider Electric, prefabricated modules that are located outside together with the physical infrastructure. The batteries, generator and chiller solution are deployed as a set of complete modules too. "It's safe geographically, safe from storms, even tornadoes, and yet powers the data centre in a redundant way," said Ross. The installation includes Schneider Electric's Data Center Life Cycle Services offering, meaning that after designing, sourcing and implementing the equipment, Schneider Electric are on hand to provide ongoing maintenance – delivering an all-in-one solution that has not only improved the customer's data centre capabilities, but has also saved them money. "It's probably the safest data centre solution out there today," said Ross.



Cloudy with a chance of pitfalls

The benefits of moving to the cloud have been much-trumpeted. So why does adoption of the cloud in financial services still vary to such an extent? FStech investigates with a focus on virtualisation, security and what the future holds

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CATCHING FIRE

Virtualisation is increasingly becoming mainstream in the FS sector. Liz Morrell flags up the benefits that virtualisation offers, while also noting that it doesn't come without its risks and challenges

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SECURING THE CLOUD

There is a cloud hanging over all of us, but that's not necessarily a bad thing, observes David Adams

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GAINING GROUND

Hannah Prevett takes a look at the case for cloud in the financial services sector, both now and in the future



Catching fire

Virtualisation is increasingly becoming mainstream in the FS sector. Liz Morrell flags up the benefits that virtualisation offers, while also noting that it doesn't come without its risks and challenges

Only a couple of years ago, virtualisation was the watchword for financial institutions grappling with cloud computing as they struggled to comprehend how to organise and manage their transition to cloud by virtualising their environment first.

Now it's becoming standard practice according to Paul Birkin, chief information officer of Capita IT Services, which last December was named as one of the select few companies joining Microsoft global Cloud OS Network, which offers cloud solutions based on a Microsoft-validated platform. "Virtualisation has become the norm with the vast majority of large financial services firms

enjoying its benefits. They are doing it because it makes sense – the benefits and cost are well worth the investment," he says.

Rob Deacon, professional services director at information and communications technology provider PSU Technology Group, says that the benefits for the financial services industry are obvious since they address two of the current key concerns for those in the sector. "Virtualisation is essential, particularly when you consider the economic and regulatory scrutiny that the industry has undergone in recent years, causing financial service companies to become even more cost focused and increasingly vigilant about security and compliancy issues."

He believes that the leaner, more agile IT infrastructure that virtualisation offers – whilst also giving greater control over IT resources – means that the technology gives financial service companies the tools to achieve both cost savings and a securer, more compliant working environment. "From cost reduction, increased operational flexibility and enhanced resilience to reduced management complexity and improved business continuity options; the benefits offered from both blends of virtualisation, 'desktop' and 'server' are numerous," he comments.

Ashish Gupta, senior vice president and head of infrastructure services division, EMEA at HCL Technologies, an IT services and consultancy firm which works with 40 of the 69 F500 financial services companies across the world, says the efficiencies of virtualisation are driving its adoption. The company this year partnered with CSC to help businesses transition from legacy technologies to virtualised environments and the cloud, creating a Banking Centre of Excellence for the financial services industry as they look to modernise their applications as part of the project. "Virtualisation combines inefficiently used resources into one box. Firstly, this creates savings on the amount of servers you need. Secondly, the space used is quite low; and thirdly, as power is reduced the carbon footprint is decreased. These are the reasons why it is catching on."

But it also offers a more flexible environment that can allow the typically more staid financial services sector to move and

“Businesses should never overlook the quality of the datacentre where their data and applications will be hosted, as not all datacentres guarantee the same levels of reliability, performance and security.”

advance more quickly than it has before. “It shows a level of IT maturity and allows a business to become less infrastructure dependant, more flexible and able to manage workloads more efficiently. It has the added benefits of reliability and reduced costs,” says Birkin.

Deacon notes the fact that it answers many of the challenges faced by the financial services industry means that it is an obvious technology to move to, especially to drive future growth. “It makes perfect sense, particularly when you consider just how important compliance, security and data protection issues are to the financial services industry.”

He adds that virtualisation can make the old ways of working seem antiquated especially when comparing the traditional PC desktop with the virtual desktop environment. “While traditionally IT administrators have had limited ability to safeguard the security of individual PC workstations from malware attacks or user error, moving desktops and applications to a centralised server through desktop virtualisation gives them far greater control.”

For Deacon, the ability to quickly roll-out updated security measures and to lock down desktops to restrict user access and automatically wipe sensitive corporate data if an employee’s machine goes missing, or if there are problems, also means virtualisation makes sense.

John Matthew Holt, chief technology officer and co-founder of Waratek, believes it offers the ability to get more out of existing infrastructures. Last year Waratek was one of seven vendors selected by Accenture to take part in the 2013 Fintech Innovation Lab, working with leading global banks to test and prove how the use of Java virtualisation can increase application density on the banks’ servers. Holt says that the findings showed that using the Waratek CloudVM for Java allowed the banks to run between two and ten times as many applications on the same hardware. “The Fintech Innovation Lab tests highlighted potential cost reduction of server infrastructure and total cost of ownership of between 50 per cent and 90 per cent, with the potential to yield financial industry savings of \$300 billion over five years.”

The next level

Whilst most financial sector organisations have already virtualised at the hardware level, Holt believes the trend now is for the virtualisation of Java applications, since Java is the dominant coding language for financial sector applications. “The huge volumes of Java applications scattered throughout financial sector organisations are adding unnecessary costs. These organisations need to find a way to virtualise their Java apps to gain the benefits associated with multi-tenancy and elasticity, without rewriting existing applications,” he says.

He flags up recent tests done by Waratek which prove the value and saving provided by virtualisation. “We recently ran a number of open source applications on standard Amazon

Web Service facilities, with an extra layer of Java virtualisation software which significantly increased application density. The infrastructure footprint required to run Java workloads; WebLogic and Tomcat War files, fell well below the normal hardware requirements for applications written in ‘lightweight’ languages such as Perl, Ruby and Python.”

And Holt says the savings were huge. “Our benchmark tests demonstrated that infrastructure costs were halved as a result of application density achieved through use of the Java virtualisation layer.”

It also helps reduce strain on the network. “For enterprises in the finance sector, it is not uncommon for up to 15,000 applications to be running, including development, testing and live applications. It is well known that there are many applications running that are rarely or never used, but nobody dares to power them down,” he says. He points out that it has been estimated that up to 70 per cent of enterprise applications will be idle at any one time, wasting valuable server resources. Holt says that managing virtualised Java apps in this way will cut costs and increase datacentre efficiency on a huge scale, while still delivering the cloud benefits of elasticity and availability.

It seems that greater trust in the security of virtualisation, coupled with the benefits it can bring, means that more companies than ever are making the move no matter their shape or size with a recent report from Gartner, suggesting that by 2016 over 60 per cent of banks worldwide will be processing most of their transactions in the cloud. But, of course, it doesn’t come without its risks either and Deacon warns financial services businesses to be wary of this. “Businesses should never overlook the quality of the datacentre where their data and applications will be hosted, as not all datacentres guarantee the same levels of reliability, performance and security.”

As with anything in the financial services industry, although the move to virtualisation makes sense it has to still be done with care and a thorough understanding of the risks.





Securing the cloud

There is a cloud hanging over all of us, but that's not necessarily a bad thing, observes David Adams

It is likely that every organisation for which an FStech reader works will today be using cloud technologies in some form. If you had suggested this would be the case a decade ago, or even five years ago, eyebrows would have been raised, because concerns about security have always been associated with these technologies.

But there is no reason to suppose that a company's data, applications or systems are more secure in-house than in the cloud. And the cost and efficiency gains that cloud computing can offer are so compelling that they now frequently



“Cloud providers have to show that they've put data protection controls in place. Good control of authentication and access to data are essential”

outweigh the perceived risks. So why does adoption of the cloud in financial services still vary to such an extent? Is security still the main barrier to widespread adoption?

What does cloud computing mean today? The 'true' cloud is based on shared, public services. Private cloud uses some of the online and virtualisation technologies seen in cloud, but offers less flexibility. Public and private may also be used together in a hybrid cloud arrangement. "Multi-tenant public

clouds are what cloud services are all about – reducing costs by sharing resource and scaling when necessary,” says Oscar Arean, technical operations manager at Databarracks, which provides infrastructure as a service (IaaS) and cloud-based backup services. “Hybrid cloud allows the best of both worlds: your data is always in your control but you have the ability to burst out

into public storage if and when you need to.”

Even within these broad categories there can be further sub-divisions, says Duncan Brown, director at Pierre Audoin Consultants (PAC). “Cloud is a continuum,” he observes. “In most cases organisations will take very small steps along that continuum, as they learn about the cloud and about the business risk.” Arean concurs: “We’ve got some financial sector customers that have been using cloud services for years, yet there are still some hesitant about making their first move.”

Andrew Rose, principal analyst, security and risk at Forrester Research, thinks security concerns are still the most significant barrier to adoption. “Four years ago most financial services companies were already using cloud, but not for anything sensitive,” he says, contrasting relatively slow adoption of cloud services such as salesforce.com or Google cloud services in FS with the way such services have been embraced by companies in other sectors. Those companies, he states, are simply more risk-tolerant than the average FS company. Brown agrees: “Security remains an inhibitor for the more open cloud architectures. It will be a long time before you see a bank putting core applications on that platform.”

One area where the cloud is being used is in the construction and management of software testing and development environments. Sam Garforth, a cloud solutions architect at IBM, says one IBM customer that has gone down this road, Citigroup, can now provision environments for development within half an hour, while in the past it could take more than a month. Cloud is also proving its worth as a back office tool, for workload

optimisation or big number crunching jobs.

Many companies are using other software as a service (SaaS) cloud-based solutions. Garforth highlights the success of IBM’s Web Analytics software as a tool for marketers. Other financial companies are running email and other communications systems out of the cloud. But the pace of adoption is significantly slower for applications and datasets that contain more sensitive information. “It’s about what the data is and what the implications of losing it might be,” explains Michael Jordon, director of research at security consultancy Context Information Security.

That may not necessarily mean the company doesn’t trust the security a cloud provider can offer: it may be that regulatory compliance requirements rule out use of cloud. In 2013 NTT Com Security surveyed IT decision makers on the subject of cloud, in 700 organisations, across ten countries and seven industry sectors. Over a third of those working in FS said data protection, legislation and compliance issues were the primary reason for slow adoption, while a further 24 per cent said they had significantly slowed adoption.

Even if regulations loosened some organisations will still refuse to put some things into the cloud. “In the back of the mind of the CIO, CSO or CEO is the thought of them going in front of the board of directors, shareholders, or, worse, the Public Accounts Committee and being asked why they thought it was a good idea to put this or that piece of data in the cloud,” says Brown.

But IBM’s Garforth reports one of his company’s customers, an insurance outfit, conducting an in-depth study and concluding that it could, in theory, put any part of its IT estate into the cloud. The main reason it chose not to do so was that it could increase latency for some systems – a problem Garforth says is diminishing all the time.

It is also clear that cloud services are becoming increasingly secure. Brown notes



that many cloud providers are also making extra concessions to clients to improve security, like inserting additional ‘air gaps’ between parts of their infrastructure used by different clients. There are also security standards to which cloud providers can aspire. ISO 27001 certification is a good baseline, but there are others, such as the US-based Federal Risk and Authorization Management Program (FedRAMP), a standardised approach to security assessment and monitoring for cloud services.

The right questions

Companies need to know which questions they should ask a cloud provider in order to prove due diligence to the regulator, says Garry Sidaway, global director of security strategy at NTT Com Security. “Cloud providers have to show that they’ve put data protection controls in place. Good control of authentication and access to data are essential.”

It’s important to define the level of information the company should expect from the cloud provider. “How bad does a security breach have to be before the cloud provider tells you about it?” asks Forrester Research’s Rose. “Will they tell you if someone on the same piece of tin has been hacked? If there’s a near miss?”

There also needs to be a clear exit path

for the company and its data to withdraw when their agreement with the provider comes to an end, ensuring the cloud provider removes all traces of the client’s data from its systems. The other element in the decision making process is determining which data really requires the strongest possible security. The problem here, says Rose, is that it is so difficult to be certain which data is the most sensitive. Other industry observers are more optimistic about FS companies’ capabilities in this respect.

Another factor that at least some financial companies are surely considering is the theoretical vulnerability of data in the cloud to government snooping, via legal or illegal actions – an issue given greater prominence by the various revelations about the NSA that have come to light in recent months.

But such concerns are in reality less pressing as those relating to compliance or to more practical issues, such as service uptime. “Consider the risks and act accordingly,” says Rose. “It’s worth remembering that in some cases where companies using cloud have lost their service they have done so because they only paid for their service to be run out of one datacentre, rather than two. Ask yourself what level of resilience and control you need, then find the right vendor and the right contract.”

Companies using the cloud can also help themselves, by using technologies such as Federated Identity Management for accessing multiple cloud (or internal) systems; or encryption technologies like CipherCloud, which enables the end user to control encryption and tokenisation. Only the end user organisation can decrypt the information, because only it has access to the keys.

The drawback of this approach, as Michael Jordan, head of research at Context Information Security, points out, is that decryption has to happen at some point. “If you have to bring it home to use it you’re not getting the full benefit of the cloud,” he says. But we may yet see a solution to that problem: in January IBM was granted a new patent for its homomorphic encryption technology, which makes it possible to process encrypted data without decrypting it first. We are probably some years away from a commercial release, but if this technology takes off cloud-based data storage would look even safer and more efficient.

“Encryption has gone a long way to reducing security concerns for cloud services, but the leading reason for increased confidence in cloud is the success stories of the first-movers,” says Databarracks’ Arean. “Commonwealth Bank CIO Michael Hart has labelled excuses to avoid the cloud based on security and data sovereignty (issues) as ‘absolute garbage’. The bank shifted dozens of applications to (the cloud) last year and has made huge cost reductions in a very short period of time.”

This may be a case of going too far, but increasing numbers of CIOs also seem to be deciding that even if the cloud isn’t completely safe, it’s safe enough.



“We’ve got some financial sector customers that have been using cloud services for years, yet there are still some hesitant about making their first move”

Gaining ground

Hannah Prevett takes a look at the case for cloud in the financial services sector, both now and in the future

The banking community has been largely reticent about cloud computing. Paranoia about security, latency and loss of control mean that it's been largely the smaller, newer and more nimble market entrants that have been blazing a trail. That could be about to change. Earlier this year, Bank of America, which is the second largest bank in America with around \$2.1 trillion in assets, revealed its efforts to reinvent the bank's datacentres using a private cloud architecture.

But even David Reilly, global technology infrastructure executive at Bank of America, has admitted the hardest part of the reinvention process is persuading the technology team to leave behind their old school ways and methods of doing things to embrace innovative and ambitious new thinking.

"Cloud has been around for a number of years as one of the interesting buzzwords in technology and it has taken enterprises varying degrees of time to get their head around what it means for their business and how they could utilise it," says Steve O'Neill, finance and business operations director for UK & Ireland at EMC.

"I think for financial services in particular there are some unique drivers that wouldn't be as apparent in other industries. This could explain their reticence or why they might be more of a laggard than an innovator around this type of technology – they want to wait for it to prove itself out and to understand what workloads would be suited to a move to the cloud."

Indeed, there are some tasks that even the most security conscious banks are happy to be

carried out in a virtualised environment. "Probably the most advanced function is around CRM," says Walter Price, manager of the Allianz RCM Technology Fund. "We've seen very strong penetration by Salesforce.com among the financial services industry to better serve their customers. I'm thinking about brokers who keep a customer base of contacts as well



In countries where the big banks have less of a stranglehold, cloud computing amongst FS firms is far more commonplace. "There is a lot of tradition around TS3 and TS4 banks in America having their CBS delivered as a service"





as sales leads and so forth. That's become a very popular application and it's got specialised associations with the financial services industry which has made it even more compelling."

The case for cloud is clear. Thanks to Big Data, companies are capturing and analysing more information than ever before. As a result, there is an increased demand for space, power and cooling requirements; datacentres are bursting at the seams. The alternative – hosting certain data-hungry applications in the cloud – is appealing. Not only is it cheaper, but it's often quick to implement. But for big banks, the legacy conundrum continues to be a sticking point, says Rik Turner, senior analyst on the financial services technology team at Ovum.

The fact that the High Street stalwarts are typically an amalgamation of smaller organisations can mean the core banking systems (CBS) are incredibly complex, he adds. "I spoke to someone at a major bank last year who told me that they had 40 different flavours of CBS running in their environment. He said they had no interest in changing that because everyone was managing to carry on working and customers were able to get money out of ATMs. The back-end is a nightmare, a patchwork quilt, but it doesn't matter because it's all running. The lights are staying on."

In countries where the big banks have less of a stranglehold, cloud computing amongst financial services firms is far more commonplace, says Turner. "There is a lot of tradition around TS3 and TS4 banks in America having their CBS delivered as a service," he explains.

Talkin' bout a revolution

And a similar revolution is happening on these shores thanks to the birth of the challenger banks. Unencumbered by the legacy issues experienced by the big boys, nimble new market entrants are able to make the most of new innovations, says O'Neill. "An analogy is what you see in emerging countries, particularly emerging Africa. They're early adopters of lots of new

technology. For example, because they haven't got the legacy, in many places they've actually bypassed fixed telephony and gone straight to mobile which means they can avoid all the costs of putting in the infrastructure. A company like Metro Bank has that same ability as a start-up: they can approach it without that legacy to be as agile and automated as possible, and harness the benefit of hybrid cloud wherever it make sense for workloads within their business."

Source, a European Exchange Traded Funds provider, is a case in point. Founded in 2009, it is now the fifth largest firm of its kind and is managing \$15 billion of assets. This kind of aggressive growth has been helped by its technology infrastructure – or lack thereof. Two years ago, it partnered with Colt to create a completely virtualised private environment.



One implication from a people perspective is that less resources are now required to keep the company running. “We don’t have an IT department,” says Michael John Lytle, chief development officer at Source. “We have people who are IT savvy. We need guidance and input from our partners. Colt delivers valuable insights unprompted, helping us to focus our attention on the most important issues to our business.”

Hugh Cumberland, solutions manager at Colt, says concerns about performance when it comes to cloud are completely unfounded. “Source have been able to grow their business without worrying about the supply of resources for the infrastructure – we’ve been able to grow that for them seamlessly without interruption. They say they haven’t had any downtime in two years,” he comments.

More common though is banks using clouds hosted by the likes of Amazon, Microsoft and Google when they need temporary additional capacity. “Many financial organisations have decided the best way to develop and test is to develop products in the cloud and test them in the cloud because that way they can act much quicker – they don’t have to wait for budget for a server and software and the team to manage the installation,” explains Price.

Amazon Web Services (AWS) is cornering the market, with hundreds of thousands of customers in 190 countries. More than 600 government agencies use its services – and the financial services sector is hot on their tails. Last year, a large banking and asset management group talked publicly about how it is using AWS for its capital markets business. In order to help this division maximise profits, the firm uses AWS to run credit risk simulations to evaluate market data. AWS argues having such vast compute capacity available on-demand is extremely important in the capital markets industry where milliseconds can mean millions of pounds or dollars in difference in profit.

Carlos Conde, chief technology evangelist in EMEA at AWS, says flexible cloud solutions are enabling big banking behemoths to be more innovative and entrepreneurial. “Even in big enterprises you have internal entrepreneurs who start to innovate. The reason we see this happening more now is that in the past even if you had an idea that you wanted to develop, the chances are your idea would be shut down because you didn’t have adequate financial resources. That was a big blocker.”

“Now, these entrepreneurs are aware that AWS exists and you can test and implement your ideas for a couple of pennies. I saw many proof of concepts just being expensed on personal credit cards. Innovation has accelerated rapidly,” concludes Conde.



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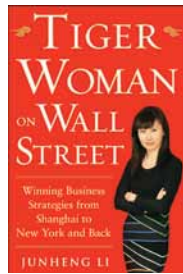
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Title: Tiger Woman on Wall Street. **Author:** Junheng Li. **Publisher:** McGraw Hill. **RRP:** £17.99. **Review:** Michelle Stevens.

I wasn't quite sure what to expect from this book as author Junheng Li has caused somewhat of a stir with her controversial views on Chinese parenting skills. The blurb on the dust jacket has a slight air of pomposity about it, but I was nonetheless intrigued by the prospect of reading "both the remarkable, dramatic story of one woman's rise in the global business world and a savvy guide to financing and investing". It charts Li's life from her birth town of Shanghai to the founding of her own New York-based equity research firm JL Warren Capital, via an American university education and a decade on Wall Street.

Li credits her success to many factors, but says the foundation lies with the discipline instilled in her by a strict father, who she describes as a "tiger parent on steroids". However, elements of her upbringing – which saw her dad beat multiplication tables into her at the age of three – are brutal, and not just by Western standards. But I did find myself drawn in as Li surmises that her father was preparing her for the uncompromising, rote-learning style of the Chinese school system, which fuelled ruthless competition among a growing student population for the best high school places and overseas college scholarships.

The author's own business success is in no small part down to her tenacity and absolutely relentless work ethic – whether it be her self-imposed exile route to learning English, her quest to ace her college degree, or her gruelling 100-week working as an investment banking analyst. Indeed, outside of her relationship with her father there is little about

her personal life here, though we do learn that a punishing work schedule and all-consuming fixation with the markets came at the expense of a two-year failed marriage. Li appears obsessed with financial modelling and intensive research of potential companies to invest in, and although this book will not teach stock market experts anything new, for the novice it gives helpful trading definitions and explanations on plays such as shorting stocks. This tome is also stuffed full of examples of companies (some anonymised) that she has either followed or used her "razor sharp" research skills to buy into or bet against (although notably few stories about when she's got it wrong!). Li's employer, Aurarian Capital, folded in the aftermath of the financial meltdown of 2008. Because of her background and the spotlight cast on China's booming economy during a worldwide recession, she turns her attention to becoming an expert analyst of this market. But she is dubious of some of the new wave of "red hot" Chinese companies flooding to list on the US stock exchange, revealing the dodgy accounting, questionable technology and overhyped valuations behind many of the firms which crashed or were exposed a few years after floatation.

The thrust of the book does turn towards China and Li's assessment of its economic and cultural evolution. She feels that the education system is to blame for a quick-buck mentality, dubious health and safety checks and a lack of senior management talent. She does point out that while her time at an American university taught her integrity, collaboration and curiosity, it lags behind the systems of East Asian countries in imparting basic maths and grammar skills. But at times it seems that she puts the American education, business and financial trading sectors up on a pedestal, ironic considering the Wall Street excesses that sparked the global crash in the average layman's eyes. Overall, this is an interesting read; a personal tale entwined with fascinating insights into China and thoughtful advice on stock markets and investing for the uninitiated.

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LV=, Nationwide Building Society, Barclays, Nutmeg.com, Eze Castle Integration and WorldPay were among the winners at the 2014 FStech Awards. Full review of the event on pp. 28-35.

Bank of America adopts DocuSign security

Bank of America is using the DocuSign Security Appliance to provide encryption key management and document auditing.

Hollyoaks generation tells banks WhatsApp

61 per cent of 18-30 year old bank and building society customers would like to contact their FIs using WhatsApp-style mobile messaging apps. That's according to new research from Intelligent Environments.

Cost of compliance set to grow in 2014

An increase in personal liability is adding to the rising cost of compliance for the financial services sector, according to a new survey by Thomson Reuters.

New research highlights m-payments benefits

Retailers could have saved £463 million in lower transaction costs last year by shifting from cash, credit and charge cards to mobile payments. That's according to a new report published by the Centre for Economics and Business Research (Cebr) and commissioned by Zapp, the VocaLink m-payments venture which launches this year.

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