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Financial IT

Innovations in FinTech

WHY BANKING INNOVATION WON'T LEAD TO A NETFLIX MOMENT

Mike Laven,
CEO at Currencycloud

SOLVING THE IDENTITY PROBLEM IN PSD2 AND GDPR

Simon Winchester,
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UNDERSTANDING ROBOTIC PROCESS AUTOMATION (RPA)

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BRANCH TRANSFORMATION

WHAT ARE THE ISSUES THAT REALLY MATTER?


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JANUARY ISSUE

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Financial IT
Innovations in FinTech

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Currencycloud
Powering innovation in cross-border business payments
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COLLABORATE! AUTOMATE!

Andrew Hutchings,
Editor-In-Chief

BANKS AND FINTECHS RESPOND TO THE REALITY OF PSD2, MIFID II AND GPDR IN 2018

By the time the next edition of Financial IT is published, in early 2018, the revised Payments Services Directive (PSD2) and enhanced Markets in Financial Instruments Directive (MiFID II) will be in force across the European Union (EU). By the end of May 2018, banks that are operating in the EU will also have to comply with the General Data Protection Regulation (GDPR).

Through 2016 and 2017, banks and fintechs were preparing for the new regulations, or at the very least talking about them. In 2018, both groups will have to deal with the reality of the new regulations. This is in the context where both groups face mounting reputation risk. In many developed countries, the banks are not trusted by consumers or politicians. The announcement at the end of November of a Royal Commission that will look into Australia's banks is merely the most recent example of this. Meanwhile, the surge in the value of Bitcoin has raised the possibility of a 'bubble' in the markets for crypto-currencies: it is not yet clear how this will affect perceptions of fintechs in general and those that are involved with blockchain in particular.

One of the key themes running through the articles that appear in this edition of Financial IT is that collaboration between banks and fintechs in on the rise – and for mutual benefit. Perceptions of fintechs as predators, disruptors and competitors are very largely misplaced. As one of our contributors argues, the nature of financial services is such that most established institutions are not vulnerable to a 'Netflix moment', when the arrival of a completely new player renders incumbents irrelevant.

Collaboration in this context means that outsourcing of activities by banks to fintechs who, thanks to new technology, are well placed to handle those activities. The benefit for the fintechs is that they instantly form close relationships with institutions who have scale, established brands and the advantages that come from being formally regulated.

Given the scale of the regulatory changes in 2018, it is tempting to think of such collaboration between fintechs and banks as a defensive move. However, as one of our contributors notes, making the changes that are necessary to comply with the new regulations provides an opportunity. That opportunity is a re-evaluation of the relationship between the bank and its customers. One possible outcome in the coming year is that branch networks become seen, at least by some institutions, as being more important.

Automation is the second key theme that is discussed by our contributors in this edition. Automation has traditionally involved the use of machines to perform low-skill and repetitive functions. In fact, it is more fundamental. Automation – involving software-defined networking (SDN) and network functions visualization (NFV) – can lower the risk of running IT infrastructure and make it easier for Chief Information Officers (CIOs) to innovate.

In fact, automation can replace jobs that, until recently, were undertaken by reasonably senior personnel. At a time that cybercrime is a significant source of reputation risk for financial institutions, robots can work as compliance officers, on a 24/7 basis. One of our contributors suggests that automation can bridge the skills gap in Islamic banking. In 2018, it is likely that there will be many other areas where robots are able to overcome a shortage of suitably trained personnel.

The regulations that are coming into force in 2018 ensure that laws recognize technological innovation that has taken place over recent years and give benefits to consumers. The regulations encourage collaboration and automation: in doing so, they should strengthen both the financial services and the IT industries. The coming year will be one of positive change.

INNOVATIONS IN FINTECH

Chris Principe, Publisher

THE FINTECH RACE

FinTech has been impacting financial services at a faster and faster pace.

At *Financial IT*, we are rising to the challenge of staying out in front. We continually look for what is coming tomorrow – and bring you that interpretation today. We will be driven by FinTechs we have known, FinTechs we know and ones we will know, to bring you the information that you need.

We want to be the 'go to' source of information globally about the intersection of financial services with IT.

The biggest story of the past year has been the application of Distributed Ledger Technology (DLT – the Blockchain) and crypto-currencies.

Given the questions that I have been asked at the numerous conferences which I have attended over the last year, I am certain that these will also be the biggest stories in 2018.

Right now, there are a lot of influential people in financial services who have heard the words and the names, but who have yet to properly understand the significance.

In short, these people have not invested enough time in learning and understanding what will impact their professional and personal lives with massive changes that are unavoidable.

The need for straightforward education about the basics for blockchain and cryptocurrencies will continue.

It is human nature for most people to be immersed in the trials of daily life and not be forward thinking into changes that have already begun. This herd mentality, and associated repetitive behavior, is often seen during the advent of game changing conditions.

Even among colleagues at Financial IT, I have had to stress the importance of imagination and discipline. This is the interpretation of the future on the basis of facts, rather than on the basis of uninformed opinions – of which there are far too many at the intersection of financial services and IT.

Financial IT has always played a key educational role. That role will be even greater in the coming year.

In 2018, Financial IT will be bringing you the companies that are realizing the huge potential of Blockchain across the spectrum of compliance, regulation, payments, FX, mortgages, investing, data analysis, security, global trade, and so on.

Additionally, we will cover the markets for cryptocurrency, which are changing the fundamental way we view, money, value creation and finance.

At the end of 2017, the total capitalization of the cryptocurrency markets exceeds $300 billion and continues to grow apace. The recent launch of futures markets marks a new chapter in the story.

Crypto-currencies and crypto-coins will provide a direct link between individual investors and innovative start-up companies. Established venture capital (VC) and investment bank players may well be involved in putting together deals. However, their role in initial coin offerings (ICOs) in this new world will be quite different to their role in initial public offerings (IPOs) in the old order.

Cryptocurrencies also have the capacity to revolutionize payments. The poor and unbanked will be able to send and receive value, without the use of established financial institutions and without incurring the high costs that are imposed by a system that is not interested in serving them. A very major Tax On The Poor that is excessive remittance fees will disappear in the near future.

Our mission is to help make you understand our new future in the little time you can spare with us. We offer concise, impactful content from the leading companies, big and small, who are working every day to bring the future closer.

Welcome to the new view of that part of the universe where financial services intersects with IT. Welcome to Financial IT.

There's a common vernacular that has crept into discussions about the future of finance and banking. Words like 'challenger', 'nimble' and 'flexible' are used in aspirational terms when we talk about the fintechs' who are pushing incumbents, in a move that many think will redefine the financial space.

Meanwhile words like 'traditional' and 'slow' are front of mind when industry thinkers and leaders criticise the financial giants of today, who some believe are in danger of becoming the giants of yesteryear – banking's Ozymandias, fallen in the sand as disruptors take over the land they once owned.

Behind it all is the sense that, sooner or later, banking is going to experience a Netflix moment. In which a future behemoth moves in with a new, compelling offer. In the process rendering those who came before it (Blockbuster, in case you were wondering) essentially irrelevant.

Talk of this Netflix moment is valid. And the discussion I formed part of at Money 20/20 last month (October 2017) confirmed that many believe there's a lot for the big banks to be worried about in how digital native, cloud-first finance businesses work. But, for all that, I can't see there ever being one single company that moves in and does what Netflix did to the video rental industry. Banking and finance is just too complex and regulation dependent for that to happen.

For our industry it's going to be a process, rather than a moment. One which I think we can all benefit from.

Old game, new players

One of the most interesting things about tech-centred disruption in banking is the amount of looking over the fence going on between the two players in the game. On one side we have the fintechs, whose corporate thesis often rests on finding new business models, architectures and services not provided by traditional banks (that's certainly true of us at Currencycloud). On the other, we have the banks. And each wants a little of what the other has.

Banks are looking for flexibility, nimbleness, the ability to move quickly into new service areas and build closer relationships with consumers. Put simply, they are keen to modernise and take advantage of the financial incentives that industry newcomers have drawn their attention to. It's why they want to change and learn – as well as why they're taking far more interest in events like Money 20/20 than they did a couple of years ago.

While fintechs, for all their exciting ideas and fast-moving capabilities, still want the fundamentals of big banking. Namely scale, profitability, large customer bases and regulatory access.

However, it's not all about fintechs and banks. There is a third group to be mindful of. One that has the NPS (net promoter scores), consumer relationships, data and scale to be genuine challengers in the coming years.

Major tech firms – like Apple, whose cash service has recently launched – are well placed to make a serious play for consumer and business banking services. And they could well succeed. After all, in this industry it is all about how close a finance (or indeed, tech) business is able to get to satisfying the consumer needs that sit behind financial services disruption.

The drivers of disruption

We live in an age of consumer unbundling. Every service industry knows it. People feel less tethered to certain brands or businesses. And there are plenty of sources around to help consumers who are looking for the best deal on any particular service, wherever they can get it. Banking is going to feel this more than many other industries.

Back in the day, many chose their bank or savings account purely because of branch proximity. But with the gradual reduction in community banking services, that choice driver has had its day. In its place will come brand values, characterised by consumers choosing a checking account based on whose they feel most aligned with, not where the nearest ATM or storefront is – something that really complicates financial product upsell (traditionally a stronghold of banks), and plays into the skillset of fintech disruptors and tech firms, with whom many consumers will already have brand affinity.

But new types of banking are not the sole driver changing the face of banking. Poor financial health (rising consumer debt and reliance on credit), for example, has become a truly global issue, which many see fintechs as better placed than banks to solve. And convenience remains a huge consumer need. People don't want to go to ten places for ten different services services – even if all of them are online.

So what's likely to happen?

If you ask me, the future is not necessarily about pure disruption and fintech takeovers. Instead, it's about collaboration, change and partnerships.

Recently, I wrote to City AM to suggest that banks who get on board with open banking could realise an iPhone moment for their industry – making a huge stride forwards without becoming obsolete.

In that spirit, I can see banks realising that fiscal health is about service as much as it is responsibility, and pivoting to cater to the need that fintechs and startups have recognised.

Likewise, big financial services firms will look to connect with fintechs that help improve the customer experience by, for example, making it easier or cheaper for them to manage or transfer their money overseas. A move than can arguably satisfy everyone's need at once, by bringing the startup culture of innovation into a corporate environment; and giving fintechs the resources and regulatory access they need to scale.

A Netflix process

The idea of a Netflix moment is attractive to headline writers and ambitious disruptors because it implies big ideas, total change and huge consequences. But the truth is that the banking and finance environment simply doesn't allow for that to happen. Banks know that their challengers are smarter banks as well as fintechs. Similarly, fintechs know they need a very large customer base before they can properly scale.

Because of this, the big 'moment' probably won't ever take place. Instead of one giant fintech disruptor fundamentally altering the financial services world, we're moving towards a future in which a lot of smaller, exciting and innovative firms come together with big banks to elicit big change.

It's a process. And our industry will be better for it.

Currencycloud

Currencycloud's Payment Engine is the power inside countless businesses, driving the transformation of the global payments landscape. The company is reimagining the way money flows through the global digital economy, allowing payment firms to remove the friction and inefficiencies of traditional cross-border payments using its flexible APIs. Launched in 2012 Currencycloud is based in London and is regulated in Europe, the USA and Canada. For more information about the company, please visit www.currencycloud.com.

Mike Laven,
CEO at Currencycloud.

Over the last 20 years, Mike has held leadership roles at a number of a FinTech firms.
He joined Currencycloud in 2011, growing the firm to the point where they have processed over $25b of international payments and have raised $61m in funding since 2012

WHY BANKING INNOVATION WON'T LEAD TO A NETFLIX MOMENT

Innovation in financial services will be a transformation process, rather than one big moment of change

EXTINCTION OR EVOLUTION FOR THE BANK BRANCH?

The UK has seen wave upon wave of branch closures (RBS' latest announcement serving as a prime example), and this is likely to continue into 2018. But are we really witnessing the imminent extinction of the bank branch? While it is understandable that banks don't need as many branches as they used to, branches are still crucial in helping customers and maintaining a strong and meaningful relationship with them.

Branch networks may be getting smaller, but the branches themselves are getting smarter and this is where investment in branches is set to grow, not decline.

Do we even need branches?

Physical branches are still important for acquiring and retaining customers and upselling products to them. If the established banks think they can defend themselves against challenger banks and fintechs based on digital channels alone and without exploiting their branches, especially in the coming era of Open API banking, then they should expect a turbulent ride. Traditional banks need to reinvent the branch around their historic strengths, using technology, like the ATM, to serve customers. The challenge here is that banks have neglected how their ATMs could be a more integrated element within an omnichannel revolution that links them with mobile and Internet, as well as branch banking services.

Rewriting the branch rulebook

Branches cost money. Buildings, staff and technology all add up. However, it's a mistake to think of the branch as just a cost. Clever branches in strategic locations are revenue drivers. They're the best place for cross-selling products or services to your customers, and technology is the trick to making this a reality.

Consider your typical branch. It's 10 am on a Saturday morning, and the queue is out the door. Your customers stand in line, waiting to see a cashier. Not all members of the team can deal with complex transactions, so some customers have to wait even longer. Many of the staff who are working are distracted by administrative tasks, preventing them from helping customers. This is frustrating for everyone involved, staff and customers alike. At best, customers manage to do the transaction they came in to do, and maybe pick up a leaflet for something else at the same time. Worst case scenario, they don't manage to do even basic transactions and leave with a negative opinion of your brand.

Clever banks are rewriting these rules.

MillenniumBCP, the first private owned bank in Portugal is one example, having rewritten their business model, placing the focus entirely on customers – and cutting operational costs in the process (by over 40% since 2011). Instead of being left to wait around in a branch, customers are welcomed in by dedicated staff and invited to sit down and enjoy free Wi-Fi while waiting to be served. Each transaction is seen as an opportunity for the bank to learn more about their customers and better meet their financial needs. Importantly, all staff are on hand to help – the

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team is solely focussed on customers during opening hours.

The branches also look different. There's a central welcome point, where staff prepped with technology can immediately start helping customers. Tellers aren't hidden behind glass panels, but in specialised, private desks where they can have real conversations with customers.

The results have been clear. The team is more oriented to customer needs and sales, the teams are now multidisciplinary with an extended skills base., Customers get a personalised service which has a positive impact on their experience, and the staff are happier. Employees are empowered to help customers, positively impacting both productivity and sales.

Finding a way forward

With branches closing at a high rate and challenger banks beginning to eat away at customer bases, there's a possibility of an overreaction to the problem. As MillenniumBCP says, this isn't about "turning things upside down", it's about "putting the right things together".

All industries are today facing the challenges of how to bridge the physical and the digital. Customers want to be able to bank however they want, whenever they want and banks need to be there at each touchpoint and on every channel that customers might use. The branch has an important role to play in making this a reality.

MillenniumBCP put this into practice, by rethinking and launching a new 'branch of the future' format. This is focused on intensive training of staff to use technology to empower them when they help customers. Using tablet computers, they can pull up customer records, help set up and conduct face to face consultations. There is free Wi-Fi and a digital experience zone for customers where they can carry out a wider variety of banking transactions using self-service assisted machines. Depending on the branch location, different parts of the puzzle can be put together to offer the best branch experience. MillenniumBCP have tailored branches specifically for traditional high streets or even within shopping malls.

Migrating cash operations to self-service devices has not had a negative impact on the number of personal interactions, and has helped to drive higher quality of customer experience – as shown by the high Net Promoter Scores demonstrated by both the bank itself (85%) and individual branches (average NPS score of 77%). As the roll-out of these branches has taken place, MilleniumBCP has become Portugal's top bank for proximity to customers and won a string of awards: The most innovative Bank in Portugal, Winner of Celent Model Bank 2017 Award for Branch Transformation, "Best Branch Experience" at the 2017 Bank Customer Experience Summit, 2017 Portugal Digital Awards "Best Digital Product & Customer Experience 2017".

Technology first

Critical to transforming the bank branch is technology. As already discussed, customers want and need to be able to bank in the way most convenient to them.

Many countries still rely on cash, with the average person in Portugal carrying out 58 ATM withdrawals per year, compared to 52 and 41 in the UK and Switzerland respectively, and technology can help bridge the gap between digital banking and physical currency. It can enable quicker transactions, and immediate crediting of customer accounts. With branches in locations such as shopping centres, technology such as video links can keep the branch operational for more hours a day, allowing customers to quickly get in contact with a person if they need assistance.

Multi-vendor software is key to enabling this. It means that banks can chose the correct hardware for the solution, meaning they have more flexibility in the service they offer to customers, for example small hardware can be put into shopping centres with more functional equipment in full branches.

A simple formula

Essentially, banking is simple. Stay close to the customer, and give them the services they need to do what they want to do. The reality is more complex, especially as digital first challenger banks begin to mature.

Banks need to be increasingly clever about how they manage and integrate technology into their services. The bank branch of the future doesn't have to be some far-off dream. Banks around the world are starting to revolutionise the services they offer customers and they are reaping the rewards.

As banks start to ponder their strategies for their branch network, it is more important than ever that they consider the holistic value of branches, not just the upfront costs.

BRANCH TRANSFORMATION
WHAT ARE THE ISSUES THAT REALLY MATTER?

Interview with Ben Gale, VP and Managing Director UK and Ireland, and Devon Watson, Chief Marketing Officer, Diebold Nixdorf

Devon Watson,
Chief Marketing Officer,
Diebold Nixdorf

Financial IT: What is the most exciting topic at the Branch Transformation event this year?

Devon Watson: The big realisation this year is that the branch is playing a larger role in the financial ecosystem. People are starting to think about how the ecosystem can become bigger and how to deploy services into the banks' relationships with the consumers through branches, not just in payments. If you are a bank that is trying to provide small business services, you're not just providing loans, depository services or the services to withdraw cash. You also need to provide insights – such as data about the demographic profile of the customers of the small business. That is consistent with more collaboration and a bigger ecosystem.

Ben Gale: For me, the most exciting topic is automation of the back office. Automation is reducing the cost of low value transactions, and that is a good thing for the banks. However, automation in the front office is something that needs to be handled carefully. Sometimes new technology is an enabler of dealings and conversations with customers; other times, a barrier. The challenge is to understand exactly what the client wants, through a branch or through a mobile app and to provide a customer journey that adds value for both the bank and the customer.

Financial IT: What is Diebold Nixdorf showcasing this time at the Branch Transformation event?

Devon Watson: There are several things that are noteworthy. First, though, is the European launch for our new Vynamic software platform. Vynamic gives bank a 360 degree view of a customer – through branches, self-service tellers, ATMs mobile apps and any other channel. Vynamic makes visible the entire customer channel.

Ben Gale: Using software to connect all the channels is key to all this. Suppose a customer's teenage son or daughter is away from home, has run out of money and has lost his/her card. How does the customer work with a mobile app to ensure that the teenager can get access to cash. For the bank to help on this particular customer journey, they will need to invest in the right mobile technology.

Financial IT: What are the key issue that banks face while transforming their branches?

Ben Gale: The challenge is not just to transform the branches: it is to transform the institution. The strategy needs to simultaneously consider the open

Diebold Nixdorf, Incorporated (NYSE: DBD) is a world leader in enabling connected commerce for millions of consumers each day across the financial and retail industries. Its software-defined solutions bridge the physical and digital worlds of cash and consumer transactions conveniently, securely and efficiently. As an innovation partner for nearly all of the world's top 100 financial institutions and a majority of the top 25 global retailers, Diebold Nixdorf delivers unparalleled services and technology that are essential to evolve in an 'always on' and changing consumer landscape.

banking requirements of the European Union's second Payments Services Directive (PSD2), the General Data Protection Regulation (GDPR), APIs and the implication of new technologies like blockchain. Where does the bank's management start? That is the real problem.

Devon Watson: The other challenge for the bank is to know enough about the customer that the right service can be offered at the right time and the right place. Suppose I am a customer that is looking for a small business loan. The lending officer may not be at the nearest branch at 1500 when I visit on a Tuesday. Instead, it may be that he is only present at that branch on Wednesday. The new technology should enable the bank to better understand the customer before he/she arrives and to have a surgically precise engagement with the client. A simple innovation such as enabling the customer to book an appointment online may make a huge difference.

Financial IT: What are your predictions for 2018?

Devon Watson: In 2016 there was a lot of talk about disruption. In 2017 we had a lot of talk about collaboration. That is much more useful, as it creates value for the ecosystem. In 2018 we will see a shift of focus to partnerships between banks on one hand and retailers or Fintechs on the other.

That means that 2018 should see proof of new models, as institutions seek to monetise data. In particular, we will see the end of the 'pure play' approach to business. Instead, new models will tend to involve both 'bricks and clicks'. In retail, the most obvious example of this is Amazon's move towards 'bricks'. In financial services, Ant Financial is trying to buy MoneyGram, which has a physical presence in about 350,000 locations worldwide. PayPal gained a presence at around 65,000 locations when it bought TIO Networks. Digital providers want geographic reach in a physical sense.

Ben Gale: For me, the highlight of 2018 will likely be data utilisation. Challenger banks such as Atom are trying to aggregate data about customers and provide advice to their customers. They are trying to develop the customer journey. Blockchain is likely to remain an important topic in the coming year. The key question is how can technology help a bank meet its compliance requirements? It is also near certain that security will remain 'top of mind' for many bank executives. New technology is a dream if it boosts client engagement, but a nightmare if it results in loss of data.

Ben Gale,
VP and Managing Director UK and Ireland,
Diebold Nixdorf

IS GOING DIGITAL THE ONLY SOLUTION FOR A DISRUPTED BANKING SECTOR?

Danny Molhoek,
General Manager North West Europe,
Lexmark

Perceptions of banking are changing all over the world.

An illuminating global consumer survey by Accenture found that attitudes towards the banking sector have shifted in recent years.

For example, digitally active consumers (who make up 39 percent of survey respondents) are ready for new delivery models. They're comfortable with computer-generated support and with receiving services from non-traditional providers. 78 percent of them would bank with a technology firm like Amazon or Google and are happy to share personal data with their banking services provider but 66 percent demand faster, easier and personalised services in return. Banks, in the minds of their customers, are fast becoming a utility or commodity.

Likewise, when it comes to millennials, attitudes are also changing. A study by global services company Telstra asserted that the "the 'always-on', automated and hyper-personalised online world of the Internet and mobile devices" has created new expectations – millennials "demand speed, convenience, flexibility and customisation" in their financial services.

With all this change in mind, what is the banking sector doing to respond? What can it do to adapt to this shift in perception and new demands from banking customers?

Well, many banks are counting on technology to greater appeal to their customers, aiming to ensure they offer an always-on, personalised service. 24/7 apps for mobile banking and humanised web portals go some way to achieving this, but tend to struggle when it comes to offering a consistent banking experience.

Let's not forget, the banking sector still relies heavily on paper-based processes. And although it faces increasing challenges from digital players who target consumers with online business models, there is little benefit in banks getting ahead of themselves in this regard. A personalised service that restores the customer relationship doesn't have to mean doing away with paper forms and going completely digital – the solution could be something as simple as banks treating each customer as if it was their only customer.

Banks that focus on document management agility and invest in creating personalised banking experiences will be appealing to not just the sceptical millennials, but all customers who demand a personal, efficient and hassle-free service.

Smart capture solutions can be deployed to address the pinch points affecting the automation of a range of manual, paper-based processes – from opening new accounts to applying for mortgages – all while ensuring that the customer stays informed throughout the process.

These solutions will deliver the efficient and effective customer service levels being demanded in today's market – all without compromising on the personalised aspects that bank customers are looking for.

Going completely digital may not be a panacea to meet the demands of modern customers. Apps and online portals can be a useful tool for improving service, but they only form part of the solution – these digital tools can't replace a truly personal service. Banks shouldn't seek a solution that leaps from traditional paper-based processes to digital overnight; there has to be a solution that bridges the gap.

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WHEN MONEY GOES MOBILE

WHAT COULD IT MEAN FOR THE CARIBBEAN?

Monique Clarke is a practicing Attorney-at-Law based in Kingston, Jamaica. Ms. Clarke is active in the Fintech space with an interest in the development of payment platforms within the Caribbean and particularly for Jamaica. Monique is co-Chairman of the JAMBAR Publications committee, Corporate Secretary of the Jamaica Federation of UNESCO Clubs, a committee member of American Chamber of Commerce and Member of the Harvard Alumni Association and Harvard X program.

Over the past decade, the Caribbean has experienced mobile penetration at a high level, and enjoys world-class fiber and cellular data networks. We have increased our talk time, but have we failed to capitalize on the electronic or mobile commerce activity? Have business owners been able to monetize or use the advances in mobile technology to their business advantage?

As our banked populations remain very low and contrasting credit card penetration rates even lower, the region remains largely a cash-based economy. There has been very little development in the area of electronic or mobile financial transaction or payment solutions.

We are dubbed "developing", but we boast an ostentatious lifestyle that mirrors cosmopolitan markets. Jamaica, and by large the Caribbean, has an unstable economy with un-served needs and immense potential. We are prime candidates for disruptive technology to penetrate our financial payment structures. That disruptive technology includes mobile money – payments platforms based on mobile phones that facilitate the transfer of money in real time and low cost.

What would mobile money mean for the Caribbean?

For job creation: In the absence of financially inclusive and accessible payment transaction products, commerce is akin to bringing customers to your well-stocked store, inviting them to select items but having no cashier or register to take their money. By bringing consumers and businesses together on an accessible payment platform, markets are expanded to include the entire populations. This means that new opportunities for growth can develop.

For new enterprises: Existing and new businesses will now be able to enhance current products and develop new direct-to-mobile products and offers. With the creation of democratic access to new markets, entrepreneurial activity should flourish. Only 10 per cent of Jamaicans have a credit card. Therefore, digitizing cash will open a market for e-commerce in Jamaica, giving many entrepreneurs a golden opportunity to better market and sell their products or services.

For innovation: The entrepreneurial spirit is extremely vibrant in Jamaica. There are many tech-based start-up support groups, including Kingston Beta, a Bi-monthly Jamaica Tech community meet-up, and Start-Up Jamaica, as well as business incubator/accelerator programs. All help young technology entrepreneurs develop innovative products and services for the local and international markets. Start-up Caribe, a regional initiative, helps entrepreneurs to maximize the potential of their businesses. Overall, the volume of creative initiative and intellectual property and innovation emanating from and into Jamaica is noteworthy.

Unfortunately, many start-up businesses are either forced to limit activities to local markets, remain cash-based or use extra-regional services that prove costly and ill-tailored for their business needs.

For the cost of business: Mobile money business models typically allow for lower operating expenditure than traditional financial services players. Therefore, businesses that are based on mobile money should more easily achieve economies of scale.

For the playing field: E-commerce has removed many of the traditional bricks-and-mortar and capital expenditure-related barriers to business entry. This now allows smaller businesses to provide niche offerings that compete with larger companies for customers, on the basis of the strength of their online business model and value proposition. This provides a more equitable opportunity for smaller enterprises to flourish.

For new wealth and social stability: Undoubtedly, the greatest motivations behind the stimulation of innovation and entrepreneurship are individual economic empowerment, wealth creation and the resultant national development. Increased innovation and entrepreneurship, with a level playing field, should bring new wealth among all classes, and greater financial stability.

Improved wealth creates opportunities for disenfranchised individuals through inclusive micro and small and medium-sized enterprise (MSME) initiatives. The resultant financial stability should directly impact social conditions by reducing the gap between the haves and the have-nots.

Societies with recognizable and accessible opportunities for advancement or more equitable distribution of wealth suffer less from social and political instability.

As a technology and business model that is focused on 100 per cent financial inclusion, mobile money has the ability to significantly reduce cash-based activity by providing democratic access and transaction capacity to entire populations.

For revolutionizing remittances: The World Bank estimates that the Latin America Caribbean region receives over US$60 billion in inbound remittances per annum, with the core Caribbean accounting for approximately US$20 billion. According to the Bank of Jamaica remittances report for the period of January to July 2016, net remittances for the first seven months of 2016 were US$1186.0 million. This represented a growth of US$32.5 million or 2.8 per cent relative to 2015. The outturn for the review period reflected an increase in gross remittance inflows, partially offset by a growth in outflows.

This figure is greater in value an donor aid and foreign direct investment (FDI) into the region combined. With the potential for lowering transaction costs, mobile money provides a vehicle for expanding the inbound remittances corridor by allowing members of the diaspora to send smaller amounts, thereby potentially increasing current flow volumes. Correspondingly, by reducing transaction costs and charges, the net result is that more of each dollar sent reaches the recipient, again increasing the gain to local economies.

For the unbanked: The unbanked do not currently have the opportunity to avoid steep and excessive fees for simple everyday transactions – unlike bank account holders. For the unbanked, life is a huge economic disadvantage. It means that many have to rely on alternate or fringe banking services such as cheque-cashing outlets that apply exorbitant fees to simple, low-money transactions. Mobile money essentially gives the unbanked the advantages of being banked.

Conclusion: mobile money adds value to mobile

The mobile phone database is the single largest consumer database in the Caribbean. Mobile devices should not just be for talking: they should now be used to provide consumers with essential services such as easy, reliable, on-the-go payment options.

Mobile usage has increased in a way that adoption of network services will continue even as the market for voice services is saturated. Mobile payment transaction capacity is a significant value-added service that increases the relevance of mobile devices and services and allows mobile network operators to benefit from increased use and to continue investment into network enhancement.

In summary, we stand on the brink of an investment that enhances the value of lives – banked and unbanked – and to strengthen the economy and society of the Caribbean.

Winston Carrera,
Chief Technology Officer, Future Networks at BT Global Services

DO MORE WITH LESS: INNOVATION WITH SDN AND NFV IN FINANCIAL MARKETS

By and large, the financial services sector has typically taken a do-it-yourself (DIY) approach to technology. CIOs have decided what to use, bought multiple products from a host of different vendors and stitched them all together. The result is today's hugely complex IT infrastructures – even more so when you take into account the impact of organic expansion and M&A activity on the estate. As a result, keeping all the plates spinning requires major ongoing investment in technology and big teams of IT specialists.

However, as tighter regulation requires banks to hold more capital, IT procurement habits must change. Running huge IT teams is no longer sustainable but making do with fewer people can only increase the risks associated with delivering, securing and operating a network. The CIO must realign IT spending. The good news is that adopting software-defined networking (SDN) and network functions visualization (NFV) technologies to introduce more automation into managing the infrastructure will not only help to reduce risk but also open the door to technological and commercial innovation.

Simpler, faster, cleaner infrastructure

Hardware virtualization (replacing physical devices with software equivalents) has increased deployment velocity, flexibility and portability of applications in the computing environment. Now, using SDN/NFV, the CIO can have a network to match. When installing or moving an application from one location to another (to access a new market or connect a new client), for example, it will no longer take weeks or months for new connections to be provisioned or a firewall installed.

It is time for financial services CIOs to view internal network services more like products, and not just technology. Treating network services as products allows processes and business rules to be choreographed alongside the technology, so that delivery is seamlessly orchestrated. Choreography and orchestration should extend to network service provider resources in the same way as internal services. The way to do this is with an application programming interface (API) gateway that governs interaction with the service provider systems. An API gateway gives flexible control of the allocated resources in the service provider's network.

Another advantage of SDN/NFV is that it helps mitigate operational risk, by reducing the number of human touch points and, in some cases, by removing people from the process altogether. Applications can automatically request the network resources they need and connect to the counterparty or exchange according to business rules. Access to services is speeded up and ultimately the user gets a better experience along the way.

Proximity hosting, where connectivity infrastructure and/or systems in third party data centres are co-located, reduces the need for multiple WAN connections. Substituting these with local cross connects enables aggregation and has a positive effect on performance through reduced network latency. How do you maintain flexibility if all your eggs are co-located in one basket? By adopting a multi co-location strategy and interconnecting via a high bandwidth SDN/NFV-enabled third party network, which provides ultimate portability of network services.

Commercial innovation

Any IT expenditure must meet not only the requirements of the IT department but also demonstrate an acceptable return on investment for business. It has not always been easy to reconcile these two worlds. Adopting SDN/NFV principles can support the business technology journey with commercial options that provide a clear projection and comparison of costs, value and features.

Typically, the commercial assessment of a network is based on static requirements and modelling future demand. But increasingly, in today's digital world, the landscape can change dramatically in either direction, and in a very short space of time. SDN/NFV take us nearer to the Holy Grail of network services of on-demand bandwidth, full user control of policies plus use-based pricing (time or volume). Commercially decoupling ports from bandwidth is a good example. The customer orders network ports which are permanently connected to the network platform, so the organization can consume network bandwidth when it's needed. In other words, everyone gets capacity when they need it and only pay when they use it – the Network-as-a-Service model.

Overall, the industry is moving towards flexible commercial contracts that let the business get more resources fast and not miss out on an opportunity because of concerns over the cost.

Future innovation

This is an exciting time for financial services companies, as SDN/NFV creates huge opportunities for CIOs to create the secure, agile and responsive infrastructure their users need now and for future innovation. For example, we can envisage scenarios that leverage SDN/NFV technology and techniques such as the synchronization of business clocks for Time-as-a-Service, or packet acquisition, inspection and correlation for Analytics-as-a-Service.

Creative commercial thinking will accelerate adoption of SDN/NFV and support the financial services sector to meet regulatory requirements and continue to lead in the deployment of technology for competitive advantage.

BT

DEMOCRATIZATION OF FINANCIAL SERVICES

HOW DOES ONE USE TECHNOLOGY TO REACH THE UNBANKED?

Interview with Ramkumar Sarma, CEO & Founder at Bank-Genie

Financial IT: How would you describe Bank-Genie?

Ramkumar Sarma: Bank-Genie provides innovative technology solutions to democratize financial services and simplify banking. The eponymous Bank-Genie is our flagship product. It frees up banking from the brick and mortar branches and enables banks to create branches in the countryside, rural places or even a coffee shop.

With Bank-Genie, customers don't necessarily need to go in search of the traditional branches that the banks have. Instead, they can walk into their neighbourhood gas station which could have become a branch of a bank thanks to Bank-Genie. We can bring banking right up to the customer's doorstep.

This solution may be used for the affluent or the unbanked. However, we have been finding great traction among the unbanked/underbanked as the solution is simple to use, and works even in areas with low internet connectivity.

Financial IT: What is the Unique Selling Proposition of Bank-Genie for the unbanked?

Ramkumar Sarma: Currently, solutions for the unbanked tend to focus on agency banking – having a network of agents contracted by the financial institution to carry out only certain banking transactions, mostly cash withdrawals.

Bank-Genie enables a bank to perform 100% of the retail branch transactions from anywhere – meaning locations like a gas station, neighbourhood stores, pop up kiosks or a café.

The bank branch that we envision may not necessarily be a piece of real estate. It may be a mobile bus or a pop-up branch at a real estate show or a man with a biometric-enabled backpack in the farmers' market.

Financial IT: What is your target market? Who is the competition?

Ramkumar Sarma: Our target markets are Africa, Asia and Latin America. If you look purely at the financial inclusion space, there are other fintechs, and even established tech vendors, offering technology solutions too. But these vendors tend to look at financial inclusion through the agency banking lens. This limits the type of transactions that can be conducted with the agents.

We want to offer financial inclusion through any channel, be it agency banking or virtual banking which covers every single transaction that can be performed at the branch.

Financial IT: What is the product line that provides the highest revenue for the company?

Ramkumar Sarma: We have two products – Bank-Genie that offers branchless banking and Genie Teller that simplifies transactions at the branch. Currently, we're seeing a 50/50 split in terms of revenue. Banks in some markets are still working on optimising branch efficiency while others are trying to move away from the branch and more into virtual/digital banking.

Financial IT: What are the business and marketing strategy for the product?

Ramkumar Sarma: We have invested in building a locally based talent in the main markets in which we operate. We will also be running our inaugural Genie Live user conference in Singapore on 6-8 December 2017. This gathers bankers who want to be inspired by new ways of engaging with their customers at the frontline. However, we are a start-up, so there is still some way to go with brand awareness.

Financial IT: Please identify specific changes and developments that are relevant and that have taken place since the beginning of 2017 in financial services. What's your forecast for 2018?

Ramkumar Sarma: We see blockchain as the game changer in 2018. It's moving fast and the Monetary Authority of Singapore has given a sandbox for fintechs to experiment in. This is a great initiative by the regulator as it gives the space for new ideas and innovations to develop and be tested without risking a larger impact on the financial services sector.

Blockchain has been the largest investment grabber in terms of money raised in 2017 and I think it will continue to be so in 2018.

Bank-Genie is a FinTech company based out of Singapore focussed on providing innovative technology solutions to democratise financial services and simplify banking operations. Bank-Genie's vision is to simplify rudimentary branch banking using technological innovation. The Company's flagship product is a mobile native software, that enables banks and financial institutions to create virtual retail branches. The product enables banks & financial institutions to offer all the services of a brick and mortar branch, any time, at any location, using a simple mobile device.

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2018 IS A YEAR OF REGULATION IS YOUR BUSINESS READY?

For many businesses in the technology industry, 2018 is the year of the EU General Data Protection Regulation (GDPR). Indeed, many organizations will already be in overdrive to get their business ready for the 25 May deadline.

GDPR is not the only major piece of regulation kicking in next year. It's not even the most imminent. The Markets in Financial Instruments Directive II (MiFID II) comes into law on 3 January 2018, and will fundamentally alter the behaviour, structure and transparency of financial markets. The legislation aims to provide investors with clarity of all expected point-of-sale costs and charges, including the impact on investor returns. It affects all financial institutions that deal with voice communications, meaning they should be aware of the radical and far-reaching changes MiFID II will require around voice record-keeping and discoverability.

With that in mind, it's a little worrying that so few are prepared for this regulation. According to research by Rsrchxchange, a large number of firms are leaving compliance to the last minute, with 44% of IT and risk and compliance managers saying they would wait until the legislation came into effect in January to become compliant. This is problematic because the penalties for failing to comply will be severe, with businesses facing fines of up to five million euros or 10% of annual turnover. And the penalties will be in force immediately.

Unfortunately, businesses don't have much time to educate themselves and act on the implications of the regulation, which is why this article explores the requirements of MiFID II, the workload that this will create for financial institutions' IT teams, and how technology innovations formulated with MiFID II in mind can reduce the time and complexity of regulatory compliance.

The requirements of MiFID II and the business commitment it requires

MiFID II will change the way financial services businesses need to record and store calls (both landline and mobile), as well as email, social media and SMS communications. As of 3 January, firms will need to keep records of these interactions for a minimum of five years – whether they resulted in a transaction or provision of services or not. And, crucially, the regulation calls for greater rigour in the storage and discoverability of this data – all records must be stored in a durable and easily accessible format.

The problem is that few financial institutions today will have the capabilities to record and store data in this way. Transactions can be long and detailed, involving a number of different parties. And while recording calls is standard practice across the industry, maintaining this data for five years will significantly

About Brian Martin:

Brian Martin, Regional Director for UK and Ireland, Spitch

An experienced and pioneering executive with a sustained record of achievement in Banking and Information Technology. Has focused on developing and implementing global strategies for maximising existing and anticipating new markets. Led global transformation projects to restructure resources, optimise efficiency, facilitate growth and nurture cultural change.

increase the data requirements of any communications solution. In certain cases, firms may have to hold onto the data for seven years.

Another challenge with the sheer volume of data involved is that it must be archived in a format that is searchable. Currently firms typically ensure compliance in this area with spot checks, but this approach is not a long term scalable solution that will meet the needs of the new regulation.

Of course, analysing so much information is an extraordinarily time-consuming, and often a manual process. Hence why so many policies go unchecked. However, this kind of approach leaves institutions open to complaints around mis-selling. If they can't prove a conversation happened, how can they defend themselves against the proposed negative results of it?

This is the challenge that MiFID II – at least in part – attempts to address. It places an incredible burden on financial institutions to analyse thousands of conversations, featuring multiple parties communicating on numerous mediums over a long period of time.

It sounds complex because it is.

How technology can help

Luckily, technology provides solutions to help financial institutions stay MiFID II compliant. Chief among them are voice-to-text platforms that rapidly and accurately convert any recorded call into an easily-searchable text format, with advanced analytics solutions that can be applied to review each conversation.

For businesses this means being able to use a mixture of keyword spotting and trend identification to detect high risk calls that should be flagged to security officers for further action. And, as the process is carried out automatically and algorithmically, call review times will be drastically reduced to the point that 100% of conversations can be analysed, instead of just a handful.

With the regulation coming into immediate effect imminently, businesses should be seeking technology that can be implemented quickly and tailored specifically to help meet regulations straight away.

New regulations require new technology solutions

Whatever one may feel about MiFID II or the GDPR, it cannot be refuted that they represent a step towards a more transparent future for the financial services industry – and one that puts the client at the centre.

Moreover, the new regulations are a symptom of the changing times, not a cause. And organizations must invest in the right systems, technology and processes that help them stay compliant with new, positive, ways of working.

SPITCH

Spitch is a Swiss provider of solutions based on Automatic Speech Recognition (ASR), Voice User Interfaces (VUI), and natural language voice data analytics.
Our technologies are focused on facilitating knowledge work automation — one of the most promising IT trends of the next decade.
The Spitch R&D team has over 50 years combined experience in R&D for Spoken Language Technologies (SLT), including Automatic Speech Recognition (ASR), Text-to-Speech Synthesis (TTS), Information Retrieval (IR), and Natural Language Processing (NLP)

SOLVING THE IDENTITY PROBLEM IN PSD2 AND GDPR

PSD2 is almost upon us, with the official deadline for implementation set as 13th January 2018.This will conclude a period in which regulated financial institutions have been inundated with advice on how to cope, comply and capitalise on the EU's most talked-about payments directive yet.

The directive's mandate adds two-factor Strong Customer Authentication (SCA) on all remote access to customer accounts, and the implications for failing to do so are generally well understood. But what happens when a customer loses their authentication credentials and needs to re-issue them?

With only a few days days until implementation, are financial leaders aware of the often-overlooked requirement to apply SCA during the credential reset process?

And, specifically, do they realise the consequences of failing to underpin that SCA with Strong Customer Identity Verification (SCeID)?

Strong Customer Identity Verification (SCeID), and how it relates to SCA

When allowing third-parties to remotely access their account under PSD2 or, in some cases, accessing the account themselves, customers will be required to re-authenticate that access by presenting two credentials.

These credentials can be taken from something they know (e.g. a password), something they possess (e.g. a specific mobile phone) or something a user is (e.g. a fingerprint or other biometric detail).

But, as a new requirement, we believe that this SCA process will see many customers lose, break, or forget one or more of their credentials. It is easy to imagine that the most common implementation of SCA will use a smartphone (possession factor) and either a biometric or password.

If the phone is lost or broken, the customer will be requested to reset their credentials, and, crucially, to use two authentication factors different to those previously used in the account access process.

However, regulated financial institutions that fail to comprehensively establish a customer's identity during the credential reset could be at risk of severe financial penalties.

Strong Customer Identity Verification is the best way of protecting against this eventuality.

Why is that?

Authentication can be defined as the process of asserting a previously established identity -- that is, confirming they are whom they say they are.

But in the context of SCA under PSD2, this approach, if unsupported by accurate verification every time new credentials are requested, could dangerously expose customer accounts to fraudsters who will target the credential reset phase.

This is because fraudsters can use social engineering or phishing attacks to access a customer's email accounts and personal information, take on the digital identity of the customer, and trigger a credential reset request with the victim's financial service provider (by claiming to have forgotten a password, for example).

The fraudster is then able to use the stolen personal information to establish new credentials, take control of the account, block the genuine customer from resetting, and transfer money from the account at will. Clearly, this will inconvenience customers and have a detrimental reputational impact on any financial institution.

Under PSD2 and the new European General Data Protection Regulations (GDPR), however, financial leaders can also expect penalties of up to 2% of global annual turnover or €10 million, whichever is higher, for failing to protect customers' personal information in this way. Further, there are circumstances under which the value of such fines could double.

Marrying Strong Customer Identity Verification (SCeID) to credential resets

Clearly, then, financial institutions must implement Strong Customer Identity Verification and ensure that it is applied to every credential reset request. Only then can financial institutions ensure that the person issuing the request is genuinely the account-holder, and protect themselves from severe penalties under PSD2 and GDPR.

But while the implementation of strong verification procedures can protect financial institutions from such consequences, it can also pose a significant set of problems for banks and their customers if implemented ineffectively at the credential reset stage:

- If the credential process is weak, financial institutions face fraud attacks, exposed customer information, and penalties of up to 4% of global annual revenues.
- If the process is slow, requiring face-to-face verification for example, customers will abandon their transactions and may migrate to more sophisticated, frictionless competitors.
- If the process is inaccurate, customers may face false acceptances – in which fraudsters can take over a customer's account, or false rejection, in which valid customers are locked out of their accounts. This could see institutions lose customers or face exposure to regulatory penalties.
- If the process is complex, the customer will be inconvenienced, and higher levels of customer service intervention may be required. This can increase costs and, again, could see customers migrate to other financial institutions.

Effective Strong Customer Identity Verification (SCeID)

Financial leaders must ensure that their chosen SCA and SCeID processes meet regulatory requirements on one hand, while delivering a seamless customer experience on the other. But what constitutes a comprehensive verification solution that satisfies these often-conflicting requirements?

The European Banking Federation encourages trust in digital identity verification tools that can guarantee that ''the person claiming a particular identity is in fact the person to whom the identity was assigned.''[1]

Such tools have already been effectively deployed by challenger and traditional banks to assist effective Customer Due Diligence services for Anti-Money Laundering and Know-Your-Customer regulations. These solutions are also capable of meeting the requirements of SCeID under PSD2.

To do this effectively, digital identity verification should be:

- **Strong** – The solution should verify at least two of the SCA credentials. For example, a government issued identity document (possession), and a facial biometric (inherence) that matches a live image of the customer. This live image can be captured via a smartphone camera or webcam, and compared against the photograph on the document.
- **Fast** – Verifying digital identity should be completed in near real-time. Existing technology can efficiently verify a user's identity, using possession and inherence credentials, in seconds.
- **Accurate** – To ensure as high a level of accuracy as possible (both in terms of flagging fraudulent transactions and ensuring that legitimate users are successfully verified), automated verification, which includes AI and machine learning, must be supported by human experts. The former predicts and flags fraud, while the latter complements the automated verification.
- **Simple** – The digital verification technology must be highly automated and incremental to existing financial institutions' processes, to minimise online friction, customer frustration and any additional compliance costs.

Conclusions

It is important for financial leaders to remember that under PSD2 and GDPR, there is no expectation that an institution can completely eliminate fraud, only that all reasonable precautions are taken to minimise it.

A well-designed digital identity verification solution can achieve this and more. By protecting your institution from regulatory fines and business risks, these solutions can help you reduce compliance costs, increase your customer base and approach PSD2 with confidence.

With PSD2 rapidly approaching, it is crucial for financial leaders to begin implementing such solutions today.

The author will be speaking at FinTech Connect Live, London, 7th December, 10:40am, on 'Why industry leaders must think FinTech and embrace their digital footprints to thrive.' Visit us on stand C2 to discuss how Jumio can help you prepare for SCA & SCeID under PSD2/GDPR today.

[1] EBF – Driving Digital Transformation – The EBF blueprint for digital banking and policy change.

Simon Winchester
Head of Financial Services EMEA, Jumio

Simon has spent the last 10 years working within financial services, the last four of which at Jumio. Tasked with the exciting challenge of growing the finance vertical throughout EMEA, Simon has a wealth of experience collaborating with traditional banking institutions, digital challengers and everything fintech. Simon is responsible for direct and indirect new business channels along with customer relationship management.

PSD2: ARE YOU READY FOR THE DIGITAL PAYMENTS REVOLUTION?

2018 is set to be a pivotal year for the financial services industry with both the General Data Protection Regulation (GDPR) and the revised Payments Services Directive (PSD2) due to become law, transforming the way that businesses approach their customers' data. While GDPR looks to ringfence consumer privacy, PSD2 conversely looks to unleash the banking and payments sector, allowing third-party access to customer data. The combination is a potent legislative cocktail that will challenge banks and fintech companies as the European Union (EU) looks to actively enforce data protection rules while fostering a more open and competitive financial marketplace.

Both are the subject of much debate. But in this article, I want to explore PSD2, what it means for the financial community and the steps that must be taken in the lead-up to this pivotal year.

PSD2: Becoming law

PSD2 updates the original Payment Services Directive and was proposed by the European Commission in 2013. But January 2018 is the date on everyone's lips as 28 EU member states transpose the provisions of PDS2 into national law.

PSD2 will revolutionise the way we make digital payments by allowing consumers to have the option of using third-party providers to manage their financial assets. It will take us from a 'monolithic model', where consumers interact primarily with just a single bank to a 'banking platform model' where consumers have the option of leveraging multiple services from multiple financial service providers and banks.

The regulation looks to level the playing field, creating a single integrated payment services market with uniform approaches

Ian Clark,
Vice President, API Management, CA Technologies

for both banks and the emerging payments and fintech companies. It will further free the market by removing barriers to entry for new operators. The regulation does this by strengthening uniform security for all stakeholders, unlocking the opportunity for new payment services, ensuring transparency and promoting market competition through innovation.

Educating the consumer

PSD2 has the potential to be hugely beneficial to consumers and therefore to businesses delivering those services. PSD2 allows for faster payments and makes strong customer authentication mandatory. With consumers demanding access to all their banking services across every digital channel, whenever and wherever they are, this regulation gives the financial services market the chance to properly respond and deliver on those expectations.

But with less than six months to go before it is enacted into law, 89% of consumers do not know what PSD2 actually means for them. Banks need to take the lead in educating the public on the potential implications that the new regulations will have for them, allaying their concerns around data protection. Without effective communication, banks risk losing the trust of their customer base. Those that get it right could gain a competitive advantage here.

Realising the business opportunity

From a business perspective, PSD2 enables the industry to be more open, innovative and collaborative. But financial services companies must grasp that opportunity with both hands. With this in place, banks and fintech providers can partner to develop innovative new services that were not previously possible. However, the larger banks need to ensure that they are receptive to this change and become more open to sharing data and insights with fintech companies, or they could be left behind.

As with all modern data issues, implementing new technologies is crucial here and banks are turning to the latest enterprise software to make them more agile ahead of the PSD2 deadline.

Here are two examples of how organizations may encounter the new Directive and recommended tools to help meet and surpass key requirements of stronger authentication, for open secure communications:

1. **Issue:** Online banking security
Solution: Advanced authentication: Advanced authentication is a flexible and scalable solution that incorporates both risk-based authentication methods, like device identification, geolocation and user activity, as well as a wide variety of multi-factor, strong authentication credentials. This solution allows financial organizations to create a layered, strong authentication process to ensure that only legitimate users gain access to their accounts and payment services

2. **Issue:** Account access and API security
Solution: API management: Application programming interfaces (APIs) provide the connectivity to meet PSD2's open communications demands and requirements (e.g. Third-Party Provider, TPP and Access to Account, XS2A). API management provides the capabilities financial organizations need to address new digital transformation challenges. This platform secures the open enterprise, providing a secure integration capability across apps, devices, and businesses

2018 and the introduction of PSD2, along with GDPR, will certainly bring disruption to the financial services market. However, this must be viewed as an exciting opportunity for businesses to re-evaluate their proposition to today's consumer, and collaborate across the industry better to deliver new exciting innovative services.

There is potential for some delay to PSD2 given the lack of clarity of the EBA Regulatory Technical Standards (RTS) for strong customer authentication and common and secure communication. To ensure innovation is not stifled, the RTS takes a 'what' rather than a 'how' approach, leading many stakeholder banks to stall in defining their PSD2 strategy and building a solution.

Regardless of the possible delays until late 2018, to allow the details to be finalised, now is the time to consider an appropriate PSD2 strategy. Companies need to build a standards-based PSD2 platform that is ready for 2018 yet sufficiently flexible to adapt to the evolving regulatory and business needs of Open Banking that the market will demand.

If banks and fintech companies respond appropriately to these impending regulatory changes, a hugely positive shift for the market can be triggered, resulting in a far more consumer-centric operating model.

CA Technologies (NASDAQ:CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business in every industry. From planning, to development, to management and security, CA is working with companies worldwide to change the way we live, transact, and communicate – across mobile, private and public cloud, distributed and mainframe environments.

WHEN IT COMES TO AML, DO COMPLIANCE MANAGERS NEED A SUPERHERO?

Jane Jee, CEO of Kompli-Global, argues that compliance managers need super-powered help to meet today's strict global AML regulations, and explains where they can get the support they need.

Money laundering and the financing of terrorism are financial crimes with serious economic and social effects.[1] Money laundering results in welfare shortfalls and drains resources from a country's more productive economic activities, threatening the stability of its financial sector and wider economy. The gains made through money-laundering are then often used by terrorist groups, causing untold harm to nations and communities, negatively influencing global trade and international prosperity.

The harm done by these activities is truly global. Money launderers and terrorist financiers exploit the complexity inherent in the international financial system – as well as differences between national laws – to move their money with seeming impunity. Action against money laundering and terrorist financing thus responds not only to a moral imperative but also to an economic need. In television and cinema, this the point at which a dazzling superhero enters the fray to save the day.

A tough response needed

In reality, responding to this moral imperative requires national governments to have effective regimes in place to combat such threats in order to protect the global financial framework.

Increasingly, this means stringent and rigorous local and global Anti-Money Laundering (AML) legislation, alongside regulations stipulating Know Your Customer (KYC) checks. If they want to continue operating in these regulated markets, financial services companies must comply with these standards, and have comprehensive protocols in place.

While this body of legislative requirements goes a long way towards drastically reducing the threat of money laundering and terrorism financing, it does have implications for financial services businesses and their team members. The burden of such regulations is becoming heavier for compliance managers to bear on their own. The breadth of international money laundering is such that scaling resources to efficiently manage risk and compliance is more than many organizations can handle, leaving their reputation vulnerable.

Turning to RegTech

To ensure compliance managers have the support they need to do the heavy lifting relating to AML legislation, they need help from above. Innovative regulatory technology (RegTech), often incorporating artificial intelligence (AI) technology, is currently enjoying significant growth around the world. Designed to help organizations meet their compliance requirements and protect reputations that have been built of many years, RegTech now plays an indispensable role in assisting compliance managers as they aim to meet strict requirements of complex global and local AML and anti-terror regulations. Finally, we're not alone in the fight.

Super-powered solutions

Super-powered AI systems can play a significant role in supporting compliance managers to achieve even deeper due diligence, by exploring information far beyond the relatively small bubble of the internet that we use as consumers in our day-to-day lives.

Smart, communicative digital compliance assistants can work around the clock, unlike their human assistant. Imagine a risk manager who doesn't sleep, get tired, need a break or miss vital information. Someone who works 24/7, 365 days a year, running constant checks on both prospective and existing customers.

The age of the superhero is here, formed of self-learning technology with a human

About Jane Jee:

Jane Jee has been working in the world of card-based, e-money, internet and mobile payments ever since she first qualified as a barrister, more than 20 years ago.
Having previously been Managing Director at Access, the credit card issuing and acquiring organisation, and Divisional Manager at Mondex International, she is an expert in the arena of e-money regulation, and passionately believes that good regulatory compliance makes good business sense.
As CEO of Kompli-Global, Jane is committed to spreading this message to the rest of the industry, by delivering the company's unique "Gold Standard" compliance service. Designed to meet the most stringent regulatory requirements, this enables clients to take on new business and retain it, confident that they have the best information and talent on hand to fulfil their compliance obligations.

interface. These protectors can ensure managers are alerted the minute any critical information relating to a client appears, so they can make a judgement and take appropriate action.

Advanced AI solutions are capable of doing even more than simple continual searching. Cutting-edge AI can offer features that support compliance managers in providing the deeper due diligence required not just to meet regulatory requirements, but help to prevent money laundering in the future.

Kompli-Global's new digital compliance assistant, Samantha, for example, can explore the un-indexed "Deep Web", sifting through millions of uncategorised data and documents to find any adverse information relevant to a business' customers and their connections. Samantha continuously monitors all of an organization's clients around the clock, looking at over 500 "stem words" that might be associated with financial crimes. As she's multi-lingual, she can also understand these in every language and their local variations.

Where it would take a human days or weeks to explore this information, it can take Samantha minutes to conduct the checks and interrogations that find indications of potential financial crimes – "bad actors". Samantha then reports back to risk managers on areas worthy of further investigation, requiring verification of suppressed or falsified information.

Where citizens would cry out for help from superheroes whenever danger is near, so too can compliance managers call on Samantha, interacting with her just as they would a human assistant, via voice-activation technology. They can ask her to carry out a search, without the need for them to be at their desks, freeing them to perform other vital tasks while she is working away on the problem at hand.

Working alongside the expertise and insight of human managers, heroes such as Samantha can play an unrivalled role in helping banks find critical information that otherwise wouldn't be available or is far too time-consuming and costly to find.

Time for superhero support

Money-launderers, terrorism financers and criminals are getting more sophisticated every day, and so financial regulations are growing ever more strict in response. As a result, it is likely that the legislative burden on compliance managers in the financial sector will grow ever more onerous, making it all the more important to have technological support today.

Technology like Samantha has an important role to play here, acting as a sophisticated guardian, a watchful protector and the hero the compliance world needs right now. Working together, such AI and human oversight can help protect both individual businesses and the wider economy from the dangers of financial crime.

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Deeper Due Diligence

Kompli-Global provides accurate and comprehensive intelligence on organisations and their people to empower you to make informed decisions. Our proprietary search platform provides an in-depth overview of published information on individuals and entities which will allow you to engage and retain profitable business without fear of regulatory sanction and reputational damage. This makes due diligence fast, simple, scalable and affordable for any business with KYC and AML obligations.

Financial IT
Innovations in FinTech

GETTING AHEAD OF CYBER-SECURITY IN FINANCIAL SERVICES

Cyber-security is an ever-growing concern for any business, large or small. And it's clear why; more and more high-profile businesses are becoming victims of cyber-attacks and having to reveal their experiences and loss of data to their customers – just take Equifax and Deloitte as two of the most recent examples. The impact on the financial services sector is even more damaging, as not only can reputations be ruined, but also millions of dollars of customers money can be stolen and sensitive data lost. And the threat is evolving. It is no longer just lone hackers or hacktivist groups, but state-sponsored attacks are increasing with alarming regularity. Physical borders and geography aren't an obstacle to attacks and every device, application or password within an organization can be a point of entry for an attack.

Businesses and organizations are faced with the uphill struggle of ensuring security across the IT estate and having to consider a multitude of factors to deliver enterprise security. In what seems to be a never-ending cycle, hackers are striking out with increasingly sophisticated attacks, while governments and organizations struggle to keep up and get ahead of the threat. A worldwide shortage of security skills alongside growing advancements in threats is leading to gaps appearing in the security industry. The proverbial hamster wheel approach of the defenders trying to get ahead of the attackers sees the deployment of the 'latest' technologies to try and shore up the defences and yet still be outsmarted.

The ever-changing route

The route to comprehensive cyber-security is always changing in response to the latest vulnerabilities and threats. It can be an impossible task for organizations to ensure they are fully protected when the world they were working in yesterday is completely different from the world they work in today. This fast-paced environment can lead to difficulties within an organization thanks to the changing nature of the information being presented. Last year, 2.9 million British businesses were subject to cyber-security attacks, costing £29.1 billion, according to a recent report. For financial services, the reputational damage can be just as bad as the financial loss. It is estimated that a third of customers would consider stopping or have stopped doing business with an organization after it has been hacked and more than half of those lose trust in the business.

Dispense with the jargon

One of the first steps IT and security teams can take is by removing the 'jargon' that often accompanies technical details. Security isn't an IT problem that is left to the CSO or CTO to deal with, it's a business problem but is often not communicated in this way. This understanding is often lost in the presentation of the risks posed to a business because these risks are wrapped in complicated, technical terminology.

Highlighting to the senior management that on average, a breach leads to share prices dropping by 1.8 per cent in the first instance and multiplying further after second and third attacks is a much more effective way of emphasising the severity of an attack. Bringing this to the attention of the board is much more likely to deliver the required support from the board rather than focusing on the technical details. By stripping out the unnecessary terminology and focusing on the business risks, the board is in a much better place to understand the needs of the IT and security teams and secure support for prioritising measures to protect the business and its customers.

Where can tech help, not hinder?

Rather than deploying pure-play security technologies, businesses should develop a more holistic approach to enterprise security by using different solutions to deliver comprehensive protection. Analytics is a key element in leveraging cyber security and ensuring businesses remain a step ahead of the attackers. Big data lies at the core of this approach by helping businesses to identify alterations in user patterns, deliver complex analysis at close to real time as possible and deliver oversight across a range of data sources. It is no good identifying a breach or an exposure point and taking a few months to develop a patch during which time the

About Yaniv Harel :

Dr. Yaniv Harel is the General Manager of the Dell EMC Cyber Solutions Group (CSG), a global group within Dell Technologies developing innovative solutions for acute cyber needs (CERT, proactive defense). In previous roles within the IDF (Israel Defense Force), Yaniv served as the head of several leading technology divisions. In 2010, he founded the Cyber branch in the Ministry of Defense (MOD) R&D Directorate (MAFAT) and led it to maturity as a major entity in the MOD, running dozens of collaborative projects with Israeli companies. In 2002, Harel was awarded the Israel Presidential Medal for Security.
Yaniv is Head of Research Strategy at the Cyber Interdisciplinary Center (ICRC) at Tel-Aviv University. He holds a BSc in Engineering from the Technion, Israel Institute of Technology, an MBA from Manchester University, and a PhD from Tel Aviv University.

business is exposed. Creating a risk algorithm as a sole defence concept is nearly impossible owing to the changing nature of threats but by using big data security analytics, vulnerabilities or malicious actions can be flagged before they become a real threat or cause meaningful damage.

By moving from a reactive to proactive defensive response, businesses find themselves on the front foot and the hackers are the ones trapped in the hamster wheel trying to keep up. Deploying honeypots, securely contained open targets designed to lure in hackers, within a system can provide valuable insights into the data pathways and backdoors used by hackers to enter the system. Regulated and standardised industries like financial services are well known for their use of orchestrated test environments to better understand, protect and face threats. Modern proactive systems allow defenders to expose potential attacks and topological vulnerabilities.

Through the adoption of a security by design approach, software and hardware is being developed as free of vulnerabilities as possible. The approach based on the idea that there are security improvements which are easy to include at the design stage and may be very complicated to

This is crucially important as more businesses implement IoT devices into their systems, as IoT devices don't traditionally have security factored into their product design. With the greater availability of software and hardware with rigid security already incorporated, businesses are already protected before the solutions are installed. It will be crucially important however to make sure these inbuilt security principles can be patched and updated to continue providing comprehensive protection, as well as being able to work in conjunction with businesses existing security solutions.

For businesses to get ahead of the sophistication of hackers and myriad of threats, security must no longer be treated in isolation of the IT team. By turning the security problem into a business problem and dispensing of the technical terminology, it becomes an easier problem to tackle within an organization. By moving from a reactive to proactive approach, businesses can utilise current platforms enabling orchestration, automation, data and log analysis to secure their environments and make sure they are no longer exposed to cyber-attacks.

As a member of the Dell Technologies unique family of businesses, Dell EMC serves a key role in providing the essential infrastructure for organizations to build their digital future, transform IT and protect their most important asset, information. Dell EMC enables its enterprise customers' IT and digital business transformation through trusted hybrid cloud and big-data solutions, built upon a modern data center infrastructure that incorporates industry-leading converged infrastructure, servers, storage, and cybersecurity technologies.

Dell EMC brings together Dell's and EMC's respective strong capabilities and complementary portfolios, sales teams and R&D. It seeks to become the technology industry's most trusted advisor, providing capabilities spanning strategy development, consultative services and solution deployment and support to help our customers and partners drive the digital transformation of their businesses.

It works with organizations around the world, in every industry, in the public and private sectors, and of every size, from startups to the Fortune Global 500. Our customers include global money center banks and other leading financial services firms, manufacturers, healthcare and life sciences organizations, Internet service and telecommunications providers, airlines and transportation companies, educational institutions, and public sector agencies.

Hans Tesselaar,
Executive Director, BIAN

COLLABORATION IS THE KEY TO SUCCESS, BUT STANDARDIZATION MUST COME FIRST

Collaboration was in the air this year at Sibos. From panels to debates, it was a key theme at the financial conference of the year. Perhaps it's the looming PSD2 implementation date, but it's clear that banks and fintechs alike are waking up to the reality that to succeed in the evolving financial landscape, collaboration with one another is key.

Technology has no doubt accelerated the evolution of banking space, with Sir Tim Berners-Lee, inventor of the World Wide Web, discussing how 51% of the world's population now have access to the Internet. He also alluded to the fact that it is the responsibility of financial institutions to help the 49% who do not. With inspiring talks like this, it's no surprise that Sibos 2017 was a record breaker in many respects. Importantly, what these talks and themes illustrate is that there is a huge opportunity for financial organizations in the future if they can continue to embrace technology.

PSD2 on the brain

However, collaboration will not be possible if banks aren't working on a standardized, capability based, infrastructure. With the implementation of PSD2 looming, and clearly on the minds of the banks, standardization has to be addressed. First announced by the European Commission in 2013, the Payment Services Directive 2 (PSD2) is now just under a month away. Under the new directive, banks will be under obligation to provide third parties, such as fintechs, with access to customer accounts via APIs, allowing third parties to build their services on top of the banks data and infrastructure.

As a result of the implementation of open APIs, the government's main objective is to boost competition in the financial sector. Consequently, this impending legislation will mean that fintechs and start-ups will have the opportunity to build on the bank's data, allowing them to create innovative new services. The prediction is that, somewhere along the line, this initiative will lead to the creation of comparison sites, much like we see the abundance of in the insurance industry.

Embracing change

Competition in this field, however, is not all bad news for banks. On the contrary, the 'sharing' culture could in fact greatly benefit the banking industry with regards to growth and opportunity. Banks could have the option to outsource technology services to the younger and more innovative companies as a result of an open platform, and also insource from them. Not only will this mean that the banks will have more flexibility, but crucially it will also attract the millennials by enhance the customer experience.

The changes necessary for both parties to move forward in the financial industry, although steadily in the hands of fintechs and start-up with regard to innovation, still require more from banks than simply the sanctioning of open APIs though. If banks look to outsource technology based on this information at a later date, they firstly need to look to their own infrastructure and modify it in a way that it supports the new technology.

As it stands, the current architecture of traditional banks does not allow for a collaboration of this type. First and foremost, in order to allow for the success of a sharing culture between these entities, a standardised framework across the entire banking industry will be required to ensure the synchronization of APIs and IT systems across the landscape.

The next move for banks therefore is evident. With innovation and collaboration at the forefront of the minds of world tech leaders and financial influencers alike, we're moving in the right direction. Open APIs are soon to become a reality which will allow for such innovation, but if traditional banks do not alter their current back-end structure, they will simply not be able to accommodate them. Banks must take the initiative to implement a uniform platform which allows for progression of the industry and leave behind archaic and inefficient architecture which is now holding them back from becoming real industry players once again.

The Banking Industry Architecture Network (BIAN) is a collaborative not-for-profit ecosystem formed of leading banks, technology providers, consultants and academics from all over the globe.
Together this network of professionals is dedicated to lowering the cost of banking and boosting speed to innovation in the industry. Members combine their industry expertise to define a revolutionary banking technology framework that standardises and simplifies core banking architecture, which has typically been convoluted and outdated. Based on service oriented architecture principles, the comprehensive model provides a future-proofed solution for banks that fosters industry collaboration.

BIAN
Banking Industry Architecture Network

Drive Digital Transformation in the Application Economy

Turn regulatory obligations into new opportunities with API Management and Identity-centric Security

ca.com

2017 has not been plain sailing for the UK's financial services sector. So, what will be the obstacles and opportunities that the industry will have to navigate throughout 2018? Graham Lloyd, Director and Industry Principal of Financial Services at Pegasystems, highlights a few possibilities.

1. **Successful social media:** The reliability of social media content and its practices is increasingly being called into question, and this has come at a problematic time for banks. At a point when consumer confidence in banks is already low, they need to tread carefully – the last thing they need is to be associated with anything perceived as untrustworthy. However, they cannot afford to disregard an influential channel with such wide reach and potential high, immediate impact.

   The challenge is further complicated by the seismic changes already happening here – adverts are being blocked, cookies are being denied and customer identification rates are falling dramatically. In an ideal world, first-party data would be input directly into social channels to ensure authenticity and precise customer identification, with real-time updates. However, this would involve a different approach to social media, with the bank taking more of a driving seat. Properly done – and it can be – it could help the bank to stand out as a shining example of integrity.
2. **Evolving customer engagement:** Social media is just one component of customer engagement, with other more important issues on the horizon – notably digestibility, cost and effectiveness. Data mining is now so huge and its outputs so great that we should perhaps be referring to the latter as 'big insights', as there are so many of them. For a majority of players, the problem is how to work out which insights to leverage within the predetermined time and budget constraints.

   The common historic approach of driving customer engagement by mining all available data and seeing what pops up requires compromises. These can include cached decisions, some kind of formulaic, but subjective selection process, or the use of advanced tools for potentially unintended purposes.

   If we take it up a level of abstraction, we can see that this is a "ready, fire, aim" approach. To get things in the right order, banks need to begin by defining their desired outcomes, then searching for the relevant data, before taking action. This would not only be a far quicker and more logical process, it would also focus the thinking into what these outcomes should be, i.e. what matters most to the customer on the receiving end of all this engagement. Moreover, the combination of forethought and speed would help ensure that what was placed in front of the CSO and customer would be far more likely to be relevant and real-time.
3. **Time to tackle trade finance:** With trade finance risk-weighting kicking in properly in March 2019, we are entering the home straight for finalising the necessary business changes. Most players will presumably look to offset some of the costs of introducing capital requirements in this hitherto largely unweighted portfolio by seeking greater productivity and process efficiencies. There are indeed improvements to be made, but only a small percentage of these will derive from doing what we do now, a little better.

   Trade finance structures and practices have remained largely unchanged over the past few centuries, so the March deadline may be a perfect opportunity to drag them into the present. For example, it is easy to imagine a good case management and decisioning system driving and checking documentation and payments in nanoseconds and handling open account and documentary credits with equal aplomb. This activity could be outsourced if required, perhaps to an automated clearing house, or it may be the ideal chance to embrace distributed ledger technology (blockchain).
4. **The truth is out about challengers!** Thus far, challengers and Fintechs have been portrayed as somewhere between a benediction and a panacea. Their great generic USP – "we're not a traditional bank" – has helped them weather all sorts of issues, from low take-up to sub-optimal IT to almost-but-not-quite products, with scarcely a hard question asked. But the honeymoon period may be drawing to a close, and even if we look at their combined market share, they have yet to make any serious impact on the position of traditional banks.

   Of course, some have done better than others, but few are showing any sign of sustainable growth. Some will argue that their prime purpose was closing a gap in the market, or providing an alternative. However, in such cases, they will still need to demonstrate profitability or good take-up instead. Furthermore, it's only a matter of time before an economic event or milestone means they have to take some hard decisions – foreclosures on small businesses in a depressed part of the Midlands, anyone?

   Rebalancing beliefs to a more mature and realistic view of what these firms can do may make sense for all. Financial realities may lead to a shared, single operating model, with efficiencies for all, as well as more freedom to concentrate on customers and products. A sharper definition of what value Fintechs can actually add would help their brand and product set to become leaner and hopefully more effective. Few Fintechs have an actual track record of serial success, but most have one great idea. These businesses may find greater acceptance and success as excellent components in the financial ecosystem rather than potential unicorns.
5. **Possibilities of PSD2:** In the final run up to PSD2, there are sizeable revenue opportunities for a bank positioning itself as the 'destination of choice' for PISPs (Payment Initiation Service Providers). These new players will gravitate towards the banks offering a higher service standard and the least hassle, as the effects will flow through to the PISPs' own customers and their expectations of security, certainty and convenience. Banks stand to recapture not only some of their own lost transactions, but also some which have flowed out of their competitors.

In conclusion, thriving financial services firms are likely to be those who are unafraid of new technology and who fully embrace the flexibility it facilitates. Instead of approaching the latest regulation and technology with apprehension, banks should use these advances as a way of distinguishing themselves from their competitors and safeguarding their permanency in the financial sector.

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Our Global 3000 customers rely on Pegasystems dynamic solutions and strategic applications to drive excellence in their sales, marketing, customer service, and operations.

Graham Lloyd
Director and Industry Principal
of Financial Services at Pegasystems

FINANCIAL SERVICES FUTURE GAZING

THE CRYPTO-CURRENCY ENDGAME

WHEN CRYPTO-CURRENCIES REALLY BECOME WIDELY USED, WHAT COULD IT MEAN FOR CENTRAL BANKS, MOBILE TELECOMS COMPANIES AND RESERVE CURRENCIES?

Nobody knows how many people hold accounts with bitcoin and other crypto-currencies. However, the total is almost certainly no more than several tens of millions, or about 1% of the global population at most.

These are tiny numbers when you consider what are the advantages of crypto-currencies. Crypto-currencies provide low cost transfers across international borders. They are stored in e-wallets that effectively turn your mobile phone or computer into a bank. These advantages apply everywhere, but are greatest in places where people are poor and/or unbanked.

Further, crypto-currencies provide security because of the blockchain technology that underpins all of them. Perhaps most importantly, crypto-currencies provide transparency in relation to the creation of money: in relation to each crypto-currency, the monetary policy is very clear and easy to understand.

The fundamental point missed by most financial people is that crypto-currency is that digital innovation that disrupts the current world financial order as it dis-intermediates the current banking system. A system evolving at a snails pace that reflects their control over change to protect massive profits. How is it that it still takes days to send money internationally when the money travels at the speed of light?

If you believe the scenario that crypto-currency will flip the financial applecart at a pace no banker is likely to respond to then the question is what is the likely new digital world order?

Towards a world without central banks?

If a crypto-currencies don't need central banks to be created, why do you need central banks?

All conventional currencies are issued by central banks that are controlled by governments. The central banks influence on interest rates, the price of money and they control the quantity of basic money, which is usually defined in terms of physical cash and bank deposits of varying kinds. In reality, most of the money created is by banks through the fractional reserve banking system.

Over recent years, major central banks have of course sought to keep interest rates near (or below) 0% and have aggressively boosted money supply through quantitative easing (QE), the digital equivalent of printing money. If one benchmarks the major global currencies against the global standard for currency, gold, these money printing machines have caused a staggering 75% drop in purchasing power since 2000.

In some countries, central banks and governments are moving towards issuing their own sovereign crypto-currencies. They recognize that the advantages of crypto-currencies are undeniable. In the event that their populations make a large-scale move from conventional towards crypto-currencies, the governments want to maintain some kind of control over monetary policy.

In the world of conventional currencies, it is usually possible for central banks to exert control over interest rates – the price of money – through their operations in financial markets. As a general rule, it is easier to influence the price of money in financial markets that are large and liquid than in markets that are under-developed or illiquid.

The fixed nature of a crypto-currency Blockchain is obviously a major issue for governments who always want to increase money supply to support growth or deliver on excessive promises that can only be paid for by debt and money printing.

Just as the supply of Bitcoin increases as more coin is mined as payment to those 'miners' who verify transactions, one assumes that a new type of 'expandable' yet secure form of Blockchain will be developed for the sovereign currencies. Whichever Fintech

About Ed Ludbrook:

Ed Ludbrook is an entrepreneur, company executive, strategic leadership coach and author who has sold over 2 million books/audios in 20 languages. As a futurist he has written on many new industries and is currently active in crypto-currency and its related opportunities.

company that develops it will become the De La Rue of the 21st century currency world.

The opinion that crypto-currencies will replace soveign currencies in the future is simply ridiculous as crypto-currencies are simply bits and bites. What gives them value is demand and users are naturally based in national groups. They define an economy and thus the most efficient currencies will be soverign. We have seen the disjointed nature of a supa-national currency, like the euro, when imposed different economies.

Even with the near daily announcement of another country launching its own crypto-currency, the general consensus is that the roll out of crypto-based sovereign currencies will slow and steady. Given the typical speed of digital implementation, this seems the sort of pipe-dream those in responsible positions facing digital revolutions promote.

Overall, two conclusions can be drawn. The first is that central banks will be around for a while yet as the smartest currency is still a sovereign currency. The only difference is that it will be digital, demonetized, based on a form of blockchain cryptography. It is also partly because most central banks perform important functions beyond and above issuing currency.

The second is that the days of fractional banking will probably die with crypto-currency technology. Given the tidalwave of money created over the past decade, this is not a bad result yet how the system will develop will perplex bankers in the coming years.

Towards a world where mobile telecoms companies become banks?

If e-wallets turn mobile phones into bank accounts, then they could turn mobile telecoms companies into bankers. This is something that the Office of the Comptroller of the Currency (OCC – a part of the U.S. Department of the Treasury) has foreseen. In early December last year, the OCC announced that it would move ahead with considering applications from FinTech companies that are looking to become special purpose national banks.

The FinTech companies that are evaluated for special purpose national charters are assessed on a number of criteria. Those criteria include: a reasonable chance of commercial success; appropriate risk management; effective consumer protection; and strong capital and liquidity.

Of course, it could be that some of the largest mobile telecoms companies that decide to become banks are not in the United States. The scale of many of the mobile telecoms companies in Latin America, for example, means that they have considerable influence vis-à-vis the governments with whom they would be dealing in the event that they wanted to become financial institutions without going through the trouble of applying for a banking licence.

Operating as a FinTech, rather than as a conventional bank, a large mobile telecoms company would likely be free of the regulations, and legacy systems, that would normally burden banks. Conceivably, such a company could operate across an entire geographic region, and not just in one national market.

In that case, the mobile telecoms company would need a number of centers across the region in question. These centers would validate every transaction that is undertaken on the blockchain that supports the e-wallets and crypto-currency that the mobile telecoms company is developing. Although the blockchain would, by itself, provide the security that is needed, perceptions of security could be improved further if each of the centers were overseen by an independent committee. Each committee would include highly respected retired officials (or central bankers) from outside the country in question.

Where one of the leading regional mobile telecoms companies in emerging markets decided to reinvent itself as a FinTech (i.e. virtually as a bank), it is reasonable to expect that take-up of its crypto-currency and e-wallets would be very quick. This is partly because of the marketing/distribution reach of the mobile telecoms company. It is also because of the security of the blockchain and the general benefits that are provided by a crypto-currency.

It would only take one 'big boy' telco to embrace this new opportunity and there would be a tidalwave of new tele-banking players across the world. Suddenly, the established banking world is not faced by tiny Fintech evangelists, rather by massive consumer players who have the capital, customer base, support systems and trust levels to tear the legacy banking system apart.

Remember that the digital money revolution in Africa and now East Asia, led by m-pesa, is based on mobile phones and was born out of people wanting to buy/sell mobile minutes. Those minutes effectively became like a new currency controlled by the telecoms companies.

The only thing holding back the telecoms from taking on the banking world is a large credible crypto-currency which Bitcoin has neither the size or speed to fulfil. A new sovereign crypto does not work if a company wants to expand across boarders. It creates the opportunity for a new global reserve crypto-currency. Will telecoms companies also create their own crypto-currency?

Towards a new reserve currency?

These changes would be hugely disruptive for traditional banks, currency exchangers and providers of remittance services. These changes would also advance the cause of demonetization – the removal of conventional notes and coin.

Major beneficiaries of demonetization include central banks, which are generally tasked with the design, printing and distribution of physical currency. Even if the growth of a new crypto-currency resulted in a 10% reduction in the amount of physical currency required, the benefits for the central bank(s) involved should be considerable.

Provided that the telecoms company in question worked carefully to ensure that the value of the coins minted expanded broadly in line with the nominal GDP of the underlying economy, the crypto-currency could be used for trade. Globally, trade in goods and services amounted to around US$20 trillion in 2015[1]. Even if only 3% of world trade was denominated in the new crypto-currency rather than, say, the U.S. dollar, trade related demand for the new crypto-currency would rise to around US$600 billion.

The rise in usage of a new crypto-currency for trade settlement would be a necessary, but not sufficient, requirement for the new crypto-currency to emerge as a true reserve currency – being one that is held by central banks in foreign currency reserves.

Nevertheless, there remains the theoretical possibility that, over a period of years, a crypto-currency could emerge as a major reserve currency. This would be consistent with dedollarization – the general reduction in time of the importance of the U.S. dollar.

Managed properly, dedollarization would be far from disastrous. Successive UK governments skillfully managed the end of the use of sterling as a reserve currency from the end of World War II to the 1970s. The governments did this by allowing inflation in the UK to remain higher than in the UK's trading partners. This contributed to occasional currency crises, as the relatively high inflation (and other issues) contributed to the overvaluation of sterling from time to time. However, this approach reduced the real value of the debt that had been accumulated by the UK government over two World Wars. The adoption of a similar policy by the U.S. government would almost certainly accelerate the process of dedollarization. However, it would also reduce the U.S. government's massive debt burden.

The last point to note on a new global reserve crypt-currency is that digital currencies are like social media. They are based on connections. So whilst there may be 100, 1,000 or 100,000 crypto-currencies created by non-governments, eventually there will be only one. Just like there is now only one Facebook.

History is littered with the flawed projections of industry experts which normally lead to flawed strategic decisions, ruined companies and executives. Business schools thrive on the stories of Nokia, MySpace and AOL. So often we should be reminded of the story of the 'Emperors New Clothes' when predicting the future to remind us that the most likely future outcome was staring us in the face from the start.

The crypto-currency genie is out of the bottle and never going back. It is that disruptive technology that will transform the global finance world because the people want and need it.

By focusing on the individual customer, it seems clear to me that the 'Future Currency World Order' will see all countries sovereign crypto-currency and there will be one independent global reserve crypto-currency. If there are 198 countries in the world, there will be 199 crypto-currencies.

This article began with the observation that, at present, very few people are actually using crypto-currencies. The crypto-currency endgame – the situation where one or more crypto-currencies have had the greatest impact on the global economy – will be characterized by crypto-currencies being used by most people worldwide. Before the endgame, crypto-currencies will have profoundly changed conventional thinking about central banking, financial institutions, the financing of trade and reserve currencies.

[1] World Trade Organization, World Trade Statistics 2016, passim.

TAX RECLAIM WHAT IS INVOLVED?

Interview with Valerio Roncone, Head Markets & Clients, Member of the Management Committee, SIX Securities Services

Valerio Roncone,
Head Markets & Clients, Member of the Management Committee,
SIX Securities Services

Financial IT: What is the new Tax Reclaim Service by SIX Securities Services?

Valerio Roncone: Tax Reclaim Service is part of our suite of Advanced Services. It is a service that obtains refunds for the double taxation of interest and dividends from foreign investments. It does this by assuming the entire reclaim process of banks for their clients. When our clients use this service for their clients, it manages the entire tax reclaim process from the submission of individual, market-specific forms, the reconciliations with the relevant tax authority, through to the actual refund of the taxes paid.

Financial IT: What are the features that make Tax Reclaim Service unique compared to other solutions? What value do you create for the market participants?

Valerio Roncone: Tax plays a very important role when investing, particularly in times of low interest rates. With existing processes, every year, Swiss investors incur significant losses as a result of the double taxation of interest and dividends from foreign companies – usually unknowingly. While there are ways to reclaim the withholding tax retained abroad thanks to bilateral tax agreements between countries, the process to do so is non-transparent, country-specific and involves a considerable amount of effort. This is one of the reasons why reclaim services from banks have only been available to large-scale investors in the past. With our Tax Reclaim Service, we manage the entire reclaim process for banks and their clients. So private investors in Switzerland will no longer experience these losses and will benefit from higher returns."

Financial IT: In your opinion, what are the trends and advancements that we should expect to see in the industry?

Valerio Roncone: This year, a piece of market research commissioned by SIX Securities Services has brought to light the fact that, according to market participants, post-trade service providers need to start offering extra services that create value and greater revenue opportunities. This in addition to "standard" asset servicing, settlement and custody services we currently specialize in. This is an interesting point for us and motivates us to develop further our suite of Advanced Services.

It will also be important for us, and the industry, to understand how we can make use of new technologies, such as Artificial Intelligence (AI) and Distributed Ledger Technology (DLT). We have already built a prototype in the Corporate Actions area based on DLT called xChain. It is an online platform where the single version of truth about Corporate Actions is created and maintained by the community of Corporate Actions professionals. Collaboration, social interaction and proximity are fundamental principles on which xChain is built.

Financial IT: Going forward what are the major plans you have for SIX Securities Services?

Valerio Roncone: Previously, banks used to interact quite bilaterally, and post-trade service providers were built to provide efficient and cost-effective services such as custody to them. We are now looking at how we can further enhance our products and services. We are at the end of the chain, so if we change, everyone else throughout the chain needs to change, too – this is why collaboration is key so that we can have conversations as to how this process can be made more efficient and creates real value for all market participants."

SIX Securities Services – through the legal entity SIX SIS Ltd – serves the Swiss financial center as the central securities depository (CSD) for assets and documents. Furthermore, it acts as an international securities depository and custodian in over 50 markets.

SIX Securities Services

kpi.com

BRINGING ERP TO SMES

Interview with Serdar Karliev, CEO of kpi.com

Financial IT: How would you describe kpi.com?

Serdar Karliev: We provide a comprehensive enterprise resource planning (ERP) solution to small and medium-sized enterprises (SMEs). Our business management software is cloud-based and is offered on a subscription basis. We handle accounting, HR management, payroll, CRM, project management, KPIs, business intelligence, etc. The different modules of our product are fully integrated and can be purchased as a suite or used on a standalone basis.

Financial IT: What makes it different from other solutions in the market?

Serdar Karliev: Firstly, it is affordable. Cost is a big factor for SMEs and they typically are unable to afford expensive on-desk software that is available from SAP, Microsoft or Oracle. Secondly, we are an all-in-one solution with a full bundle of apps on one single platform: this is something that only a few providers worldwide in our market niche (such as Zoho and Odoo) deliver.

Financial IT: What are your current and target markets?

Serdar Karliev: Being a SaaS player we sell subscriptions online globally, and have customers in over 40 countries around the world. Right now, the majority of our clients (over 60%) are based in the Middle East – United Arab Emirates, Saudi Arabia, Oman, Bahrain, Kuwait. Our HQ is in Dubai, which has long been a hub for innovation and technology. In addition, we recently opened two regional sales offices in Riyadh and Muscat. Next year, we have plans to add new territories like Eastern Europe and Central Asia. We are, obviously, keeping focus on the Middle East as our core market but have global ambitions.

Financial IT: How long does it take you to onboard a new client?

Serdar Karliev: We are very good at support and customer success, providing feedback in minutes, rather than hours or days. Usually, it takes us seconds to activate a new account in the system. However, we have cases when a client asks us to add customized templates or additional features: then, it normally takes no more than couple of weeks, depending on the scope and complexity of what is required. We also offer full implementation support, helping new customers to set up the system, import data and train users.

Financial IT: How secure is the system? Does the product comply with GDPR?

Serdar Karliev: The data is stored on AWS servers that are world-class in terms of security and uptime. The clients have complete control over their information. As we are planning to expand into Europe (and the UK in particular) we will be looking to make kpi.com compliant with the GDPR standards in the coming year. This is something that several of our clients have asked about. As yet, it is not clear what will be the extent to which the GDPR will apply in the UK if and when that country has left the European Union.

Financial IT: What does your product development roadmap looks like?

Serdar Karliev: Over the last few years, we have been mainly focused on developing a viable product, testing our market fit, and adding new apps and features. We have fully localized the product for GCC region. As a result, kpi.com has got some very good traction with our sales reps doubling the top line every year. In 2017, we have started working on a new more intuitive user interface and mobile versions of kpi.com that will be launched in 1Q18. Besides, two new apps are on the way which, I believe, customers will value a lot. I'd add that our product is cross-platform, device-agnostic and can easily be integrated with third-party solutions.

Financial IT: Tell us about your marketing priorities.

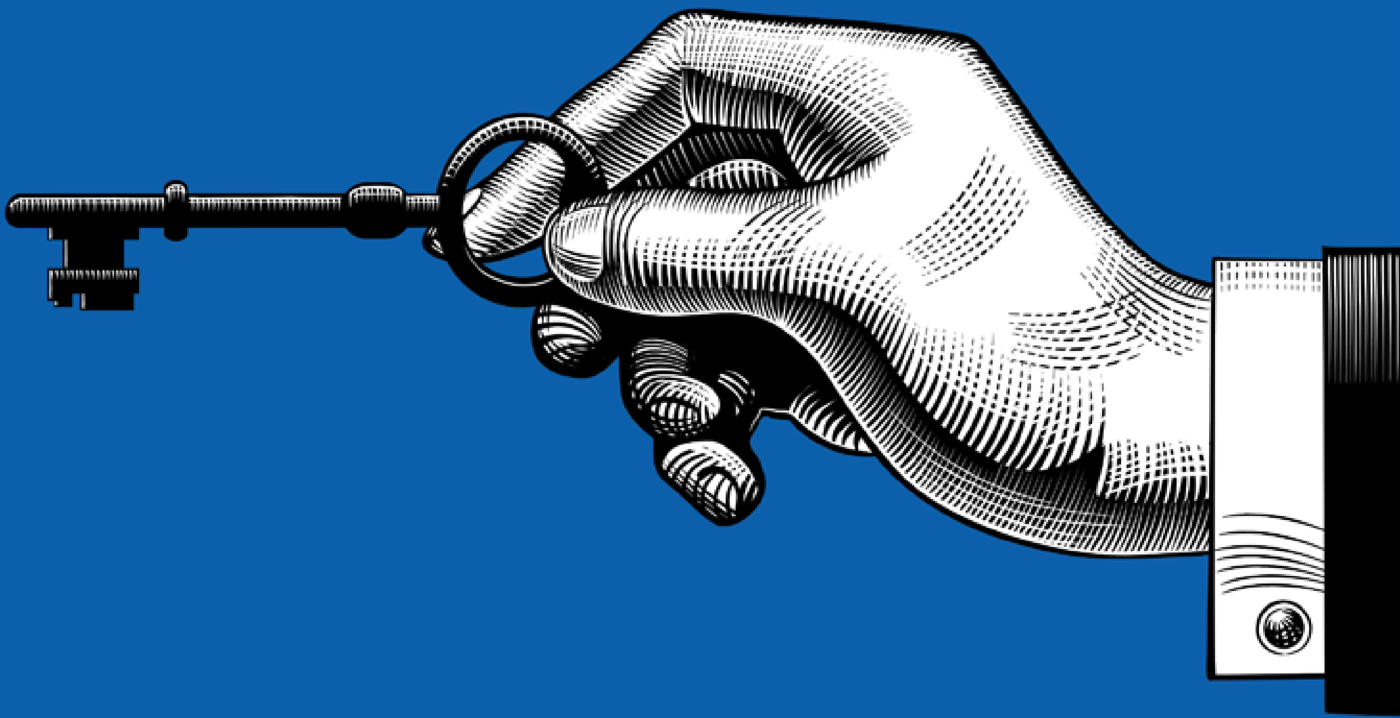
Serdar Karliev: So far, the digital advertising was mostly limited to the Middle East. From next year, we will expand the marketing efforts globally, including SEO, PPC, social media, trade events, reseller and referral programs. We are very proud that over the recent past, a lot of our new sales have come as a result of referrals from existing clients.

Financial IT: Please identify what you see as the big changes of the last year or so, and what you expect for the coming 12 months.

Serdar Karliev: I think there are several key trends we need to keep an eye on. One is that usage of B2B software will increase dramatically among SMEs as applications become more user friendly and affordable. The second is that adoption for cloud and mobile solutions will improve. Also, new regulatory and consumer demands will continue driving the innovation in our industry. Finally, competition and maturity of the SaaS market might soon lead to a period of consolidation in our space.

Serdar Karliev joined the company as investor and senior executive in early 2017. He is former investment banker, venture capitalist and entrepreneur with experience in the UK, South Africa and Russia.

Key to performance



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UNDERSTANDING ROBOTIC PROCESS AUTOMATION (RPA)

Markus Alberth
Managing Principal, Capco Digital

Markus Alberth joined Capco a year ago after 19 years with Deutsche Bank in senior national and international management positions. His particular focus is change and innovation and his special expertise is his 360 degree experience in banking. He restructured the private banking sales strategy (sales), industrialized the loan factory (operations), founded a bank and was its CAO (regulation and risk management) and was COO of the core banking systems and Global Head of IT security processes (IT and digitization). Markus studied business administration with a focus on strategy, controlling and business IT as well as history of art and psychology.

Robots and robotic process automation (RPA) are here to stay, promising gradually to become smarter over time as vendors compete to include more machine learning into their solutions. Currently the logic is still mainly rule-based and robots can relieve workers to do routine process work, but in the near future artificial intelligence (AI) will enable software robots to automate more and more work of humans with respective social and financial implications.

The market for RPA solutions has developed rapidly. With over 50 providers already, the market is gaining speed and volume and further innovation will lead to increasingly fragmented segments. The current focus of innovation is on robot management and governance functionality, (such as central control of robots, preservation of formerly human process knowledge, and governance, such as connectivity monitoring, rollback capabilities for processing failures, and testing capabilities for application changes). AI seems to be the next focus. This means that robots are no longer commodities. They are growing in functional maturity, which means that potential users should look at the offers in detail rather than rush to sign with the first provider they meet.

RPA has clear benefits, such as quick and predictable cost cuts with small upfront investments and scalable near-real-time service potential. The advantages are clear and simple; but the potential caveats are not. Nevertheless, they need to be considered for sound management decisions on the use of RPA and on the selection of the right provider.

Real business scenarios suitable for RPA show that it is working. Examples of successful applications of RPA include a major financial services firm that, after hitting a cost-saving roadblock using traditional labor-arbitrage for their IT processes, leveraged RPA to replace labor and vastly reduce manual interventions, resulting in a 35% FTE reduction in support teams during the first year.

The implementation of an RPA solution does however have at least three phases and, if not done well, may be too slow, too expensive, and introduce too much complexity to be truly beneficial.

The proof of concept

This starts with the determination of the purpose of an RPA implementation and identification of potential use cases (i.e. business processes that would benefit from RPA adoption) inside the company. Set out your objectives for an RPA programme and take those objectives as initial objectives only, since you can be in danger of simply following the herd without fully grasping the consequences. Confirm and adjust those objectives during the project. It is essential to have those objectives to measure their delivery at a later date.

The next step is to look for use cases. To find them, you have to look at the end-to-end processes as well as their details. Depending on your process landscape, you might find that only part of end-the-end processes may be suitable for RPA automation. Scan your total process landscape systematically to find all and those that are most profitable. A typical mistake is to identify the first use cases "by coincidence". To exploit your entire benefit potential of RPA usage you need a systematic approach.

Also, identify RPA providers or RPA service providers that best support your objectives and use cases. Some focus on regulated industries, others on user service or on technical innovation etc. Get familiar with the products, select your short list of providers, and use the data to draft your first business cases.

It's at this stage that you can build on your internal RPA framework. You'll most likely have to adjust policies or write new ones. You will also have to make technical decisions like introduction of a functional user ID, architectural "location" of the robots etc.

At the end of the proof of concept phase, you will have objectives, use cases, a selected provider, or at least a short list, and your internal framework preparation completed. In addition, a first rollout roadmap could be drawn.

The pilot

This stage focuses on the implementation of one or few RPA use cases, and starts with the preparation of the procedural and technical environment.

Paper needs to be transformed into electronic data (e.g. via scan, OCR and freeform capturing or flawless data flows without data breaches need to be introduced, using, for example, client front ends that provide the data electronically instead in the form of paper).

However, that is not the end of the story. Even the electronic data need to be standardised for RPA use; RPA may require the data to be cleaned. If, for example, some records provide data content in one data field and others don't, the robot may be confused and stop working or it will produce nonsense process results.

An electronic process trigger needs to be implemented to initiate an RPA transaction later on. The robots need to be technically rolled out in the data center (or somewhere else) and customised to meet your specific needs. They also need to be equipped with the functional User ID.

The end-2-end processes have to be cut according to the future allocation of work between robots and humans, and the former needs to learn the routine processes that it will perform in the future.

Finally, the robots need to be tested. With these preparations, the pilot itself can be initiated. It needs to be monitored to deliver the information needed to optimize the RPA operation according to your objectives and to adjust the rollout roadmap.

The leverage phase

By now you will have identified the essentials necessary for leveraging the RPA concept across all of your use cases and to even identify more of them in your company. This leveraging phase will hopefully deliver on your objectives to implement RPA.

To implement RPA as a sustainable tool of your management system, you should expand your framework by a process to systematically detect all use cases in your environment that can potentially be automated by RPA, if you have not done that already in the proof of concept phase.

In fact, you have to assess all manual work in the back office – and yes, also in the front office. Very often, there are still a lot of administrative tasks in the front office that can be done by RPA. Here we are not talking about client facing robotics. Unproductive, but necessary administration, might be everywhere.

Key takeaways

Whatever you think about robots and RPA, they certainly aren't going away. Robots are cheap and better at data processing: consequently, they will impact the respective processes along the value chain of a lot of industries for the benefit of the company and the customer.

Robots and human workers will increasingly work side-by-side, with each focusing on their competitive edge. The right use of technology, and proper application, is key if both are to work together harmoniously and achieve sustainable success.

Michael Mattern
Managing Principal, Capco Digital

Michael Mattern has more than 15 years of consulting experience supporting clients in the Financial Services industry, first with Accenture, now as a senior member of Capco's German Digital practice. With a focus on Digital, Data and Analytics, his key interest lies in technology enabling new or improved business processes, resulting in companies being able to better serve their customers and shareholders. Michael has earned an advanced degree in computer science from the Technical University (RWTH) Aachen, focusing on Information Systems and Operations Research.

ISLAMIC FINANCE

HOW CAN ISLAMIC BANKING SYSTEM PROVIDERS BRIDGE THE SKILLS GAP?

Almost all organizations today are in the midst of a talent crisis. From retailers, to educational institutions and media companies, to the medical and cultural sectors, and to the financial services sector, all are in the race for talent. Globalization and technological advances are two forces profoundly impacting today's global workforce. These forces are creating a growing talent shortage that is posing a very real threat to business growth.

In a digital economy where talent (and not just machines) is a critical factor to the success or failure of a business, organizations are confronted with difficulties in attracting and retaining employees with the right skills and competencies. This phenomenon poses a risk and puts an enormous pressure on organizations' potential to expand and maintain competitive advantage.

While studies reveal that the landscape globally is characterized by an overall shortage of talent across all sectors, the problem is felt most acutely in the Islamic financial services sector. At a time when the industry is facing crucial challenges emanating on many fronts, other industries are absorbing the very few qualified talent, leaving the Islamic financial services sector shorted.

The unconventional but nascent sector has a growth rate of between 10 to 12 per cent annually and is gaining prominence for its ability to meet the unique demands of the modern Islamic economy. Despite being a niche market with unlimited opportunities, the Islamic financial services industry lacks the foundation necessary for its advancement, whereas the scarcity of experienced industry professionals and Islamic IT experts in particular being the most frequently cited barrier. As it stands, this sector remains a demand-driven market with limited resources.

A possible mismatch between graduates and market needs

Along with the expanding Sharia-compliant universe, the ecosystem is evolving to address the technology challenges and growing product sophistication in the industry. New trends and emerging breakthroughs in technology are redefining the financial landscape, while trends in Islamic finance and regulatory compliance continue to rise. This has led to a need for skilled and creative human capital to support the advancement of an ever growing hyper-connected world.

Researchers suggest that the lack of cooperation between the academia and industry has resulted in a mismatch between those graduating and the skills required by the industry and therefore, new graduates are ill-equipped for challenging careers in a dynamic environment. The matter is made more complicated by the fragmentation of Islamic financial regulations and the extreme variation with which Sharia principles are interpreted and implemented within and amongst jurisdictions.

Technological advances, tougher regulations, demographic shifts and the digital revolution are putting greater emphasis on

About Rosie Kmeid:

Rosie Kmeid
Vice President
Global Corporate Communications & Marketing
Path Solutions

Rosie brings to the post a wealth of experience in strategic positioning and campaigning having held various senior positions across a variety of sectors including audiovisual, IT and telecom in addition to working for the Lebanese Government as Head of International Relations & Diplomacy. She is a regular speaker in international conferences and had several publications in the area of finance with special focus on financial markets and IT trends. Rosie holds a Master's degree in International Law from the Université Panthéon-Assas (Paris II) and a BA in Political Sciences and International Affairs from the Lebanese American University, and speaks fluent French, English and Arabic.

establishing a larger pool of competent Islamic IT professionals to meet the increasing sophistication of the Islamic financial services industry. This very challenging economic environment has placed talent development and capacity building as a high priority objective for Islamic banking system providers to achieve sustainable development in the Islamic financial services industry.

The issue of talent remains under the radar

Responding to the critical need of the digital mesh, Islamic banking system providers have embarked on massive hunt to counter the human capital shortage with focus on top talent having a solid background in IT and familiar with Sharia understanding and international business practices, capable of driving the industry's transformation, to fill their most specialized positions. Talent with in-depth knowledge and hands-on expertise, who can contribute breakthrough software innovation and chart the future direction of the industry.

Recognizing the shortage and acknowledging its negative impact on productivity and ultimately, profitability, a couple of Islamic banking system providers are taking a more systematic approach to ensure a sufficient pool of talent capable of adapting their curricular and competence to the needs of the sector. Internally, they are developing training programmes that critically train and empower future talent on the industry's required skills, building comprehensive competencies in a combined effort to close the gap.

But hiring, training and retaining IT talent for this specific type of industry is not always an easy feat. Unfortunately, most other industries participate in technological innovation at a significantly faster pace than the Islamic financial services industry, which is more attractive to the ambitious IT professional motivated by innovation, career path and competitive compensation. Hence, it is quite difficult to entice those who don't typically view joining the Islamic financial services sector as an exciting opportunity nor fulfilling on the hunt for a job, especially given the rate of innovation in the overall tech world.

Due to the dearth of talent, Islamic banking system providers are competing with each other over a very limited pool of available and experienced IT professionals. As the sector continues to grow, mature and consolidate, demand for competent candidates will intensify, deepening the shortage and placing considerable constraints on their potential to expand.

Exciting projects as motivation for IT professionals

Given the increasingly complex and sophisticated Islamic financial system, skilled human capital is the key competitive differentiator to maintain performance and competitiveness.

As the industry is witnessing transformation at breakneck speed, it critically needs a continuous pipeline of uniquely qualified and talented workforce in order to sustain its impressive growth trajectory.

In the meantime, Islamic banking system providers are proactively searching for qualified talent, well-versed to develop and implement pioneering and ground-breaking Sharia-based software applications. This right-fit talent needs to understand the specific Sharia principles and accordingly pioneer standard-embedded technology that, while complying with Sharia keep pace with current technological trends.

Yet, despite the fact that the chore of finding the right talent continues to be arduous, the good news is, we expect new projects that make IT roles in the Islamic financial services industry more interesting. The emergence of start-ups, the rate of innovation and diversification, given global digitalization, the pace and impact of reforms toward broader financial inclusion and an ethical refoundation/reinvention of finance are all increasing. These are the kinds of projects that may attract exceptional talent to create Sharia-compliant apps that truly make an impact and shape the world. As technology hurtles humanity forward at such incredible rates, it is quite fascinating to imagine what the future will bring. Having the opportunity to work with trailblazing Islamic banking system providers with global reach and market-leading portfolio will be big a motivator for IT talent.

Financial IT

Financial Technology Buyers' Guide

January Issue • 2018

Accuity offers a suite of innovative solutions for compliance and payments professionals, from comprehensive data and software that manage risk and compliance, to flexible tools that optimize payments pathways. With deep expertise and industry-leading data-enabled solutions from the Fircosoft, Bankers Almanac and NRS brands, our portfolio delivers protection for individual and organizational reputations.

COMPANY PROFILE	
Company type	Public Company
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	over 1000
Inception	1836
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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COMPANY PROFILE	
Company type	Privately Held
Annual turnover	over €80 million
Number of Customers Total	Undisclosed
Number of Employees	over 200
Inception	2015
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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THINKING EVOLUTION

Allevo provides software solutions that help financial institutions of all sizes reduce TCO and achieve end-to-end interoperability across the financial supply chain – by using FinTP, a complete open source application that processes transactions, automates flows and offers compliance to regulatory and industry standards. The Allevo guaranteed distribution of FinTP is aimed to grow competitiveness and offer operational risk containment, making such systems affordable to SMEs as well. FinTP and all ancillary documentation is distributed freely and openly through the FINkers United community and it provides collaboration ground for rapid development and integration of new technologies, such as crypto currencies, biometric security, data analysis algorithms.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	1,44 mil. Euro (2015)
Number of Customers Total	Undisclosed
Number of Employees	48+
Inception	1998
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Bpm'online is a global provider of award-winning CRM software that streamlines customer-facing processes and improves operational efficiency. Bpm'online financial services is a powerful CRM designed for corporate and retail banks and financial institutions to manage a complete customer journey and enhance customer experience. The users of bpm'online financial services highly value its process-driven CRM functionality, out-of-the box best practice processes and agility to change processes on the fly. Bpm'online financial services offers products that are seamlessly integrated on one platform connecting the dots between banks' business areas: retail banking and front-office, corporate banking, marketing.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	6500 total, 90 in financial services industry
Number of Employees	Over 500
Inception	2011
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Founded in 1976, CGI is a global IT and business process services provider delivering high-quality business consulting, systems integration and managed services. With 68,000 professionals in 40 countries, CGI has an industry-leading track record of delivering 95% of projects on-time and on-budget. In the Financial Services industry, CGI professionals work with more than 2,500 financial institutions including 24 of the top 30 banks worldwide. We are helping our retail and wholesale banking clients reduce costs, achieve strategic objectives and drive competitive advantage. As a demonstration of our commitment, our average client satisfaction score consistently measures higher than 9 out of 10.

COMPANY PROFILE	
Company type	Corporation
Annual turnover	$10 billion
Number of Customers Total	Undisclosed
Number of Employees	68
Inception	1976
Geographical coverage	Americas, Europe and Asia Pacific

COMPANY CONTACT DETAILS	
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Compass Plus provides proven software and services for financial institutions, including retail banks and payment processors across the globe that operate in complex and rapidly changing business and technology environments. Compass Plus builds and quickly implements comprehensive and integrated payment technologies that allow customers to increase revenue and profits, and improve their competitive position by implementing flexible systems that meet market demands. With hundreds of successful projects spanning card, account and merchant management, card personalisation, mobile and electronic commerce implemented in record breaking time, Compass Plus ensures its customers make the most of their technology investments.

COMPANY PROFILE	
Company type	Limited Partnership
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	Undisclosed
Inception	1989
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Computop is a leading global Payment Service Provider (PSP) that provides compliant and secure solutions in the fields of e-commerce, POS, m-commerce and Mail Order and Telephone Order (MOTO). The company, founded in 1997, is headquartered in Bamberg, Germany, with additional independent offices in China, Hong Kong, the UK and the US. Computop processes transactions totalling $24 billion per year for its client network of over 14,000 large international merchants and global marketplace partners in industries such as retail, travel and gaming.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	Over 14,000
Number of Employees	100
Inception	1997
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Currencycloud's Payment Engine is the power inside countless businesses, driving the transformation of the global payments landscape. The company is re-imagining the way money flows through the global digital economy, allowing businesses to remove the friction and inefficiencies of traditional cross-border payments using its flexible suite of APIs. Launched in 2012 Currencycloud is based in London and is regulated in Europe, the USA and Canada.

COMPANY PROFILE	
Company type	Private Limited Company
Annual turnover	Undisclosed
Number of Customers Total	200+
Number of Employees	100+
Inception	2012
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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CustomerXPs is an enterprise software product company offering Enterprise Financial Crime Management (EFCM), Anti-money Laundering (AML) and Customer Experience Management (CEM) products for Tier-1 global banks. CustomerXPs is revolutionizing Fraud Management and Customer Experience Management in Fortune 500 banks by harnessing the power of extreme real-time, cross-channel intelligence. Voted 'Best Fraud Detection Product 2016' by OpRisk / Risk.net, CustomerXPs' flagship product Clari5's differentiated approach deploys a well-synchronized, context-aware 'central nervous system' in banks with the ability to stop fraudulent transactions with real-time, actionable insights.

COMPANY PROFILE	
Company type	Sole proprietorship
Annual turnover	Undisclosed
Number of Customers Total	15+
Number of Employees	70
Inception	2006
Geographical coverage	South Asia, South East Asia, GCC, MENA, North America

COMPANY CONTACT DETAILS	
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Since 1991 Diasoft has been providing cutting edge financial software solutions supporting all the aspects of retail, corporate and universal banking, treasury and capital market services, and insurance business. The company's main offer to the global financial market is FLEXTERA – a SOA-based software solution for front-to-back automation of financial services. Using the most advanced technologies to create its software products, Diasoft became one of the first companies having implemented SOA-principles in the banking solutions, which is attested by IBM Banking Industry Framework certification. The company is ranked in TOP 100 global financial technology providers and TOP 5 software vendors in Russia.

COMPANY PROFILE	
Company type	Sole proprietorship
Annual turnover	2014 results: 69.2 Million Dollars
Number of Customers Total	400
Number of Employees	1,600
Inception	1991
Geographical coverage	Asia, Europe, Russia

COMPANY CONTACT DETAILS	
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ess DOCS

essDOCS is a leading enabler of paperless trade, providing customer-led solutions that automate and accelerate trade operations & finance. essDOCS' flagship solution – CargoDocs – delivers significant value to the entire supply chain: enabling users to streamline processes, reduce working capital needs and risk, while improving collaboration, compliance and visibility across organisations. As of Q1 2016, Over 3,600 companies, ranging from 12% of the Fortune Global 500 to innovative SMEs, use essDOCS solutions across 72 countries in the energy, agriculture, chemicals and metals & minerals markets.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	3,600+
Number of Employees	55
Inception	2005
Geographical coverage	EMEA, Asia Pacific, Americas

COMPANY CONTACT DETAILS	
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FERNBACH
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FERNBACH, a medium-sized software company, was established by Günther Fernbach in 1986 and now operates internationally. The company focuses on the automation of reporting processes, particularly in the finance and accounting sectors. Reports are created automatically for all stakeholders, employees, managers, investors and supervisory authorities. Each year, FERNBACH has been listed in the upper third of the 100 leading risk technology vendors worldwide by Chartis Research, the main provider of global research and analyses for risk management technology.

COMPANY PROFILE	
Company type	Sole proprietorship
Annual turnover	Undisclosed
Number of Customers Total	more than 50
Number of Employees	150
Inception	1986
Geographical coverage	Africa , Asia, Europe

COMPANY CONTACT DETAILS	
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Fiserv is highly regarded for its financial services technology and services innovation, including solutions for mobile and online banking, payments, risk management, data analytics and core account processing. Fiserv is helping its clients push the boundaries of what's possible in financial services delivering deep expertise and innovative solutions to help financial institutions, businesses and consumers move and manage money faster and with greater ease. The most popular solutions invented by Fiserv are DNA, CUnify, Signature, Agiliti Platform.

COMPANY PROFILE	
Company type	Public Company
Annual turnover	Undisclosed
Number of Customers Total	13,000+
Number of Employees	10,000+
Inception	1984
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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GFT Group is a business change and technology consultancy trusted by the world's leading financial services institutions to solve their most critical challenges. Specifically defining answers to the current constant of regulatory change – whilst innovating to meet the demands of the digital revolution. Utilising the CODE_n innovation platform, GFT is able to provide international start-ups, technology pioneers and established companies access to a global network, which enables them to tap into the disruptive trends in financial services markets and harness them for their out of the box thinking.

COMPANY PROFILE	
Company type	Public Company
Annual turnover	€178.76 M in H1 2015
Number of Customers Total	9 out of 10 world's top investment banks
Number of Employees	4,000
Inception	2001
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Homepage address	www.gft.com

iPM – Intelligent Portfolio Management®

INDATA is a leading industry provider of software and services for buy-side firms, including trade order management (OMS), compliance, portfolio accounting and front-to-back office. INDATA's iPM – Intelligent Portfolio Management technology platform allows end users to efficiently collaborate in real-time across the enterprise and contains the best of class functionality demanded by sophisticated institutional investors. INDATA provides software and services to a variety of buy-side clients including asset managers, registered investment advisors, banks and wealth management firms, pension funds and hedge funds. What sets INDATA apart is its single-minded focus on reducing costs and increasing operational efficiency as part of the technology equation.

COMPANY PROFILE	
Company type	Limited Liability Company (LLC)
Annual turnover	Undisclosed
Number of Customers Total	Over 200
Number of Employees	Over 150
Inception	1968
Geographical coverage	North America, Europe

COMPANY CONTACT DETAILS	
Contact	Robyn Corcoran
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Design for Digital

Intellect Design Arena Ltd, a specialist in applying true digital technologies, is the world's first full spectrum Banking and Insurance technology products company, across Global Consumer Banking (iGCB), Central Banking, Global Transaction Banking (iGTB), Risk, Treasury and Markets (iRTM), and Insurance (Intellect SEEC). With over 25 years of deep domain expertise, Intellect is the brand that progressive financial institutions rely on for digital transformation initiatives. Intellect pioneered Design Thinking for cutting-edge products and solutions for Banking and Insurance, with design being the company's key differentiator in enabling digital transformation.

COMPANY PROFILE	
Company type	Public Limited
Annual turnover	$124M
Number of Customers Total	Over 200
Number of Employees	Over 4000
Inception	2004
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Jabatix is a comprehensive, component-based software development and software production environment for batch applications on application servers based on standard technologies. The Jabatix Community Edition is an all-in-one Eclipse-based Interactive Development Environment. It is a comprehensive workbench for developing information management and reporting solutions – and this free of charge. Jabatix Enterprise extends the functionality created in the Jabatix Workbench to the Enterprise Environment and adds relevant management and monitoring services.

COMPANY PROFILE	
Company type	Public Limited Company
Annual turnover	Undisclosed
Number of Customers Total	100+
Number of Employees	2
Inception	2015
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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NICE Actimize is the largest and broadest provider of financial crime, risk and compliance solutions for regional and global financial institutions, as well as government regulators. Consistently ranked as number one in the space, NICE Actimize experts apply innovative technology to protect institutions and safeguard consumers and investors assets by identifying financial crime, preventing fraud and providing regulatory compliance. The company provides real-time, cross-channel fraud prevention, anti-money laundering detection, and trading surveillance solutions that address such concerns as payment fraud, cyber crime, sanctions monitoring, market abuse, customer due diligence and insider trading.

COMPANY PROFILE	
Company type	Public Company
Annual turnover	Undisclosed
Number of Customers Total	over 100
Number of Employees	over 500
Inception	1999
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Kuwait-based Path Solutions is a leading information technology solutions provider offering a broad, deep spectrum of Sharia-compliant, Riba-free and asset-backed integrated software solutions and services to the Islamic financial marketplace, covering the entire range of Islamic Banking, Retail and Corporate Banking, Investment and Financing, Treasury, Asset Management, Risk Management, and Regulatory Reporting in GCC and Global Capital Markets. Designed to meet the needs of modern Islamic banking, Path Solutions' turnkey solutions are based on an open, flexible architecture and an established deployment methodology.

COMPANY PROFILE	
Company type	Privately-owned company
Annual turnover	Undisclosed
Number of Customers Total	117
Number of Employees	500
Inception	1992
Geographical coverage	Middle East, GCC, Africa, Asia Pacific, South America & United Kingdom

COMPANY CONTACT DETAILS	
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Pendo Systems was established to provide a new standard in Investment Accounting System Delivery. At Pendo Systems, our mission is to be a premier provider of software solutions to global financial institutions. We strive to not only help our clients achieve their business objectives and goals, but also to contribute to the success of individuals, businesses and communities throughout the world. We are driven to work with our clients in a collaborative partnership, and are guided by the fundamental values of professionalism, respect, teamwork and quality in delivering products and services to our clients.

COMPANY PROFILE	
Company type	Sole proprietorship
Annual turnover	over $5M
Number of Customers Total	20+ top tier banks worldwide
Number of Employees	over 10
Inception	2006
Geographical coverage	North America

COMPANY CONTACT DETAILS	
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Pelican is a growth FinTech that has been driving innovation in payments and compliance for over 20 years. We deliver outstanding efficiencies to banks and corporates by injecting pioneering Artificial Intelligence technology into compliance and the end-to-end payments life cycle, drastically reducing the need for costly human intervention and manual processes. A consistent focus on innovation and industry-leading reliability has resulted in the growth of lasting relationships with major clients that use Pelican in over 55 countries globally. Pelican has offices in New York, London, Dubai and Mumbai. (88 words)

COMPANY PROFILE	
Company type	Privately held
Annual turnover	Undisclosed
Number of Customers Total	20+
Number of Employees	150
Inception	1992
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Cross-border e-payment specialist PPRO removes the complexity of international e-commerce payments by acquiring, collecting and processing an extensive range of alternative payments methods under one contract, through one platform and one single integration. PPRO supports international payment methods across more than 100 countries. PPRO also issues Visa and Mastercard consumer prepaid cards, under its own brand name VIABUY, and enables B2B prepaid cards, under its CROSSCARD and FLEETMONEY brands, which can be issued both physically and as virtual cards or NFC devices.
Founded in 2006 and headquartered in London, PPRO is an EU-certified financial institute with an e-money license issued by the British regulatory body FCA.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	200
Inception	2006
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Profile Software, an ISO-certified and listed company, is a specialised financial solutions provider, with offices in Geneva, Dubai, London, Singapore, Athens and Nicosia. It delivers market-proven solutions, with an exceptional track record of successful implementations, to the Banking and Investment Management industries. The company is acknowledged as an established and trusted partner across many regions, offering a wide spectrum of solutions to the financial services sector.
Profile Software's solutions have been recognised and approved by leading advisory firms and enable Institutions worldwide to align their business and IT strategies while providing the necessary business agility to proactively respond to the ever-changing market conditions.

COMPANY PROFILE	
Company type	PLC/listed firm
Annual turnover	Undisclosed
Number of Customers Total	250
Number of Employees	152+
Inception	1990
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Reval is the leading, global provider of a scalable cloud platform for Treasury and Risk Management (TRM). Our cloud-based offerings enable enterprises to better manage cash, liquidity and financial risk, and to account for and report on complex financial instruments and hedging activities. The scope and timeliness of the data and analytics we provide allow chief financial officers, treasurers and finance managers to operate more confidently in an increasingly complex and volatile global business environment. With offerings built on the Reval Cloud Platform companies can optimize treasury and risk management activities across the enterprise for greater operational efficiency, security, control and compliance.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	575+
Number of Employees	500+
Inception	1999
Geographical coverage	North America, EMEA and Asia Pacific

COMPANY CONTACT DETAILS	
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Ripple provides global financial settlement solutions to enable the world to exchange value like it already exchanges information – giving rise to an Internet of Value (IoV). Ripple solutions lower the total cost of settlement by enabling banks to transact directly, instantly and with certainty of settlement. Ripple bridges these siloed networks with a common global infrastructure that brings new efficiency to financial settlement by enabling real-time settlement, ensuring transaction certainty and reducing risk.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	25 active integrations
Number of Employees	110
Inception	2012
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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SmartStream provides Transaction Lifecycle Management (TLM®) solutions and Managed Services to dramatically transform the middle and back-office operations of financial institutions. Over 1,500 clients, including more than 70 of the world's top 100 banks, 8 of the top 10 asset managers, and 8 of the top 10 custodians rely on SmartStream's solutions. SmartStream delivers greater efficiency, automation and control to critical post trade operations including: Reference Data Operations, Trade Process Management, Confirmations and Reconciliation Management, Corporate Actions Processing, Fees and Invoice Management, Collateral Management, Cash & Liquidity Management and Compliance Solutions.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	1,500 clients
Number of Employees	over 500
Inception	2000
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Tagetik provides intuitive, enterprise-scale performance management software solutions that drive business results, improve efficiency and reduce risk. Tagetik offers the simplicity of the Cloud and the power to unify financial and operational planning; shorten the consolidation and close process; immediately analyse results, model and compare full financial statement impact of business scenarios; adjust strategic plans; update rolling forecasts; produce formatted and auditable financial statements and management reports and automate disclosure and board reporting. Tagetik's built-in financial intelligence allows finance and operations executives to orchestrate multiple processes in one software solution.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	850+
Number of Employees	425+
Inception	1986
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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Volante Technologies is a global leader in the provision of software for the integration, validation, processing and orchestration of financial messages, data and payments within financial institutions and corporate enterprises. Many clients use Volante to assist with multiple product implementations ranging from message transformation and integration, through to the processing and orchestration of transaction data and payments. Along with its products, Volante Designer and its VolPay suite of payments integration and processing products, Volante constantly maintains a growing library of over 85 domestic and international financial industry standards plugins with more than 250 prebuilt, customizable, and bidirectional transformations to and from these standards.

COMPANY PROFILE	
Company type	Private Company
Annual turnover	Undisclosed
Number of Customers Total	more than 80 in 26 countries
Number of Employees	around 120 and growing
Inception	2001
Geographical coverage	US, Latin America, UK, Europe, Middle East, Africa, India

COMPANY CONTACT DETAILS	
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bpm'online

Innovative process-driven CRM for banks and financial institutions to streamline customer-facing processes

Bank customer journey

An innovative software for bank front-office and contact center management.

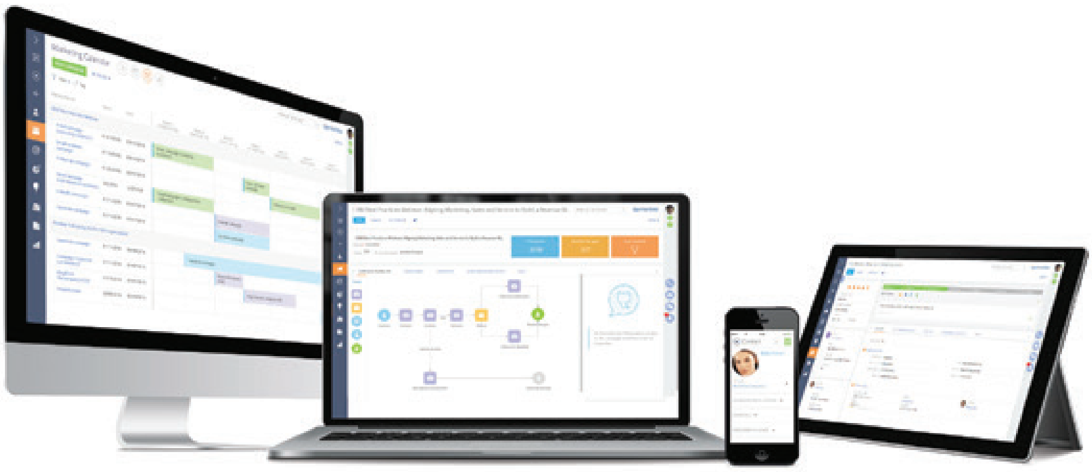
Bank sales

The system to manage end-to-end sales processes of financial products and services to the bank's corporate clients.

Marketing

An innovative software for bank front-office and contact center management.

Powerful CRM designed for corporate and retail banks and financial institutions to manage a complete customer journey and enhance their customer experience.



ABOUT BPM'ONLINE

Bpm'online is a global provider of award-winning intelligent CRM software that streamlines customer-facing processes and improves operational efficiency. The beauty and the core value of bpm'online products is вапрвавырап the agility to change processes faster than ever and align service, sales and marketing on a single platform. Users love bpm'online's engaging interface with a social look and feel, free from redundant information to keep them focused on what's relevant. Today, the company serves thousands of customers worldwide.

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