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Financial IT

Innovations in Technology

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COLLABORATIVE POWER OF FINTECH

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bpm'online

Key pillars for building a successful omnichannel banking experience

In order to succeed at establishing a successful omnichannel banking system, banks have to carefully evaluate their customer data and identify the most relevant touchpoints of interaction with their customers. Another aspect critical for building an effective omnichannel banking is determining what the complete experience means for their customers. Analyzing this data will provide essential information pertaining to user experience which would help banks to build an illustrative blueprint on where and how the bank should interact with their clients.

Consistency

No matter what channel an inquiry is submitted through, banks need to answer it in the same manner. It is rare that a customer engages with a brand through a single channel (web, mobile, branch, contact center, etc.). Poor customer service over one of the channels can spoil the history of relationships with this client.

Internal alignment

A bank needs to break down its internal organizational barriers to address the challenges of omnichannel service. For example, a simple transaction in which a customer orders a service online and wants to complete it in-branch can create issues within an internal system that has not been structured to accommodate the fluidity between channels.

Transparency

While there ar e occasions where product availability will vary by channel, it is essential to make it very clear to customers where and how they can find what they are looking for. By setting expectations, a company avoids creating unnecessary disappointment.

Measurement

Traditional behavioral metrics struggle with omnichannel experiences. Only by truly understanding how the customer evaluates the experience will help banks to understand if they are meeting the needs and expectations of their customers.

Benchmarking stats

44%

Only 44% of respondents say they are satisfied with the consistency of the experience their bank provides across

19%

Only 19% of banks report integration of online, mobile and social media on a common platform.

83%

83% of bank customers are ready to switch to another bank if the bank presents a slight hint of deception.

10-15%

Banks only process about 10-15% of available data. Very often, this data is in business silos or functionally separated from the rest of the relevant data sets.

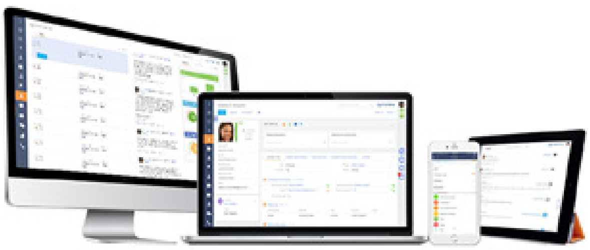
bpm'online

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

bpm'online
financial services

ABOUT BPM'ONLINE

Bpm'online is a global provider of award-winning CRM software that streamlines customer-facing processes and improves operational efficiency. The beauty and the core value of bpm'online products is 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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Toward **New Horizons** in Fintech

We're living in one of the most dynamic and transformative times of change in the finance and technology space. Despite the digital divide, the steep increase in the number unbanked citizens as well as all the other destabilizing conditions that exist in the world around us, technology has shown, again and again, an ever-increasing potential to make markets more democratic and inclusive for everyone. The collaborative efforts encompassing financial institutions, IT vendors and their customers mark a turning point in the industry that will lead to a stronger economy and overall global landscape. This transformation sweeping across the industry has already come to fruition in a diverse set of new innovations such as regtech, lifestyle banking, social payments, paytooth, blockchain and many others. Most importantly this new era of technical and financial growth promises a much more significant role to end users. User experience now dictates the need for change and the criteria under which new solutions on the market will be developed in this digital age.

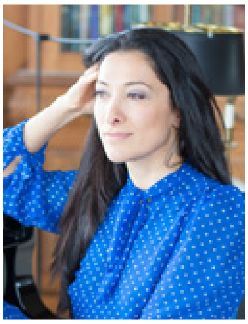
This edition of Financial IT magazine brings to you a continuation of the recent discussions we have had with some of the brightest minds in the fintech industry at SIBOS 2016 in Geneva. This issue also promises a strong collection of inspiring articles that address the hottest topics of the Money20/20 conference currently taking place in Las Vegas. At the heart of the conference is the desire to find new ways to achieve balance between regulation and innovation, order and creativity. As seen through expert discussions, it is empirical that both fintech vendors and regulators collaborate in order to create the right environment for local FinTech growth with global impact. The realization and strengthening of this partnership is going to be essential in order to perfect the global market. The importance of effective public-private partnership coupled with risk management in a continuously evolving regulatory and business environment is vividly addressed in this edition.

Accelerating debate on the cloud services and data security in banking solutions is also a common thread that runs through many of our articles. It is worth mentioning a growing number of companies in Europe, the US and around the world that are moving their core banking into the cloud. Applications delivered as Software as a Service with the integration through open APIs promise to shape the future in terms of banking process automation. However, it is important to also recognize the concerns of some businesses which are still sceptical when it comes to cloud based technology. That is why both vendors and businesses must outline the rules of the game more precisely and follow them in order to maximize the security of sensitive data in the cloud.

Taking into consideration the increasing ubiquity of digital transactions, we invite readers to take a closer look at the forces behind the innovations in transaction banking. Fintech disruption doesn't necessarily indicate the denial of previously established methods in payment and transaction processing. New payment methods are grounded on the best practices of the past and aim to bridge the traditional and new emerging trends in technology that will result in a more secure and seamless customer experience. As businesses pave the way to these new solutions such as blockchain, there is still a lot of collaboration and education required on both sides in order to meet the standards of productivity and value that customers expect and deserve in the XXIst century.

Another significant eye-opener in this edition is the importance of establishing a sense of community and encouraging social interactions between the businesses and end users. Although many businesses strive to differentiate themselves through personalized, individual offerings there is a noticeable change in consumer expectations towards more open, social and user friendly applications with an added layer of communication. This trend promises new opportunities to strengthen dialogue with the existing clients and win over new ones through the use of content and encouraging a culture of community and interaction.

As you can see, the finance and tech worlds are rapidly evolving these days in order to achieve the right balance between innovation and regulation, professional and personal applications as well as their functions and forms. Financial IT is delighted to highlight the changes in this issue of the magazine dedicated to the important agenda set forth by the Money20/20 conference. We thank all contributors, and we welcome all our readers and events attendees to participate in these changes along with Financial IT.



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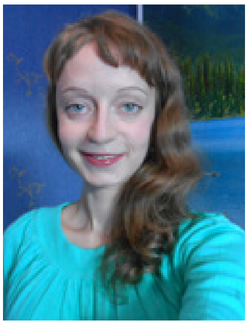

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Money20/20

OCTOBER 23-26, 2016
THE VENETIAN, LAS VEGAS

Andrew B. Morris
Chief Content Officer
Money20/20

"This is my third year as Chief Content Officer of Money20/20 but I've had the pleasure to attend all of the previous four U.S. events and our inaugural Money20/20 Europe last April in Copenhagen. It's been a pleasure to participate in the growth of what is now the global leading event covering innovation in payments, commerce and finance. The first Money20/20 in 2012 had a little over 2,000 attendees and now, for the second straight year, we'll welcome more than 10,000 attendees to The Venetian in Las Vegas for Money20/20. Our content continues to expand into new areas of financial technology, this year featuring new sessions on insurance tech and wealth management in addition to our tracks on payments, commerce, digital banking, lending and blockchain tech. Of our more than 500 speakers, nearly half are CEOs or founders of their organizations, truly the global leaders in FinTech."

Craig Glendenning,
Chief Technology Officer, Bluechain

Mike McAuley,
Chief Executive Officer, Bluechain

Phil Gomm,
Banking & Capital Markets Industry Practice Leader, Financial Services Business, Capgemini

ENERGIZING THE PAYMENT ECOSYSTEM THROUGH COLLABORATION

Cash is being driven out of many payment operations and thus losing its historical position of prominence to digital payments in many payment operations today – there is no denying that. Findings of the recently released Capgemini World Payments Report confirm that the volume of non – cash transactions have grown globally by 10.1% in 2015, reaching a record breaking $426.3 billion. Experts attribute this trend to several factors including but not limited to the improved US economic growth, enhanced security initiatives (eg. EMV, biometrics and Host Card Emulation), the widespread use of smartphones and POS terminals coupled with increasing government support in developing markets to stimulate digital payments. As expected, credit cards prevail as the top payment instrument in the non-cash transactions. The strongest alternative for cash and cheques in retail and corporate use is represented by digital and the now growing population of immediate payments Banks obviously recognize the importance of these emerging payment methods in provisioning the entire transaction banking infrastructure, hence much work is being undertaken to ensure customers have access to these new and emerging options. However, it goes without saying that there is still a path to digital maturity which most market players are only beginning to take, including the development of new value – added services, education of the stakeholders and the overall upgrading and modernization of merchant, customer and corporate infrastructures. Collaborative efforts in these directions have the potential to result in the next quantum leap with regards to the payment ecosystem including digital transactions over cloud networks, leveraging WiFi and Bluetooth and other new and emerging forms of digital connectedness. Financial IT met with the experts of Capgemini and Bluechain to discuss new methods bringing additional productivity to payment solutions globally.

"In the final edition of Capgemini World Payments Report we investigated the causes of high growth in digital payments, first of all we connect it with the limitations of cash existing in many markets today," says Philip Gomm, Banking and Capital Markets Leader, Capgemini, who has been advising Bluechain on global market development. "Australia is in the top 5 worldwide in terms of the number of non-cash transactions per capita. This makes the region particularly valuable for testing and evaluating new innovative payment methods. It was evident with the introduction of NFC payments in Australia where, where within a mere18 months retail transactions in grocery stores reached incredibly high volumes – 80% of transactions had shifted over to NFC 18 months from its introduction. This is clear proof that the NFC method of payment is considered seamless and adds efficiency and other benefits to the customer. Australians are steadfast when it comes to adopting and adjusting to new methods."

The opportunity to complete e-commerce transactions without a physical presence at the point of sale has been deemed as lucrative for both merchants and consumers. First of all, digital transactions significantly reduce business expenses for merchants and simultaneously bring the benefits of effort free shopping anytime, anywhere for the consumer. However, the Achilles heel of many digital payments and especially 'card not present' transactions turned out to be security, i.e. the use of stolen credit cards without the knowledge of card holders. Bluechain's value proposition addresses this harsh reality, whilst also offering Bluechain customers the same seamless in store customer experience.

"What our new method does is it enables secure transactions over any network," comments Mike McAuley, CEO of Bluechain. "By introducing this innovation we are creating a new platform that is able to both operate within the existing rails and to create new more secure rails that leverage enhancements in the new digital technology supporting today's payment ecosystem. Furthermore, it opens up a lot of new applications and practices, for instance allowing merchants to issue anonymous customer payment requests via Bluetooth, whilst acquiring trusted payments from known to bank customers. One of the very distinct features of Bluetooth productivity is the accelerated connectivity between the merchant and customer. Moreover, we bring the card holder back in the transaction in a sense by sending a message back to the users' mobile, allowing them to approve that the authorization request be raised on the preferred limit of their credit/debit card or bank account that the user recorded in the profile of the Bluechain app in the mobile phone."

The most important design feature of this solution is bringing together the best of both physical and digital worlds for a more secure transaction experience. In fact, customers who pay with Bluechain are now able to have the same shopping experience whether they do it online or in store. It leverages the existing legacy infrastructure that banks provide to support their customers' credit cards, with the added dimension of interacting with their iOS or Android mobile device. Another important component of Bluechain is the server infrastructure in the cloud that processes and authenticates the transactions in a secure way using advanced cryptography - the same method of security used in SWIFT network for bank transactions today.

"Currently we are observing a shift in terms of liability for EMV transactions in POS from the acquirer to card issuers," states McAuley. "Historically, when the first payment systems started to appear on the market it was the acquirer who held the liability for fraudulent transactions. With the new innovation from Bluechain we can shift the liability back to the acquirer giving them the confidence that their transactions cannot be compromised. This technology supports high volumes of both low and high value transactions. But our initial target market is consumer payments."

"At this stage Bluechain continues to operate in the prototype form and is currently being tested in a pilot project with consumers of a small regional bank in Australia. The user friendliness and seamless customer experience provided by the solution has topped the list of feedback from consumers thus far. Being able to approve payments through a single tap was applauded by most users. On a personal note I would say that Bluechain is positioned to be notably appealing to the millennial generation due to its popular methods – easy to download and easy to work with. In order to run the app all that is required is a good network connection. In terms of the future roll out of Bluechain, for the most part terms will be dictated by our partners as we aim to provide this solution to existing financial industry participants and vendors in their efforts to maximize efficiency and scalability of their solutions through collaborative partnership. Vendors can consume the innovative offer by Bluechain through the API connection."

Despite the fact that many banks have seriously advanced their banking transaction and reporting capabilities over the recent years, there is still much work to be done in order to reach full digital maturity and meet the growing corporate expectations and client demands. As pointed out in the Capgemini World Payments Report, banks have the chance to capitalize on some missed opportunities by partnering with fintechs, embracing open APIs and joining industry initiatives. A collaborative mindset plays the most vital role in this development process and has already borne fruit to the banks and many industry participants.

"I think banks and many industry partners are well prepared to accelerate their investments in fintech businesses as well as adopt the collaborative mindset required in order to bring a better and more open-minded approach to transforming transaction banking. The transformational agenda is very prominent at Sibos this year," concludes Gomm. "Bluechain is strongly positioned with its technology solution to facilitate the processing of transactions between parties with added benefit of significantly reducing fraud in credit card transactions."

Bank of America Merrill Lynch

THE FORCES BEHIND PAYMENTS INNOVATION

HOW THESE KEY GLOBAL TRENDS ARE CHANGING BANKING FOREVER

Interview with Jason Tiede, Head of Innovation for Global Transaction Services at Bank of America Merrill Lynch

Jason there's been a lot of discussion about the pace of change in global payments. What's driving that rapid change, in your view?

Jason: I think there are many factors so I'll concentrate on three of the most impactful for our clients: the Global Marketplace, Digital Delivery and Rising Entrepreneurship. Let's look at the Global Marketplace first. As the world's population continues to rapidly grow; people, ideas, cultures and commerce are becoming interconnected in a borderless forum. Companies are taking advantage of this growing Global Marketplace by pursuing new sources of trade and production in developing countries and regions which are experiencing the fastest growth.

Businesses have an exciting opportunity to connect directly with new suppliers and customers in emerging geographies but they are often challenged by fragmented payment networks. Mobile phone-based payment systems have enjoyed widespread adoption in emerging markets – in many cases outpacing the growth and penetration of conventional banking services. So, solutions for cross-border flows have to combine local relevancy across a wide range of countries with global consistency from a risk management perspective.

So can banks play a role here?

Jason: Absolutely. We have an exciting near-term opportunity to connect traditional banking systems to the new, digital money networks which are driving commerce across the globe. This type of bridge and interoperability between traditional and emerging financial services platforms is what we consider "sustaining innovation."

On a longer time horizon, emerging technology such as a blockchain (also known as distributed ledger) has the potential to change how banks transfer information and assets between one another on behalf of our clients. This type of "growth innovation" is exploratory today but it has the potential to change foundational ways in which banks operate to support global trade.

Your second factor is digital delivery. What do you mean by that?

Jason: Right now, 3.2 billion people are online[1]. "Always-on" internet and mobile platforms are erasing geographic barriers for commerce. On the demand side, this has created new consumer expectations of speed and transparency. Millennials, who will comprise 75% of the global workforce by 2025[2], are the heaviest users of smart phones, and they see no reason why payments shouldn't be as instantaneous, secure and traceable as the other internet services they use. As digital consumers themselves, treasurers are increasingly applying those expectations to B2B and B2C payments. On the supply side, digitization has created new, more efficient vehicles for delivering products and services on a global scale. The demand and supply side effects taken as a whole are creating a self-perpetuating cycle of innovation.

Isn't this just a 'First World' thing?

Jason: On the contrary. In developing economies with fast-growing populations, mobile phones are increasingly the tool of choice for payments. Because their financial systems were built in an Internet-enabled era, these developing countries were able to bypass legacy banking systems and jump ahead to mobile payment platforms. A good example is M-Pesa, a mobile phone-based money transfer system first started in Kenya

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[1] International Telecommunication Union (ITU) 2015

[2] BofA Merrill Lynch Global Equity Research, Generation Next – Millennials Primer 2015

About Jason Tiede:

Jason Tiede is managing director and head of Innovation in Global Transaction Services (GTS). In this role, Jason is responsible for designing and driving the execution of innovation initiatives aimed at building the bank of the future. The Innovation group focuses on uncovering future competitive advantage by harnessing emerging technologies, partnering and potentially investing in disruptive companies and incubating new client-driven solutions that capitalize on the increasingly digitized and networked global marketplace.

and Tanzania that has now expanded to other countries in Africa and India. Rising global cross-border digital commerce is creating pressure to find new ways to move transactions and assets more efficiently, more transparently and with valuable data.

Onto your third factor: what about rising entrepreneurship?

Jason: As a result of the first two factors, entrepreneurs are bringing new products, services and businesses to market at an unprecedented rate. Approximately 50% of the world's entrepreneurs are between the ages of 25 and 44[3]. What's most unique about today's startups is that they are "born global." Motivated by opportunities presented in the Global Marketplace and harnessing Digital Delivery channels, these early stage companies are raising capital, creating value and disrupting nearly every industry. Their business models are often predicated on multinational sources of revenue, production and personnel which leads to the need for cross-border treasury products and services from day one.

In response, established corporations must digitize their own businesses in order to tap into new demand and extend their physical supply chains. Interestingly enough, these digitized multinationals face many of the same challenges as early stage "born global" companies when it comes to managing global payments. The net effect is the composition of cross-border payments continues to migrate from historically large, episodic transactions to today's world of higher volume, lower-value B2B and B2C payments. Underpinning this change is a dynamic and fragmented regulatory environment which adds yet another dimension to the picture.

To meet these increasingly complex needs, it is fairly well understood that the existing correspondent banking model must evolve and interoperate with emerging technologies in order to provide greater transparency, efficiency and speed for clients. Thinking longer term, I believe there will be some very interesting developments in the banking industry as related to identity management and data services over the next 3-5 years.

What might those solutions look like?

Jason: That's really up to our clients to decide! Digital payments clearly have a role to play – at Bank of America Merrill Lynch we have been involved in this area for many years including our 2014 rollout of Digital Disbursements in the U.S. This solution helps businesses pay consumers using a phone number or email address rather than a bank account number. Extending this even further, we envision digital distribution networks that could allow our clients to send and receive low-value, cross-border payments using various online payment systems, including digital wallets and card networks.

Interoperability with digital payment networks and new technology such as blockchain show potential to deliver much of the needed improvements in cross-border payments and trade. We are very involved in the blockchain opportunity. Internally, we have established working teams across our enterprise to assess and test the technology for a wide range of applications. Externally, we are closely engaged with blockchain startups as well as larger, more established technology companies and consortiums to explore new ways to support our clients in the digitized global marketplace of tomorrow.

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[3] Ernst & Young, "Megatrends 2015: Making sense of a world in motion"

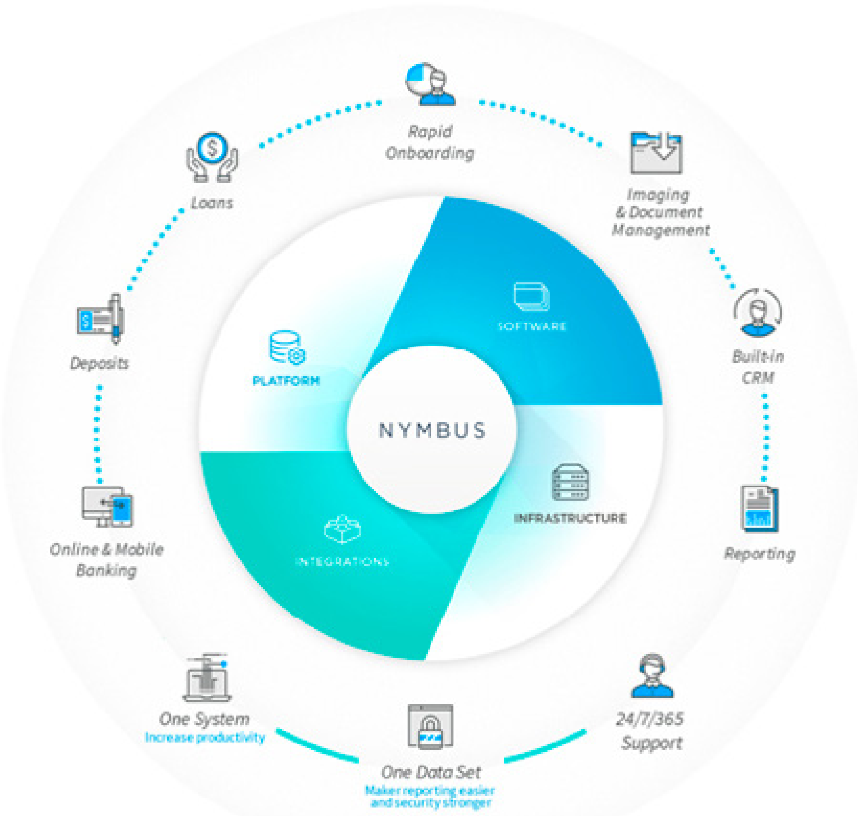
NYMBUS

MOVING CORE BANKING INTO THE CLOUD

For the most part the needs of customers and big data analytics make the banking world go round nowadays. And when it comes to the needs of customers the most explicit word to describe their preference in the banking experience is "digital". NYMBUS SmartCore represents the fully digital core banking solution that enables banks and credit unions to manage a myriad of workflows with single sign- on, add personal touch to the customer relationship and glean cross-sell insights from the structured data. As a truly full stack solution it powers up the online and mobile banking experience through numerous channels including debit, credit, ATM and prepaid cards, all managed in real-time.

NYMBUS SmartCore's key components cover a wide span of services to assist financial institutions in tackling today's biggest challenges – IT budget constraints, reduced customer loyalty, nontraditional competition, new regulatory environment and changing customer demands. According to the vendor, SmartCore's key novelty differentiator is being able to satisfy the sophisticated taste of today's users while at the same time rescinding banks' antiquated banking system in favor of advanced technology. The full stack core banking platform based on the enterprise cloud technology was launched in the fall of 2015, and with the recent acquisition of over 45 customers – has a fully lined up conversion calendar including several clients going live on SmartCore before this year is up.

The key benefits of NYMBUS SmartCore include the enterprise-level integration and data management together with filling numerous manual gaps through the banking process. It is worth mentioning some specific features and use cases for NYMBUS SmartCore in the processing of complete document



management and reporting. There are a lot of compliance and regulatory issues that can be sorted out using SmartCore. For instance, the bank tellers usually have a lot on their shoulders by the end of the day to close their daily activities and set up the books and records for the next day. The single data set of SmartCore gives you reassurance that all the changes are completed and reflected in the system by offering a complete audit trail of all data and transaction history. From this perspective the legacy systems are not the best choice for modern banking as they cannot really keep pace with the speedy transactions and it's hard to see the centralized picture of the entire operational process. While with core banking in the cloud organizational disruption is no longer an area of concern as real time systems allow more flexibility in the monitoring and reporting through a single dashboard.

Another illustration of SmartCore's capability to process large scale banking operations in real time can be the onboarding process. The platform automates capture of personal data from ID cards with faster verifications and document uploads in the system. Additionally the solution creates a real time customer centric view to the bank's operational team. Depending on the role within the organization employee can build more personal and fruitful relationship with the customer based on the transaction history and personal information collected by the system. This typically includes product preferences of the users, gender, geographical location, account habits, peak banking activity and other indicators to analyze the customer behavior and build on further relationship.

Because NYMBUS is a Software as a Service, innovation never stops. The system is upgraded and improved perpetually without interruption and without having to pay costly development or upgrade fees. SmartCore's full API layer further allows financial institutions to easily integrate any 3rd party ancillary product they are currently using or want to add, in a third of the time compared to older solutions still using middleware for integrations.

The pricing of NYMBUS SmartCore is easy to track and depends on the consumption plan you choose. Because it is a full-stack system pricing is simple to understand whereas banks get unlimited users based on assets and credit unions based on number of members. Operating costs are significantly reduced based on what financial institutions pay today, being that SmartCore does not charge for the integration or interfaces required to deliver mission critical processing across the digital channels. Hardware and infrastructure costs are also eliminated since the product is run in a private cloud. In addition, NYMBUS is providing a free conversion at no cost to keep financial institutions' capital outlay at a minimum, while making it easier to migrate to a modern technology faster. NYMBUS has extensive corporate policies covering multiple disciplines, with detailed standards and procedures to support those policies. As a financial service provider, NYMBUS is subject to FFIEC examinations, PCI and SOC assessments, as well as GLBA risk assessments.

In terms of competition NYMBUS SmartCore is firmly positioned in line with such vendors as Mambu, Avaloq, Alkami Technology, TEMENOS and FIS. Simultaneously NYMBUS teams up with the peers to build new products and services for the banking industry. Some of the recent partnerships include cooperation with Oracle in the sphere of general ledger, accounts payable and fixed assets, Wolters Kluwer for the development of loan origination solutions and Geezeo for PFM and account aggregation. All in all NYMBUS SmartCore is a good option for those who need an evolved and consolidated banking system with user friendly interface.

Leda Glyptis,
Director, Sapient

Sapient® Global Markets

YET ANOTHER **BLOCKCHAIN** PIECE

Have we reached the top of the Blockchain hype curve? If you take cultural references as some sort of temperature test, then Dilbert says 'yes'.

In the past year a lot of time, effort and money has been dedicated to DLT experimentation. Yet very little of it has left the lab environment and the few implementations that have hardly solve a real business problem or generate value beyond not falling over. Which is not nothing, as discovery goes, but it amounts to little in business.

So the column inches far outweigh delivery. If you have been monitoring them closely, failing to see real progress and wondering whether you missed it; or if you've totally ignored them and wondering what you've missed, here are three things that have changed and three things that haven't in 2016.

As you were...

A very large number of people are sharing a large pot of money across a very large number of often overlapping initiatives. And although these numbers are impressive where rounded up as aggregated 'investments', corporate innovation commitments or startup profit often they largely represent discretionary spend for corporates and non-sticky revenue for entrepreneurs. Great column inches. No meat on the bone.

Keeping it in the family. Blockchain experiments take place within and between bank innovation centres. Smart and empowered folks push the boundaries of what they know, learn every day and challenge their bosses and colleagues. It's great. It's inspiring. It won't work. Don't take it from me. Take it from the legendary Neil DeGrasse Tyson:

> *Let's not just talk about inspiration. Let's talk about true innovation. People often ask, "If you like spinoff products, why not just invest in those technologies straightaway[...]?" The answer: it just doesn't work that way. Let's say you're a thermodynamicist [...] and you're asked to build a better oven. You might invent a convection oven or an oven that's better insulated or one that permits easier access to its contents. But no matter how much money I give you, you will not invent a microwave oven, because that came from another place. It came from investments in communications, in radar. The microwave oven is traceable to the war effort, not to a thermodynamicist.*

Disruption remains the name of the game. Guys. It's a ledger. An awesome ledger, a weaponised ledger. But still a ledger. Technology has been at the heart of how we deliver financial services since the abacus. We've had ledgers before. We've even shared them. Let's call this spade a spade and admit that the way we have historically made money is under threat: clients are less willing to pay for services, technology is rendering many of those services automatic and the regulator is actively supportive of a transition to a digitised infrastructure and everything that goes with it. The challenge is not what you do with the technology. It's what you do full stop.

The blockchain allows us to imagine a world where all post trade activity, from issuance to redemption, becomes a series of smart transactions. We can imagine a buy-side that doesn't even need a sell-side anymore in a world of DLT-based exchanges offering direct access. Pension funds don't need to may an intermediary. Agency functions are no more. And gone are agency fees.

About Leda Glyptis:

Leda Glyptis is a Director at Sapient Global Markets working within the transformation/strategy capability. Leda joined Sapient from BNY Mellon, where she served as regional head of innovation. Leda was focused on articulating and delivering a digital value proposition to clients and developing a meaningful FinTech strategy for the firm. Most recently, Leda established the EMEA Innovation Centre, dedicated to rapid prototyping of ideas harnessing capabilities across BNY Mellon, clients and startups to create a 'new new' value proposition. Before BNY Mellon, Leda served as Head of Services Development for a software boutique in the City of London. Leda holds an MA from King's College, Cambridge and an MSc and PhD from the London School of Economics and Political Science.

And yet...

School's out for summer, school's out for ever. There is no denying that conferences and press announcements are becoming a little strained these days. POC announcements bought corporates time. They are done buying time. How many lab experiments does one bank need before it is satisfied that the prototype worked, the tech holds, the concept has legs and the solution could fly? It's time to get out of the lab with your MVP or without.

It may be 'happening to you' after all. Bitcoin and the idea of digitised bearer assets and digital currencies meant that the DLT phenomenon in its infancy arrived squarely in the sweet spot for banks to care and engage. With every passing year, banks have cared more but only engaged peripherally. The technology was real, which caused some disappointment, but the disintermediation fear from young startups was not. They never intended to take the system down anyway. So the dance of discovery and experimentation slowed right down to the tune the corporates dictated and mostly focusing on the wrong question: not what can this do that will help me deliver value to my customers, but what can this do that will help me continue doing what I am doing.

The push to ask the right question has actually come from outside of financial services. From Estonia, to the UK, to China, governments are engaging with digital identity assets, distributed health databases and social security payments on the blockchain, reminding us that often capital markets invest in and embrace technology after the government has gone there first. Neil DeGrasse Tyson doesn't talk much (to my knowledge) of the blockchain and yet he nails it:

Private enterprise can't advance a frontier; it's not equipped to do so. But what it can do is take on the routine tasks that have already been established where the maps are drawn, the trade winds are identified. Once you know how to quantify those risks, then you can make a capital markets valuation of how to invest in it.

It wasn't meant to be like this. I remember where I was the first time I realised the full impact of the DLT. I remember what I was wearing, what the weather was like, who else was in the room. I remember it with the exhilaration of a life-changing, history-altering event because that is what it was. Before it became 'au fait' to talk about smart contracts, realising that a self-regulating smart security was possible was mind-blowing.

Almost four years later, everyone has an experiment or two going. At least five flavours of smart bond and yet not a smart security in sight: no effort to shake up what we do, just to rewire it, squeezing incremental efficiency out of the technology that was exciting exactly because it could allow us re-imagine what we do in better alignment with why we do it. If doing so means that whole chunks of activity will no longer need to be done and that is not an appealing prospect, then fair play. Don't do it.

But let's not fool ourselves: some of us got excited by this because we love new tech. Some, on the other hand, got interested because it looked like it may shrink value chains, eliminate moments of monetary exchange by removing the need to carry out the activity that was being paid for. That was scary and people listened. Hoping it won't happen is understandable, not doing it to yourself even more so. But let's not for a moment pretend that we have explored green fields quite yet.

MALAUZAI

Robb Gaynor,
Chief Product Officer, Malauzai

SOCIAL PAYMENTS – CUSTOMERS DRIVING CHANGE

Today's consumers are taking charge of their financial lives and driving innovation. They are using their personal networks, both virtual and real, to help them make their financial lives less complicated. Social payments and, more broadly, the term, "social banking" are used to represent this shift in consumer behavior. A social payment is the ability to integrate community into a financial interaction or payment, and they are drastically changing how customers interact with the businesses they pay and with their bank, which owns the payment account (checking account).

In fact, social payments are actually changing the very value proposition a bank provides to a customer. Examples abound. When a consumer pays a friend back for dinner and then "posts" this experience, along with a few emojis, so others can see, it's a social payment. When a

About Robb Gaynor:

Robb Gaynor heads up product development and marketing of Malauzai, ensuring the company has solutions at the cutting-edge of mobile innovation. Robb has over 23 years of experience in the financial services industry, having previously served in leadership roles at Union Bank of California, Digital Insight/Intuit, and other large global financial organizations including Swiss Bank Corp, Charles Schwab and Wells Fargo Bank.

customer pays a business using a mobile app and then tells his or her friends all about it via social media, it is the essence of a social payment. When a consumer gives his or her accountant access to e-statements for his or her accounts and lets him or her use a mobile banking app to access the documents, it is social banking. These are all situations in which a bank needs to be relevant. Banks need to integrate within the social payments community and provide value. After all, banks own many aspects of today's payment ecosystem, and there is every reason to expect banks to remain valuable in the new world of social payments.

Customers are to take charge in social payments. Who has the real power when it comes to deciding the direction of how payments are made? In the world of social payments, the power is squarely in the hands of the consumer. Take the simple example of the mobile wallet. It is consumers and real-life usage driving innovation, not standards and technology vendors. Consumers and their social networks are driving change. The "Pays" have failed to take the mobile wallet world by storm. They are technology led and vendor led. It is a simple fact: you can't pay using your mobile phone today at most businesses. Yes, some businesses have adopted mobile payments, but it is a small number in the context of the millions of businesses out there today. The single most successful mobile wallet is Starbucks. The company has built a huge social financial network around its mobile offering and it represents a business publishing its own mobile wallet. And, consumers made it successful. Sure, Starbucks figured out how to make the technology easy to use, but in the end consumers adopted it in droves. And now, other businesses are following suit and publishing their own mobile wallets and building their own social payment networks. Consumers are driving this innovation and technology direction. And the most powerful, resourceful companies in the world (The "Pays") can't change this, even though they are trying, really really trying. In the world of social payments, this makes sense; consumers take charge and the best solutions win out.

Another great example of consumers taking charge in the social payments arena is paying a friend, or what is also referred to as person-to-person payments (P2P). The most successful P2P offering is not from a bank. Banks have P2P offerings, but consumers do not use them. A FinTech company dominates this business, Venmo, which is now owned by PayPal. If you want to make a payment to a friend, you use Venmo. The company has successfully and seamlessly integrate community with the payment. So, why have the banks failed? Because the bankers and their solution focused on the wrong thing. Venmo focused on community, on social payments. Banks focused on things like settlements speed (still can't do a real-time P2P), missing the point. They thought like bankers, but all people really cared about was the community aspect of the P2P payment— sharing with friends when a payment is made, being able to build networks of associated friends, and being able to actually pay your friend, to name a few. It is a simple solution, and it is the essence of social payments. Banks still have an opportunity to be valuable in the P2P arena, but they must integrate community elements ASAP. Banks will find they have natural communities of consumers and business already using their solutions. They must enable these communities by providing better tools and technology and by focusing on the tenets of social payments and social banking.

In the world of social payments, the true winner is the consumer. Today, it is easier to pay friends and businesses alike. Mobile is becoming increasingly important in solving payment challenges, and more critically, community and the concept of social banking and social payments are influencing the future direction of payments. And, as with many technology trends, consumers are voting with their feet and naturally gravitating towards the more compelling, innovative offerings. While it may be counter-intuitive to think of a world where every business has their own social payments app or mobile wallet, if consumers use their Starbucks app, they are choosing and they are heavily influencing our future. It is an exciting time to be a mobile consumer living in a social payments world.

Tony Virdi,
VP and Head of Banking & Financial Services,
UK & Ireland, Cognizant

DOES THE BANK BRANCH STILL MATTER?

The number of branches operated by major banking groups in the UK has halved over the last 20 years. In fact, Britain's banks closed more than 600 branches across the UK between April 2015 and April 2016. This is hardly surprising as more and more people move online, often mobile-first, to complete most of their banking transactions and check their accounts. The rapid adoption of virtual banking and self-service has led many to question the role of the bank branch and whether it is still needed today. Of course it is, but potentially in a different guise to that of the past, and even for different uses as banks still want to play an important part in helping their customers access services the way they choose to. Amazon, for example, has partnered with Barclays to use its branches as collection points, showing how bank branches are diversifying.

Rise in mobile banking accelerates branch transformation

While customers visited their bank branch 427 million times last year, this represents less than half of the 895 million logins to banking sites on a mobile app, according to consultancy business, CACI. Forecasts actually suggest that the number of branch visits is expected to fall to 268 million by 2020, while mobile app usage is set to reach 2.3 billion logins by the same year.

This rise in mobile banking has not only changed how we bank and for many people, removed the need to visit a bank branch often, but it has also changed the times that we do so. Gone are the days of nipping into the bank branch during your lunch break or early Saturday morning before it closes. According to RBS, the busiest hour for banking by its customers is between 7am and 8am (before most branches open), when customers access their mobile banking account on their commute to work.

This flexibility to bank from any place at any time has completely transformed the banking sector and how bank branches are set up. ATM's are a great example of this flexibility as in the UK you can draw money from any banking ATM not just the one you bank with, without charge.

The ongoing shift to a mobile-first approach means banks are developing dedicated mobile products to improve the customer experience and complement other services. For example, many banking apps allow you to pay your contacts using their mobile number rather than an account number and sort code and will also send you alerts and reminders when payments are due. For banks today it is all about enabling the most optimal customer experience.

The role of the bank branch today

According to HSBC, in the last four years the number of customers visiting branches in Britain has fallen by about 40 percent and more than 90 percent of customer contact with the bank is now conducted via the phone or internet. However, the use of digital technologies and the rise of omni-channel services will not make bank branches extinct but will accelerate their transformation to digitally-led customer advice centres.

We cannot underestimate the continued demand for visiting bank branches. According to a survey by ComRes, approximately 70 percent of Britons still say it is important to have a branch close to where they live. Aside from demographics, this comes down to the fact that banks hold a very important possession – money – and we do not want to be left without someone to talk to and to discuss potential loans or transaction issues.

In fact, RBS and NatWest are expected to spend £400 million on branch refurbishments this year –and the look and feel of these branches will be very different to those in the past. Barclays have introduced a Biometric reader in branches which allows corporate clients to access their accounts through their fingerprint rather than password or pin. And, as some banks continue to invest money in bricks and mortar, branches are dramatically changing their role to become centres for sales-oriented advice, or complex transactions that are not suitable for self-service rather than service-oriented transactions. Nowadays, we speak to bank staff equipped with tablets able to access bank accounts and answer queries instantly, rather than sit down and fill out paper forms to open a new account or check transactions.

But this is not the only way technology has transformed the bank branch. Today, rather than meet in store, mortgage advisors, for example, can discuss complex financial services with customers in-person via video. Rather than book an appointment at a branch, the customer – at a time of their choice – can be guided through an application using their preferred method of communication; e.g. tablet or phone whilst they can be sitting on a sofa at home.

However, interestingly while some banks are preparing for bank refurbishments, others have put different measures in place to continue to offer customers face-to-face contact. For example, HSBC has formed a partnership with the Post Office and Barclays is working with supermarket chain ASDA to offer banking services outside of the traditional branch. This is similar to ways of working in Europe, where banking services can often be found in coffee or book shops.

As we look to the future, the continued adoption of automated self-service systems, biometric technology and video and voice recognition software will dramatically change the bank branch in the years to come. Banks need to act now and plan their bricks and mortar strategy accordingly to ensure they do not fall behind the digitally-focused competition. Without doubt, convenience, effectiveness and quality service will still contribute to banks winning in the digital age.

Cognizant™

wipro digital

Darren Oddie,
Strategy Director, Wipro Digital, @DarrenOddie

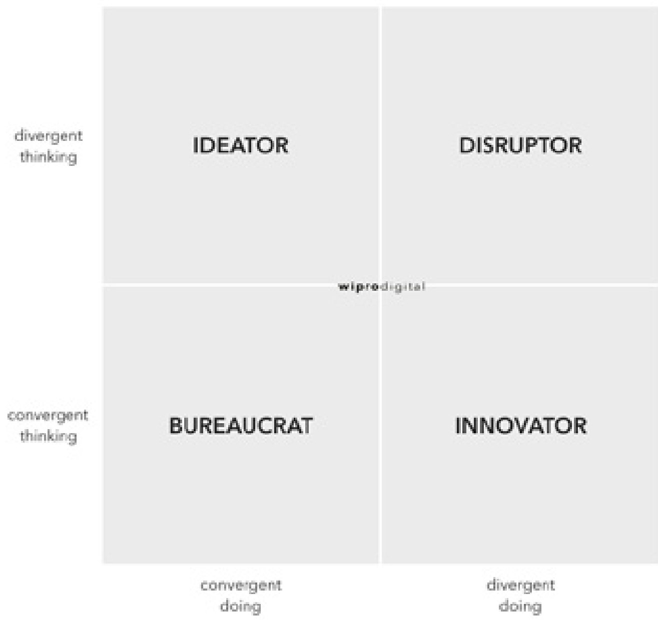
EMBRACING DIGITAL DISRUPTION:
WHY STRATEGIC FINANCIAL RULES MUST BE REWRITTEN FOR THE DIGITAL AGE

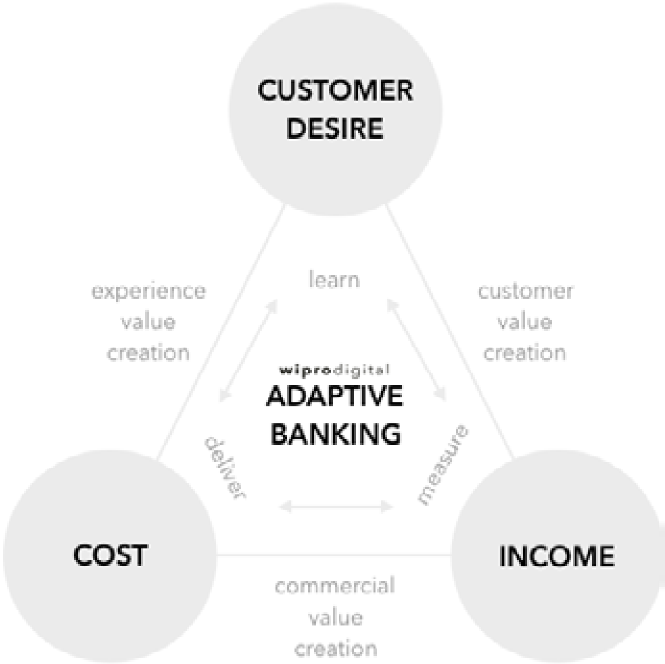
Digital is changing the way customers are managing their finances and the financial world is evolving rapidly in tandem with this. Bankers are now beginning to understand the need to react strategically to the disruption within the industry given the proliferation of online and mobile banking.The rules for banking, when it comes to strategic thinking, have most definitely been rewritten by the digital age.

Adapting for digital

When attempting to adapt your banking strategy to align with the new digital age, an important question that any banker should be asking is "How can my bank move from convergent thinking to divergent doing, based on customer needs?" Typically, when looking at how banks can become adaptive; the focus is on creating a robust method of transitioning from strategy to implementation. Bankers have recognised that their current operating environment is unpredictable, and therefore requires organisational agility.

It's also important for bankers to be aware that there isn't a blueprint for all banks to follow to become or remain competitive, as that is often an assumption. From a strategic perspective, it's insightful to understand whether the person and/or organisation wants to be a disruptor, innovator, ideator or bureaucrat. This then defines the right strategic options available to them.





The need to differentiate

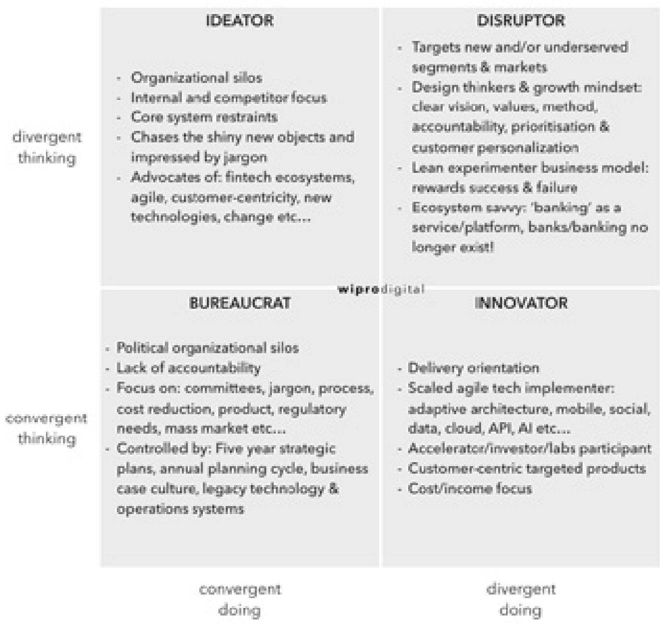
Having a clear strategy specific to their organisation's internal and external challenges, but that is also differentiated from the competition is something the C-suite staff need bear in mind when attempting to embrace the digital changes in banking. There is some global commonality in terms of strategic foundation: every bank needs to deliver change rapidly and frequently. The better a bank is at delivering what customers want, the more likely it will survive the onslaught of disruptors and innovators. As well as becoming more customer-centric banks also need to be able to reduce their costs and increase income.

Essentially, meeting customer needs in the most efficient way possible and creating great customer experiences requiresadaptive capabilities. Unlike cost/income ratio, customer desire is not a familiar banking concept. For adaptive banking to be truly feasible, these three points need to be foremost in the minds of bank boards, C-suite executives and throughout the organisation.

The importance of the experience

A culture of centralisation, product-centricity and control via process stifles change. Therefore, new spaces and ways of working are essential for any bank to be adaptive and create their own Digital DNA. Many employees of banks don't use their own products and therefore don't test the customer experience. When they do test the products and have a less than perfect experience, they often make excuses based on their organisational knowledge. Employees need to be the most critical customers, and should feel fully connected to other customers and their experiences.

Implementation of new lean business models will need to flow through the organisation, and align to the desired customer experience. Business leaders who identify the experience features that matter most to customers will focus the organisation on accelerating delivery momentum. Rather than requesting large-scale, product-led programmes, leaders need to focus on small-scale features that are continually launched and refined. This moves away from the grand strategies or silver bullet thinking that often prevails during annual planning cycles, and moves to agile customer-centric strategies. Organisational change is fundamental for creating adaptive banks with Digital DNA.



Change, innovation and success

Becoming adaptive will make it easier for a bank to offer more personalised services as their bank's capabilities become more attuned to the customer'sneeds. For example, the bank can use itsdata to create feature personalisation, or the bank provides flexibility for customers to pick and choose what is right for them.

By streamlining software delivery methods and making them relevant to the customer, banks will see accelerated growth. A three step approach that involves delivering, measuring and learning, should amplify feedback across the organisation thus driving commercial decision-making.

Digital disruption is changing the playbook rapidly, therefore it is imperative that C-suite executives push towards digital transformation and more agile ways to strategise, as this is still not commonplace within the industry. The sooner bankers are able to adapt to the digital age and embrace innovation, the sooner it can become a commercial reality.

PAYMENTS: IT'S ALL ABOUT TIME

Tony Ford,
CTO of Marqeta, the world's first Open API issuer processor platform

This is a year where the conversation about latency and development in payments technology spilled over from the panel room at places like Money20/20 and into the front pages. News reporters went to their local convenience stores and pharmacies to film segments on just how long it was taking to process a credit card. Blame the chips, they said, and told stories about how this "new" technology was already obsolete over in Europe.

We payment professionals know the story is far more complicated, of course. There are complicated reasons, blending regulators, industry, customers and clients about why things happened the way they did last fall. And we also know that chips are just the tip of the iceberg.

I agree that some of the most important discussion around cards and payment has to do with waiting. But it's not about seconds to process a transaction at a register – it's about what's going on behind the scenes. Making virtual transactions faster and more responsive is the main challenge before our industry today.

Here are three time-related challenges we're working diligently to help solve:

Time to processing

When we are discussing the time it takes for payment transactions to complete, we are talking about latency. This comes from three areas – exposing applications to third parties, the underlying application and the Internet.

The payments industry is working on ways to make all three ways faster. More modern languages like Java and Scala can scale easier than legacy mainframe languages. Third parties can reduce time simplifying the three and four layer wrappers used to access data. The development of an always on or persistent connection should allow for the exchange of information without reestablishing internet access each time.

Time to develop

We are also working to lower the time it takes for developers to create applications. Traditionally, finance and payment companies jealously guarded access to test their functionality. Access to this information required close relationships with companies – something that was traditionally available only to large, established players. This wasn't the most efficient solution.

Companies are now providing open data sets to potential and current developers, lowering the barriers of entry and encouraging innovation. These developer tools and sandboxes eliminate the need for hosting feeds and other batch infrastructure, allowing developers to simply start building a new application with nothing more than an Amazon Web Services account. Additional payment-specific elements no longer need to be built from scratch – they are available on demand. We are now in a position where it's easier for developers to create faster, more customizable, and flexible payment products, even for issuing cards.

Time to learn

Companies need feedback to create and improve products. This is traditionally a slow process. In the financial word, the abbreviation T+ refers to how many days after a transaction before something is available. In today's world, this is the wrong significant digit.

Whereas a vendor used to facilitate an exchange of information between a payment processor and a bank through an FTP server and batch file, the middle is falling away. Leading companies are exploring how to deliver powerful and relevant analytics in a channel where employees are already planning and making iterative decisions about a product. This can be an instant message or collaboration tool such as Slack.

With real-time or near real-time feedback, it's much easier to develop and action responses to changing market conditions.

The time is now

Barriers are falling at each stage of the payment industry. The old reasons for providing less than excellent service are falling away. The tools are out there – the only limits are starting to be ones of imagination.

essDocs

HOW ELECTRONIC ACCESS SECURITY COULD STOP CRIMINALS HITTING THE JACKPOT

Natalie Brannelly,
Industry Manager at Southco

In today's digital age ATM crimes are becoming more sophisticated, with the growing threat of 'jackpotting', a critical concern for the ATM industry. Natalie Brannelly, Industry Manager at Southco discusses the emerging challenges and vulnerabilities faced by the ATM industry and how new technologies, such as electronic access systems, can help combat a range of advanced threats.

With ATM security an ongoing challenge for the industry, the ways in which criminals are accessing money and data are becoming increasingly more sophisticated following the development of new and progressive technology. While card trapping, cash trapping, skimming and brute force may be the most common forms of ATM theft, the rise of malware crime, such as 'jackpotting', is a real concern to the industry, not only because of the associated costs, but also because of the wider implications on brand reputation and customer trust.

The crime involves a physical attack on the ATM topbox to access the ATM computer located inside. Once inside the topbox malware is installed on the computer via a number of potential methods, including CD ROMs, USB-based devices and smartphones, which then prompt the ATM to trigger an unauthorised pay out. With the corrupt code installed, criminals are able to send a series of commands to the ATM to dispense cash without needing to use valid cards or PINs, giving way to a cash windfall. The physical security of the ATM computer is therefore more critical than ever before in the fight against ATM crime.

Industry challenges

In 2015, there were over 18,000 ATM fraud attacks in Europe, reporting losses of over €300m and an additional €49m on physical attacks. With the ATM often remaining the main link between bank and customer, a customer's trust in the safety and security of the ATM is paramount to the industry's success.

Historically, various mechanical locking devices have been used on the most pivotal access points of an ATM, as well as helping to secure key internal mechanisms. However, as ATM criminals become more innovative, so too should the ATM's locking and latching capability. To safeguard against today's attacks, and potentially more advanced threats in the future, the industry is acknowledging that these sophisticated crimes need to be approached with more sophisticated solutions.

Innovations in ATM topbox security

Options being considered to strengthen topbox security for example, include electronic access solutions with added intelligence. Already being used within other highly secure environments, such as financial data centres, electronic access solutions are the logical next step for further enhancing an ATM's security. Not only can they assume complete control of the ATM topbox, allowing access only to authorised personnel, they can also provide an audit trail to record and monitor when and for how long the machine has been opened. As a result, the need for physical key management is eliminated, making unauthorised access to ATMs significantly harder.

Southco, a global leader in engineered access hardware, has worked with the world's biggest ATM manufacturers for more than 20 years, providing the industry with a variety of both standard and customised mechanical locks and latches.

As a trusted industry supplier and a member of the ATM Industry Association (ATMIA), Southco's recommendations on futureproofing the ATM topbox are recognised as the next step in security innovation, the objective being to support ATM manufacturers wanting to make the shift from mechanical to electronic locking and therefore improving security in the banking industry.

The Southco R4-EM, an electronic rotary latch, has been designed to integrate into the ATM's software. When linked to a central command it has the ability to provide complete control over access to the topbox, granting access to only authorised personnel. The latch combines durable, mechanical performance with added electronic intelligence.

Southco's Electronic Access Products are compatible with a range of access control devices such as numeric keypads, smartcard readers, Bluetooth, NFC and biometric devices. Added intelligence also provides remote monitoring, remote actuation and audit trail capabilities.

Such products give way to a more logical, layered approach to ATM security which is fast becoming industry best practice. While the challenge of ATM security will never go away, products like these can help futureproof the industry against more sophisticated attacks, saving the industry millions of pounds and restoring customer trust in the process.

SECURING FINANCIAL SERVICES DATA: A BRIGHT, BUT CLOUDY OUTLOOK

The Financial Services industry has begun to look to the cloud so it can add new products, services and customised offers without the burden of up-front capital investment. Despite this, concerns remain when ceding control of infrastructure and sensitive customer data to cloud vendors, mainly due to costly compliance and security risks. There are some signs this is changing.

Following the latest Competition and Markets Authority (CMA) ruling, which aims to boost competition in the banking sector, banking organisations will be required to digitise their systems completely by 2018. This after the Financial Conduct Authority (FCA) paved the way for the industry to take advantage of cloud services, so long as 'appropriate safeguards' are in place. Cloud technology, therefore, will likely play a major part in the future of the banking industry.

The risks of unsecured cloud adoption for Financial Services is huge. Both operational and reputational damage could cause significant harm. Worryingly, nearly 20 million financial records were breached in 2015. If the sector is to take full advantage of cloud-based technology, organisations and their customers need to be sure their sensitive data is safe.The warnings are clear: The latest Shadow Data Report by Blue Coat revealed 87% of the cloud applications used by enterprises do not adequately encrypt data. This poses a significant issue for the financial services sector where 85% of its sensitive data is stored in the cloud. If the sector is to take full advantage of cloud-based technology, organisations and their customers need to be sure their sensitive data is safe.

Cloud-ready personal data

Financial Services firms are looking to replace their legacy systems and make their operations more efficient by adopting cloud technologies. Many are gradually transitioning various functions to the cloud to take advantage of cutting-edge functionality, scalability and operational flexibility. These organisations hope to benefit by combining proprietary in-house capabilities with cloud systems via the latest application program interfaces (APIs).

Given what is at stake, many are wary of yielding their sensitive customer data that's currently in secure, local legacy systems to cloud vendors. They, correctly, worry cloud providers may not adequately manage where the customers' personal data is stored and processed and who can access it.

Failure to adequately maintain data security reduces confidentiality and increases compliance and cyber-security risks. Data breaches and security incidents associated with regulated data can also mean high costs, penalties, and reputational risks. According to the 2016 Cost of Data Breach Study by Ponemon, the average per record cost of a breach in the financial industry is $221, above the $158 average for other sectors. In addition, new regulations such as the EU General Data Protection Regulation (GDPR) require financial services to notify customers affected by any data breaches. The resulting damage to the brand can mean the loss of earnings and capital.

Securing sensitive data in the cloud

To optimally secure sensitive customer information, organisations have to understand the data which can safely reside in the cloud. If they keep sensitive or regulated data in the cloud, it needs to be classified with the correct sensitivity level. Audits can later be performed to confirm that the proposed security treatment and risk mitigation strategies have been implemented. However, organisations need to ensure they have visibility and control over the data in the cloud, which most don't have the technical means to do so. Audits and data classification can't work when many don't have the capability to even see what data is going into the cloud.

The access of sensitive data from systems, processes and people need to be defined and managed. To select appropriate technical controls to protect confidential data accessed via the cloud, IT and compliance teams need to map out how the information flows over time as multiple applications and people access and process it for various purposes.

Every organisation should have concise privacy and security policies. These policies should determine the data they need to protect, and which they don't need to protect. It is critically important that these internal practices, designed to ensure data control, are not bypassed or compromised, especially when shared through a Cloud Service Provider.

More than a token effort

It is essential to secure data as it flows in and out of the cloud, as well as when it is being processed in the cloud as is normal practice. Data needs to be secured by the organisation whilst it is 'at rest' (in storage) and 'in motion' (in transit between the end user and the cloud application). The cloud service itself is often the primary concern for businesses, however they must ensure that the data being sent to the cloud is protected 'in motion,' with encryption or tokenization, throughout the cloud-processing phase.

Encryption encodes data in such a way that only authorised parties can read it and is the standard for protecting data. While encryption doesn't prevent interception, strong encryption approaches keep unintended interceptors from seeing the data. Organisations should employ a recognised, established form of encryption for best practice. Whilst encryption helps protect the data, organisations must be aware that because encryption is a reversible process, it's possible to unveil the original data values if the encryption key can be broken.

Alongside encryption, tokenization is a process by which data fields are replaced with a surrogate value called a token. When the data is to be read, the token is once again substituted for its associated value. Tokenization's biggest advantage is that it completely removes the original data from the document or form once it leaves the network, eliminating any mathematical link between the surrogate token value and the original sensitive data. Therefore, unlike encrypted data, it's not possible to intercept data in the cloud and "break" a token to reveal the original content, because the data isn't actually there. This also has great benefits for complying with data residency regulations.

Addressing the challenges

Many financial services firms seem hesitant to take advantage of the new capabilities available from leading-edge cloud applications due to their wariness of giving up control of sensitive and valuable data to a third-party. With huge ramifications, it is easy to see why. Cloud Access Security Brokers (CASB) and Cloud Data Protection Platforms, such as those Blue Coat Elastica (now part of Symantec) has developed, help alleviate some of these concerns.

These platforms provide a flexible cloud security solution that enables businesses to protect sensitive information before it leaves their network as well as understand and control what data employees are sharing in cloud applications throughout the enterprise.

Cloud data protection solutions aim to protect the data organisations permit in the cloud by encrypting and tokenizing any sensitive data. By combining a cloud data protection solution with strong cloud security protocols, organisations will be able to maintain cloud services and achieve the scalability enterprise users demand. It's hard to see over the horizon, but it is safe to say, for banks at least, the future's cloudy.

Danny Healy,
FinTech API Evangelist, MuleSoft

THREE CHALLENGES TO PSD2 READINESS — AND HOW TO OVERCOME THEM

The payments landscape is changing rapidly, and one of the biggest changes coming down the road is the update to the Payment Services Directive: PSD2. The directive's deadlines are looming, with the pressure on financial services companies to do nothing less than transform the way in which they view themselves – and each other.

PSD2 is an update of the Payment Services Directive, a legal framework for all payments made in Europe. The goal of PSD2 is to address changes made since PSD was introduced in 2007, as well as to improve the speed and efficiency of payment services across Europe.

PSD2 provides a legislative mandate for more open data and an increased open data interchange between financial services organisations. By January 2018, European banks must:

- Provide access to customer information (such as account balances) to AISPs (account information service providers);
- Expose customer information and payments services to PISPs (payment initiation service providers);
- Take on the role of AISPs and PISPs.
- In short, financial companies must be ready to make data and services readily available—no small task.

According to a report by Deloitte UK, one concern is around security risks and protection of sensitive customer data. "Whilst standards for access are still being drafted, clear attention needs to be paid to how these standards will work and what level of security protection will be provided," states the report.

The Deloitte report also notes the fact that resilience of payments is a recurring issue formany banks, and that "further consideration should be applied to this area from the perspective of PISP and AISP."

These challenges are not to be underestimated.

The effective transition to PSD2 – and the opportunities it ultimately affords – can be made with a thoughtful and careful combination of people, products and processes that focus on shifting the way IT operates and promoting decentralised access to data and capabilities. Organisational culture must shift to one of reuse and composability, which will ultimately enable the development of a seamless network connecting applications, data and devices.

About Danny Healy:

Danny Healy, is a financial technology evangelist at MuleSoft, provider of the leading platform for building application networks. Danny has spent over 20 years establishing the vision and strategies necessary for large complex organisations to grow. At MuleSoft, Danny has a strong focus on Open Banking, connecting banks' core capabilities with emerging digital business priorities, better placing organisations to juggle their rapidly changing business priorities and compliance obligations.

With technical requirements now available, financial services firms need to understand and put in place a plan to overcome the challenges to PSD2-readiness. Here are the three most significant issues that companies are likely to face:

1. Culture shift and future-proofing of technology investments

The transition to PSD2 will be most effectively enabled through the strategic use of APIs, setting the scene for the API economy to play a disruptive role in the future of financial services. According to BBVA's Digital Economy Outlook, "Broadly speaking, banks and other incumbents will either have to lead payments CX [customer experience] by bundling APIs or be part of other CX platforms by unbundling APIs, or even do both."

With that said, full realisation of the API economy requires a relatively significant cultural shift. To make the shift, companies are double-downing their "innovation investment." Financial firms are paving the way toward PSD2 by unbundling monolithic IT systems into reusable service components, and conducting hackathons in order to gain the kind of agility needed to make the transition.

By making any application, data or device pluggable and reusable, an application network enables financial services organisations to leverage existing and new technologies to drive innovation and agility at scale, launch new products and revenue opportunities, and improve customer experience.

2. Contributing value to and from the API economy

It would be one thing if financial institutions needed to worry only about themselves, but the new payment ecosystem also comprises retailers, high-tech companies, social media, crowdsourcing platforms and potentially anything that involves financial information or transactions. While it's clear that APIs are the new channel for doing business, what's still being defined by banks is how to productise and market APIs as a new source of revenue and competitive edge. Successful APIs require healthy internal and external developer communities, which means that financial institutions will need to provide engaging APIs and participate openly and fully. So, using APIs, organisations need to think creatively about how to open their own systems and make use of other organisations' APIs.

3. Coping with current and future demand

When payments are invoked through APIs – in other words, when revenue is at stake – slowdowns and downtime are simply not an option. Financial institutions need to plan for the use and the continued success of their API platforms. This means planning for current and future demand in the areas of:

- Security, including support for encryption, strong customer authentication, authorisation and auditing;
- Scalability and efficiency, ensuring the company on-premise and/or cloud-based infrastructure can provide availability and reliability.

It's no exaggeration to say that PSD2, and the era of Open Banking that it ushers in, represents a huge change in the way we think about payments, helping organisations meet customer demand for quick, safe and seamless payment capabilities. Staying ahead of the competition means staying on top of PSD2, the impact it will have and the technology platforms required to effectively implement it.

Toby Hannon,
VP EMEA, Seal Software

HOW CAN **FINANCIAL SERVICES COMPANIES** COMPETE MORE EFFECTIVELY IN TIMES OF UNCERTAINTY?

Change, change and more change. Nothing could be more true about the regulatory landscape. This has become ever more apparent over recent months following the Brexit vote. Brexit may trigger a need to review and change currency and exchange rates, governing law and logistics terms within numerous contracts. Revisions to trade rules could also lead organisations to consider the impact on their business relationships. Proactive organisations are already starting their Brexit preparedness initiatives, and are realising it starts with a clear understanding of how these elements and many others are defined inside contracts.

Of course, it's not just Brexit. Changes in regulations in the financial services industry mean organisations must continually understand new regulations. It's then down to them to implement appropriate changes by the stated deadlines to avoid penalties, fines, or worse. The Former Bank of England Governor recently warned that UK financial regulations are too severe and states that 'if you work in a bank, before you do anything, you must go and speak with the Compliance Officer'. The one global constant is the ever-growing strain this puts on financial institutions to keep up and comply. They must figure out how to comply with new rules and deal with audits without adding disproportionate cost and disruption to the organisation.

Many regulations impact the way organisations make commitments or conduct transactions with their partners or customers. New and changing regulations require companies to find relevant contracts, review the affected language and identify excess cost, liabilities, risk and exposure that directly impact financial services organisations. Only then can business decisions be made to revise or novate the contract, renegotiate commercial terms or terminate to avoid non-compliance. This has to be done for all affected contracts, which could be in the tens of thousands, or even more for some organisations.

Large financial services firms will be impacted by many regulations. Global regulatory bodies are enforcing mandates to better control the solvency and recovery actions of banks and lending intuitions in the case of future economic downturns. Several key mandates stem from the Dodd-Frank Wall Street Reform and Consumer Protection Act, signed in 2010 to reduce the potential for a recurrence of the recessionary economic conditions experienced in 2008 and 2009. The consistent theme across all solvency and resolution mandates is that large financial institutions must have a clear understanding of their contractual relationships and obligations as a foundational element of compliance initiatives.

Across global businesses, mandates are being imposed that also require an in-depth review of contractual terms and provisions to ensure compliance. Contractual insight supports critical business decisions and reporting. This may result in contract novation and repapering or restructuring, depending on the mandate, as well as allowing an organisation to meet changing regulatory mandates, in the best way possible.

Examples of regulations impacting all organisations include:

- **IFRS 15:** A reporting mandate issued by the International Accounting Standards Board (IASB) which changes the requirements of how organisations recognise revenue. The deadline for compliance is January 2018. The regulation is intended to more directly link the recognition of revenues with the actual consumption of goods and services. This will affect any company that takes consideration for its goods and/or services.
- **IFRS 16:** Also released by the IASB, this revises how lease agreements are reported and carried on the books. The compliance deadline is January 2019. This will affect any company that leases equipment.

Managing risks & liabilities during changing regulatory & business conditions

It's critical for financial services organisations to remain agile. They need to have the ability to extract the appropriate data within an overwhelming amount of contracts in real-time in order to manage risk, reduce liabilities and compete effectively during times of change.

Previously, when mandates changed, organisations would have to perform manual reviews as a part of their compliance initiatives, resulting in months or years of contract analysis and high costs. However, organisations can now reduce the burden of the contractual review aspect of their compliance initiatives. By using automated contract discovery, data extraction, review and analysis, up to 80% of their time can be saved, providing significant savings. This is critical when organisations are facing tight compliance deadlines and have to review and make strategic decisions on hundreds of thousands of contracts.

Using artificial intelligence and powered by an advanced machine learning framework, the automated solution can extract specific terms and provisions needed for regulatory compliance across all contracts. The framework can be taught by users to look for specific provisions and clauses.

It's look at IRFS16 as an example. For IRFS16 compliance, all contracts need to be located and the impact of the change in regulation needs to be determined. Knowing which of your contracts is effectively leased can be challenging. An automated contract discovery, data extraction, and data analysis solution will locate all contracts and centralise them in a repository. The system can extract, gather and validate lease terms from the contracts by identifying which have lease provisions or language. Some may require further analysis to determine if they meet the definition of a lease, especially those with significant services. This level of reporting helps business users understand the current environment and develop an optimal remediation plan.

This is just one example which demonstrates how financial services organisations can compete effectively in times of change. Complying with new regulations no longer needs to be such an arduous task. Using an automated contract review and analysis solution can ensure compliance with global regulatory mandates and help manage the overall risk against defined targets. It can dramatically shorten the time and reduce the cost of contract reviews, as well as help model and analyse the business impact before any changes are made. This results in better decisions on the best ways to achieve compliance.

FINTECH BREAKTHROUGHS

MoneyRouter AML Software Set to Change Face of Money Transfers Worldwide

#compliance

Brought to market by Musa Jammeh and Taimoor Iqbal of Route Trading Ltd (an experienced UK financial services compliance professional, and a tech entrepreneur with a background in money transfer), MoneyRouter is the first instant verification system to help thwart money laundering. Launching in London this September, MoneyRouter finally brings a much needed measure of risk governing to both banks and money service businesses (MSBs), with its proactive and effective solution to the growing problem of illicit money transfers taking place in the Capital.

Q2 Introduces Centrix Dispute Tracking System Fraud Alerts Module

#digital banking

Q2 Holdings, Inc. launched its Centrix Dispute Tracking System (CentrixDTS™) Fraud Alerts module, an add-on to the case management and Regulation E compliance platform financial institutions use for both fraud and non-fraud transaction disputes. The Fraud Alerts module builds on the existing capability of CentrixDTS™ and empowers FIs to quickly and accurately measure the financial impact of a card breach and streamline the back office management and labor-intensive processes of managing transaction disputes.

Apple Pay Goes Live in Russia with Mastercard and Sberbank

 # payments

Sberbank clients, holders of Mastercard cards, can now use Apple Pay, which will let them make secure and convenient contactless and online payments. Apple Pay can be easily set up in the Sberbank Online mobile application, which is familiar to all Sberbank cardholders. Users can enjoy contactless payment service while continuing to receive all the benefits from using their credit and debit cards. The service leverages the safe and secure Mastercard Digital Enablement Service (MDES) platform of Mastercard, which uses the most advanced payment technologies – EMV, tokenization, cryptography and biometrics – to ensure the integrity of cardholder information.

Coupa Release 16 Innovates Cloud Platform for Business Spend

#ERP

Coupa Software introduced Coupa Release 16 (R16), its third major cloud platform update of the year. R16 delivers better visibility into the operations and business value of customer spend management initiatives, increases collaboration, and adds new capabilities across the entire Coupa platform from expense management to sourcing, to e-invoicing, and more. As with every Coupa platform update, R16 was designed with a collaborative and innovative approach that involved customer ideas and feedback through the active Coupa Community and Coupa Advisory Boards. R16 was rolled out four months after Coupa R15 in May 2016.

SEQR Unveils Contactless Payments Service in UK

#digital banking

As of today SEQR customers in the UK are now able to quickly and simply link their bank account to the SEQR app and make payments directly from their bank account. Until now UK customers have enjoyed the benefits of the SEQR pre paid account functionality, however enabling customers to connect their bank account opens SEQR up to millions more customers who prefer direct payment over a pre paid option. In addition, customers will now also be able to make SEQR “Tap & Pay” payments at any retailer that accepts contactless NFC payments.

Greenkey Releases Mobile ‘Turret’ App for Traders and Brokers

#financial communication

GreenKey is planning to launch a mobile application for iOS and Android devices. The new app will offer full integration with GreenKey's patented software and Voice over Internet Protocol (VoIP) network along with existing turrets (lines and hardware). Crucial, secure turret functionality will be available through the mobile app, including intercom connections with push-to-talk functionality. In addition the app will include the ability to place outbound or accept incoming calls with full recording capability and transcription.

MANDATES

LocalTapiola Taps Nixu as its Cybersecurity Partner

Date: *12.10.2016* ***#Cybersecurity***
Provider: *Nixu*
Client: *LocalTapiola* ***Mandate value:*** *Undisclosed*

The cooperation agreement between Nixu and LocalTapiola includes the Nixu Cyber Defense Center (Nixu CDC) service, which provides real time supervision of digital environments, intrusion investigation as well as an up-to-date snapshot of the organization's web service threats. Nixu CDC also conducts attack testing, and it always has access to real time information about current cyber threats and the latest attack techniques, which it can respond to using state-of-the-art technology.

ContractPal Deploys Zadara Storage to Protect their Mission Critical Customer Data

Date: *12.10.2016* ***#PaaS***
Provider: *Zadara Storage*
Client: *Frontier ContractPal* ***Mandate value:*** *Undisclosed*

Zadara™ Storage announced that ContractPal has deployed the Zadara VPSA storage array architecture to support their Platform-as-a-Service (PaaS) application, CloudPiston. By deploying the Zadara Storage VPSA solution, ContractPal is able to transition from a CapEx model to a pure OpEx model, while ensuring their customers are protected by sophisticated data encryption and comprehensive data protection and disaster recovery services.

DongXing Securities Chooses Horizon for Option Trading

Date: *12.10.2016* ***#Trading Systems***
Provider: *Horizon*
Client: *DongXing Securities* ***Mandate value:*** *Undisclosed*

Horizon Software, the leading global technology provider for electronic trading and investment management, announced that Chinese broker,DongXing Securities, has chosen Horizon for its equity trading, market making and algorithmic trading. The deal is a major extension of Horizon's use by DongXing Investment, a subsidiary of DongXing Securities, which has a market cap of USD 9.5 Billion and is named as one of the Forbes 2000 largest companies in the world.

Cognizant Helps Standard Life Implement Cloud-Based Next-Generation IT Infrastructure

Date: *11.10.2016* ***#Cloud***
Provider: *Cognizant*
Client: *Standard Life* ***Mandate value:*** *Undisclosed*

NCR Corporation, the global leader in consumer transaction technologies, announced today that The Commercial Bank Q.S.C., Qatar's first private bank, has become the first bank in the country to introduce finger vein authentication technology powered by NCR to speed-up authentication and accelerate ATM transactions making every customer interaction an exceptional experience.

LB Group Deploys Sapiens' General Insurance Software Suite

Date: *11.10.2016* ***#Insurance***
Provider: *Sapiens*
Client: *LB Group* ***Mandate value:*** *Undisclosed*

Sapiens International Corporation, a leading global provider of software solutions for the insurance industry, with a growing presence in the financial services sector, announced that LB Group, a member-owned insurance company based in Denmark with approximately 950,000 policies and more than 375,000 members, has selected the Sapiens IDIT Insurance Suite as the company's new core insurance system for its general lines of business.

Norway Taps Gemalto's Fully Integrated Solution for eID and ePassport

Date: *11.10.2016* ***#Security***
Provider: *Gemalto*
Client: *National Police Directorate of Norway*
Mandate value: *Undisclosed*

Gemalto, has been chosen by the National Police Directorate of Norway (POD) to supply Sealys eID cards, residence permit cards and third generation Sealys ePassports. The new documents will be supported by Gemalto's Allynis Issuance and Coesys Case Management system which orchestrate all the steps of the citizen application from biometric enrolment to the issuance, delivery and post-issuance of the document.

DEALS

Gresham Completes Acquisition of C24 Technologies

Date: *10.10.2016*

Gresham has completed the acquisition of C24 Technologies, a specialist in standards-based financial messaging and integration solutions.The acquisition of C24 is the first for Gresham since the launch of its Clareti platform in 2011 and has a compelling strategic vision, one that accelerates Gresham's ambition to be the global leader in enterprise data integrity solutions within financial markets.

ION Enters Definitive Agreement to Acquire Reval

Date: *07.10.2016*

Reval has entered into a definitive agreement to be acquired by ION Investment Group. Andrea Pignataro, ION's CEO and Founder, said "The acquisition of Reval substantially increases our footprint in treasury cloud services and enriches our product portfolio with leading functionality in risk and hedge accounting. We will also be able to leverage Reval's strong Sales, Marketing and Customer Success teams across the product portfolio under Jiro's leadership."

NRS, part of Accuity Acquires FIRE Solutions

Date: *06.10.2016*

NRS, part of Accuity acquired FIRE Solutions, a leading provider of compliance and education products and services to the broker-dealer community. Palm Ventures, LLC is the lead investor in FIRE Solutions along with The Palmer Group. The acquisition is part of NRS's strategy to provide a comprehensive, single-source compliance portfolio to its clients that will enable them to fulfill their regulatory requirements.

MBK Partners and TPG to Acquire Wharf T&T from Wharf

Date: *05.10.2016*

MBK Partners and TPG announced that they will jointly acquire, through a newly established and jointly owned special purpose vehicle, Wharf T&T Limited from The Wharf (Holdings) Limited. The transaction values Wharf T&T at HK$9.5 billion. Wharf T&T is Hong Kong's largest purely enterprise-focused telecom service provider, with an extensive fibre optic network covering approximately 90% of the commercial market.

Akamai Acquires Soha Systems

Date: *04.10.2016*

Akamai Technologies, announced that, in an all cash transaction, it has acquired Soha Systems, an innovator in enterprise secure access delivered as a service. The acquisition is intended to complementAkamai's strategy of securing, protecting and accelerating enterprise applications and services in the cloud. Providing employees with secure access to enterprise applications deployed behind the firewall is a core requirement for all businesses.

Thomson Reuters Strengthens Buy-Side Trading Capabilities with REDI Acquisition

Date: *23.09.2016*

Thomson Reuters signed a definitive agreement to acquire REDI Holdings, a trading technology whose flagship REDIPlus execution management system (EMS) provides advanced cross-asset class trading capabilities to the buy-side. The acquisition is expected to close by the end of Q4 subject to customary closing conditions including regulatory approvals. The REDI acquisition is intended to help Thomson Reuters deliver an integrated workflow solution to the buy-side trading community.

PEOPLE MOVES

Northern Trust Makes New Appointments in its Global Family & Private Investment Office Group in London

Date: *29.09.2016*

Northern Trust has made two new appointments in its Global Family & Private Investment Offices team in London to support the increasingly complex needs of ultra-high net worth families and their family offices and family foundations across Europe, Middle East and Africa (EMEA). These latest appointments come as the Global Family & Private Investment Offices business continues to grow in EMEA. Founded in 1982, the Global Family & Private Investment Offices group has a focused commitment to families of significant wealth, their private foundations and the family offices that serve them.

Societe Generale Appoints Jean-François Mazure as Head of Cash Clearing Services

Date: *27.09.2016*

Societe Generale Global Transaction Banking (SG GTB) has appointed Jean-François Mazure as Head of cash clearing services. He replaces Emmanuel de Bouard who has decided to retire in the coming weeks. Based in Paris, Jean-François reports to Benoît Desserre, Head of global transaction banking. Previously co-head of cash clearing services, Jean-François Mazure will pursue the strategic development of the correspondent banking business globally and will actively represent Societe Generale in key interbank organizations. With an international network of more than 50 countries across 5 continents, SG GTB has gained a leading position in correspondent banking worldwide.

ITG Makes Key Hires in Foreign Exchange and Analytics

Date: *27.09.2016*

ITG, a leading independent broker and financial technology provider, today announced the hiring of Ruben Costa-Santos as Director and Head of FX and Andre Nogueira as a Director on the Analytics Team. Ruben Costa-Santos most recently worked at Deutsche Bank, where he served as head of FX Platforms for the Americas. Andre Nogueira will lead ITG's analytics consulting efforts in Europe, based in the London office. He joins ITG from Bloomberg, where he worked on multi-asset class trading analytics. Prior to joining Bloomberg in 2014, Nogueira worked in various product management and trading systems roles.

ACI's Paul Thomalla Joins Executive Committee of European Credit Research Institute

Date: *05.10.2016*

ACI Worldwide, a leading global provider of real-time electronic payment and banking solutions, today announced that Paul Thomalla, ACI's senior vice president, global corporate relations, has joined the executive committee of the European Credit Research Institute (ECRI) of the Centre for European Policy Studies (CEPS). This leading think tank and forum debates on EU affairs that cover all European policy areas. With its involvement in CEPS ECRI, ACI will be able to further its leading role in helping to modernise European systems and frameworks to make them more responsive to consumers and businesses alike.

GFT appoints David Collins as Head of Financial Services with pan-Atlantic remit for marketing, sales and delivery

Date: *03.10.2016*

GFT, the leading provider of business, design and technology consulting to the financial services community, has appointed David Collins as Head of Financial Services across the GFT Atlantic Region, a senior hire that marks a key milestone in GFT's strategy to service clients in the UK and North America. David brings with him a wealth of experience across financial services and technology. He joins from Sapient where he was heavily involved in working to reshape and refocus its UK business consulting organisation. Before this, he held the role of CEO of SDX Trading and chief marketing officer at SuperDerivatives.

Fiserv Names Devin B. McGranahan Group President

Date: *13.10.2016*

Fiserv, Inc., a leading global provider of financial services technology solutions, announced today that Devin McGranahan has been named president of its Billing and Payments Group, effective November 1, 2016. McGranahan succeeds Rahul Gupta, who will leave Fiserv in December 2016 to pursue other interests. McGranahan brings more than 25 years of business and leadership experience to Fiserv. He most recently served as a senior partner at McKinsey and Company, engaging with leading financial services companies on a broad range of strategy, payments and business-building opportunities.

Financial IT

Financial Technology Buyers' Guide

Money20/20 Issue

Chain is a blockchain technology company that partners with financial firms to build and deploy blockchain networks that transform markets. Chain has formed strategic partnerships with leading financial services firms like Nasdaq, Visa, Citi, Capital One and Fiserv. Chain develops and maintains the Chain Open Standard, an open source blockchain protocol for high-scale financial applications. Chain's platform includes Chain Core, an enterprise-grade production node, and the Chain Sandbox prototyping environment. Chain has raised $45M from leading venture capital firms and strategic investors. The company's board of directors includes the former CEO of American Express as well as one of the founding executives of PayPal.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	25-50
Inception	2014
Geographical coverage	Global

COMPANY CONTACT DETAILS	
Contact	Fleur Sohtz
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China Systems is the leading Trade Services Solutions vendor in the world, with offices throughout Europe, the USA, Asia, and the Middle East. Established in 1983, China Systems has gained extensive experience in international banking systems by exploiting the functional adaptability and development capabilities of Eximbills, its renowned toolkit for Trade Services within the banking industry.
Apart from our rich technical heritage, we also offer true global product implementation as well as support and maintenance services. We have worked with banks to implement our products throughout their global branch network.

COMPANY PROFILE	
Company type	Private Company
Annual turnover	Undisclosed
Number of Customers Total	+200
Number of Employees	Undisclosed
Inception	1983
Geographical coverage	Europe, the USA, Asia, and the Middle East

COMPANY CONTACT DETAILS	
Contact	Pedro Ramos
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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	68,000
Inception	1976
Geographical coverage	Americas, Europe and Asia Pacific

COMPANY CONTACT DETAILS	
Contact	Penny Hembrow
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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	
Contact	Bethan Cowper
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cymba technologies

Established in February 2006, with the sole objective of delivering fast, agile and functional business software to the Investment Management sector, CYMBA Technologies, from its very inception has concentrated exclusively on the delivery of such products within the Front Office environment and has successfully delivered on this objective as evidenced by its ever increasing global customer base. The Company's detailed knowledge of Hedge Funds and Investment Management processes has enabled the development of leading edge Investment Management systems for Algorithmic Trading, Execution Management, Real-time Profit and Loss (CYMBA Athena IMS), and Compliance (CYMBA Centurion).

COMPANY PROFILE	
Company type	Private Company
Annual turnover	Over £ 1 Million
Number of Customers Total	over 15
Number of Employees	Less than 10
Inception	2006
Geographical coverage	UK, US & Asia

COMPANY CONTACT DETAILS	
Contact	Karim Ali
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CustomerXPs™

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	
Contact	Naresh Kurup
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DIASOFT
the way it should be

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	
Contact	Sergey Metelskiy
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ELLIPTIC

Elliptic is an established authority on blockchain compliance. The firm provides AML technology to the leading European and US Bitcoin exchanges, assessing risk on more than $1 billion in Bitcoin transactions every month. In addition to providing data and analytics services to financial institutions and law enforcement agencies around the world, Elliptic advises governments on blockchain regulatory matters. In 2016, the firm was selected by KPMG as a "Top 10 Global Emerging Star" among Fintech startups and in March this year, went on to secure $5m Series A funding lead by Paladin Group and Santander InnoVentures.

COMPANY PROFILE	
Company type	Blockchain intelligence
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	Undisclosed
Inception	March 2013
Geographical coverage	UK, Europe, US

COMPANY CONTACT DETAILS	
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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	
Contact	Nicholas Demetriou
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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	
Contact	Travers Clarke-Walker
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FIS is a global leader in financial services technology, with a focus on retail and institutional banking, payments, asset and wealth management, risk and compliance, consulting, and outsourcing solutions. Through the depth and breadth of our solutions portfolio, global capabilities and domain expertise, FIS serves more than 20,000 clients in over 130 countries. Headquartered in Jacksonville, Fla., FIS employs more than 55,000 people worldwide and holds leadership positions in payment processing, financial software and banking solutions. Providing software, services and outsourcing of the technology that empowers the financial world, FIS is a Fortune 500 company and is a member of Standard & Poor's 500® Index. For more information about FIS, visit www.fisglobal.com.

COMPANY PROFILE	
Company type	Publicly traded (NYSE:FIS)
Annual turnover	Undisclosed
Number of Customers Total	Over 20,000
Number of Employees	55,000+
Inception	Undisclosed
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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Gem partners with people and companies to unlock the value in blockchain technology. Gem's modular platform for blockchain applications can be applied to a variety of use cases across multiple industries. Utilizing hardware security modules, key-based identity management, and automated workflows, Gem adds an industrial application layer to any blockchain. Gem's blockchain application platform empowers companies that are ready to build smarter networks and efficient economies. This transformation will be a journey, which is why our platform is built to withstand the trends of the bleeding edge and evolve.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	11-50
Inception	2014
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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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	
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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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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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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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Pegasystems develops strategic applications for sales, marketing, service and operations. Pega's applications streamline critical business operations, connect enterprises to their customers seamlessly in real-time across channels, and adapt to meet rapidly changing requirements. The solutions offered by Pegasystems are available on-premises or in the cloud and are built on its unified Pega 7 platform, which uses visual tools to easily extend and change applications to meet clients' strategic business needs.

COMPANY PROFILE	
Company type	Public Company
Annual turnover	Undisclosed
Number of Customers Total	2000+
Number of Employees	3000
Inception	1983
Geographical coverage	Asia, Europe and North America

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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SAGE SA delivers innovative solutions that help financial institutions make better investment decisions and build client trust even in uncertain market conditions by allowing them to communicate investment decisions in total transparency. SAGE SA has solutions for investment tracking, wealth management, asset management, risk management and more. SAGE SA has the ideal solution for today's financial services provider. SAGE SA offers Prospero, a suite of wealth management solutions that is user-friendly, robust and cost-effective; and BlackSwan Finacial Platform, a Portfolio Optimization solution. SAGE SA, which was founded in 1986, has its headquarters in Switzerland, and has branches in Dubai and Singapore

COMPANY PROFILE	
Company type	Corporation
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	80
Inception	1986
Geographical coverage	Asia, Europe

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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Strands is a global provider of personalization and recommendation solutions for digital banking and retail markets, serving customers worldwide, including Barclays, BBVA, BNP Paribas, Bank of Montreal, Carrefour and Panasonic. Strands serves its customers via two business units:
Strands Finance – develops innovative FinTech, empowering financial institutions to offer superior customer experiences through their digital channels
Strands Retail – drives the businesses of over 100 online retailers with industry-leading recommendation and customer segmentation solutions.

COMPANY PROFILE	
Company type	Private Limited Company
Annual turnover	Undisclosed
Number of Customers Total	20+ top tier banks worldwide
Number of Employees	100
Inception	2004
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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SunTec Business Solutions is the leading provider of revenue management and business assurance solutions to financial services and digital and communications services industries. With deployments in 58 countries, SunTec's highly functional and technology-agnostic product suite Xelerate™ empowers the clients to create real-time personalised offerings to improve profitability and customer experience while optimising customer lifetime value. The product suite enables service providers to develop, launch and monetise innovative offerings quickly. Xelerate has helped create products and services for over 300 million end-customers today.

COMPANY PROFILE	
Company type	Privately Held
Annual turnover	Undisclosed
Number of Customers Total	40
Number of Employees	800+
Inception	1990
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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Way Back is a Brazilian company working in the Debt Collection industry since 1991 and experienced both out-of-court and court debt collection stages. With a significant portfolio of customers, Way Back is a company with strong presence in Brazil and abroad working with the collection of receivables in different sectors of the economy, such as the financial, industrial, trade and services sectors. Headquartered in São Paulo, Brazil, and with a branch in Miami, USA, Way Back is present in over 155 countries and offers the best performance and service structure in the credit and collection segment by means of its business sectors: Debt Collection B2B, B2C, Judicial, International and other BPO services.

COMPANY PROFILE	
Company type	LTD (Brazil LTDA)
Annual turnover	Undisclosed
Number of Customers Total	186
Number of Employees	212
Inception	1991
Geographical coverage	Global

COMPANY CONTACT DETAILS	
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TRADE SOLUTIONS GROUP
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International Banking in a **Box**

International Banking in a Box provides financial institutions with the tools to run their international business department. Financial institutions can provide their customers with a wide range of international services including foreign exchange and trading, payments both domestic and cross-border, and trade finance instruments including letters of credit, standby letters of credit and documentary collections. Compliance checking is a key feature with full reporting and audit trail. The latest feature includes an e-wallet with instant pay capabilities.

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- International Payments ✓
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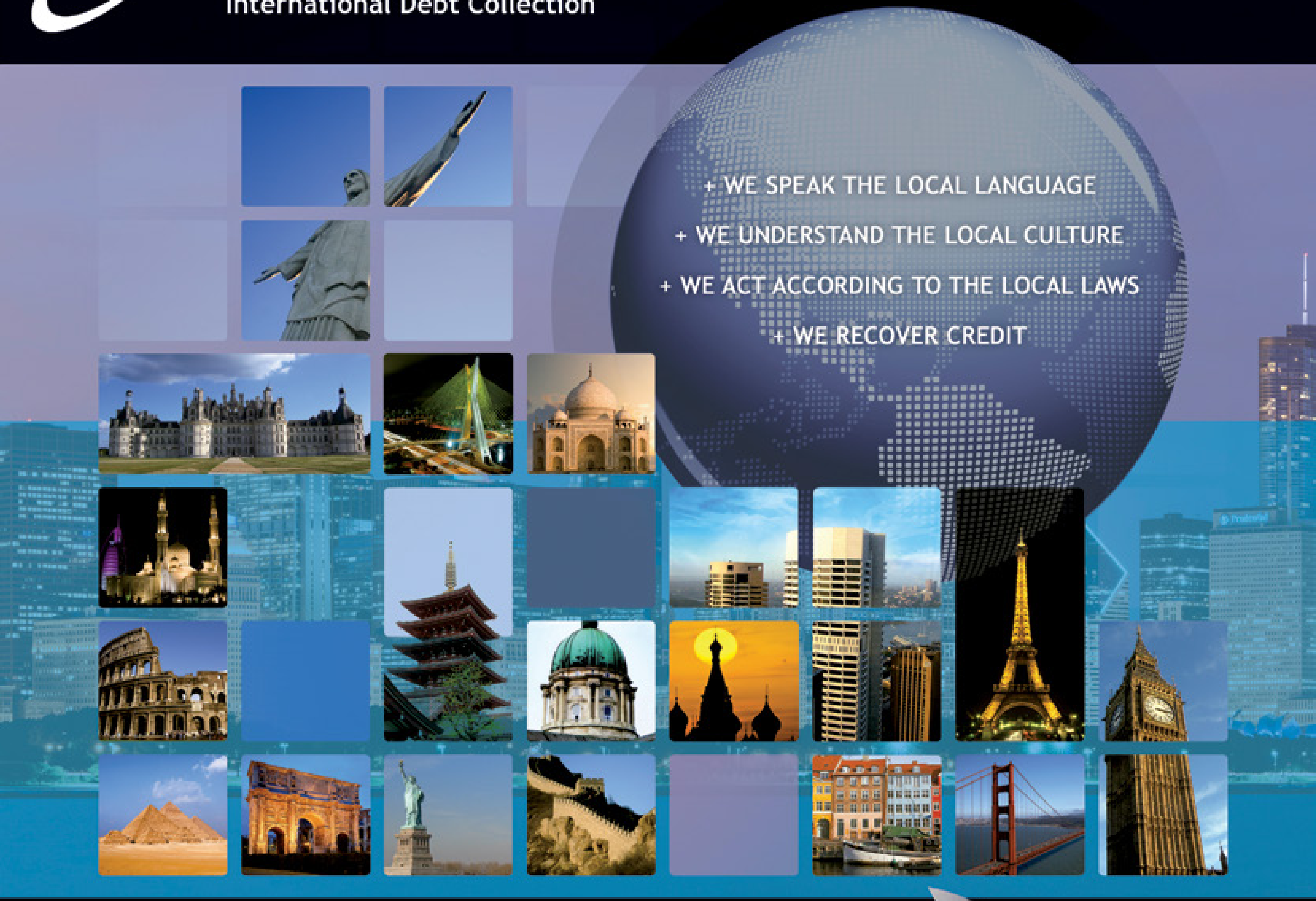
- Compliance ✓

Way Back

International Debt Collection

www.wayback-usa.com



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We offer international debt collection services across **145 countries** in a secure, transparent, ethical and professional manner on a **'NO WIN NO FEE'** basis.

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