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Financial IT

Innovations in Technology

Pamela Pecs Cytron,
CEO of Pendo Systems

ADDRESSING THE REAL SYSTEMIC THREAT

BLOCKCHAIN: a revolution in Financial Markets

By Gary Wright,
CEO of B.I.S.S. Research

BIAN's and Diasoft's Expertise: Digital Banking as a Strategic Development Direction of a Modern Bank

Hans Tesselaar,
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The Rise of the "Asian Tiger" – The Compliance Officer

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No Bubble

Andrew Hutchings,
Editor-In-Chief

Innovation will continue to drive deal-making and capital raisings across virtually all parts of the fintech universe in 2016 and beyond. Meanwhile, fintech companies will continue to have access to the funding that they need – in spite of the recent volatility in global equity markets.

As was the case in 2014, the International Monetary Fund (IMF) has been revising its growth forecasts downwards. According to its World Economic Outlook projections of July 2015, the IMF is looking for the global economy to expand by 3.3% this year. Previously, the IMF had anticipated a 3.5% rise. The world economy grew by 3.4% in 2014.

Unlike in 2014, there has been a brutal sell-off in global stockmarkets, as investors have fretted about the slowing of economic activity and financial market volatility in China. In part because of currency movements, the MSCI World Index has fallen by around 7% in US dollar terms through the first nine months of 2015. Meanwhile, the MSCI Emerging Markets Index has dropped by about 17%.

In spite of these challenges, the level of merger & acquisition (M&A) activity in the fintech sector has continued to grow apace. According to data compiled by investment bank Berkery Noyes, for instance, the number of deals rose from 169 in the first half of 2014 to 192 in the first six months of this year. The value of these transactions increased from US$11.6bn to US$18.9bn. In the meantime, the average value of each deal has grown from about US$33mn to nearly US$50mn. Median revenue multiples have increased from 3.3 times to 4.5 times: by this measure, typically valuations have more than doubled since the first half of 2013.

Similar trends have been evident in venture capital (VC) raisings, with both the number and value of transactions in the United States trending upwards. According to consultancy PitchBook, the number of unicorns – or start-ups with a valuation of at least US$1bn – in the first eight months of 2015 was 31, or almost as many as the 32 which appeared in all of 2014. By contrast, there were only 14 unicorns from the beginning of 2011 to the end of 2013.

Positive fundamentals remain in place

As the varied articles in this edition of Financial IT make clear, the positive factors that are driving the expansion of fintech remain in place. In no particular order, these factors include: the development of new and often disruptive technology; the acceptance of new technology by both consumers and businesses that are customers of financial institutions; the reduction of costs thanks to the streamlining of routine tasks; the impact on financial services of the global financial crisis of 2008-09; and the arrival of the Cloud.

All these drivers are supported by something else: extremely cheap capital. It remains to be seen whether the Federal Open Market Committee will actually start to increase the federal funds target prior to the end of 2015. In any event, the rise will only be one of 25 basis points. Interest rates will remain at very low levels for the foreseeable future – and not just in the USA.

And capital is being made available from mutual fund investors. According to PitchBook, the number of VC deals in which US mutual funds have participated has risen steadily from 34 in 2010 to 61 in 2013 and 104 in 2014. In the first eight months of this year, there were 55 such transactions. Typical valuations of investments with mutual fund participation have also been rising quite sharply.

In a world where consumers, businesses and governments are deleveraging – and where deflation appears to be far more of a threat than inflation – fintech is one of the few areas where there is rapid change and growth. Investors who are seeking opportunities that offer the prospects of rapid expansion in sales and earnings have few other places to look.

This means that the fintech sector is in something of a virtuous circle. Innovation and development will continue to be funded because of the abundance of capital. Capital will continue to be attracted to the sector because of the paucity of opportunities elsewhere.

The virtuous circle can continue for some time yet. In spite of the rapid increase in many of the metrics by which M&A and VC deals can be measured, we have not returned to the technology media and telecommunications (TMT) bubble of 1997-2000. An increase in the participation by mutual fund investors in VC deals is not the same as wholesale speculation on rising share prices of companies whose business models are based mainly on hope.

Crucially, the real changes that have taken place since then, and which continue to take place, are too profound. Fintech touches the daily lives of individuals in a much more fundamental way now than it did 15 years ago – and in a much larger global economy.

Over the coming year, the good times will persist for many in the fintech sector – and that most definitely includes the dealmakers.

The Golden Age of Transaction Banking

We warmly welcome all to Financial IT magazine. This publication is the Voice of Providers of technology to financial institutions and corporations. It covers the products and services that assist the cities, countries and regions excel in building economies and global trade. We seek to bring forward the foundation products and the latest innovations that improve business and, in turn, improve the world we all live in.

Chris Principe,
Publisher

The Golden Age of Transaction Banking is upon us, whether you are a provider, bank or corporate. Banks are seeking off balance sheet income and corporates are looking for innovative efficiencies. Compliance and regulation are providing new challenges, but also new opportunities.

It is this Golden Age that we will cover in this issue and through future editions. We highlight products, services, trends and issues, markets and challenges – and showcase innovation. As the letter from our Editor-in-Chief notes, fintech is unusual in that remains an area of growth and change in a global economy that is growing slowly.

So, what do we see as being the key trends in the Golden Age of Transaction Banking?

Technology: Much of the change in applications sold today is delivered via the Cloud. It is clear what are the advantages that this delivery channel provides. Within five years, maybe less, it will not be possible to sell an on-premises solution. Many companies (and some large ones) will fail – simply because their legacy systems do not permit them to change rapidly enough. Blockchain for financing is just breaking ground, but the long-term potential for improved governance, data management and flexibility is obvious. This new technology, which has up to now been mainly associated with crypto currencies (e.g. Bitcoin) is ready to go mainstream: and it should be a boon for transaction banking. Business analytics and big data are coming into their own -providing vast quantities of insights that would otherwise be inaccessible.

Business: Processing in transaction banking is changing for the better, making use of new technology that is available. Progress has been slower than it should be. However, analytics are leveraging social networks and co-operative platforms throughout transaction services, with benefits to all stakeholders. Meanwhile, not all banks are making necessary changes to the systems that underpin the delivery of service to clients. These banks remain reactive rather than proactive. This is particularly the case in relation to SME clients: the result is an opportunity for organizations that are not traditional financial institutions.

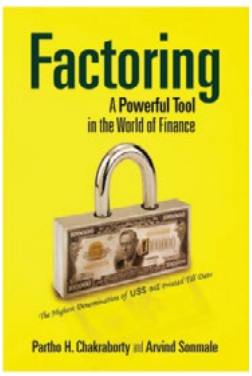
Falling barriers: 2015 will be remembered as the year in which were dismantled barriers to trade with Cuba and Iran. In relation to the former, the shift in the status of the U.S. from geopolitical foe to key economic partner should transform the island's economy – with benefits that are widely spread across the population. The latter is essentially the last major emerging market opportunity – and one that many multi-national companies will see as being too large to ignore.

We would concede, though, that the slowdown and financial market volatility in China this year means that emerging markets collectively are no longer the locomotive for the global economy that they were previously.

In the meantime, energy and capital remain very cheap: for many companies, governments and countries, this is far more of an opportunity than a threat.

The Golden Age of Transaction Banking will help non-financial corporates to solve a pressing problem: what to do with the huge amounts of cash that they have been accumulating on their balance sheets since the global financial crisis. New products and solutions such as dynamic discounting give the corporates the potential to create revenue out of cash that would otherwise be earning a very low rate of return and, at the same time, to reduce the risk of supply chain disruption.

The opportunities are clearly there for those with the vision and ability to capitalize on the technical advances, business improvements and market changes. Those opportunities include increased business and lowered costs. We look to serve you as the Voice of Providers of technology in the Golden Age.



Notion Press is extremely proud to present authors Partho Chakraborty and Arvind Sonmale who are creating waves in the finance sector with their book – **Factoring: A Powerful Tool in the World of Finance**, which is now available to readers all over the world! www.notionpress.com/read/factoring#learnmore

The book is a perfect culmination of the efforts of two of the shrewdest financial minds in India. This book attempts to break the boundaries of classical factoring and change the way we see and use it. The factoring we see today can be considered the classical form of factoring or the vanilla type.

Customers these days are very discerning and want more than the vanilla type of factoring. Since companies and banks offering Factoring struggle to go beyond this, an endeavour to solve the problem is the basis for this book.

This book, divided into 3 parts, goes beyond the classical type of Factoring with a lot of examples and some live cases. It has pictures that are unique as it gives information on and traces our history on ancient monetary system. It is a must read for everyone and serves a reference point for modern Factoring.

ADDRESSING THE REAL SYSTEMIC THREAT

Pamela Pecs Cytron, *CEO of Pendo Systems*

THE LACK OF HARMONIZATION OF DATA THAT EXISTS WITHIN THE VARIOUS LEGACY SYSTEMS OF THE TYPICAL FINANCIAL INSTITUTION IS THE BIGGEST THREAT FACING THE GLOBAL FINANCIAL SYSTEM. IT COULD ALSO BE THE GREATEST OPPORTUNITY, AS PAMELA PECS CYTRON EXPLAINS.

Innovation and disruption were central to the fintech industry even before SWIFT introduced Innotribe in 2011. Today, though, innovation has reached a frenzy. There appear to be innumerable start-up challenges, incubators, fintech investment funds and awards.

Driving the frenzy: competition, not constructive collaboration

The very concept of an award, within the frenzy of innovation, implies competition rather than collaboration. The Bluetooth Special Interest Group expanded from five members at the time of its foundation in 1998 to 8,000 members by 2007: unfortunately, organizations like this are the exception rather than the rule.

The predominance of competition rather than collaboration is only one of the challenges facing the fintech industry and, therefore, the global financial system. Another challenge is the evolution of a nearly indecipherable web of new regulations, as governments have responded to the global crisis which reached its climax in the third quarter of 2008.

The new regulations have resulted in greater compliance costs and clearer involvement of governments as guarantors of the stability of the global financial system. However, neither the new regulations nor – until now – the frenzy of innovation have addressed the most fundamental problem.

Behind the frenzy: a fundamental – and systemic – problem

That fundamental problem is the distribution of data in the typical financial institution across legacy systems. The information that is needed to understand all aspects of the clients, including overall credit exposures, is usually held in incompatible formats in different silos.

Without data that is harmonized across the entire financial institution, it is not possible for the top management to fully and quickly understand the risks that it really faces. When many financial institutions are in this situation, the problem becomes systemic in scale.

Such a systemic problem dwarfs all others. How can any financial institution efficiently comply with the varying requirements of the Dodd Frank Act, EMIR and MiFID if massive amounts of data have to be sourced from numerous – and very different – legacy systems? Can institutional investors really incorporate social and environmental considerations without the ability to assess positions across the entire organization?

That the systemic problem has persisted may be due to the advantages of vested interests from a preservation of the status quo. Consultants' ability to make money from the interpretation of data is based in part on their understanding of legacy systems. Vendors of legacy systems benefit from the continued existence – in some form – of those systems.

The solutions exist, but attitudes will need to change

Meanwhile, vendors of infrastructure are looking to exploit the rise of Big Data, which is to a certain extent in competition with more efficient treatment of data that is trapped in legacy systems. Financial institutions' internal IT staff may feel threatened if the organization seeks to gain insights by combining data from different legacy systems.

In short, a change in attitudes will be a part of the solution. So too will be widespread acceptance of analytical tools – which already exist – that can extract information from disparate legacy systems and identify patterns and trends that would otherwise be invisible.

The decisive solution to a problem usually delivers new opportunities. Every dollar of cost involved in unifying data from different legacy systems and identifying patterns can generate insights that can help to better understand existing clients. This, in turn, can enable top management to reduce risk, to operate more efficiently and/or to identify new revenue streams.

Some costs, but huge potential benefits

In short, if the limitations of legacy systems are overcome for one financial institution, the benefits for that institution will be huge. If many institutions take advantage of the solutions that are already available, what is possibly the biggest source of systemic risk will be reduced – and dramatically.

Over the coming year, expect much more discussion about the unification and harmonization of data from legacy systems in financial institutions.

pendo systems

Financial IT

EXTROPIK DATA INTEGRATION PLATFORM

Data Governance, Master Data Management, Compliance, Regulatory Reporting. These are our new taskmasters. Today's requirements to adhere to data polices are complicated by the evolution of markets over the past two decades. This includes mergers and acquisitions, customer growth, asset diversification and regulatory and compliance guidelines. The fact is that every organization has multiple sources of information, redundant customer data, and dark data held hostage in legacy systems across the globe.

Top down approaches will suggest a central repository of metadata for common data objects. This allows each of the bank's transaction systems to be examined against corporate standards. This repository then provides the foundation for projects to bring each system into compliance with the corporate model.

Pendo believes this is a very effective approach – but the time to accomplish this is interfering with the day-to-day business requirements. Deadlines are looming; customer landscape is competitive and risk mitigation the key goal. Banks need a faster method to meet these needs.

Our approach works from the bottom-up – and is heavily automated. We analyze the data automatically using software agents and then produce maps showing commonality between your systems. We examine the data, the actual data, not the system documentation. And we do it blazingly fast!

Using these automatically derived links it is possible to quickly assemble a single view for reporting.

This is how it works

The Extropik Data Integration Platform sits on servers within your organization. It is designed to assist in the data discovery process for structured data, such as the information held in COBOL systems or relational databases. Extropik connects to these core systems each evening via ODBC connection and performs a simple read of the data. For COBOL and older systems data extracts are used to load Extropik.

The loading of data is automated and requires no scripting or tuning. Extropik automatically mirrors the data from multiple source transaction systems and creates a master index of all data. This index will be used later for searching but it is also key to creating a unified aggregated repository of data.

The assembled systems might be multiple accounting systems, multiple mortgage systems or multiple data management systems to create a unified view of a single type of system. The assembled systems may also be completely different, such as loans, deposits,

credit cards, and collateral where the goal might be to get a common view of risk for counterparty, or a single view of a customer.

The flexibility and speed of loading makes Extropik an ideal platform for "quick wins". A bank can use Extropik for one project and then a few months later erase that data and use Extropik to solve a different problem in the bank.

Once the source systems have been chosen, Extropik automatically indexes all data into a single unified index with full database security. End users can search easily without writing scripts, and without needing to know the names of database tables or columns. This is a powerful aid to compliance, reconciliation or data governance. It puts the power of data discovery into the hands of the Business users, the people who understand the data best. It also lifts a burden off IT personnel and reduces the number of request submitted to IT for customer reports.

Once the data is loaded and indexed, Extropik automatically analyzes the content across these multiple systems. Visual graphs are produced to guide the business analyst toward the creation of a single common taxonomy for a customer, or a different taxonomy for each different product, such as derivatives or mortgages.

Business Analysts review the initial suggestions of the 'software agents' and refine the taxonomy, easily creating an alias view of any subject. Extropik supports unlimited views against the same assembled source transaction data. It is easy to begin creating 'single views' for Global Risk, Compliance, Marketing, etc.

Once the 'single view' is implemented it can be searched and queried within Extropik as if it were an actual database table. However, this cleansed and unified data can also be exported to the bank's chosen BI tools, such as MicroStrategy or Tableau for reporting.

This process is fast and is proven to takes hours or days to have access to this valuable data.

Where did Extropik come from?

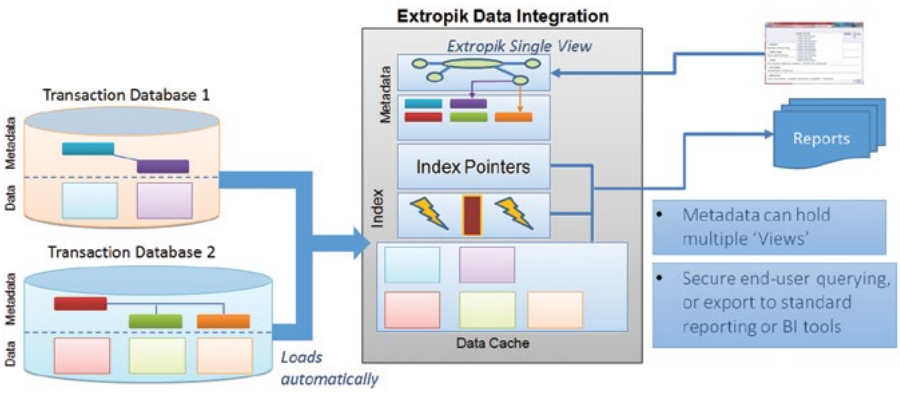
Originally designed for use in military logistics, the initial mandate was to simply locate information across multiple systems. It became obvious during development that the assembly of a virtual single view would provide the answers in a more readable manner and allow for single reports to be written against multiple systems.

The Extropik data team has decades of experience working in the analysis of patterns – including bio-informatic patterns. They developed techniques to work from the bottom-up, allowing the data within your transaction systems to inform the analyst of commonalities between systems.

What does this mean for your bank?

- Extropik can help you discover the hidden content of your systems. One customer discovered that brokers were storing credit card numbers into the Notes column of the transaction. This was unexpected but easily found with Extropik and corrected.
- Extropik allows you to create a unified view of multiple systems of a similar nature, such as a unified view of 10 mortgage systems.
- Extropik can help you create a unified view of a customer (or counterparty) across multiple disparate systems, such as Credit Cards, CRM, Complaints, Deposits, Loans, Collateral.
- Extropik allows for blended scripting of search, SQL and other languages (such as python) to allow for complex reporting.
- Extropik scripting supports our own machine learning techniques for comparing names and addresses between your systems. This module produces ranked suggestions of common entities. A powerful and fast approach to implementing LEI projects.
- Extropik runs securely within your own IT infrastructure. It also runs in the cloud if desired.
- Extropik is designed to complement your existing systems and strategy.
- Extropik is designed to be loaded by IT personnel, but used actively by Business personnel.

Extropik is winning awards and catching people's imaginations. Please visit Pendo at the SWIFT Innotribe Showcase and share your challenge and we can tell you the power of Extropik can help you.



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Fastest Payments POSSIBLE

Let's cut to the chase – the forty year old correspondent banking model is fundamentally broken. The model was established in a different era with hugely different demands being made of banks from businesses and consumers alike. Fast forward to 2015, and the time it takes to transfer money across borders and the fees which are taken along the way are misaligned to bank customers who are used to immediacy and cost transparency in other aspects of their business and personal lives.

Correspondent banking was created for high monetary value corporate and trade settlement payments and flourished in an era when individual banking channels didn't matter due to a far less complex business landscape. Banks created their own proprietary systems without liaising with other industry stakeholders for integrating better solutions across the board, for all to benefit from. They kept in-house the 'utility' operations (outbound payment networks, technologies and infrastructure), that people rely on, yet by creating them individually they became inherently slow, difficult to revitalise, and consumed capital. The result? The industry ended developing multiple bilateral agreements to service international customers' payment needs and this model is not fit for purpose in today's cross-border environment of high volume low monetary value transactions. Banks are consequently missing out on a $2 trillion opportunity.

Fundamental change can't be driven by innovation, solely developed at an individual organisational level and kept there. The banking system is overdue for innovation in cross border payments. It's time the industry becomes more agile and in line with the demands of modern enterprises and consumers alike.

By outsourcing the operations that are non-differentiated "utilities" to specialist partners, banks can develop bespoke services with their customers needs at the core – and not spend millions overhauling back-end infrastructure capabilities. Earthport's payment network, provides a future-proof middleware solution in the form of a banking 'hub-and-spokes' approach, allowing banks across the world to process compliant payments with huge efficiency, predicable settlement times and cost savings by connecting to the largest payments network through a single connection. Earthport eliminates issues of formatting, technology

Hank Uberoi has served as Earthport's CEO and Executive Director since February 2010. Previously an investor Hank says it was Earthport's unique offering in the payments market and huge growth potential that made him want to become more involved and lead the company to success.

Before joining Earthport, Hank focused on investments in technology, financial services and payments with an emphasis on cross-border business models. Until April 2004 he was the Chief Operating Officer at Citadel Investment Group. Hank previously spent fourteen years at Goldman Sachs, where he was a partner and co-Chief Operating Officer of the technology division.

"I believe there's no other company like Earthport and that it's a positive disruptive force in the industry," says Hank. "What really excites me is that through Earthport we're creating not another brand but a new industry."

Hank graduated from Williams College, Massachusetts with a BA, Magna Cum Laude. Given Earthport's global reach, Hank divides his time between the New York office and the London headquarters.


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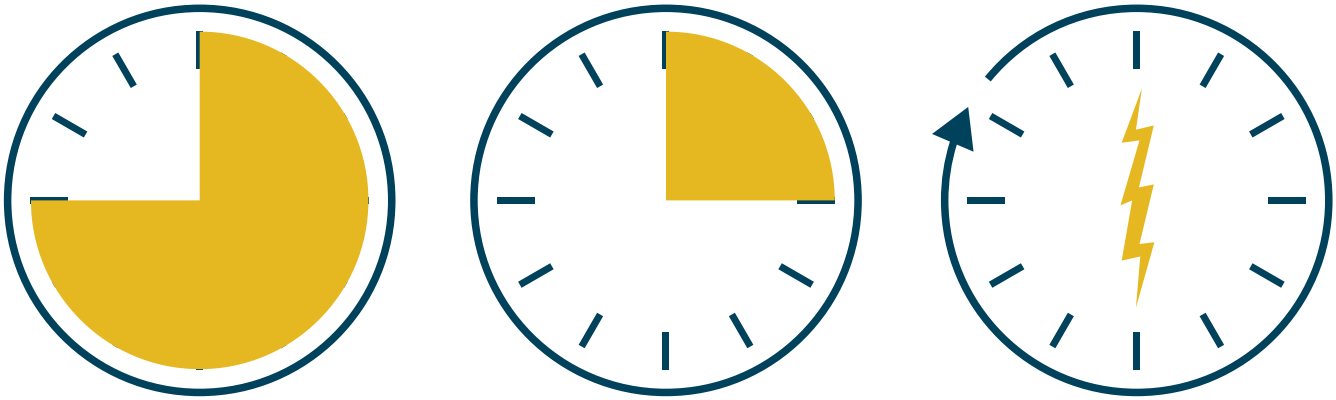

1.Expedited Payments
(within 24 hours, via our Global Payment Network)

2. Faster Payments
(Intra-day in locations where available)

3. Real-time Payments
(via Distributed Ledgers and Mobile Wallet)

and liquidity with its smart routes to optimise speed and cost to meet client requirements. With one connection, the payers' bank, is routed through Earthport and is settled to the payee in a single process. It's faster, cheaper, compliant, transparent and traceable.

What's more, Earthport enables a real-time payment solution using a distributed ledger platform, initially partnering with Ripple. In using this system, funds can be transferred immediately to participating banking customers, taking the balances from one ledger and transferred to another once payment is received, with settlement handled in due course. It's a system which would be difficult to execute within the traditional, multi-layered, correspondent banking model, yet for the modern consumer, it's one which is fundamental to agility, innovation and ease of use.

Earthport works in partnership to plug in the existing infrastructure to the hub-and-spokes model to deliver a better customer experience. Banks can pass on the cost saving, and improved service capabilities to the end user, thus driving loyalty and improving relationships with customers. With trust in the banking industry beginning to recover after the global economic turmoil of recent years, this solution brings reassurance, faith and conviction to bank customers and the market.

Banks can win back the trust of their customers – consumers and businesses – through becoming the streamlined, efficient, cost-saving operation that the public and enterprises alike demand, but in order to do so they need to break away from the traditional correspondent banking approach, and look to a better model and approach. Earthport is delivering that opportunity right now, and working in partnership with some of the biggest names in global banking – Bank of America, Standard Chartered and Santander to name but a few – to make it a reality.

Earthport's model – enabling the fastest payments possible:

1. **Expedited Payments:** using local ACH networks with a single cut off time each day for payments to be processed, the model competes against the traditional cross-border correspondent banking model, but removes intermediaries. We move money by separating the payment message from the liquidity so we can make a payment in the market without waiting for the liquidity to arrive. This paves the way for more efficient payments.
2. **Faster Payments:** This model offers several payment cut-off times a day, with frequencies varying per country. This channel also relies on the ACH network, but Earthport offers faster payments through local real-time schemes offering same day clearing services.
3. **Real-time Payments:** Banks across the world are captivated with the power of the distributed ledger but have had difficulty reconciling their compliance requirements with the technology. We bridge this gap by allowing banks to maintain their current technology and compliance regimes and benefitting from this powerful new payment advance. Our client's chief concerns – security, compliance, resilience are all addressed with this solution.

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Financial IT

By Gary Wright,
CEO of B.I.S.S. Research, founder of the B.I.S.S. Independent Accreditation

BLOCKCHAIN: a revolution in Financial Markets

There has been an explosion of interest in Blockchain technology this year. The amount of money that investment banks have thrown into start up fintech firms is quite amazing, bringing back memories of the 'Dot Com' boom. An array of ideas on how to utilise Blockchain in Financial Services have also exploded, with unabated enthusiasm from the technologists. However, the realist professionals in operations, question the potential of this new technology, against the hard nose practicalities of meeting today's operational and regulatory challenges and that of gaining budget.

So we have a classic conundrum of how to marry up imaginative and hyper-energised technologists excited by new technology with the realistic need to support today's business and be compliant. Although the difference from previous eras of technology conflict is that so many banks have thrown significant sums of money at Blockchain based ideas. So what does this tell us?

I think we can assume that as evidenced by the size of the investment by financial services firms in Blockchain that there is an underlying acceptance that this technology is here to stay. Conversely, this huge investment might also indicate that there is a fear of being left in the starting stalls, as challenger firms enter the market with a clean bill of legacy system health. Does this give you the impression that firms may not have long term confidence in their existing systems and infrastructure currently supporting them?

It's a dangerous thing to predict the future in financial markets, but I think we can agree that things are like to change drastically. Therefore the risks in investing in new technology like Blockchain look less like a shot to nothing, but more about a hedge.

Blockchain technology is in its simplest description a secure distributed ledger, enabling bilateral dealing. This is an effective use of the Internet as originally designed by Sir Tim Berners-Lee, allowing point to point communication. Whereas the financial markets today are more about centralised services, where although the customer can communicate with financial services firms directly, the firm controls the data, communications and processes. Effectively installing itself as a central controlling point of any financial transaction and of course charge significantly for their services based on this control. Even if this oligopolistic system, entrenched by contracts and systems set up hundreds of years ago was challenged in the Law Courts, it's likely that it would be upheld. Thus if an investor wants to conduct a transaction the current market infrastructure of Stock Exchanges, CSDs, CCPs and financial services firms, ensures that they have no alternative.

What then could Blockchain do to challenge conventional market systems and infrastructures?

To answer this question we must go on a journey, open up our minds and for a while park experience and what we accept as the market norm and imagine a new market. In this new market the financial services firms have Blockchains linked to a horizontally constructed database and communication is either through commercial networks or the Internet. Blockchains will be maintained securely for regulatory scrutiny and proof of compliance.

Each firm has Blockchains – possibly hundreds of thousands. Each Blockchain is identified by a unique identifier. We might muse this could be LEI (Legal Entity Identifier). Each day the Blockchain ledger is set at zero making each day unique. The Blockchain might have transactions on one side of the ledger and market information on the other side. The atomic clock will time stamp any data entered into the ledger. The Blockchain will provide the client with access, but be secure against any other entity.

In this world there might be no Stock Exchanges or the Blockchain user might be the Exchange. So we might see many hundreds of new markets created. May be the Stock Exchange of the future is also made up of Blockchain users.

In this new type of market construction we can think of Blockchains as a kind of molecular structure where the DNA of the business provider and their customers are tightly linked. The middle man will be effectively bypassed and the power will be transferred to the customer. No longer will processing power be able to dictate to the customer. It will be easy to move from one market supplier to another and there will be transparency and security. It will be cheaper and more efficient and operational risks will be reduced to virtually nothing. It will also enable new decentralised business models.

On the one hand all this might be considered fanciful and unlikely, but on the other hand who can tell?

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Financial IT

PSD2 as a Disruptive Catalyst for Payments Innovation

The introduction of revised Payment Services Directive (PSD2) in the European Union in 2017 is expected to heighten competition among the banks, open markets to non-banking challengers and foster vigorous innovation across the financial sector.

The PSD2 legal framework mandates EU banks to provide unprecedented Access to the Account (XS2A) to the trusted Third Party Payment Service Providers (TPPs) via Application Programming Interfaces (APIs) and prohibits banks from blocking such access other than for 'objectively justifiable reasons'. As there is no provision for interchange or access to the bank's accounts fees, PSD2 payment costs should be much lower compared to cards or other payment methods. With XS2A effectively supporting payment initiation and account information services, PSD2 in effect compels all FIs to redefine their competitive business and profitability models.

For smaller banks and non-banking Financial Institutions (FIs), the new regulatory framework opens a unique chance to compete on an equal footing with the established international banks. Alternatively, without using innovative analytical methods to ensure transactional profits, low margin commodity payment services are unlikely to achieve sustainability in such a highly competitive environment.

A corporate treasury could now insist on using direct PSD2 access to their EU bank's core system to establish efficient and cost effective account information services and cash management and for instigating high margin value add services, such as international payments and Supply Chain Finance (SCF). Leading payments technology vendors are also busy – advancing the architecture of their transactional platforms, defining requirements for a PSD2 bank access module, obtaining regulatory approvals for their compliance, security and privacy solutions, and evaluating exciting new opportunities for online digital offerings.

The new PSD2 ground-breaking rules also include instant confirmation, no chargeback, liability allocation, transparency requirements and customer authentication measures. The European Banking Authority (EBA) has been tasked with drafting and publishing related technical standards for online payments and enhanced security. Hence, the PSD2 role as a disruptive catalyst for payments innovation is expected to intensify in the next several years.

To survive and prosper, EU banks must find the new ways to monetise their value add payment services, restructure back office operations, revolutionize marketing, and radically improve their messaging, analytical and reporting tools. Using standardized APIs, trusted TPPs and real time payment hubs could rapidly develop sophisticated services for the account holders, which, due to PSD2, banks could no longer effectively prevent or even control. To ensure the profitability of their digital services and retain their best customers, EU banks must learn to compete and cooperate with the agile and aggressive external players.

In the new highly competitive environment, a change from closed and inflexible legacy banking or from insular corporate treasury to the open, global reach networking system could be quite challenging, especially taking into account heightened security, Know Your Customer (KYC)/compliance and privacy requirements. The resulting business and technological change would inevitably impose wide-ranging organizational restructuring, in turn affecting a bank's back office operations, choice of technology platform and partnership strategy. For corporate treasuries, the culture shock of being registered as a PSD institution, with the consequent requirements of regulatory approval and ongoing compliance monitoring, could be overwhelming.

The ensuing payment interactivity management issues – such as the development of API strategy; impact of the API framework on transactional profitability and banks' sustainability; use of intelligent automation for exception management, reconciliation, repudiation or audit processes; establishing payers' identities or providing mutual escrows – would have to be substantially advanced. This could only be done by determining transactional profitability and the potential for generating new value add revenues in the rapidly changing economic and competitive environment.

In PSD implementation, conventional low value high volume retail B2C banking (i.e., retail or mobile payments) presents substantially different challenges and opportunities as compared to high value low volume B2B banking (such as international payments or SCF). Moreover, PSD2 enabled data transparency requirements, as well as the newly feasible direct and rapid access to the transactional payment history by the law enforcement agencies, often based on evidence anonymously triggered by a second party, could have unexpected and severe implications for the bank's Board and executives alike.

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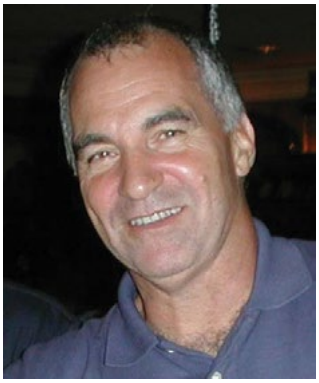

Digby Bennett
Regional Sales Director at China Systems Corporation

Digby is a veteran of 35 years of Banking and its associated technology, with 19 years in product and sales roles at China Systems.

A busy 12 months installing SCF has underlined the continuing drive to open account financing and the steady erosion of the traditional trade model. As commodities markets continue to suffer their cyclical decline the trading houses are looking to extract real efficiency and speedy turnarounds for documents and electronic document handling is increasingly seen to drive those efficiencies. Companies such as Bolero are beginning to see appreciable volumes after years of investment.

On the other side, the banks are hamstrung by high internal revenue targets designed to meet the cost of compliance and deleveraging brought about by higher capital and liquidity requirements imposed by Basle rules. Consequently business focus has moved from smaller businesses to focus increasingly on structured and tailored solutions to maintain revenue intensity. The banks have also had to face up to the challenge of an ever-aging pool of talent in trade finance, and this has resulted in a greater use "hub-and-spoke" globalized trade processing model to centralize the scarcer trade talent, while also attempting to improve processing costs for clients.

Together, these trends mean that Banks are focusing more on the digital bank experience through electronic channels rather than branch networks to drive throughput. Documents such as bills of lading are being made electronic with supporting documents being scanned into centralized document management systems for processing. While BPO has not yet made mass-market adoption, a lot of the footwork is being put in to lay the foundations.

Enhancing the client experience

The client experience is "glued" together with strong workflow management that enables "follow the sun", and work-sharing between teams in major banks and customers alike. For corporates Shared Service Centres, or Centres of Excellence are putting in place uniform processes to drive "vanilla" processes, while structuring teams work on the complex processes.

In banks nowhere is this centralization more exemplified than by the growth of the middle office function, which brings risk management skills and structuring together into a single function. The middle office sits between the back office, the sales team and the client to provide the optimal structure for risk mitigation and revenue accrual. In one major case, China Systems, has built complex online work-sharing that connects the bank and the client throughout the transaction initiation. This is aimed at reducing the scope for errors through strong collaboration. Documents are exchanged and commented on through an auditable process until finally the transaction is submitted for processing. This ultimately speeds up the processing time, while ensuring that the bank is properly protected.

In another case, the bank has brought together processing of open account and trade transactions onto a single operating platform, thereby enabling the client to deal with one team and experience a single integrated operating model from initiation to fulfillment. Again the benefits in speed, and efficiency are significant as the bank eliminates internal competition for the same client, and creates a platform to enable the most optimal structure to be delivered.

Nirvana of digitization?

As this work on digitization continues, so the inevitable question arises of whether we are at last going to see a fully electronic and digitized trade cycle? There is, for example, already work underway to create the first "Blockchains" for a trade that encompasses all the major trade events in an encrypted group of data. This technique, pioneered through the development of crypto-currencies such as Bitcoin, provides the opportunity to create a trade instrument that both reconciles data throughout the trade cycle and also enables different parties to share the same reconciled data. In essence, for the first time the digitized experience will not be about finding discrepancies: it will be about providing agreements that could result in different guarantee and financing opportunities.

This capability, when coupled with technologies such as apps, mobile payments and collections, offers the ability to offer mass-market trade and payment capabilities for customers in remote areas. The ability to link the block chain through identity and authorization on the mobile provides a clear opportunity to reach remote farmers, with their buyers in the developed world and to leverage the credit and capital.

Enabling developing market growth

China Systems is working with a development bank funded project and with a mobile e-commerce and payments platform to deliver mass market open account processing to support a major small business enablement programme. This fully electronic mobile solution combines the "legacy skills" of trade processing with the mass market appeal of mobile – Blockchain would offer a powerful future model in this scenario. By integrating payment, document delivery and logistics, the programme will reach into remote areas to support growing entrepreneurs and farmers. The platform will also support syndication of risk assets to create additional risk capacity in the trade cycle: a vital element for capital starved growing economies, and is already attracting attention in countries as diverse as Australia and Pakistan.

All of these influences represent a convergence of regulation, technology and cost management. The continuing drive on cost, the scarcity of capital and the need for transparency are at last pushing a real change in the 300 plus year old processes that have characterized trade operations until today.

Financial IT

THE RISE OF THE "ASIAN TIGER" – The Compliance Officer

Micah Willbrand,
Director - Global AML Product Marketing at NICE Actimize

"End-to-end" anti-money laundering control is only recently a hot topic in the Asian compliance atmosphere. Up until a few years ago, most Asian financial organizations employed disjointed point solutions to address basic sanction checking, transaction monitoring and CDD/KYC checks, but nothing that would be considered a "best practice" from a Western point of view. But times have changed with respect to how these processes are viewed.

From the actions of the Hong Kong Monetary Authority, to Australia's AUSTRAC, to Japan's Financial Services Agency, the Asian community is seeing a broad strengthening of its anti-money laundering policies and regimes. The biggest impact however, will likely come from the Monetary Authority of Singapore's ("MAS") recent amendments to order 626. This change is not only going to affect financial institutions in the Singaporean community, but also further into Asia and beyond. MAS 626 gives the Asian community a sneak peek into what the future holds:

1. AML is more than just transaction monitoring – the future will see more emphasis on the CDD and KYC processes which serve as the first point of entry for customers into a financial institution and whose data must be considered as part of a holistic AML program. These processes are more important than ever in translating that information into meaningful intelligence.
2. Global regulators are more in step than ever. We have already seen that the 2012 FATF 40 Recommendations have helped to solidify agreement among global regulators on expectations from financial institutions in the manner in which they onboard, monitor and report on their customer base.
3. AML threats from trade finance are of particular concern in the Asian theatre. We see that this will be an area which will be further developed and focused on – not just from a sanctions point of view, but within CDD/KYC processes and transaction monitoring typologies.

Further, MAS 626 starts one of the most unspoken conversations in the financial community – how do you deal with a "consumer" and a "customer." This is of particular importance in Asia due to the large amounts of unbanked and underbanked customers in the region. In this context, a "consumer" is an individual who is not an enrolled customer at a financial institution, but who uses a provided service from the financial institution – such as money remittances for migrant works. "Consumers" are more transient and more difficult to track than "customers," since a customer has an established account and is "known" to a financial institution, i.e., through a formal CDD/KYC process. Discussions around best practices to regulator expectations with the consumer vs. customer problem will be ongoing and problematic over the coming years, but the Singaporean and Asian community will be leading the thought process on this controversial topic.

Overall, it is amazing to see the strides the Asia-Pacific region has made in terms of regulatory compliance the last 3-4 years. From the hiring of dedicated Chief Compliance Officers, to more formal onboarding and monitoring processes, to even pushing the envelope with third parties on how to identify emerging areas of abuse in the trade finance area, Asia is rapidly moving to an even level with its Western counterparts in compliance regimes. It would not be surprising to see those Western counterparts clamoring in the not-so-distant future, "How do they ensure AML compliance so successfully in Singapore?"

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Financial IT

Digitization: boosts value for banks' customers and shareholders

In an era of unprecedented change, technology offers banking clients greater access to information than ever before. Out of this revolutionary advance, a new class of smarter and more demanding customers has emerged. In tandem, new fintech players are moving quickly to offer new compelling digital services. As with every major change triggered by technological advancement, there are clear winners and those who are unable to adapt. Banks that embrace digitization have an opportunity to generate new business value and better engage with their customers.

Back-offices today rely on multiple data sources, which are mostly not consistent with each other. Therefore, it is difficult for a bank to have a 360-degree view on its client's needs, profitability and risk profiles. Furthermore, process such as loan origination etc., are often not standardized throughout the bank's subsidiaries in different countries, or even within the country.

Masses of people provide interactions on terminals to adjust and ensure through manual intervention that correct numbers are delivered to the board, the regulator and finally also to clients. Automation and intelligent software can fulfil these tasks faster, better (ie with fewer errors) and more cheaply.

In short, digitization can help banks to compete. They are looking for 'solutions as a service' – a concept that goes way beyond 'software as a service'. More than that, though, digitization can help a bank to serve its customers better.

12 ways banks can exceed customer expectations

Customers want a great experience from their bank. But, what makes that experience great? It is not a better checking account, but the way in which banks engage their customers. The interaction between the bank and the customer is the product. Customers want their bank to:

1) **Find them.** They want to be found not based on some broad demographic, but on very specific characteristics. Use visualization and analytics to discover new customer segments.
2) **Ask them.** They wish to be asked about financial products and given suggestions about services. Consult them on products, services and social issues.
3) **Advise them.** They look to their bank to provide advice based on transaction data, social data and on all the different pieces of information they have given their bank. Bring expertise to every client interaction by consolidating data.
4) **Know them better.** They want to feel like their bank has a 360-degree view of their relationship with the institution. Bring new services based on an understanding of their wants and needs.
5) **Stick with them.** They desire a relationship with their bank that covers them and their family throughout their lives. Connect customers and households using data and insight.
6) **Excite them.** They want their financial institution to show interest, educate them using their preferred channels and to delight them with special services. Surprise your customers with unexpected services.
7) **Assist them with corporate intelligence.** They want comparison data. Who is buying what in their category of customer and what should they be thinking about? Provide peer analytics in virtual channels.
8) **Trade with them.** They will give the bank information if the bank gives something in return. Retailers do it: banks can, too. Offer better products and value in exchange for customers sharing data, location and even new ideas
9) **Educate them.** They wish to understand things and expect the

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Dr. Attia Naguib was the chair of Aerospace Industry Association (AiA) Technical group, a senior member of the Institute of Electrical and Electronics Engineers Computer Society (IEEE), member of ChemIT, and other industry organizations

Dr Attia holds a Ph.D. Computer Science from University of Essex, England.

bank to use mobile channels to educate them. Offer digital online education and financial tips.

10) **Alert them.** They expect their bank to know what is going on in the world, and if something changes in the market, to bring them information that will help. Use real-time predictive analytics and personalized customer communication.
11) **Give them choice.** They want multiple choices in payments, investments, services, channels and how the bank treats them. Offer them options instead of prerequisites and roadmaps rather than checkboxes.
12) **Protect them.** Customers want to feel that the security and protection the bank offers are not painful or irritating. Provide multifactor security that protects instead of punishes.

The digitally optimized organization

Becoming a digital bank also means transforming the bank's own culture and organization. A digital native organization is more agile in adapting to ever-changing customer behaviors. Many traditional banks create a subsidiary with new teams and fresh minds when starting a digital brand. They hire talent or look for advice from more customer-oriented industries like retail. Examples:

Business model innovation

A large Greek bank created a Cloud-based multilateral trade offering between Greek businesses & their international trading counterparts across 180 countries.

Revenue model innovation

Signature Mortgage Corporation introduced a Cloud-based integrated collaboration mortgage solution, so customers can apply and complete loans electronically.

Operational innovation

A large bank implemented a Cloud environment that delivers personalized product offers across multiple channels to customers in real-time.

Provided these significant progresses in technology (intelligent software & hardware, Watson, Cloud), banks should take advantage of and replace labor through automation. As labor is still the highest cost, this automation is a significant contribution to reducing the overall cost and therefore improving substantially the CIR. At the same time improved quality leads to an improved reputation attracting more clients and therefore to an increase in income, which lowers the CIR again.

The bottom line is that the Cloud can play a central role in improving a bank's cost-to-income-ratio (CIR). Automation enables the reduction of labor, which is usually the highest cost. An improved quality of service should attract more clients (or greater business per client). Both these changes lower the CIR.

Regulators in a number of countries have acknowledged that the public Cloud is adequate for banks. The public Cloud is the standard, and will remain so in 2020.

Financial IT

Fintech and the Cloud: delivering speed to those who need it most

Fintech companies would have had far less impact in the broadly defined financial services sector if the Cloud did not exist.

The fintech world has a lot to thank Cloud services for. The banking industry, struggling with post-credit crisis regulatory controls and unable to move an inch towards innovation, badly needed help. The possibility of high-scale disruption through fintech, the ability of fintech to meet the demands of the consumers quickly and the proliferation of new banking business models – all have come about thanks to the Cloud.

In the new ecosystem of wide-spread smartphone use and a user-friendly shopping experience, the customer is king. All industries are thus forced into providing an intuitively consistent user experience. This is especially so for financial services, which had the biggest challenge creating a seamless customer journey with a back-end full of legacy technology. Fintech has taken apart almost every single piece of this traditional banking experience and used Cloud and mobile technology to develop a faster, simpler and more interesting way to provide the same service. New business models have emerged in the process, creating a virtuous cycle of innovation, with these models going on to improve the available technology.

The Cloud as a key driver of fintech

The Cloud is an integral part of the way fintech firms have sought to create innovative business models and a better customer experience, while essentially bypassing the legacy systems in the larger firms.

Lending is perhaps the one fintech area that has transformed itself beyond recognition. Peer-to-peer lending and microfinance firms have utilized the Cloud to tackle the traditionally cumbersome process of applying for, and lending money. The lending platforms, utilizing machine learning technologies and algorithms to assess credit worthiness, have helped speed up the pace of innovation in fintech. This is currently the largest fintech sector utilizing Cloud-based delivery models by market share, with the US and UK setting very high growth rates. The UK itself generated $2.3 bn in peer-to-peer loans in 2014.

Payments processing to payment cards management to billing and statementing firms have used the Cloud for not just data management and storage, but also for creating a much faster end-user process in a secure way. BBVA is one of the banks that have used VISA's Cloud payment programme for its BBVA Wallet offering to expand internationally in a fraction of the time it would have taken for it capture the market otherwise.

Personal Finance/Wealth Management has seen incredible growth in the past two years, and has emerged as one of the sectors heavily utilizing big data on Cloud. By moving the investment management to a decentralized environment and using behavioural sciences applied to big data in the decision making process, fintech firms have been able to provide near-idealistic portfolios for a mass customer base. The perceived issues of security on the Cloud and regulatory bottlenecks are still an issue with automated asset management; however, banks, fintech firms as well as end-users are willing to experiment with the offerings as they offer a far superior and cost efficient service compared to traditional advisory methods.

International Money Transfer is a market that has been traditionally controlled by banks (they handled 85% of the transactions in 2014) but the likes of Transferwise, WorldRemit and CurrencyCloud have transformed this into an industry that is expected to save $16 billion in money transfer fees a year. Bitcoin-based currency transfer services like BitPesa and ZipZap are creating an entirely new market that will continue to bring down the hefty fees, poor exchange rates and long delays that have been characteristic of international money transfers.

Big Data on the Cloud

While the above business models are evolving and maturing with a focus on scale, some of the biggest users of Cloud technology today are big data fintech firms. The vast majority of graduates from the fintech incubator programmes in New York and London are big data firms and there are three types of these emerging in the fintech world:

- **Analysis.** Firms that try to make sense of the vast amount of customer, market and transactional data available to them. Firms like Centrifuge and Eldo work on available data to draw insights and linkages from the data available.
- **Transformation.** Firms that try to convert data into various formats, most commonly converting big data into machine-readable formats.
- **Transmission.** Firms that try to provide all available market data to end-customers, sometimes, as Xignite does, providing APIs to access real-time market data.

A PWC study shows that 62% of firms believe that big data is the solution to creating competitive advantage. However, the data availability and usage are in the infancy stages – the quality and consistency of data available, as well as the insights being developed will take years to mature and it may be a major risk for the quick adoption of fintech and innovation in the industry. Security and trust are issues that need immediate addressing and biometric security has been one of the fastest growing sectors this year.

About Devie Mohan

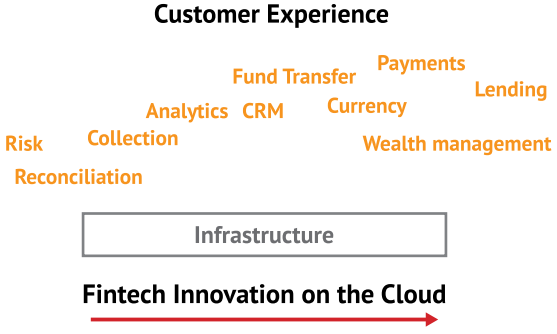
Devie Mohan is a marketing strategy and research professional with experience in the fintech, banking and telecom industries. She handles proposition marketing for Thomson Reuters' Services groups and is based in London. She is also the founder of a fintech research and collective mentoring firm that supports fintech startups with advice and data. She is actively involved in the fintech community and has been listed in the top 20 of City AM newspaper's FinTech Powerlist and in Innotribe's FinTech Power Women list.

Losing control over data is the largest perceived threat to the adoption of the Cloud by banks today, especially in increasingly complex regulatory frameworks. This was a challenge that fintech firms could address, and they were able to innovate and launch highly disruptive products and services on the Cloud, even creating new markets in the process. Banks are trying hard to catch up and the focus has now shifted to performance. Banks have deployed Cloud-based infrastructure and applications to varying degrees of success and the focus has now shifted to the manner of deploying data on the Cloud. This has signaled a fundamental shift in the way traditional firms think today, with Cloud-based deployment being accepted as the norm for innovation rather than a fad.

Digital banking on the Cloud

Private Clouds have been used by traditional banks primarily as a means of cutting costs – without fully realizing the power it has to support in innovation and helping launch products and services quickly. The Digital Banks, however, understand the power of the Cloud to create an agile environment to meet the fast-changing demands of the customer. They want to launch products and offers to micro-segments, edit them based on immediate market feedback and market them with a view to micro-profitability. All of their core software resides on the Cloud, with Cloud-driven applications for everything from new account opening and loan origination to mobile banking, personal finance management and bill validation, taking care of the end-to-end customer lifecycle.

Meanwhile, fintech players like Mambu provide a core engine to digital banks as well as traditional banks with digital aspirations to handle the launch and management of new products and services and build an ecosystem based on the Cloud. Almost all of the digital banks engaged in the licensing process in the UK today, including Starling, Hampden and Civilised, have gone in for a purely Cloud-based technology strategy. Accounting and taxation on the Cloud is also beginning to see wide adoption, with players like Xero, MYOB and Intuit offering banks a way to integrate the "books" with the products, with a huge opportunity for change in the way product and transaction profitability are calculated.



There are significant opportunities for improving the customer experience by addressing individual components of the banking or payment process. The use of the Cloud for this improvement is not restricted anymore and fintech startups around the world are looking to improve aspects of risk, compliance and reconciliation that were traditionally considered insignificant contributors to customer experience.

The emerging trends

A couple of years ago, the Payments industry was the darling of fintech, with firms like Square, Stripe, WePay and Venmo leading the way in VC funding. In 2014, the largest investments were received by the lending sector, with Lending Club, a crowdfunding firm, going for a big IPO. Although payroll/accounting firms and Money transfer received the next largest funding by sector, the next largest number of firms that received funding came from the Personal Finance category. In a recent survey of influencers in fintech, it was seen that the next big area of fintech investments needs to be in Security. It is widely seen as the largest opportunity for change in the sector. More than $7 billion in capital raised has funded over 1000 deals in cyber security in the past five years. Blockchain protocol is being used to improve security through machine learning and cryptography.

All of these fintech trends show that Cloud-based business models are here to stay. Once the biggest perceived challenge of security and privacy of data on the Cloud is taken care of, Cloud-based innovation can find the speed it deserves. Cloud infrastructure as well as applications have an important role to play in the future of fintech. Perhaps most crucially, it also offers the ability for speed and efficiency to those that need it the most: the traditional financial services providers encumbered by decades of buying and developing heavy, complex and slow platforms.

Disclaimer: The views reflect the personal viewpoints of the author and not of her employer.

Financial IT

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BIAN's and Diasoft's Expertise: Digital Banking as a Strategic Development Direction of a Modern Bank

Bank customers have changed. Classic banking services are now consumed by people of the Next Generation – Generation Z. These customers select quick and convenient ways of using banking services. They are already integrated into the digital environment, and banks should run twice faster if they want to be ahead and to provide the new generation with modern services in the digital environment.

Many banks have already implemented remote banking systems, integrated them into the existing IT landscape and provided their customers with an access to their products and services via Internet and Mobile channels. The question is: Does this solve the task of creating a dynamic digital environment for the new generation of users? What is the digital banking concept? What should a bank do to integrate successfully into the already existing digital environment? What features should the digital platform have to ensure the bank's long-term development in the digital environment? We have discussed these and other vital questions associated with the development of digital banking with Alexander Glazkov, Managing Director, Diasoft, and Hans Tesselaar, Managing Director, the international non-profit association BIAN.

Who is Going Digital?

As of today, most banks have standard multi-level processes that require enhanced controlling. These processes are supported with the help of core banking systems, which allow banks to provide their customers with high quality products and services based on the traditional servicing approach. Implementation of separate servicing channels – Internet banking, Mobile banking – does not solve the task of creating of a digital environment in a modern financial organization. *"You cannot build a digital environment out of suits, by implementing individual service channels. There should be created a complex vision, an ideal picture of the digital bank"*, says Alexander Glazkov.

For a classic bank, it is quite difficult to integrate into the existing digital environment or, moreover, to create their own digital landscape that will develop in pace with demands and expectations of the new generation of customers. Large, systemically important market players that have been investing into development of their digital strategy and innovative banks that initially created their business model in the digital environment have become the locomotive of the banking business digitalization. Such banks take top positions in authoritative ratings and market surveys, their internal processes, as well as their products, services and delivery channels are based on the one-to-one principle, that is the bank and the customer communicate directly with each other without involving customer service managers or consultants. Other market players either try to catch up with these banks or decide to give up any digitalization attempts.

It is worth mentioning that the market of traditional banking services faces appearance of new players that offer innovative financial services. These are both non-banking companies (Google, Apple, PayPal, Square, and Amazon) and new providers of banking services, such as international Knab, Moven, FidorBank and others, establishing a very strong competition for the traditional banks and winning big market shares. To stay abreast of the changes, of tough competition and of the new generation's requirements, banks should develop quickly, and even stay at least one step ahead, anticipating customer needs. To do so, they will need multi-functional information technologies.

According to Hans Tesselaar, *"the Financial Services Industry Value Chain will transform into the Value Network where all, current and new, actors will find their roles. It's key for banks to determine up front which roles they want to play (keep playing) to stay profitable. So, it is not about competing but about collaboration. Banks are trustworthy and they can take advantage out of it. They should avoid turning into "White Label" product providers that will completely become invisible for the customers, but they will stay responsible, at high cost, to be compliant to all regulatory rules"*.

Creation of a new bank business model and building of an IT architecture that will be able to efficiently support its development, including the digital area, is a highly time and budget consuming task. Banks can reduce their integration costs (specifically, expenses for integration of core banking systems and front-office solutions

Alexander Glazkov,
Managing Director, Diasoft

Hans Tesselaar,
Executive Director, BIAN

used for customer servicing), increase flexibility of their IT solutions and streamline the existing IT architecture with the help of the reference model offered by the Banking Industry Architecture Network (BIAN) – an international non-profit association of banks, software vendors and service providers.

The BIAN's strategy is to unite the leading architects of banks, software vendors and service providers to create common standards based on the principles of the Service-Oriented Architecture (SOA). Leading software vendors and IT-service providers implement the BIAN model into their solutions as the most promising architectural model that meets the development requirements of the modern market.

"Diasoft is our partner. This gives us both the opportunity to have an open knowledge exchange and make the BIAN deliverables applicable in a different banking landscape. This also allows Diasoft to tailor its solutions to a wider market. I firmly belief that in the near future more banks will also join the BIAN community to give their IT architecture a boost", commented Hans Tesselaar.

Digital Banking

What is the digital banking concept, so popular today, and what organizational and technological steps must banks take to be successful on their way to digitalization and to create the digital-oriented development strategy?

"The way I perceive Digital Banking is to offer the bank's customers the same experience they have at Apple or Amazon. All customer interactions should be 2 or 3 mouse clicks away and processed real-time and 24/7. This requires Channel Consistency, (Automated) Personalized Offerings, Straight Through Processing (STP) and Real-Time Insight", said Hans Tesselaar.

As mentioned by Hans Tesselaar, an important cornerstone of becoming a digital bank is the "Employee Culture". The staff needs to be empowered to enable agile development in all aspects of the bank. Long and hierarchical decision-making can and will block timely innovations. This is a challenge for both management and employees. This also requires an agile IT environment that enables (and does not block) timely and fast changes in product offerings, usage of channels and (digital) back-office processes.

Banks that had been building their organizational and technological processes during decades and then, following modern trends, implemented remote service channels, make a mistake thinking that thus they have covered their customers' demands for remote services. By integrating classic core banking systems with service channels from different vendors, they have to deal with a complicated and costly integration project, which eventually does not allow for further development, and, therefore, for meeting customer requirements and expectations.

Digital banking is a development strategy of a bank that decided to move towards digitalization. The digital environment and the digital culture must become a natural environment for both bank customers and employees. If the implemented changes are not accepted by bank employees at different organizational levels, there will be serious difficulties in customer communication in the digital environment.

Digital Platform

In our discussion, we also touched on organizational changes, which must be made by the bank management for realization of the digital strategy, and on development of information technologies, without which it is impossible to build the digital environment. So, what are the main requirements that must be met by the dynamic and technological digital platform?

Today the classic bank should really make a lot of efforts in order to become digital – the bank should transform everything: its operating model, its processes, and the way it sells products to customers. Digital Banking, first of all, means customer convenience and customer centricity. The new generation of customers wants to receive services not simply fast, but also remotely, through digital channels, and without any extra efforts; a new generation customer does not want to simply have a choice, but a horizon of opportunities.

In order to respond to this demand it becomes very important to combine technologies with customers' requirements, with what they expect to receive from the bank.

That is why a modern financial institution should keep in mind three key factors that help shaping a dynamic digital environment:

- ***Effective Communication***

  The Digital platform should ensure effective communication between the customer and the provider of services – the bank, focus on the highest level of customer servicing. Effective communication means simplicity, convenience, usability, security, personalization, and quick provision of services, customized for the new generation of customers.

  The effective communication must be omni-channel – a customer should have a consistent access to all services across all channels without any dependence on his/her location or a transaction type (for example, a customer can submit a loan application through the branch or the online banking, then track it via his/her mobile application, and later use both channels for loan management). Such effective communication is achieved through the use of modern interface development methods in existing channels, like online and mobile banking, and provision of tools for building third-party channels.

  The communication is very sensitive; it can be broken very easily. If there is something that a customer dislikes about your mobile application, he/she will delete it from his/ her mobile device with a single click and move to another bank, which provides a more user-friendly, modern and simple application. That is why the efficiency of communication is a crucial factor for building of the digital environment, and it is necessary to have a vision of how the user wants to communicate with a bank and to ensure a personal approach to each and every customer.

- ***Proper Channel Support***

  To build a digital environment, it is not enough to simply provide support of remote and other channels – a bank should have a special layer of effective processes for servicing these channels. These processes must be streamlined and efficient; the bank must ensure their ongoing control and separately evaluate and monitor them; these processes should also be able to change quickly to match the demanding channels.

  Due to the omni-channel specifics of the digital environment, with a customer easily switching from one channel to another and able to process the same query through all available channels at the same time, classic bank processes that have been built over years and are based on the standard core banking system will not work here. The bank will need a separate Font Office solution, supporting omni-channel servicing processes, represented by interactive digital services.

  "To build a digital environment, a modern bank needs a separate class of front-end solutions capable to support an integrated process of customer servicing via any channel – an ATM, a call-center, Internet bank, Mobile bank, a branch network. Such solutions must allow banks to setup this process only once, integrate it with classic core banking systems via APIs, and then connect channels – simple, convenient, with identical interfaces – to ensure customer comfort in services", commented Alexander Glazkov, Managing Director, Diasoft.

- ***Analytics and Security***

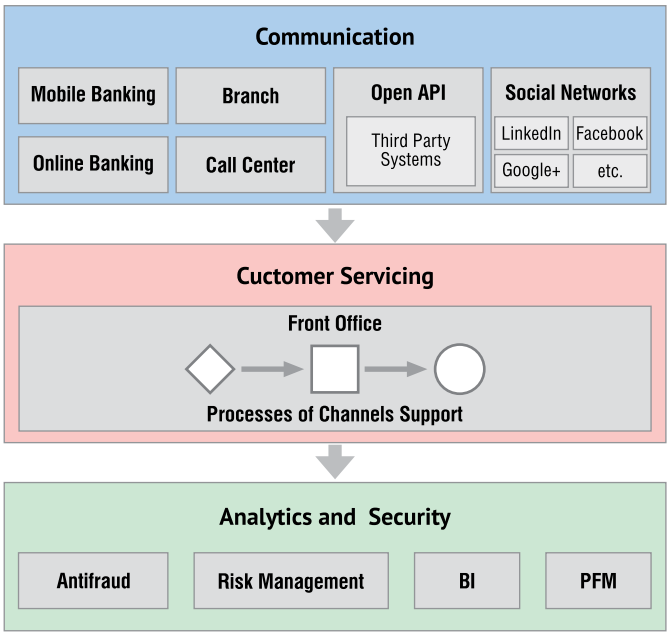
  Good communication with a customer must be reliable and secure. With availability of omni-channel support and open APIs, there appears a lot of new information coming from outside: e.g., what pages a person likes in his/her Facebook account, what he/she publishes in his/her news line, where he/she checks in, and etc. Collection and analysis of all this valuable information can help ensuring:

  - Smart sales with personal offerings based on the deep analysis of the customer behavior. For example, if a person often accesses social networks groups or web-sites about cars, the bank can offer him/her an auto loan on special terms.
  - Security of customer services through risks assessment within the bank.

The 360-degree customer view and predictive analytics are all about understanding what customers need – even before they need it. The demand for it now is increasingly high as soon as it allows providing customers with relevant, personalized experiences that can only be achieved through digitally led conversations and data. By analyzing data from different sources and channels, banks can begin to unlock buying patterns to further respond to all customer needs and improve the level of their servicing.

"The digital platform must provide a single mechanism of business processes management, IT security, access to services, and integration with the core banking system. The single processes of servicing used as a basis of the digital platform will allow the bank to adjust its products and services for any service channel, including branches. The platform also must support integrated access to customer data and bank services in different channels to avoid inconsistency in actions, for example when a service is provided via the Internet bank and via the call-center", commented Alexander Glazkov, Managing Director, Diasoft.

Digital Environment



Other important requirements to the digital platform include the round-the-clock availability of bank services and support of customers' ability to manage their access to bank services in different channels. A modern IT platform should be seamlessly scalable, consist of different components that can be replaces by components from other vendors. Therefore, there is a need for standardization

of those components; there should be a general agreement on what functionality is expected from a specific module / component. *"If banks and vendors can agree on the boundaries of these components and the information dependencies between those components, we are a big step closer to an "App Store for Banking Software" and "Plug and Play" can become reality",* said Hans Tesselaar.

Another important concept for the development of the digital platform is usage of open APIs for integration of customer service channels into external systems, such as social networks and search engine widgets, individually configured by each user. If banks want to offer to their customers other services in addition to their own or to exchange data, usage of APIs will make this interaction quick and convenient. The Open Bank and Open APIs will be more and more enforced by the regulators to increase competition. For example, in the UK, HM Treasury tries to enforce standard around Open APIs before the end of this year. The BIAN arranged an Open API Working Group with the aim to define a standard around developing such APIs. This will not be an easy task but there is a huge need from the industry because now all banks are developing the same APIs at huge expenses.

FLEXTERA Digital

Knowing the key principles and methods of building a dynamic digital environment, Diasoft has developed a special solution FLEXTERA Digital, which accumulates all these factors and the company's more than 25-year experience in the market of financial technologies.

Diasoft was among the first companies in the financial services market that started using the SOA technologies for the design and modernization of its products. The company's flagship product – the new generation FLEXTERA solution – is based on the principles of the Service-Oriented Architecture.

"Due to the proper architectural approach with the use of the BIAN practices, FLEXTERA for financial institutions is positioned the Leader in the new IDC Global Core Banking MarketScape", underlined Alexander Glazkov. The IDC Global Core Banking MarketScape is a rating of core banking solutions that best of all meet the development strategy of the modern market.

FLEXTERA Digital offers to its customers efficient tools for implementation of remote service channels – both Diasoft's own out-of-the-box channels (mobile banking, online banking, and others, based on the user experience, which the company monitors on the ongoing basis) and third party channels, which can be connected via the open APIs provided by Diasoft.

FLEXTERA Digital incorporates solutions of the BI class for the analysis of big data; Anti-Fraud and Risk Management solutions for increased security, and the PFM functionality for customer convenience. It ensures omni-channel support, consistency of bank services across all the channels, and quick connection of new external channels through open APIs. Only the combination of all these technologies allows ensuring the highest level of customer services.

"The platform FLEXTERA Digital, based on the single business process of customer servicing, will allow banks to realize their digital strategy in a step-by-step manner; use Diasoft's expertise to reduce architectural and project risks associated with implementation of the digital platform; evolutionary redesign processes and structures of banks, keeping unchanged their unique business features. FLEXTERA Digital represents innovations that are available for all banks. It allows creating both the digital environment that meets requirements and expectations of the new customer generation and the internal digital culture of the bank itself", said Alexander Glazkov.

Which Way to Go?

A bank can choose different ways for its digitalization. It can decide to build a dynamic digital environment on its own and create its own channels. In this case, it must be ready to face the risks associated with this initiative. These are architectural risks caused by the technological complexity of the project (the bank will need to accumulate complex architectural knowledge and have a deep expertise in building effective communications, which, nevertheless, can appear insufficient for the success of the project). There are also financial risks, as it is always difficult to create something from zero. Of course, there exist examples of banks, which have created their own digital platforms, but it is also well-known that all these risks have worked in these cases – they have spent lots of funds and resources for building of such an environment.

A bank also has another option – it can select an out-of-the-box platform for building a digital environment, which already accumulates best practices of building such systems for banks, which already covers all these risks, and which has architecturally adjusted and validated solutions. This platform is FLEXTERA Digital.

Way Back
International Debt Collection

Unitas et Unitatis

The international debt collection process deeply and safely permeates the theme Union and Unity; in other words, the concept Unitas et Unitatis.

Collecting outstanding debts in other countries falls far from what we consider an easy task. Going through and evolving in the midst of so many peculiarities is challenging and requires the utmost dedication and qualifications from the contracted party so that success can be achieved.

There are many debt collection companies around the world with different levels of knowledge and sizes, what gives the impression that it is easier to choose a local partner instead of choosing a company with global presence and that works applying the fundamental concept unitas et unitatis. Choosing a partner who has the tools, professional team and expertise in other countries is a decision that will certainly make the difference between collecting the debt and turning this outstanding debit into a much bigger problem.

When we start the process of collecting a debt in a different country for a client the challenges come to the surface. The process goes through having knowledge of the sector, assessment of the bond's characteristics and, above all, the weight that this bond and receivable has in the debtor's country. In addition to these basic factors, we have the local language, which is crucial to holding a good negotiation. It is important to remember that putting your process in the hands of a professional with full understanding of the laws of the debtor's country is paramount, as it establishes the chances of collection and the degree of safety in the transaction in general. Other variables – fundamental in the successful collection of the outstanding credit abroad – include time zones and cultural issues.

Taking into consideration the characteristics described above, creditors are more than ever looking for companies specialized in the collection of international debts, since doing the complete management in the creditor's country is what in fact gives the security and credibility required for the successful collection in its perfect cycle. Managing the language, laws, habits, time zones and reports at the time of making decisions is something achievable only through the unitas et unitatis concept. To best explain this matter, I would say that the union between the countries and shareholders with compatible profiles and interests and the unity in the individual collection action in each country is the formula to contribute with thousands of creditors in every segment requiring these services for them to collect their money.

This demand grows at the pace of the growth of global business, as the load of international debts is proportional to the business carried out between different companies in different countries. It is important to point out that creditors with a smaller structure face bigger problems. The existence of this work is not much disseminated around the world, in particular when the business model applied is the no win, no fee when marketing this kind of service.

A major benefit that comes from the use of a specialized network focused in this subject is the operational concept directed at unitas et unitatis, unifying the knowledge and rules and the unity at the forefront, before the debtor. The differences in legal approaches represent an opportunity to collect the debt; however, if carried out in the wrong fashion and without proper knowledge, it may give rise to lawsuits requiring huge and unprecedented indemnities. Holding the knowledge of the world and details for debit collection in different countries is something serious and with considerable risks when performed inappropriately.

The management and follow-up by the creditor is another crucial factor to be taken into consideration, as the deadlines for coordinated and sequential actions are also decisive for the success or not of an operation. In addition to the management and follow-up, the exchange of information between creditor and the local commercial market is important for a better use of the opportunities to negotiate the debts.

Facing a world that is increasingly dynamic, with businesses more latent and frequent, this matter is becoming more important in the international scenario. Therefore, I conclude advising companies and entrepreneurs in need of these services to look for partners with global coverage, broad experience in international debt collection and that apply in their efforts the no win no fee business model. After all, if business and money have no frontiers, so must your partner collecting your debits.

Jefferson Frauches Viana,
CEO of Way Back

Financial IT

Victoria Yasinetskaya,
Marketing Director, Strands

What if banking was as personalized as streaming music?

Banks have the chance to revolutionize finance just as Spotify has with music – but how can they use their Big Data advantage?

Are you in love with "Discover Weekly" too? Fellow Spotify users know what I'm talking about: the newest feature is a two-hour playlist, updated automatically every Monday, and based on both my personal taste as well as the listening habits of other users with similar preferences. Spotify claims that Discover Weekly will automatically adapt as my musical tastes evolve, and the more I use their service, the more relevant my algorithm-based curation will become.

Amazing! Spotify is making my life easier by making music discovery effortless, so I am more than happy to let them experiment with my listening data. Plus, with growing competition from Apple Music, Google Music, YouTube, Tidal, and others, Spotify is increasingly relying on personalization to win the streaming game. Discover Weekly is a great example of how leveraging user data the right way can lead to commercial success and thousands of happier & more loyal clients.

This got me thinking how great it would be if my bank would do the same – use all the data it already has to provide me with a banking experience that feels much more personalized and engaging. I imagine logging into my online banking (already a pleasure, because of the gorgeous aesthetic) with UX so intuitive that I don't have to dig around for the information I want. I am immediately presented with an interactive snapshot of my finances in clean graphics or heat map, or even a personalized calendar to help me plan spending in a way that fits my schedule – literally.

The result? I feel WAY more in control of my money. With such a smooth user experience, I wouldn't even mind receiving personalized offers from my bank – after all, they know better than anyone what I can actually afford, and what I'm spending my money on anyway. It feels more like advice from a friend that knows me well, rather than an annoying flyer that someone shoved at me in the metro.

Generating value through personalization

The digital equivalent of this might be distracting banner ads or pop-ups that interrupt your browsing. As companies start to use customer data for targeted marketing campaigns, the question of what is ethical comes to the fore. Customers are becoming increasingly concerned by how their sensitive data is treated and with which parties it is shared. They are bombarded more and more with offers and promotions, the majority of which is considered as spam. Consequently, the buying experience becomes more intrusive and customers get much more protective of their personal data.

At the same time, it's become generally accepted that organizations (especially banks) must leverage the value of Big Data to drive revenue, discover new business models, and, most importantly, deliver a flawless customer experience. But what's still unclear is how to do this in the smartest way, ideally striking that elusive balance between CX and profit.

Good news: there is a way to use customer data in an intelligent way and deliver both revenue growth and an improved customer experience in the process. Highly personalized and contextual offerings are what customers are after – and to get that, they'll become more and more willing to exchange personal data, but only if and when they experience how it can generate real value for them.

So how can banks deliver this personalized "Spotify" experience?

Nurture a data-driven organizational culture: use data throughout the organization, from decision-making to product development. Spotify is a data-driven company, meaning that data is involved in every aspect of the organization – it's part of Spotify's DNA. Learn more about how this is done in practice here.

Invest in smart technology: integrate solutions that have advanced analytics capabilities such as Machine Learning, recommendation engines, personalization techniques etc. Data is our friend, but banks need the right tools and expertise to leverage it to their advantage. Personalization and recommendation solutions are definitely out there – and have been around for quite some time (fun fact: way back in 2004, Strands – then called MusicStrands – became one of the first tech companies to revolutionize the music industry by building algorithms that recommended music based on playing behavior. That patent portfolio was eventually sold to Apple, and we turned our focus to FinTech).

Fearless innovation: try new solutions and incorporate customer feedback after learning what works. Change what doesn't and constantly iterate your product and service offerings to keep up with evolving customer needs and expectations. Not only are companies like Spotify really, really good at this – but they do it quickly. Fail fast, and forward is the takeaway here.

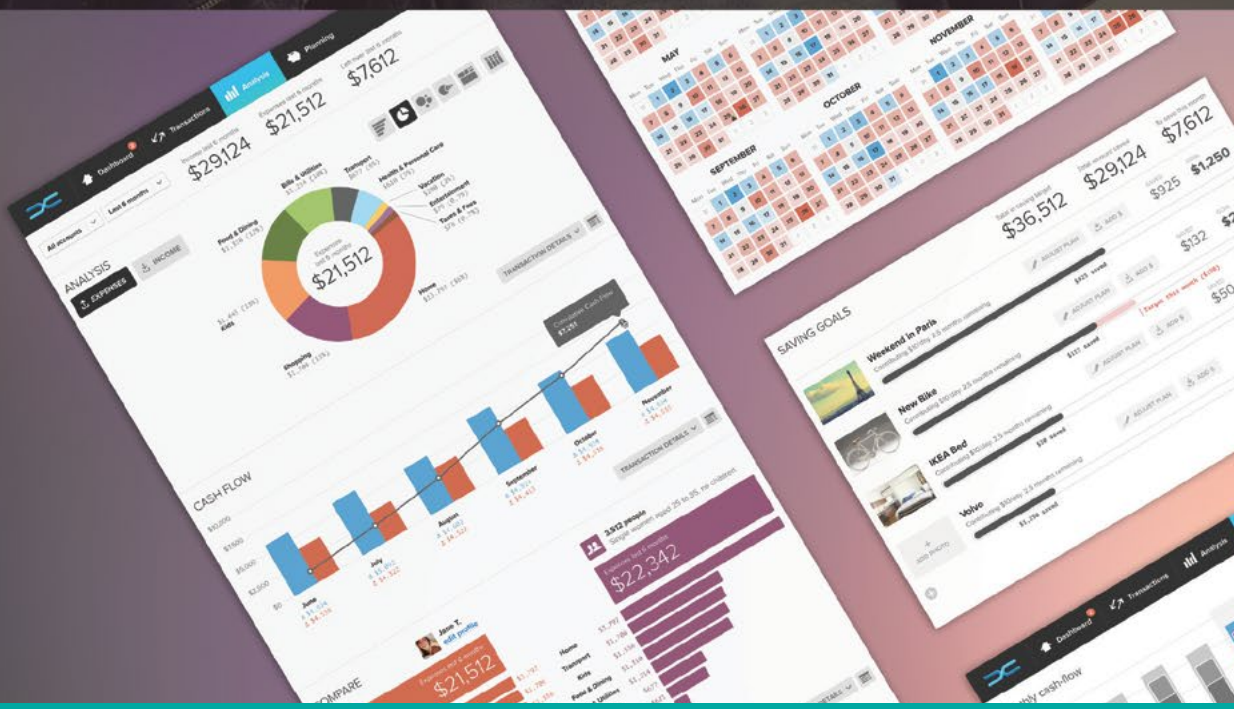
So now that they know how it's done, the question remains: how quickly banks will embrace data-driven innovation? Although huge sums have been invested in FinTech – 8 billion in 2015, according to Accenture – banking has seen relatively little innovation compared to other sectors such as music (Spotify) or retail (Amazon).

It is in both banks' and their customers' interest that this shift toward data-driven personalization happens sooner rather than later. Banks already have all the ingredients they need to make banking as fun and simple as streaming music – it's just a matter of putting those assets in algo-rhythmic motion!

STRANDS

POWERING FINTECH INNOVATION

Delight your customers & open new revenue streams through a personalized digital banking experience



BARCLAYS Deutsche Bank BNP PARIBAS BMO BBVA

Financial IT

Why (paper) 'less is more' in Trade Finance

Or, how is the process of disruption working?

Do you still buy CD's or rent a DVD every now and then? I presume in most cases the answer will be a clear "no"! Digital services such as Spotify and Netflix have clearly and successfully disrupted these traditional products and their delivery channels.

The same trend is occurring in many other areas such as hospitality (AirBnB), transportation (Uber), retail (Alibaba) and more recently, the finance world. Non-bank finance providers and methods such as crowdfunding via Kickstarter are just a few examples of new, dynamic tools used by corporates to attract working capital.

The historical "top of the food chain position" of banks is no longer a reality. Nowadays, banks face fierce competition in their core areas of business, topped off by additional challenges in terms of compliance, sanctions, regulations and the odd scandal here and there. What's more, banks tend to react by addressing recurring symptoms with 'aspirins' instead of gearing up to avoid becoming obsolete.

In random order, the most common aspirins are: increase compliance staffing, cut costs by offshoring or outsourcing, exit unprofitable business lines or customer segments, and the most popular pill of all: cut jobs. One could argue that this approach does relieve a few headaches, but what are the long-term effects?

Let's think about why services like Spotify or Netflix are currently the 'norm', even when most of us still have loads of CDs and DVDs lying around at home. In short, it comes down to the fact that these services offer what we want, when we want it, how we want it and at a reasonable cost.

Now if we mirror this customer mind-set to digitized banking, and more specifically Trade Finance banking, it is currently very hard to 'Spot-the-FI' who will be the visionary disrupter in this space. The first brave movers are taking steps, but we have yet to see a bank taking a bold move forward.

Yet, the opportunities are countless and the pre-conditions are already in place.

A major first step in the right direction is the shift towards electronic documents (eDocs), yet much more can still be achieved in order to reach entirely digitized, paperless processes in Trade Finance.

Which brings me back to the 'what we want' aspect, with regard to corporates who use Trade Finance services. Traditionally, corporates' have their own specific focus, or mandate if you will, when involving banks in their trade operations: that trade finance transactions should simply be supportive in terms of risk mitigation, financing and as settlement instrument.

Yet digitization can eliminate a lot of corporate frustration. One example being the stress around 'discrepancies' in documents presented under Letters of Credit.

By enabling collaborative drafting of electronic shipping documents, parties can ensure the documents meet their specific transactional requirements. Since documents created on our CargoDocs platform consist purely of data, these eDocs can be easily utilized under eUCP transactions or checked automatically under Bank Payment Obligation (BPO) transactions. This minimizes human intervention, mitigates fraud and error risks, and certainly reduces (if not eliminates) the need for data re-entry.

Next, there's the 'when we want it' requirement – where digitization benefits become all the more apparent. Wouldn't it be great if importers no longer had to worry about physical paper documents arriving in time for unloading? No more risk of incurring demurrage or shipping guarantee costs! Through paperless, digitized practices like issuing and transferring (endorsing) electronic Bills of Lading, users have an extremely simple, secure and intuitive means to execute trades without wasting time and money couriering documents between parties.

Then there's the 'how we want it', where much can still be achieved in the corporate-to-bank space. Corporates would like to have as much, if not all, bank-related information and communication available via one channel/platform, a 'single window', tied into their ERP environment. Yet this can only be achieved by enabling a paperless environment based on data and standards, which is why our paperless trade platform, CargoDocs, is ISO20022 messaging-enabled.

Finally, there is the 'at a reasonable cost' expectation. Here is where traditional paper-based trade transaction handling by banks is often perceived as being expensive. And all this despite the fact that handling fees charged by banks are, in reality, often under-represented and under-charged, considering how labour intensive such processes can be. In a paperless trade environment, many of these tasks can be reduced or even avoided. What's more, the cost of sending documents via courier no longer needs to be borne. In turn, banks can still add a lot of value to their customers via their risk mitigation and financing capabilities and assign freed up resources to critical client service and advisory tasks.

I realize I am only scratching the surface in terms of the potential and benefits. For example, I have not even touched on the benefits for banks in terms of AML, KYC and the all-important compliance filtering aspect. In a paperless environment all data can be clearly scanned and tracked, leading to increased traceability and auditability, something that can never be achieved with paper-based transactions.

Clearly (paper)'less is more' when it comes to Trade Finance, both for corporates and their banks. It is now up to the banks to prepare themselves and benefit from the disruptive digitization wave rapidly gaining force in this space. Corporates, for the most part, have already gone digital and are always open to adopting beneficial technologies such as electronic Bills of Lading.

However transitions are never easy, especially those involving a paradigm shift.

And it's for that exact reason that we've formed a dedicated consultancy arm – essDOCS Consulting – entirely focused on supporting your transition toward digital Trade Finance!

About Jacco de Jong

Jacco de Jong is Managing Director at essDOCS Consulting. Jacco possesses over 30 years' experience in the International Trade Finance Banking space, having worked both for and with numerous major trade banks. By staying abreast of the latest developments and challenges faced by banks in the industry, Jacco understands the business case for implementing new solutions to meet corporate demand. In his role at essDOCS, he provides customers with pragmatic, expert support and advice in their transition towards adopting / embedding trade digitisation into their business. In his capacity as a SWIFT-certified Trade and Supply Chain consultant, Jacco frequently moderates, speaks and participates in panels at international Trade and Supply Chain events organized by institutions such as SIBOS, ICC, FIBA, SWIFT and GTR. Visit www.essdocs.com for more information, or contact Jacco de Jong directly at jacco.dejong@essdocs.com

Sibos & GTDW Edition

Roundtable Feature

Len Padilla, VP Product Strategy, NTT Communications in Europe.

Len has experience in a wide range of areas from scientific super-computing to shared and dedicated hosting to cloud computing. He has worked at all technical and management levels of IT: academic research, financial systems programing, administration of large server and content delivery networks, PCI-DSS certification, management of international operations teams as well as product engineering and strategy. He likes the technology, but thinks that the users are more important. Len's heart is in California, where he grew up with computing and the internet. He's been living in Europe for the past 17 years, with 13 of those working with NTT.

Nicholas Brewer, Product Strategy Director for Banking, Misys.

Nicholas Brewer is responsible for the medium and long term direction for Misys portfolio of banking products. He is mainly focused on understanding how banks' commercial and technology related needs are evolving, and in developing plans for Misys to continue to serve these changing requirements. In this regard he covers Transaction Banking, Retail and Core Banking and Corporate Lending. Nicholas joined Misys in May 2013, having previously worked at Aite Group as an analyst covering Banking and Technology. Before this he spent over 15 years working with software vendors, mainly SunGard and Temenos, in a variety of strategic and commercial roles.

Prior to working in the technology sector, Nicholas worked primarily for banks and financial firms for approximately 10 years in a variety of financial and control roles in London and the Middle East. He holds a degree in English Literature from Durham University.

Robin Manicom, Director Financial Services EMEA, Equinix.

Corporate level sales & marketing, business development and product management experience within the financial services industry. Extensive subject matter expertise in global electronic traded markets, banking technology, global financial regulation able to identify industry trends and align company's strategic plans to gain competitive advantage and market share in this sector. Business (MBA) and technology (BEng) educated with intellect to create highly-competitive go-to-market strategies that win business and gain market share.

Leader & experienced manager with a track-record of empowering & motivating global teams to deliver over and above set targets. Experienced public spokesperson that leverages press, panel, keynote & social channels.

David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.

Dave Zimmerman is IBM's Global Solutions Executive & Worldwide Cloud Leader for Banking & Financial Markets. He is accountable for IBM's Global Cloud strategy, industry solutions and delivery excellence. Dave's solid business, financial services expertise and deep technical knowledge position him to deliver real value to IBM's clients.

Previous leadership roles included managing IBM's Worldwide Core Banking business and Global Vice President at Cap Gemini, Ernst & Young. Dave has over 20-years delivery and engagement experience developed by working with clients on six continents.

Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.

Ian Massingham is a Technical Evangelist at Amazon Web Services and has been working with cloud computing technologies since 2008. In his role works he works to increase the awareness of AWS cloud services and works with customers of all sizes, from start-ups to large enterprises, to help them benefit from the adoption of AWS.

Ian has more than 15 years' experience in the IT industry, covering operations and engineering within hosting and cloud service providers. Most recently, prior to joining AWS, he lead a systems engineering team focused on the creation of cloud computing services for a high technology product company across Europe, the Middle East and Africa.

Financial IT organized a print roundtable feature with major Cloud & data management providers such as IBM, Equinix, Amazon, Misys and NTT Communications to investigate how Cloud technologies change business models for banks and other financial institutions.

FIT: Who is driving the race to the Cloud? IT providers? Financial institutions? Banks' customers?

"Across different vertical industries, Cloud adoption has traditionally been driven by start-ups due to the pay-as-you-go, easily scalable and flexible nature of the services. Increasingly, however, larger traditional players in the financial services industry are looking to Cloud. There are two main drivers of this: the desire to tap into the innovation that Cloud enables due to its procurement speed and flexibility; and the maturity of Cloud services.

It is difficult to pinpoint a single part of the industry that is driving Cloud adoption. It is better to think of it as we are now at the culmination of many years of development in the Cloud industry. Cloud computing is at an advanced stage of maturity, bank customers are demanding better, faster, technology driven services, and financial institutions are looking at ways to innovate and bring new services to market in an effort to maintain their existing customer base and attract new customers. It is a combination of all of these factors that is driving the race to the Cloud." – ***Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.***

"Never before have financial institutions had to face such a slew of competitors, many of which aren't even traditional banks: Google, Apple, PayPal, and so on run payment services in the Cloud. With customers increasingly valuing what these 'non-bank banks' have to offer, they are in effect, driving the move to Cloud. In a bid to remain competitive, many financial institutions are turning to the Cloud; using it as a tool to digitally innovate and provide the latest services and channels of contact for customers such as mobile apps. Our Cloud Reality Check research found that financial services organizations plan to increase their spend on Cloud by seven percent so Cloud will account for nearly a third of banks' corporate ICT budgets by 2018." – ***Len Padilla, VP Product Strategy, NTT Communications in Europe.***

"Regulatory, geopolitical risks and complexity are multiplying. Bankers need agility. The pressures on margins and increasing compliance are driving the race to Cloud. Additionally Digital Banking customers and their smart devices putting new pressures on banks that can be best resolved via Cloud-based approaches." – ***David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"In the last few years the Cloud has started to emerge as a technically and commercially feasible way of delivering business processing for banks and other financial institutions. Although this is primarily the result of decades of investment in processing and digital communication capabilities, the impact looks likely to be felt in some key business areas for banks. The rise of the Cloud has been an enabling event which is both helping and driving the banking industry to answer some of the key challenges which have arisen since the banking crisis in 2008 and the subsequent attempts to cut costs and to change the business model." ***– Nick Brewer, Product Strategy Director for Banking, Misys.***

FIT: How does the Cloud reduce financial institutions' business costs?

"The answer is significantly, but that's not really the most important driver any more. Moving to the Cloud initially was very much about reducing costs but as the capabilities of the Cloud have become clearer and delivery models and specific services more mature, the focus has shifted more onto agility and getting back to core competencies, as well as being the key support platform for an effective third party strategy. That said, here is an example of meeting both cost and performance targets: Monte Carlo simulations for risk management require massive amounts of compute and data capacity. We now serve at least half a dozen banks running that simulation in public and private Cloud at our data centres. Because these are in the Cloud and the simulations normally run overnight – 24 hour capacity is not required – this approach typically provides a 50% reduction in costs overall. It also gets regular performance boosts due to the much shorter cycle of tech refresh in the Cloud, resulting over time in a 150% improvement in performance. And of course it's much easier to scale up at any time; new servers can be created in minutes rather than weeks." ***– Robin Manicom, Director Financial Services EMEA, Equinix.***

"According to analyst firm Celent, banks are spending three-quarters of their ICT budget on maintaining legacy systems, and only a quarter on new technologies. Indeed, our own Cloud Reality Check report published earlier in 2015, found that 55 percent of financial services organizations believe they are spending more time managing performance of current ICT systems than developing new capabilities. Recent technology failures at a number of high-street banks are tell-tale signs that banks' current ICT environments are reaching the limits of their capabilities. In our view the Cloud offers banks a means to minimise outages, and contain their impact when they do occur.

The scalability and flexibility of Cloud can reduce CapEx for banks: it allows organizations to pay for infrastructure and computing, storage and backup services out of OpEx, so ICT costs can be more closely aligned with the needs of the business. However, the real benefit for financial institutions is the agility the Cloud provides. Organisations can be more responsive to changes in the market, get products and services to market faster and shorten the time for new business launches, which reduces costs. It helps DevOps organizations – who are often those charged with developing and launching new digital banking services – introduce new applications, test and iterate them, and launch them to millions of customers, with ease. In this sense, the Cloud helps banks become more innovative and more competitive." ***– Len Padilla, VP Product Strategy, NTT Communications in Europe***

"By nature, Cloud services, like those supplied by Amazon Web Services, are available on demand and are fast and easy to procure. In the past when choosing an IT solution, financial institutions had to consider how much capacity they would require at their busiest time to cope with peaks in demand. What this meant was that during quieter periods the extra capacity was sitting idle, costing the business money but adding no value. With Cloud, financial institutions are able to scale up quickly when they need it and then back down again during quiet periods.

Bankinter, the sixth largest bank in Spain and has adopted the Cloud to give them a competitive advantage. It uses high performance computing (HPC) on AWS to run credit risk simulations to evaluate the financial health of their clients. By incorporating AWS into their IT environment, Bankinter has managed to take their average time

for running simulations from 23 hours to 20 minutes. Bankinter also estimates that it has saved one hundred times the amount they would have had to invest in hardware alone by using AWS." ***– Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.***

"The cost efficiency from relying on Cloud comes not only from hardware savings, standardization and best practices, although these are important. It also reduces business costs by providing a dynamic platform to develop, test and offer new innovative ecosystem services. For example, a Swiss Investment bank needed to streamline and automate their sourcing, contracting, risk and compliance processes. By turning to a Cloud-based solution: they saved an estimated $159 million.

In Brazil, the country's largest credit union system was trying to keep pace with the rapid growth of 529 credit unions. They created a private Cloud that not only saved them USD$1.5 million annually in electricity costs, it allowed them to grow their mobile business by 600%, their online business by 200%, and support a 60% increase in-branch transactions." ***– David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"When business applications are delivered on the Cloud, the immediate impact is to reduce IT operational costs. The hardware becomes cheaper because it can be provisioned and paid for on an "as needed" basis as opposed to the tradition model of purchasing for peak capacity. More significantly, the cost of servicing and operating the hardware and infrastructural software such as databases also drops. These costs are principally human resource costs, and the operation of hardware and software on a vast industrial scale allows enormous economies of scale to be achieved." ***– Nick Brewer, Product Strategy Director for Banking, Misys.***

FIT: The customer's experience: how does the Cloud improve it?

"A great way customers are benefitting from Cloud is on the mobile front. The race is on for banks to have the financial/banking app of choice on customer's devices. After all, there is limited real estate on a mobile device and customers regularly add and delete apps that work for them. The complexities of mobile banking traditionally meant that apps could take months to develop. Using today's simple, sophisticated Cloud development platforms, banks are now able to modify and/or develop new apps for their customers in a matter of weeks or even days.

For example, Canadian bank, Tangerine is using IBM BlueMix Cloud for dev ops, reducing the time to market for creating mobile apps and functions by 67 percent. Recently they rolled out a new app that allows customers to report feedback on Tangerine apps simply by shaking their phone. Implementation time to roll out the new app was cut by more than 90 percent and it delivered thousands of pieces of valuable customer feedback in a matter of days." ***– David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"Adopting SaaS solutions also changes the relationship of the bank with its application providers. Because the same application is used by many banks, it becomes possible to roll out upgrades more often and with more functional improvements. This is because the application provider begins to enjoy some of the same economies of scale. This means that the bank's customer can enjoy more advanced financial products and a better user experience sooner than if the software was installed on an individual bank basis." ***– Nick Brewer, Product Strategy Director for Banking, Misys.***

"The financial services industry has now recognized the benefits of Cloud computing and are taking advantage of the flexibility, scalability and cost savings and Cloud solutions are now being used for a range of technology workloads, from mobile banking to websites to high frequency trading and High Performance Computing tasks.

Many organisations choose to take a pragmatic approach to moving their technology to the Cloud. They typically start with green field projects that will benefit most from the flexibility and scalability Cloud technology has to offer. Today, businesses can launch a new service for their customers, receive feedback and then act on that feedback in a fraction of the time that it used to take just a few years ago. This means that financial institutions can create services that are aligned to their customers' needs, improving their experience.

South African technology company Entersekt works with Africa's largest banks to help them take advantage of the Cloud. Entersekt's mobile applications help improve the security of the retail banking experience and allows users to authenticate individual transactions, such as online card purchases, online wire transfers and money withdrawals at an ATM, by simply choosing to "Accept" the transaction when prompted on their mobile phones. Entersekt's system sends fully encrypted data from banks including Nedbank and Capitec Bank to the Cloud which has the scale to handle massive amounts of mobile phones connecting to its infrastructure. This helps the banks to cope with vast numbers of users connecting to their system all at once – during high transaction periods, such as the end of the month, when people are being paid, or the end of the year, around the holiday and shopping seasons. In the quieter periods the infrastructure is able to scale back down again. This means that financial institutions only pay for the technology they need, when they need it, and do not over-provision hardware to cope with seasonal peaks. By using this Cloud based system banks have been able to give their customers a secure and better retail banking experience, while reducing online phishing fraud to an absolute 0%." ***– Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.***

"Consumers increasingly want speedy, effortless service from their bank, often on the move. From online banking to mobile apps and contactless payments, financial services organizations are trying hard to innovate and enhance the customer experience. But providing this seamless experience is easier said than done. Many banks have experienced the consequences of network and service outages, and disgruntled customers have taken to social media to complain when things don't work. In the Cloud, such application performance issues and outages can be significantly reduced. If they do occur, Cloud providers are well placed to spring into action and resolve the problem, quickly by drawing on their extensive expertise, strong networks and resources.

Consequently, we find financial organizations can be far more agile in their approach with the Cloud. This has numerous benefits for their customers: they can get their questions answered quickly, access online and mobile banking apps easily, and because of insight from data analytics, have services personalised to them." ***– Len Padilla, VP Product Strategy, NTT Communications in Europe.***

"Hugely, with a lot more to come. Security, speed and reach are primary concerns for customers and these are being addressed effectively in current Cloud architectures.

Firstly, security can be enhanced by ensuring that only private dedicated network connections are used for the Cloud services, cutting out the risks associated with public networks. This is

something we can offer with all the major Cloud service providers through the Equinix Cloud Exchange.

In terms of speed and reach the question is how can Cloud services reach dispersed mobile customers anywhere in the world on any device at low latency? The answer is Proximity, or 'Proxy' Hubs. Most mobile and fixed line networks will route directly to a nearby Proximity Hub, like an Equinix data centre. As you travel from city to city, or country to country, you shift Proxy Hubs. If you want to provide an online service with the back end in London to customers in Sydney all you need to do is put in a Hub in Sydney, where that app can be located on the edge near your users.

And there are more customer advantages in sharing data across the Cloud. Because these days all apps and users expect all kinds of information at their fingertips, the sources don't just come from one place. In a multi-country multi-Cloud environment all of these sources (social networks, databases, market data feeds, digital content services etc.) can be brought together and used to enrich the quality and variety of customer services." ***– Robin Manicom, Director Financial Services EMEA, Equinix.***

FIT: Emerging markets: how is the Cloud helping institutions to reach the (currently) unbanked?

"Today's banking customers – even in emerging markets – demand trust, transparency, varied offerings and multiple channels through which to do business. This means that banks have to meet these demands while addressing tough cost, risk and compliance requirements.

Africa is a great example of an emerging market where Cloud is being used to reach the unbanked more efficiently and offer the mobile solutions they need. A top French bank is working with IBM and a business partner to build new Cloud based apps that will be rolled out across Africa this year to provide mobile banking offerings for geographically remote regions that lack digital services.

In Tunisia, more than 50 percent of the population does not have access to modern, reliable financial services and more than a quarter have no bank accounts at all. A rapidly-growing Tunisian bank has a goal of opening up 18 new branches per year and is rolling out of new mobile and Internet banking services. It adopted a Cloud model for the flexibility, performance, economy and resilience the bank requires to support this rapid growth." ***– David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"Cloud is helping financial institutions in emerging markets to reach their unbanked populations by bypassing the need for physical branch networks and moving straight to electronic and mobile banking.

Cloud lets customers spin up resources as they need them, deploying hundreds or even thousands of servers in minutes. This means they can develop and roll out new applications, and it means teams can experiment and innovate quickly and frequently. If an experiment fails, you can always de-provision those servers without risk. But if it's a success you can scale in line with demand.

By reducing the cost of failure, Cloud is enabling organisations in emerging markets to quickly develop, test and deploy new products in response to what their customers want." ***– Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.***

FIT: Commercial flexibility: does the Cloud really reduce the time needed to roll out new products?

"From 45-days to 20-minutes – We've seem numerous examples where Cloud is reducing the time needed to roll out new products. For example, a top North American financial services organization wanted to use Cloud to optimize their business and dramatically reduce the development cycles for the company's more than 20,000 internal application developers who were typically forced to wait up to 45 days for server resources to be provisioned.

The bank built an internal Cloud to enable self-service requests, automated provisioning and internal chargeback capabilities, boosting utilization rates and improving efficiencies for the developers. This Cloud based approach allowed them to slash server provisioning times from 45 days to less than 20 minutes. The result was faster development cycles and putting new enhancements into the hands of customers more quickly." ***– David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"Many financial services companies are following the example of tech start-ups by establishing internal innovation departments and functions focused on rapid prototyping and experimentation of digital services. They're using the Cloud to deliver proofs of concept, product demos and test applications quickly. What's more, shared sites can easily be set up, replicated and torn down as needed to meet the collaboration requirements of a certain project. This makes it possible for applications to move from the sandbox to global production in a matter of days, rather than weeks or months as would have been the case in the 'old world' of banking IT." ***– Len Padilla, VP Product Strategy, NTT Communications in Europe.***

"Yes. In the old world, when you asked engineering teams how long it might take them to get a server to try and experiment, you get answers like 10-18 weeks. In this new world, not only can a company spin up thousands of servers in minutes and pay only for what they use, but they have access to a very robust, full-featured technology platform that lets them go from idea to launch in record time.

This totally changes an organization, impacting the amount of cycles employees spend thinking about innovation because they know, if they have an idea, they have a chance to see if it works. So it totally changes how companies think about innovation, and it expands the group of people inside a company that are thinking about new ideas. And if you think about what's happened in the last few years, if you look at some of these long-standing businesses that have been completely disrupted by new companies in a very quick amount of time, who've built on top of the Cloud to do so, it's pretty interesting.

Take London based start-up Aire, as an example. Built on the AWS Cloud, Aire is enabling access to financial products by providing an alternate credit score for people who are incorrectly classified because they have no credit history. Aire, developed an algorithm that looks at deeper data-driven analysis to generate a score based on educational background, professional history, and knowledge of financial risk. This is very different from how the incumbent credit bureaus calculate credit scores which tend to be based solely on past repayment history and antiquated identity checks. The Cloud is providing a platform on which Aire is able to guarantee a secure, scalable solution, and one that is helping them to reach an entirely untapped segment of the loan market – addressing a segment previously ignored by the big banks. Aire's new set-of criteria used to asses risk is forcing the traditional players to re-think their existing business models as banks begin to recognise the opportunity available to reach more customers.

What this means is that as an enterprise, you don't have the option of moving slow anymore if you want to remain competitive long-term. You have to be able to move fast, and be agile and innovate in

this environment to be competitive. ***– Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services.***

FIT: When will the race to the Cloud finish? And what will financial services look like then?

"Accenture's 'omnibanking' vision is a particularly compelling one, where silos between services cease to exist. Whatever the final shape, it's clear that even greater change is coming soon, with the focus on standardized or shared APIs for banking systems such as the PSD 2 across Europe and Midata in the UK.

In a few years, financials service firms will look and be more interconnected and responsive using automated interconnections like Cloud exchanges, with data sharing partnerships, and low latency customer access across all platforms and markets.

There will be less owned infrastructure and more sharing of data. In order to grow, financial service providers will use colocation and Cloud providers to reduce their costs, accelerate their responsiveness and increase Quality of Service (QoS). Valuable core data, critical databases etc. that are not used all the time will probably stay on the secure mainframe, but all other workloads will move to the Cloud, located hard up against the customer in a Proxy Hub.

The Cloud commoditizes technology to the extent that everyone can use the same servers as a major banking enterprise like Goldman Sachs for example, so however much you invest you can no longer gain a competitive edge through proprietary tech. Instead, in this new phase of Cloud-driven innovation, seeing the patterns in the data and acting swiftly to exploit them, alongside good relationships with a growing raft of partners, will determine who wins this race." ***– Robin Manicom, Director Financial Services EMEA, Equinix.***

"The banking industry faces key challenges in this new era of demanding, digitally-connected consumers. However, the shift to Cloud computing is seen by many in the financial industry as the key to unlocking competitive advantages.

Cloud is a big opportunity. But to make it a game-changer for their business, banks need to first think big about what they can do with Cloud and understand how Cloud fits into their strategy, ecosystem and roadmap. Whether they start small with a specific pilot application or business process, or dive into the Cloud feet first, speed is critical in today's competitive marketplace." ***– David Zimmerman, Worldwide Cloud Leader, IBM Banking and Financial Markets.***

"We are only at the beginning and we are a long way from the finish if there will ever be one. New uses for Cloud and new innovations are happening at such a pace that we can expect to see more and more companies using Cloud for things we are yet to imagine." ***– Ian Massingham, Head of UK Tech Evangelism, Amazon Web Services***.

Financial IT

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COMPANY PROFILE	
Company type	Private Company
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	Undisclosed
Inception	2013
Geographical coverage	Europe, Americas

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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

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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

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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

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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

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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

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COMPANY PROFILE	
Company type	Public company
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	over 200
Inception	2000
Geographical coverage	Global

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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

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COMPANY PROFILE	
Company type	Sole proprietorship
Annual turnover	Undisclosed
Number of Customers Total	35+
Number of Employees	300
Inception	2006
Geographical coverage	India, USA, South Africa, Philippines, Vietnam, UAE, UK

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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

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COMPANY PROFILE	
Company type	Limited Partnership
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	Undisclosed
Inception	1998
Geographical coverage	Global

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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

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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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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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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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Trade Solutions Group is a leading developer of intelligent global business banking solutions. The Company's solutions streamline the processing of international foreign exchange, payment and trade finance transactions. This allows financial institutions to offer a full array of complex business payments, trade and currency management solutions. In addition to providing a bank's business customers with the latest in online convenience, TSG's technology brings significant efficiencies to a bank's front, middle, and back-office. The Company's solutions have been specifically developed to support straight through processing and enable financial institutions of all sizes to offer their corporate customers global business banking services, online or offline.

COMPANY PROFILE	
Company type	Private Corporation
Annual turnover	Undisclosed
Number of Customers Total	Undisclosed
Number of Employees	Undisclosed
Inception	2001
Geographical coverage	Americas, Europe and Asia Pacific

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

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