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Martin Whybrow caught up with bunq's founder



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A REPORT FROM SDS ON CURRENT AEOI CHALLENGES REGARDING TAX MATTERS SUMMARIZES THE MOST PRESSURING CHALLENGES AT A GLANCE.

In recent years, the financial service sector has increasingly been involved in guaranteeing the tax conformity of its customers, particularly those with a foreign tax domicile, both in Europe and worldwide. Digitalisation, automation, geographic coverage, validity and reliability are – amongst others – the key challenges in the automatic exchange of information regarding tax matters (AEOI). This is a challenging situation for the affected financial service providers in a number of ways. Frequent changes of the relevant legislation, confidential customer data, and particular duty of care, cost aspects and audit requirements represent a range of IT, operations and management requirements which are difficult to balance. For internationally active groups, the complexity additionally increases due to the differences in the relevant country-specific provisions.

Therefore, financial institutions are increasingly leaning towards models with clear responsibility for a service which is impeccable and particularly transparent with regard to tax. This is closely linked to the demand for reliable and at the same time cost-efficient determination of tax amounts for ever more complex calculation models and corresponding audit-proof processes and traceability as well as the creation of corresponding reporting information. The need for comprehensive, globally applicable and highly automated reporting solutions for this environment is more pressing than ever after the first few years of practical application. Here, SDS IREG is positioned as a reliable, globally proven, comprehensive and highly automated reporting software for the automatic exchange of information and for withholding tax reporting which enables financial institutions and service providers to efficiently fulfil various reporting obligations with a single application. Our new and comprehensive report summarizes the most important challenges regarding AEOI at a glance. Don't miss out to save your free copy today.

Download your free copy at https://pages.sds.at/LP_IREG_REPORT_EN

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FINTECH FUTURES

Managing Director & Editor-in-Chief
Tanya Andreasyan
+44 207 551 9010
tanya.andreasyan@fintechfutures.com

Editor
Sharon Kimathi
+44 207 551 9010
sharon.kimathi@fintechfutures.com

Deputy Editor
Alex Hamilton
+44 7724 822714
alex.hamilton@fintechfutures.com

Reporter
Ruby Hinchliffe
+44 207 017 5709
ruby.hinchliffe@fintechfutures.com

Contributing Reporters
Jane Connolly and **Martin Whybrow**

Head of Sales
Jon Robson
+44 203 377 3327
jon.robson@fintechfutures.com

Marketing Manager
David Taylor
+44 207 017 5379
david.taylor@fintechfutures.com

Marketing Executive
Kiran Sandhu
+44 207 017 7377
kiran.sandhu@fintechfutures.com

Business Development Executive
Sam Hutton
+44 207 017 7017
sam.hutton@fintechfutures.com

Design & Production
Simon Turner @ West Hill Media
simon@west-hill.co.uk

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Editor's note

Africa has been no stranger to transformation. Its climates from the north to the south differ greatly, while each region and country bursts with its own unique cultures, languages and technology.

Kenya, birthplace of M-Pesa, has 68 individual languages alone with a thriving digital economy. In fact, the East African region forecasted growth of 6.3% in the third quarter of the year driven by Kenya and Ethiopia. The former recently started its oil exploration and production while the latter focuses on its new dam, with the capacity to increase national energy output by 85%.

With new infrastructure and development comes new technology and new opportunities for the fintech industry.

Thabo Makoko, global head of transactional services at Absa, explores how countries to the south of the African equator can improve their payments infrastructure, highlighting examples from Zimbabwe and South Africa due to the rising remittance trend in the region as about three million Zimbabweans currently work abroad in South Africa. However, due to domestic issues, cash is very difficult to access in Zimbabwe. On the plus side, this has forced the country to speedily adopt mobile and digital payment infrastructure. But for a worker in South Africa trying to send money back to their family, this presents a problem. Makoko focuses on how the vast and bountiful continent can evolve its paytech to address these issues.

From payment solutions to peer-to-peer lending platforms, African fintech has been a trendsetter in the industry for some time

now, argues Carbon CEO, Chijioke Dozie. He notes that while the focus is often on the other things happening on the continent, many of the solutions that have been widely available in Africa for a long time are just being introduced in other parts of the world.

For example, Africans have been using digital wallets for more than a decade, sending and receiving money without a traditional bank account. However, when Mark Zuckerberg said sending money should be as easy as sending photos, suggesting that money could be sent via Facebook and WhatsApp, it was positioned as a ground-breaking idea.

Well, Africans have been doing that for a while through the likes of M-Pesa, Airtel and more since the early 2000s.

According to Forbes, Africa's fintech companies have raised \$320 million in funding since January 2015 and the sector has surged 60% in the last two years. The continent will only continue growing and transforming with fresh digital developments as the years go by – the only way is up!

Sharon Kimathi
Editor
Banking Technology

North Korea aims to counter sanctions with its own bitcoin

North Korea is in the early stages of developing its own cryptocurrency in a bid to avoid crippling international sanctions and to circumvent the US-dominated global financial system, a representative for the regime told Vice News.

Capital city Pyongyang has long shown an interest in cryptocurrencies, with the country recently bringing together homegrown experts with foreign companies at its first-ever blockchain and cryptocurrency conference in April.

The digital currency, which doesn't even have a name yet, will be "more like bitcoin or other cryptocurrencies," says Alejandro Cao de Benos, the official in charge of North Korea's cryptocurrency conferences, and a special delegate for the Committee for Cultural Relations for the Democratic People's Republic of Korea (DPRK).

"We are still in the very early stages in the creation of the token. Now we are in the phase of studying the goods that will give value to it," says Cao de Benos, adding that there are "no plans to digitise the [North Korean currency] won for now".

North Korea's Embassy to the UN in New York would neither confirm nor deny Cao de Benos's claim. "I am not in a position to give you an answer," an embassy spokesperson said before hanging up.

While bitcoin offers some anonymity, it has become easier for law enforcement and governments to track bitcoin payments across the world, and by building their own cryptocurrency, Pyongyang would be able to control how it works and who has access to it – the same reason countries such as Russia, Venezuela and Iran have explored similar projects.



"The Russian government and Russian companies have been involved in a number of blockchain and cryptocurrency projects around the world," says Annie Fixler, an expert on sanctions and illicit finance at the conservative, Washington-based think tank Foundation for Defense of Democracies. "If there is strong Russian participation in the conference, that might indicate a level of seriousness and maturity."

Russia, together with Iran and Venezuela, have all voiced interest in creating nationalised cryptocurrencies in the past, which their leaders paint as tools to offset US financial power and increase sanctions resistance.

But Pyongyang will need to convince international partners that its version of bitcoin is worth using, and one way of doing that is to show its digital coin can circumvent Western sanctions.

"Washington's use of sanctions now is reliant on the dollar's role in the global financial system – US sanctions have significant secondary effects because

non-US banks can't risk losing access to dollar transactions by doing business with sanctioned persons," says Fixler. "If transactions can flow easily around the world without touching the dollar, then nations such as North Korea are insulated from US sanctions."

Its interest in the blockchain is not limited to simply stealing bitcoin, however. In 2018, Jonathan Foong Kah Keong, a captain based in Singapore who the UN says has been helping North Korea evade sanctions since 2013, established a company in Hong Kong called Marine Chain that sold digital tokens in exchange for partial ownership of maritime vessels.

According to a UN investigation, "the platform could be used to generate money for the regime and as a potential means of evading sanctions on shipping by creating a new method of obscuring the ownership of a vessel."

Cao de Benos claims some foreign companies even signed contracts with the North Korean government to develop blockchain systems in areas like education, medicine and finance. However, he adds that none of the "big names" attending the conference or signing contracts could be revealed "due to sanctions and fake news".

Though North Korean officials won't divulge who will be attending its blockchain conference next February, experts believe that Russia could have a significant presence. The two countries have sought closer trading links in recent years, epitomised by Russian President Vladimir Putin's first-ever meeting with Kim Jong Un in Vladivostok earlier this year.

Sharon Kimathi

Banking Circle calls for financial inclusion for SMEs

Financial services infrastructure provider Banking Circle launched its latest research paper at Sibos 2019, looking at how banks can improve financial inclusion for SMEs.

In a follow-up to June's white paper, Financial Inclusion for Europe's SMEs: Building a Circle of Trust, the research explores how banks are already changing and can change in the future to bring barriers down for SMEs.

Banking Circle has commissioned MagnaCarta Communications to produce a series of reports, to shed light on the issues and opportunities faced by real businesses around the world.

"The insights we have gained... have been invaluable, giving us an accurate picture of how we can bring the industry together in an ecosystem model of collaboration, not competition, to deliver

the solutions which meet the needs of real businesses," says Anders la Cour, co-founder and CEO of Banking Circle. "Reducing the cost and time involved in business banking and cross-border payments is increasing global financial inclusion. This allows more SMEs to compete in the international marketplace, improving their valuable contribution to global economies."

Jane Connolly

Bank of China and IBM team up to launch a series of innovation labs

Bank of China (BOC) and IBM have announced an extension to their partnership that will see the development and deployment of several innovation labs deployed across the globe.

The first of the labs, located in Singapore, will "unify digital systems, introduce automation to processes and establish efficient means to comply with regulations", according to IBM. BOC plans to deploy between six and eight new locations. Each will be co-created with the IBM Garage – Big Blue's own innovation hub project.

"Bank of China is committed to becoming a world-class bank with technology and innovation as the cornerstones of our vision," says Wang Fang, Bank of China Singapore branch vice president for BOC's lab in Singapore.

"We look forward to having IBM as our partner, because we believe that in addition

to the assistance it offers with technological leadership and industry expertise, we can learn even more from IBM's own transformation and innovative models."

Bank of China is one of the four biggest state-owned financial institutions in China. Founded in 1912, it is the oldest bank in mainland China still in existence. It operates with \$3 trillion in assets under management and a net income of \$28 billion.

Wenchao Liu, vice president and managing director for BOC's integrated account for IBM, says: "We believe that with the completion of the eight major global innovation centres and the whole innovation system, BOC will be able to more efficiently incubate and rapidly iterate innovations. Thus, it will be able to achieve its strategic goal of building a world-class bank for a new era."

Alex Hamilton

NatWest online banking glitch exposes account details to wrong customers

NatWest customers have taken to Twitter, reporting they could see different customers' "bank details, balances and transactions", BBC reports.

It began with a tweet from @MetAlbertR, who shared: "Currently logged in to @NatWest_Help Bankline and can see a completely different company's bank details, balances and transactions. Clearly something has gone very, very wrong."

Despite the Bankline website claiming it offers "security you can trust", at least three NatWest customers said they saw other company's details on Twitter.

Another NatWest business account holder, Stacey Baker, tweeted the bank: "Just logged on to our business account and been given access to everything belonging another company. Spoke to @NatWest_Help who were totally disinterested."

Baker went on to tell the bank she had contacted its business line directly to alert them to whose account details she had seen, only to find they were not interested



in that information, leaving her to reach out to the company herself. She says when she phoned, the bank told her they'd had "numerous calls with regards to this".

A third NatWest customer, Emma Ottway, said she had the same. Ottway went on to say it's "more worrying when you call to report it and are told that they are 'a bit' concerned with what is happening".

NatWest told the BBC this was an isolated incident affecting a small number of customers and has now been resolved. The bank says it is working with customers affected to keep them up to date and provide support.

Ruby Hinchliffe

Revolut reveals new agreement with Visa



UK fintech Revolut has made a new agreement with Visa to expand its business into eight new countries.

The firm is set to hire 3,500 new staff according to Reuters and is on the lookout for eight new CEOs.

Jumping off its current market presence in Europe and its beta test in Australia, Revolut is looking to bring its offering to Brazil, Japan, Russia, the US, Singapore, New Zealand and Canada by the end of this year.

Next year Revolut will look at Latin American and Asian markets, including Argentina, India, Mexico, Saudi Arabia and Korea, as well as South Africa.

"Revolut has made great strides in delivering innovative and unique experiences to consumers in Europe," says Visa's chief product officer Jack Forestell.

He adds: "With Visa being accepted at nearly 54 million merchant locations across more than 200 countries, we have the scale, experience and expertise to help fintechs like Revolut go global."

The agreement will see Revolut integrate with Visa's APIs, offer an interbank exchange with 29 currencies and cryptocurrencies, as well as peer-to-peer (P2P) payments with bill-splitting capabilities.

As per the agreement, Revolut will primarily issue existing partner Visa's branded cards, as it has been doing since July 2017. Looking ahead, the fintech plans to treble its workforce, going from its 1,500-person team now to a 5,000-person team by next summer.

Ruby Hinchliffe

Germany aims to correct Mifid II “excesses”

The German Federal Ministry of Finance (BMF) has expressed a commitment to correcting the “excesses” of the second Markets in Financial Instruments Directive (Mifid II).

At a recent conference in Brussels, hosted in front of the European Parliament and consumers’ right organisations, the ministry stressed its focus on correcting the directive.

It argued that the fund industry is struggling with Mifid II’s requirement for recorded telephone calls, information obligations towards professional customers and the different information requirements about costs under Mifid II and the Packaged Retail and Insurance-based Investment Products (PRIIPS) regulation. Any potential revisions are due to take place in March 2020.

“We are impressed by how strongly the Federal Ministry of Finance is committed, based on the protection of investors, to eliminating the deficiencies of Mifid,” says Thomas Richter, CEO of the German fund association BVI.

“The directive was intended to protect consumers, but the result is that they receive excessive product information and less investment advice. Mifid II has clearly overshot its target. The position paper of the Federal Government was the first step in the direction of making the necessary changes. Now it is a matter of finding allies in the EC and the parliament for them. We therefore expressly welcome the BMF’s initiative.”

Alex Hamilton



Thomas Richter, BVI

ISLA tells lenders how to avoid “unsustainable levels” of cost and risk

The International Securities Lending Association (ISLA) has released a whitepaper warning the securities lending industry that on its “current trajectory, costs and risks will continue to increase – potentially to unsustainable levels”.

ISLA’s CEO Andrew Dyson says: “The alternative is to recognise and engage with these changing conditions by standardising, automating and streamlining processes.” By doing this, the industry will become “future-proof” and will ensure the smooth running of the global financial markets.

The paper, which is called The Future of the Securities Lending Market: An Agenda for Change and was drafted with international law firm Linklaters, analyses the securities lending market, looking at operational flows and systems against the backdrop of regulatory pre-requisites.

Over the next two to five years, ISLA believes firms should put a number of processes in place to secure this vision, laying out an eight-step guide of a stock loan transaction as a model process.

The process begins with ‘pre-contractual’ Know Your Customer (KYC) question preparation for onboarding, ensuring the response complies with the Securities Financing Transactions Regulation (SFTR) reporting requirements where applicable. The paper also highlights how basic information should be stored, mentioning standard settlement instructions (SSIs).

The second stage is the contractual agreement, preparing drafting for changes made to the global master securities lending agreement (GMSLA). An electronic negotiation and execution platform should be used to host to GMSLA, and “logic” from ISLA-commissioned legal opinions should be integrated into an automated process flow.

Stage three is the contractual loan, where a common domain model (CDM) should be made to digitally represent key details of transactions. The SFTR report generation and loan data validation should be automated, and common standards



Andrew Dyson, ISLA

Image source: ISLA

should be adopted to reduce complexity.

The paper mentions that the International Swaps and Derivatives Association (ISDA) has created a CDM which offers a single, common digital representation of derivatives trade events. To avoid duplicative and inconsistent systems, ISLA is proposing a similar solution for the securities financing markets to aid technology adoption and has already selected a group of market participants to drive its development.

Stage four, ‘allocation’, should see automatic systems developed to provide feedback to borrowers on allocation instantaneously, and step five is ‘commencement’, where another CDM is made and functions such as pre-matching can be used.

Stage six, which analyses performance and life cycles, will see the automatic generation of SFTR reports and a list of best practices.

Stage seven, ‘enforcement’, should see another CDM and the final stage eight, ‘termination’, will see the same again to represent the termination of a loan and like stage one, will consider how to store or reconcile SSIs.

Ruby Hinchliffe

TransferWise delivers cheaper international payment service

Global international payments firm TransferWise has launched its service for US banks which gives banks, credit unions and other financial institutions the ability to directly plug their infrastructures into TransferWise’s API.

The launch of ‘TransferWise for Banks’ will allow banking customers across America to make fast, low-cost international payments straight from their banking app.

Banking platform for ‘modern entrepreneurs’ Novo, as well as Stanford Federal Credit Union (SFCU), are two of TransferWise’s first US partners to roll out the new service.

“By plugging into our API, Novo and SFCU just became the fastest and cheapest to use in the US for international payments,” says TransferWise’s CEO and co-founder Kristo Käärmann. “In fact, people and businesses staying with traditional providers end up paying 5-10x more than the customers of our partners, who can



Image source: TransferWise

experience the low cost and convenience of TransferWise services without leaving their banking app.”

The service gives customers access to the real exchange rate and requires one “small, upfront, transparent fee” for the international transaction.

The launch follows a series of bank partnerships between TransferWise and European organisations such as the UK’s

Monzo, Netherlands’ Bung, Germany’s N26 and Estonia’s LHV, as well as the more notable partnership with France’s second largest bank, BPCE. Over the next 12 months more partnerships are set to follow.

“We’re excited to be one of the first in the US to integrate with TransferWise, a trusted industry leader making a real impact to international payments,” says Novo’s CEO and co-founder Michael Rangel. “As SMEs become increasingly mobile first and borderless, we’re so pleased our customers can now access fast, low-cost international transfers directly from the Novo app.”

The new service will also help serve SFCU’s large international customer base. “It’s an exciting partnership,” says SFCU’s CEO and president Joan Opp. “TransferWise has reinvented international funds transfers and we are excited to become its first credit union partner and one of the first banking partners in the US.”

Ruby Hinchliffe

US regulators targeted with Financial Transparency Act

A bipartisan group of members in the US House of Representatives’ Committee on Financial Services have put forward a new bill to make financial information more easily accessible by requiring US regulators to better organise their data.

The Financial Transparency Act, also known as HR 4476 or the “Regtech Bill”, has been put forward by New York democrat Carolyn Maloney and North Carolina republican Patrick McHenry. It calls for the US Treasury and its secretary to create uniform machine-readable data standards for US regulators.

It would require affected regulators to adopt a set of data collection and dispersion standards for the information they collect under current law, including the adoption of electronic forms to replace paper-based forms. All data would be made available in an open source format electronically searchable, downloadable in bulk and without licence restrictions.

Among the affected regulators would be the Securities and Exchange Commission (SEC), Commodity Futures

Trading Commission (CFTC), Federal Deposit Insurance Corp. (FDIC), Federal Reserve, Office of the Comptroller of the Currency (OCC), the Consumer Financial Protection Bureau (CFPB), the National Credit Union Association (NCUA) and the Federal Housing Finance Agency (FHFA).

“The Financial Transparency Act will bring financial reporting into the 21st Century, will make information easier to access, and will reduce unnecessary regulatory burdens for businesses across the country,” says representative Maloney.

“This bill is a true win-win because it helps investors, businesses, and the government. I’ve long been an advocate for structured data in financial reporting, and I’m proud to introduce this bill with Ranking Member McHenry.”

Craig Clay, president of global capital markets at Donnelley Financial Solutions, a Chicago-based risk and compliance firm, believes the new bill will modernise and streamline compliance across the industry. “These common standards are critical to the efficiency of the reporting process and

ensuring data is being used effectively by all parties,” he says.

Nick Hart, CEO of the Data Coalition, adds that the US financial reporting system is “fragmented at the moment.” The bipartisan Financial Transparency Act will modernise how financial regulatory agencies collect, report and publish information. When enacted, the legislative proposal will enable policymakers and the American public to have access to more reliable information about financial markets.”

The US House of Representatives is the lower house of the US Congress. With the upper house, the Senate, it composes the national legislature of the US. It has 435 voting members, who serve two-year terms.

Its Committee on Financial Services recently challenged Facebook over the social media firm’s development of its Libra digital currency. Maxine Waters, chair of the committee, wrote in a statement that she believed Facebook should halt all progress on Libra until it has answered to regulators in the country.

Alex Hamilton

Educating the masses

By Ruby Hinchliffe, reporter, FinTech Futures

Times are changing in the banking industry. Old financial institutions are making room for fintechs whose main objectives come back to one, refreshingly moral USP: to educate the masses in money and how to invest.

The age for financial literacy is getting younger and younger. Last month, start-up Greenlight raised \$54 million to release a new debit card for kids; with heavy-hitting investors JPMorgan Chase and Wells Fargo, it's unlikely the Atlanta-based fintech will fail in its mission to create child-parent bank accounts.

To me, this is fantastic. When I first set up a bank account it was a laborious process. It was all done through a branch, much to my brother's dismay at the time, who couldn't sit still for more than a few minutes. Making finance seem more interactive and flexible to Generation Alpha – those children born after 2010 – and the invention of the smartphone is a fantastic way to start that journey of trust. Let's face it, with the likes of Revolut and Monzo, nobody's staying loyal to their 'family bank' anymore.

As well as targeting the under nines, fintechs are also massively investing in small business owners and the gig economy. Indian neobank Yelo, which raised its seed round last month, is solely focusing on the likes of food-delivery workers and taxi drivers

to improve day-to-day cash flow and remittance offerings. For these people, cashflow should be table stakes.

TAKING STOCKS

And it's not just banking. Fintechs are changing the game for stocks too. Australian share trading start-up Stake, which recently secured a licence in the UK, is bringing the US market to the rest of the world. The web offering is visually unimposing and takes little prior knowledge to navigate, giving young professionals an opportunity to break into the investment world without feeling like imposters.

If anything, there's too much choice out there now, which can be just as overwhelming as the old, impenetrable façade of the financial world before the 2008 crash. So how do we choose what and who will guide us through this changing industry? I'd say it's a case of choosing niche leaders who stick to one thing and do it well. We're kidding ourselves if we think some killer app is on

the horizon that does everything from payments to investments to banking smoothly, all in one.

We, as consumers, need to make a conscious effort to do our research on what's out there. If we let laziness prevail, then we're just settling for a more diluted version of what we want and not showing a demand to companies for more. Just as banks and credit unions everywhere need to take the initiative to embrace APIs with open arms, to educate customers on what's out there. If we work together, we all win.

EVERYTHING'S ROSE-Y

With education also comes diversity. I was delighted to hear about the much-welcomed appointment of Alison Rose as RBS chief, the first female leader of a major UK bank. Her experiences as a woman will trickle down through the bank's products and services, as well as its internal structures, to bring about a re-teaching of values which resonates with a sex often marginalised by the world of finance.

Children, gig economy workers, small business owners and women are all starting to form a new, far more inclusive financial infrastructure, which is being accelerated by fintechs determined to serve the underserved. And there's no sign of this industry slowing down. **bt**



How to reduce loan delinquency with a better payment experience

A survey by GoCardless found three main reasons why borrowers had missed a repayment, and followed it up by writing a guide for lenders to remove the blockers

Delinquent loans are a constant concern for lenders of all sizes. While some level of loan delinquency will be factored into your operations, if that level becomes too high it can have serious negative effects on your business, including increased collection costs and reputational risk.

There are, broadly speaking, two reasons a borrower fails to make a repayment:

- They don't have the money to make their repayment
- They have the money but fail to carry out the repayment

This article will focus on the latter.

BLOCKERS TO SUCCESSFUL LOAN REPAYMENTS

If the borrower is financially able to pay, you can assume that certain blockers are stopping them from making said repayment.

To understand this better, payment specialists GoCardless surveyed 400 borrowers, all of whom had missed a repayment, as to why they missed their payment due date:

- 34% suffered with technology issues when paying
- 32% didn't know the repayment due date
- 21% didn't know how much to repay

With that in mind, here are three tactics for removing these blockers in your payment process.

1) OFFER PAYMENT METHODS WITH LOW FAILURE RATES

One big cause of missed payments is

a simple payment failure, and not all payment methods are created equal.

Credit cards, for example, fail 5-15% of the time. This is down to the possibility of credit cards expiring or being cancelled after getting lost or stolen. Failure rates for other methods, such as Direct Debit, are typically much lower.

2) MAXIMISE PAYMENT SUCCESS WITH RETRIES

Payments fail for several reasons, and even with the best payment method, some will still fail on the first attempt. To counteract this, a lender needs to be able to retry payments quickly.

If you (as the lender) are using a 'pull' payment method, such as Direct Debit, to collect payments, you have the power to retry the payment. 'Push' payments, such as bank transfers, rely on the borrower choosing to retry the payment.

GoCardless found that payments failure rates after three retry attempts can be as low as 0.5%.

"About 91% of borrowers feel it is important to be able to see the status of their repayments."

3) PROVIDE READILY AVAILABLE AND ACCURATE PAYMENT INFORMATION FOR THE BORROWER

About 91% of borrowers feel it is important to be able to see the status of their repayments.

Looking at your service, can a borrower instantly find out exactly how much they've paid, how much they still have to pay and when each payment is due? If the answer is 'no', then you have a major barrier to payment success.

Whether it's through an online login or a mobile app, create a place where your borrowers will always know exactly what they need to pay and when.

Better payments are a huge part of creating a successful borrower experience. GoCardless can help you deliver a great payment experience to maximise payment success, provide greater predictability over cash flow and reduce the costs of managing payments. **bt**

Changing mobile commerce forever... and then some

What lies beyond 5G's impact on mobile connectivity and mobile commerce?

Moshe Selfin and Ilya Dubinsky of Credorax discuss the future of new retail, augmented reality/artificial intelligence driven experiences, and smart store technology. They're a lot closer than we think

Several use-cases were driving development of the 5G standard. Most of them revolve around massive and ultra-reliable internet of things (IoT), such as smart meters, remote driving and so on. For the widespread mobile broadband, 5G means an incremental – even if by a large margin – improvement to the services that are already available.

The pattern of the future of the 5G rollout varies, too.

Countries such as China, Japan and Korea are likely to see fast and widespread deployment of the mobile broadband internet based on the standard. In Europe and the US, the process will be much more nuanced: there is little immediate demand for the upgrade where mobile broadband is already widespread. In Europe, 5G will initially be used for industrial IoT and use-cases such as smart factories. In the US, plans are in motion to provide broadband connectivity to suburban and rural areas where it is currently sparse.

WHAT IS 5G?

5G brings lower latency and higher throughput on mobile devices. In layman's terms, this means better gaming and video streaming experiences for the end user, which will in turn boost sales in these vertical markets. But will it affect mobile commerce as a whole? Well, yes and no.

Speeding up mobile connectivity a hundred-times over will most certainly bring the vast computational power of the cloud closer to the end user. AI technology and augmented reality data will be relayed to remote data centres, analysed and returned to consumers in digestible form faster than ever. Imagine, for instance,

fitting clothes with a selfie camera; picking a matching accessory while streaming your reflection in the mirror; or choosing, measuring and selecting furniture and appliances for your home using an augmented view of your apartment. Even designing (and immediately ordering) an entire landscape for your backyard after walking through it with your tablet could become commonplace.

There's no doubt that these technology factors will improve the mobile shopping experience. Combined with better mobile broadband coverage and fast growth

“As 5G deployments pick up pace across the globe, so will mobile and cross-channel commerce.”

Moshe Selfin and Ilya Dubinsky, Credorax

in streaming and gaming services, 5G adoption will become a major growth driver behind mobile commerce.

But such improvements of the consumer experience can only go so far. The true and revolutionary impact of low-latency, ultra-broadband mobile internet will be seen, in time, in the offline-meets-online space and in new retail, embodied by cashier-less stores such as Amazon Go.

The new, augmented reality (AR)- and artificial intelligence (AI)-driven experiences of shopping at home or on-the-go will be taken to a new level when it becomes truly integral with brick-and-mortar retail. Imagine being in a café near a jeans store, browsing its inventory with your mobile and trying some of it on virtually. You then walk in the store to find the denim waiting for you in the fitting room, or already paid for and at the counter – depending on whether the store is fully automated or still has an attendant.

The latter of these two scenarios, in which a person is still present to assist, will become more optional than obligatory, as full automation becomes more accessible. Cameras are already cheap and advanced video recognition will become a commodity that's available as a service too. Once the pioneers in the field figure out the right sensor fusion (meaning the configuration and processing to complement the video stream), deployment of 5G will usher in an era of widespread and scalable chains of unattended commerce.

How fast will it happen? There are many inhibiting factors that will delay the realisation of the new retail. For one, the devices aren't in wide usage yet and the upgrade will take time – mass production of 5G-capable components for end-user devices doesn't even exist yet, meaning compatible smartphones are not yet widely available on the market. There's also the issue of relevant AR, AI and smart store technology, which still needs a few more years before becoming a commodity suitable to service mass markets.

So, while the rollout of 5G will happen fast in Asia first, we don't foresee other markets going at the same speed. One thing is certain though: as 5G deployments pick up pace across the globe, so will mobile and cross-channel commerce. **bt**



The missing piece for Cobol modernisation

By *Daniel Kroening*, co-founder of Diffblue and Professor of Computer Science at the University of Oxford

The Common Business-Oriented Language (Cobol) first appeared in 1959 as a language meant for corporate use, and ever since, it has done its job undeniably well. Although it predates the moon landing by a decade, Cobol still underpins many of the finance

and administrative systems used by established banks and government agencies. In fact, an estimated \$3 trillion in commerce goes through Cobol systems every day.

The potential issue? The inability for traditional banks to update core Cobol

applications or integrate them with new tools is unsustainable for any financial organisation that aims to compete with agile newcomers in fintech. New development in Cobol is limited, and many of the businesses built on it know they need to modernise, but practical solutions to date have been elusive.

After years without a clear path forward, advancements in artificial intelligence (AI) supporting Cobol translation efforts are finally making digital transformation possible and giving an edge back to the leading businesses that defined financial services.

COBOL GRIDLOCK

The truth is that Cobol programs still work. In fact, in most cases, they work too well. To justify going through the

significant pain of replacing them outright, entire teams of engineers within financial organisations would have to spend years completely rebuilding the business' core tech in parallel – at a price tag in the potentially hundreds of millions of dollars. Only then would they attempt to transition to the new system, with a high risk of downtime. Seamless? Hardly. This is not an option for most businesses, so they continue to maintain the status quo while missing out on opportunities, such as adopting new customer-facing applications or moving to the cloud – all fundamental steps financial institutions need to make in order to stay competitive.

But with each passing year, the billions of lines of Cobol code currently in use are becoming increasingly unsupported. The majority of engineers who worked with Cobol in their early careers are now retired, and new developers aren't interested in learning it. Even if they were, most universities no longer offer Cobol courses. As a result, the banking industry is quickly running out of junior engineers with mainframe experience who can carry these applications forward. In a few extreme cases, experts in their 50s and 60s have even been called out of retirement to maintain applications in the companies they used to work for.

The longer it takes to address this issue, the harder it will be to modernise while trying to attract the few remaining developers with mainframe experience. So what can be done?

LOST IN TRANSLATION

Replacement of Cobol isn't the only option: tools now exist that can translate Cobol code into more common, modern languages such as Java, Javascript, Python and C#, without losing any functionality. Transitioning from Cobol to a well-supported modern language such as Java gives engineering teams the ability to write in a language that most developers can work with, allowing access to a much larger pool of talent and closing the Cobol skills gap.

However, it comes with a catch: brand-new code bases are converted without tests. For risk-averse industries such as financial institutions, which offer services that depend on stability, reliability,

"Businesses that have been holding out for a solution are in luck. AI technology has made great strides in recent years and has actually reached the point of being able to write new code."

Daniel Kroening, Diffblue

and sustained customer service, this is unacceptable. If newly translated code can't be reliably edited, it's not much of an improvement. Manually writing tests for millions of lines of code takes almost as long as rewriting the entire application from scratch.

AI-ASSISTED MODERNISATION

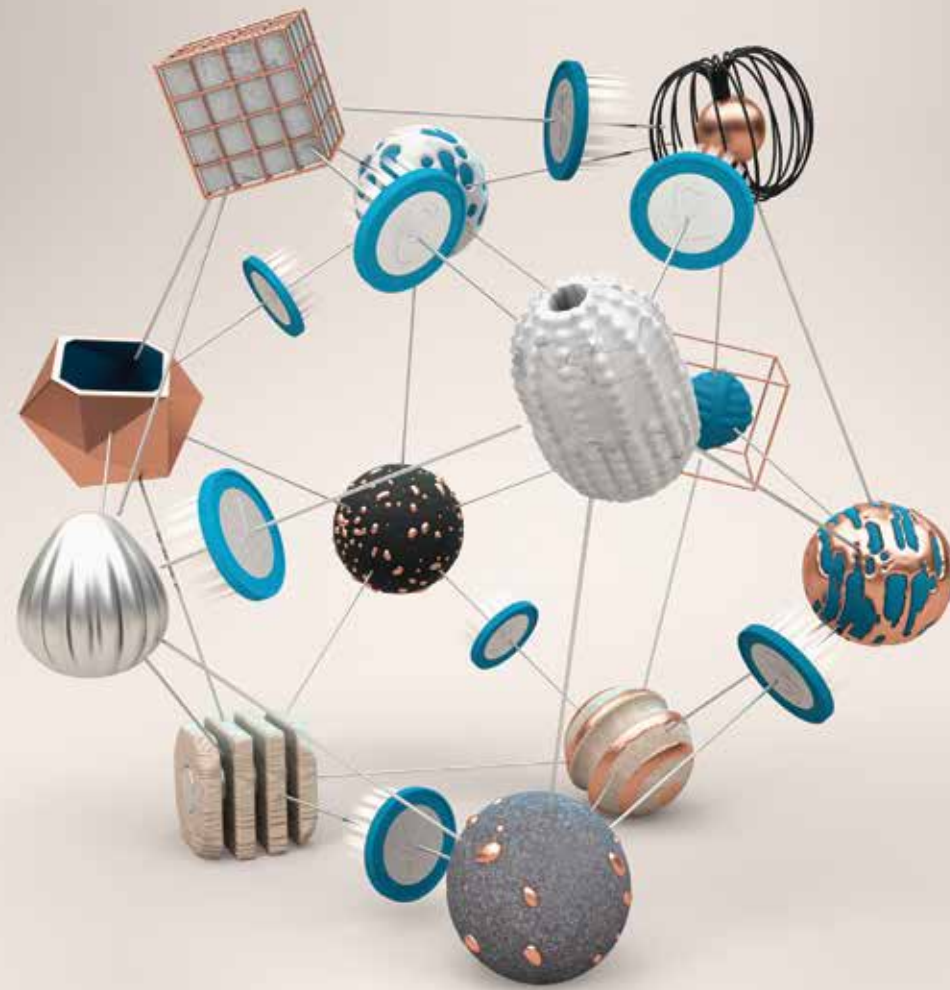
Businesses that have been holding out for a solution are in luck. AI technology has made great strides in recent years and has actually reached the point of being able to write new code. For example, AI for code can automatically generate the unit tests that were lost in the translation process (or never existed at all). These unit tests reduce the risk of errors and bugs resulting from changes to the source code once a system has been migrated into another language, completing the second part of the modernisation puzzle.

The automated nature of these processes makes them fit to tackle the huge scale of the Cobol problem across financial services: millions of lines of code can be quickly translated, and AI-generated unit tests can be created for entire code bases overnight. Modernisation for mission-critical software is in sight for the first time, finally making it possible for companies with decades-old tech stacks to shed their legacy code and look to the future. **bt**





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Building a circle of trust with SMEs

Two reports from Banking Circle show that SMEs aren't feeling the love from most financial services providers, but attitudes are starting to shift



Banking is failing small medium enterprises (SMEs). Options available to SMEs vary dramatically yet rarely fit the bill. With no two SMEs alike, banks – be it an incumbent or challenger – are not always able to provide SMEs with the flexible, fast-paced banking solutions these institutions need. And, so far, few fintechs have taken on the challenge.

Banking Circle has spoken to hundreds of SMEs and start-ups, and found that application and setup takes too long, costs are out of reach and credit repayments are inflexible.

As a business passionate about increasing financial inclusion for SMEs, Banking Circle recently commissioned MagnaCarta Communications to carry out research into these potentially fatal issues. The first report was published in June 2019: *Financial Inclusion for Europe's SMEs: Building a Circle of Trust*.

A second report – *Circle of Trust or Out of the Loop?* – was launched at Sibos 2019. This includes insights from some of the people working in the midst of the challenges and the solutions hitting the market today. Speaking to these experts gave Banking Circle first-hand insight, uncovering where changes are happening, the opportunities that exist, and where barriers are beginning to come down to improve SME financial inclusion.

BROADENING SME BANKING HORIZONS

Valentina Kristensen, director of growth and communications at OakNorth Bank says: "SMEs are still not top of the agenda for most financial services providers, but many are waking up to the benefits. They are realising that if they get an SME on board, they will be loyal and bring multiple cross-selling opportunities."

As our report shows, bringing about real change and better financial inclusion for SMEs requires market participants to work together and develop joint solutions, collaborating to build bridges between individual innovations already in the market.

"Financial services providers are realising that if they get an SME on board, they will be loyal and bring multiple cross-selling opportunities."

Valentina Kristensen, OakNorth Bank

Roger Vincent, general manager (UK&I) & CIO of Trade Ledger, comments: "We are creating a new ecosystem of financial services providers, in partnership with other providers such as Banking Circle, to establish a new era of financial services that will better service customers and SMEs in the banking space. If we better serve the banking space through the incumbents, then the SMEs will benefit greatly as they can access the services they want."

A PERFECT BALANCE

However, as our latest report shows, the progress and potential achievements will remain limited until further collaboration, communication and joined-up thinking becomes commonplace within the financial services industry.

As with any ecosystem, it must be perfectly balanced in order to function effectively. Only with all types of providers working together in collaboration, not competition, will the banking ecosystem be able to bring financial inclusion to its peak. **bt**

Visit BankingCircle.com to register for the new Banking Circle Insight Paper which will be launched at Sibos 2019, and to download the report 'Financial Inclusion for Europe's SMEs: Building a Circle of Trust'.

Making payment easy across Africa and beyond

By *Thabo Makoko*, global head of transactional services at Absa



Lack of sophisticated payment systems when it comes to the financial services industry – and the patchy, often inefficient nature of those systems that do exist – has for too long acted as a major drag on African development, not just in an economic sense, but also a social one.

In a vast and diverse continent characterised by large geographical distances along with piecemeal and unreliable physical infrastructure,

traditional banking services have struggled to take root, and cash is often king. Payments across large distances – and cross-border payments in particular – usually present a headache in terms of complexity, inflexibility and cost. These factors often make transactions prohibitive for the average individual – and that's in cases where any solution exists at all. In many places and situations across the continent there is simply no efficient

mechanism for moving money around in a way that is often taken for granted in some developed economies.

Depending on where you are, solutions do, of course, exist. Organisations like Western Union and its brethren have been active in various geographies for some time. More recently, the advent of modern digital telecommunications technology has created a wave of enthusiasm for a new generation of solutions, predicated

on widespread adoption and usage of mobile devices. An array of firms from inside and outside Africa, from large international banks through to small fintech disruptors, are racing to deploy a variety of digital, mobile-based solutions with a view to transform the continent's payments landscape.

This enthusiasm is well-placed. But there is still some way to go, and it's worth reflecting on what exactly is needed in

the years to come, what the ideal solution needs to incorporate, and where the focus needs to be to get there.

THE MICROTRANSACTION ISSUE

One major drawback of both current and incoming solutions is that it's invariably built for larger transactions, with a focus on commerce, and are ill-equipped to deal with microtransactions, if it can support them at all. Yet microtransactions – the stuff of everyday life – are a key part of the puzzle and will need to be a central focus of any future infrastructure. Trade is important but this is about far more than just trade. More Africans are travelling and working across borders and regions than ever before, and people increasingly need a convenient and easy way of making payments for personal reasons as much as business-related ones. Medical bills, school fees, sending salaries back to families – these important social needs are not being met by the current menu of options.

As well as allowing for these sorts of payments, the solutions that win out will need to be squarely focused on one overarching principle: removing friction from the process. From the point of view of the sender and beneficiary, the process needs to be as simple and user-friendly as possible and involve the fewest steps, with all complications and technical elements hidden under the surface, as it were.

This principle of removing barriers and friction can be broken down into three broad areas: transparency, cost and ease of use. The more traditional existing services, however useful it may have been historically, fall well short of what is needed on each point. Transactions are complicated and involve multiple intermediaries – often requiring finding a local agent to physically move cash between locations, which in turn involves other nebulous third-parties along the way. Even for those with the means to use such services, the process can be daunting and off-putting – on the transparency front, it involves extended 'black box' time periods where neither the sender nor beneficiary is

“Microtransactions – the stuff of everyday life – are a key part of the puzzle and will need to be a central focus of any future infrastructure.”

Thabo Makoko, Absa

aware of where their money is, or who has it. The gap between the sender pressing send and the beneficiary being able to access the funds should be as narrow as possible, and the period in between that the funds are held by third-parties needs to be minimal or, ideally, removed entirely.

At present some of the more traditional solutions have an absurdity to them – moving funds between geographically adjacent nations can involve sending the money on a holiday around the world leveraging existing networks, owing to a lack of technical connectivity between neighbouring nations.

NEW KIDS ON THE TECH BLOCK

The wave of newer technologically-enabled solutions are of course much further advanced in terms of ease of use, convenience and efficiency when compared with these more traditional systems. However, challenges remain. In terms of cost, for instance, it isn't just a matter of ensuring cost-effectiveness for microtransactions and affordability, but also allowing for flexibility. Many current solutions, for example, require the beneficiary to burden some of the cost in terms of collecting the funds at the end of the transaction – this is less than ideal for a worker trying to send earnings back to their family, who may lack the means to

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Jon Robson

Head of Sales

Email: jon.robson@fintechfutures.com

Tel: +44 (0)20 3377 3327

Sam Hutton

Business Development Executive

Email: sam.hutton@fintechfutures.com

Tel: +44 (0)20 7017 7017

pay on their end, for example. Low pricing isn't everything, either – a slightly more expensive but more transparent process will drive adoption quicker than a bargain system that nonetheless involves the user handing their hard-earned money over to a byzantine and opaque process, or one that incurs significant delay. Balancing these factors is crucial.

Ease of use and convenience relates to the user interface (UI) issue as previously mentioned – ideally the process should be as simple as pressing a couple of buttons on a mobile device and seeing the funds drop into the beneficiary account instantly. The more complicated and convoluted the interface and process, the less widespread adoption will be. This is as much, if not more, a question of design and user focus as it is a technical one.

However, UI aside, ease of use also pertains to the scope and size of the network that the solution is plugged into. There's not much point in having the simplest and smoothest UI process if it can only be used by a few individuals in a few places and locations, or if the beneficiary can't access the funds.

Zimbabwe presents a neat use case that highlights the potential complexities of the challenge here, as well as the importance of the network element. Around three million Zimbabweans currently work abroad in South Africa. However, due to domestic issues, cash is very difficult to access in Zimbabwe. On the plus side, this has forced the country to speedily adopt mobile and digital payment infrastructure. But for a worker in South Africa trying to send money back to their family, this presents a problem. A lot of the current options are off the table, because it relies on the beneficiary accessing cash in their location to receive the payment. What's needed here, by contrast, is the ability to digitally transfer funds that can then also be spent digitally across Zimbabwe's ecosystem, in shops and other outlets.

BEYOND THE TECH

All of this underlines the extent to which the main challenges going forward are not,



“Building a convenient payments structure that can be used by millions for everyday transactions across 54 countries is necessarily a matter of collaboration and partnership.”

Thabo Makoko, Absa

in fact, technological *per se*. The technical element has come a long way and give or take a few issues that will be ironed out, the technology required to underpin fast, transparent and cost-effective mobile payments infrastructure is already in existence. The real challenge is instead one of design and effective network building. The solution will not come about thanks to this or that revolutionary platform alone. Building a convenient payments structure that can be used by millions for everyday transactions across 54 countries is necessarily a matter of collaboration and partnership.

Those firms that end up dominating the space will be those that are currently working hard to form these alliances and connections – between financial institutions, governments, outlets, telecoms companies and so forth. Banks will also have to form a kernel of the network – while there is a lot of excitement about the potential for fintech disruptors to sidestep traditional banking infrastructure, pre-funded accounts will have to be part of the answer for driving initial adoption, and large banks are best placed to provide this essential element.

While there is still some way to go, progress has been rapid, and it seems that a new age of payments infrastructure is about to dawn across the continent. The eventual winners will be those that focus on these principles of user-friendliness and network building. And for those that can get ahead in Africa, the opportunities don't stop there. Africa is far from the only place in the world that suffers from patchwork, archaic and inefficient cross- and intra-border payments infrastructure.

Thanks to the continent's advanced telecoms infrastructure and lack of traditional banking services, it is in many ways the ideal proving ground for systems that could end up transforming the entire globe. Those that can get their strategy and approach right now will gain a critical advantage in the emergent landscape. **bt**

AI: Understanding bias and opportunities in financial services

By *Nadia Sood*, CEO, CreditEnable

It is undeniable that our lives have been made better by artificial intelligence (AI). AI technology allow us to get almost anything, anytime, anywhere in the world at the click of a button; prevent disease epidemics and keep them from spiralling out of control, and generally just make day-to-day life a bit

easier by helping us to save energy, book a babysitter, manage our cash and our health all at a very low cost.

AI's penetration into systems and processes in virtually all sectors of business and life has been rapid and global. The speed and scale at which AI is proliferating

does however raise the question of how at-risk we may be that the AI we are building for good can also be introducing damaging bias at scale.

In this two-part series, I explore the issues with AI constructs – the good, the bad and the ugly – and how we can think about shaping a future through AI in financial services that helps lift people up rather than scaling problems up.

PART ONE: THE GOOD

From using predictive analysis to forecast consumer spending and advising on personal wealth management, to underwriting loans and transaction monitoring – AI's footprint in financial services can be seen everywhere.

AI that has focused on better understanding of customers' needs and security can have substantial benefits for consumers and several banks have already introduced innovation in this space.

In 2018, Goldman Sachs acquired a personal finance app called ClarityMoney. The app pulls users' transaction information to remind them of spending goals, flags transactions that it finds unusual for a given account, and also moves money into savings for users. It also calculates how much users could save if they cancel some recurring fees in their bank account and even allows users to cancel unwanted subscriptions in just a few steps. This kind of technology revolutionises tracking personal finance.

NetOwl is a suite of entity analytics products used by Royal Bank of Canada (RBC). It analyses big data in the form of reports, social media, as well as structured entity data about organisations and places. It uses tools such as semantic search and discovery, compliance monitoring, cyber threat monitoring and risk management. It can even translate names written in foreign languages, perform name matching,

and identity resolution. RBC uses the company's tool EntityMatcher as part of its fraud detection and prevention efforts. Using this software, RBC is able to screen potential new customers against a large set of individuals who have perpetrated fraud against such organisations in the past. NetOwl is able to quickly and accurately match newly identified perpetrators against millions of records. This kind of technology not only benefits the bank using it, but also helps reduce the likelihood that nefarious organisations penetrate the institutions that the rest of society needs in order to function.

WHAT CAN GO WRONG

While this technology offers immense benefits, it can equally help perpetuate unhealthy biases. Imagine that your expense tracking software was used by your bank to determine whether you should be eligible for a loan product, but >>

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Head of Sales

Email: jon.robson@fintechfutures.com

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Sam Hutton

Business Development Executive

Email: sam.hutton@fintechfutures.com

Tel: +44 (0)20 7017 7017

filtered out all people over the age of 50 because the algorithm was constructed by a young technologist assigning a value in an algorithm and who just assumed over-50s didn't need loans? This would not bring a benefit to over 50 year olds or to the banks who would be missing out on a huge part of a creditworthy pool of customers.

Real-world examples of this type of bias creeping in with detrimental consequences to women and minorities have already occurred and at scale.

In 2014, Amazon developed an internal AI tool for selecting the most promising candidates by examining their job applications, particularly their CVs. However, the software quickly taught itself to prefer male candidates over female ones, penalising CVs that included the words 'women', which would often refer to women-only clubs. The software also downgraded graduates from two all-women colleges. This issue stemmed from the fact that this software was trained on data submitted by mostly men over a ten-year period. Despite attempts to fix the bias, Amazon eventually lost faith in the impartiality of the system and abandoned the project.

Commenting on this issue, John Jersin, VP of LinkedIn Talent Solutions stated that AI is not ready to make a hiring decision on its own – the technology is not ready just yet. The real issue with the AI that was deployed wasn't that it wasn't ready, but rather that the starting point was flawed. The data set used should have included an equal set of data on women and on men, and because it didn't, the eventual decisioning tool that was constructed by Amazon ended up with an inherent bias against women.

LOSING FACE

A similar issue has occurred in the area of AI for facial analysis. A computer scientist and MIT graduate, Joy Buolamwini, found that facial analysis software from tech giants such as IBM, Microsoft, and Amazon, could not detect her dark skin. Her face was only detected when she put on a white mask. This is not surprising as these systems are often tested predominately on white men. After testing facial recognition from these tech giants on various faces, Buolamwini found that all companies performed



"The substantial social benefit of AI if applied properly is that it can help spotlight the strong performing, good eggs in the lending basket"

Nadia Sood, CreditEnable

substantially better on male faces than female faces – and darker-skinned female faces did substantially worse. For lighter skinned men, she found an error rate of less than 1%. However, this figure rose to 35% for darker skinned women. These AI systems also failed to correctly classify the faces of Oprah Winfrey, Michelle Obama and Serena Williams despite the fact that these women are some of the most famous people in the world and generate some of the most significant number of images online.

In both these examples, the institutions building the AI could have been smarter about the datasets they used to form their conclusions and train their AI, and better

about including more diversity in the groups of people who were building the systems.

AI in banking is not immune to this risk. The trick is going to be how to develop AI that doesn't perpetuate widespread bias that exists today, especially in the area of gender.

Gender bias in banking services is clearly seen around the globe. A European study found that businesswomen are less able to access loans from banks than businessmen. Male entrepreneurs in Europe are 5% more likely to successfully get a loan for their business from banks than women. Even those women that are able to access loans are subjected to higher interest rates, with an average of 0.5% more on a business loan than men. It is not the case here that women are worse at business than men and so present worse credit risks – the average venture-backed technology company run by a woman is started with a third less capital yet yields annual revenues that are 12% higher than those run by men.

The substantial social benefit of AI if applied properly is that it can help spotlight the strong performing, good eggs in the lending basket. For instance, it can read between the lines in deciding whether to lend to an individual earlier excluded by a lending officer because the entrepreneur is a woman, especially since the gender of the entrepreneur has nothing to do with the ability of the individual to repay debt. AI can help eliminate the discrimination arising from cases such as this.

At a societal level, AI stands the chance of democratising the access to capital for women and minorities. But AI needs to be developed in a consequent thoughtful manner for this promise to be delivered on.

In the second part of this series, I explore how AI can be applied as a force for good by financial institution to expand the pool of clients to be more inclusive.

An objective analysis can highlight what gender biases may cloud – and banks would thus be less likely to filter out women-owned businesses without first being made aware of their merits and creditworthiness. With time, AI can be a transformative tool in shrinking these biases. **bt**

Keep an eye out for Part Two on
www.fintechfutures.com

The challenges faced when building a partnership

By *Chris Ward*, author, *Mapa Research*

Partnerships are the buzzword of the moment. The term has become a catch-all used to describe a wide range of relationships – between banks and fintechs, fintechs and fintechs... really between any two players in the financial eco-system.

Incumbent banks have certainly adopted the term to make their arrangements with vendors sound more exciting and, in many cases, it is just being used to describe the long-standing practice of banks buying technology. However, there is more to partnerships than a change in jargon – perhaps the greatest change is that the customer will clearly see when they are interacting with a third-party product or service.

THE COMMON CHALLENGES

This is not to say that big banks can't have partnerships like this (take Barclays and MarketInvoice as an example), but for challenger banks, partnerships are far more critical, and their customers are far more likely to experience an explicit partnership scenario. These relationships allow them to rapidly broaden their propositions in terms of functionality, services and products, and in turn widen their market impact and appeal. Without partnerships, neo-banks simply would not be able to achieve the scale they need quickly enough.

As we see it, there are three core challenges to building a partnership. The first is the obvious one – who do you partner with and why? The second, how do you get the partnership to work in the back-end? Finally, how is the partnership delivered and positioned to customers?

It is important to note that it's not necessarily the case that banks tackle these challenges in that order and that each challenge will depend on the overall approach of the bank and what the partner is offering. To give an example, when Starling Bank is looking at providers to add to its marketplace, the final question is already pretty much resolved – it is just a case of what copy is written around the product and if there will be any data pulled back into the Starling app.

FINDING THE RIGHT PARTNER

Let's look at the challenge of picking a partner and establishing a working relationship. Obviously, there must be a clear purpose for partnering (from being a low-cost way to add functionality to being able to offer market-beating interest rates on savings) but beyond this the single most important thing is finding an organisation with the same vision or common purpose – this is the foundation

“Challenger banks are only just getting into their stride; there are plenty more partnership case studies to come.”

Chris Ward, Mapa Research

on which a mutually beneficial relationship can be developed. After all, the relationship needs to deliver value for the bank, the partner and the customer.

So, in a large part the key challenge is building a strong foundation on a human level at the outset; trust is critically important – the partner is going to be interacting with your customers and, if things go wrong, can damage relationships with those customers. Both parties need to be aligned on how they approach and treat customers, the depth and quality of support they offer, and how they intend to impact the market.

The number of options available to the challenger bank varies on the type of service or product they are looking to add – there are many potential partners if you are looking at know-your-client (KYC) checks, but probably only a handful if you're looking at pension consolidation. Each brand probably has their own take on exactly how to approach this initial relationship building, but the focus clearly has to be on establishing mutual trust.

Once the decision has been made to go ahead with a partnership, the focus has to shift to the two other challenges; the back end – in terms of technology and compliance – and the front end – how the partnership will be presented to customers.

GETTING THE BACK END FOUNDATIONS RIGHT

Making the partnership work on the back end is about two things – compliance and technology. The bank must do its due diligence here and get these foundational

things right. Compliance is a key issue but in many circumstances, there is the benefit of partners being registered with local regulators or (as we have with open banking in the UK) being a licenced participant in the financial eco-system. Even where such regulation exists, there is still the need to ensure that the partnership works from a legal point of view.

On the technology side there's the big question of how we get the bank's technology stack working with the partner's technology. Obviously neobanks have the distinct advantage over the incumbents here as they have been built knowing that partnerships would be a key part of their proposition. In theory then, making the tech work should be relatively straightforward, but there are always

things that need optimising and adjusting. Having heard several neobanks speak to this topic recently, the key in their view is simple – let the engineers on both sides do their job.

PRESENTING THE PARTNERSHIP TO THE CUSTOMER

The scale of the challenge when it comes to the tech is really shaped by the final key consideration; how is the partnership going to be presented to customers.

As discussed, there is a wide range of approaches to this, and importantly, there probably is not a single right answer. We've seen everything from seamless, invisible partnerships, through to the “hand-off” style seen in something like Starling's marketplace. In part, the approach and

the experience of the customer will be shaped by the extent that the tech allows integration and what the bank needs to do in terms of informing customer from a regulatory point of view. However, there is certainly some room for flexibility here and the real question is when customers should know they're interacting with the third-party, or at least how explicit it is that a third-party is involved.

Challenger banks are only just getting into their stride; there are plenty more partnership case studies to come. The reality is that there will be a range of approaches being used. The key considerations will be the same – picking a partner and having clarity of purpose, and then deciding how to deliver the partnership in both the back and front end. **bt**



Meeting the global B2B payments challenge

By Alan Koenigsberg, global head of new payment flows – Visa Business Solutions

International businesses increasingly expect global access to finance in real-time. They also expect finance to be available in a way that works for them in any country and currency, without the process being hampered and delayed by the historical constraints of national boundaries.

THE TRIALS AND TRIBULATIONS OF CROSS-BORDER PAYMENTS

Today, despite rapid progress in areas of payments processing on the consumer side, cross-border B2B payments remain complex, touching many intermediaries often resulting in unpredictable delays. The traditional correspondent banking network operates on a largely bilateral relationship structure that is often perceived to be clunky and unreliable, offering limited visibility on the status of a transaction.

In addition, the set up to support clients' business in a new corridor or currency is often cumbersome. Receiving banks can't be certain when payments will arrive and therefore cannot give status updates to their customers/suppliers – and the amount of money involved may change as a result of exchange calculations and various fees.

In a world where, as consumers, we have access to payment opportunities that are real-time with complete visibility of our transactions, the status quo around cross-border B2B payments with potentially multiple steps in the payment transaction and uncertain visibility and reach is now becoming unacceptable. It is a logical expectation of fast-scaling companies to be able to offer their

services or solutions across the world. The need for new models and technological solutions capable of making this happen in a timely manner is therefore increasingly urgent. So, we are seeing a real drive for change across the B2B cross-border payments space.

Regulation, especially around Know Your Customer (KYC) and Anti-Money laundering (AML), is also helping to fuel this change.

The level of regulatory risk created by money laundering can be significant in some countries but the tightness of controls and regulatory adherence varies per country. Across most of Europe, AML controls are more established. In parts of Africa however, including North Africa in particular, the risks are a lot higher as controls may be less defined or rigorous. This means the chances of money being delayed due to AML problems are higher. It is also key, of course, that any new approach enables banks to reduce the risk of money laundering happening in the first place.

FINDING A WAY FORWARD

Looking at the industry holistically, we are seeing a growing number of partnerships between fintechs and financial institutions. This is key because banks and fintechs can overcome B2B cross-border payments challenges by partnering to pool resources, share ideas and work together to develop new technology.

One key area of technology that offers future potential in helping facilitate secure and transparent transactions globally is Distributed Ledger Technology (DLT), such as blockchain. The use of DLT offers businesses the possibility of increasing end-to-end transaction speed as well as providing them with the ability to improve the way they verify digital identity, for example. All this lays the foundation for a service with the potential to transform cross-border B2B payments.

We are now starting to see the emergence of systems that use elements of DLT to give financial institutions a simple, fast and secure way to process B2B payments globally. Today, it is possible to develop platforms that can reduce the risk



and time spent on cross-border corporate transactions by facilitating transactions from the bank of origin directly to the beneficiary bank. Security is being enhanced through digital identity features that tokenise an organisation's sensitive business information, such as banking details and account numbers, giving them a unique identifier that can be used to facilitate transactions on the network.

LOOKING TO THE FUTURE

Technology today is significantly disrupting the B2B payments arena – and it is becoming increasingly urgent that it does. Just a short time ago, only the largest multinationals were concerned about how to pay and get paid globally, which meant payment solutions were geared to the large multi-national corporations. In our

current, progressively globalised business landscape, every business of every size needs to be able to make global payments quickly, efficiently and securely.

As businesses' needs continue to grow, we're going to see a corresponding evolution of digital solutions like distributed ledger technology in all aspects of payments from access to enablement to initiation. We also expect that the global nature of payments around the world will continue to evolve to address the need for speed, transparency and optionality.

Technology is evolving fast. Today, there is growing evidence to suggest that the future vision of all B2B cross-border transactions happening in a simple and reliable way is not just a pipe dream but will ultimately become a reality. **bt**

AI: Competitive advantage for high-growth institutions

By *Freddie Frith*, senior business development manager, ClauseMatch



The rise of financial technology has drawn the attention of regulators to fintech firms and how they function. Fintech companies, like any other regulated institutions, are required to comply with a growing set of regulatory rules. One of the latest examples is the Financial Conduct Authority's (FCA) roll-out of Secure Customer Authentication (SCA) for e-commerce transactions. This will mean that card issuers, payments firms and online retailers will have to follow

more stringent authentication steps for European online payments over €30.

However, the real regulatory pain for fintechs is felt when scaling fast while entering new markets. Catering to new obligations from different jurisdictions places further regulatory scrutiny on their operations, ensuring that they are compliant with the various nuances of different regulators' rules.

Let's take challenger bank Revolut or

fintech giant Klarna as examples. As their services are rolled out globally, differences, contradictions and/or similarities of rules from different regulators that impact their business must be understood and applied, while applying to new banking licences and scanning the horizon for new regulatory changes that impact them.

Responding to these external pressures without the scale and resources of a traditional bank is near impossible. Fintechs and challenger banks are under considerable time and resource constraints and therefore cannot just rely on armies of compliance officers to stay competitive.

AI AND COMPLIANCE

Financial institutions show compliance with regulatory rules by embedding them into their policies, procedures and controls. The traditional approach to updating and managing these changes is very manual and partially consultancy led/dependent. Technology such as artificial intelligence (AI) is being harnessed instead to transform their approach governance, compliance and risk.

AI is an umbrella term for a series of underlying technologies such as machine learning (ML) and natural language processing (NLP), that can be brought together within a cloud-based environment to store and process huge amounts of data, to perform in sophisticated tasks, without the assistance of humans. ML uses statistics to find patterns in data that is used to make predictions or perform tasks. NLP refers to the interactions between computers and human languages. The key objective of NLP is to read, decipher, understand and make sense of the human language so that it offers a valuable output.

APPLICATIONS OF AI

Here are examples of NLP applications and their value for the compliance function.

Semantic similarity is an NLP task that helps evaluate the semantic distance or proximity between text. In layman's terms, this means finding similarities between content. An example of this would be automating the mapping of related content together, identifying relationships between a specific regulation and relevant related policies, procedures and controls.

"AI will prompt compliance professionals with the right decisions, highlight potential errors and allow them to carry out tasks more efficiently and accurately."

Freddie Frith, ClauseMatch

This gives compliance professionals an instant impact analysis of whether internal governance documentation is in line with related regulatory obligations or their risk framework. A second example could be identifying similarities across content so that you can consolidate documents that repeat one another. This can consolidate governance documents by up to 50%.

Contradiction and inconsistencies, NLP functionality that applies a single scale identifying cases from "inconsistent" to "consistent". A common use for this algorithm is identifying contradictions between an organisation's internal governance documentation. Typically, policies and procedures are written and/or updated in silos across a business leading to contradictions. Identifying these contradictions can help achieve a unified and standardised governance framework.

Question answering allows you to identify targeted queries to large amounts of text quickly. The more text you have in your system, the smarter this feature becomes. Smart applications of this include implementing a chatbot on an employee/customer portal to help provide quick answers to technical questions or unfamiliar regulatory guidelines.

Paraphrase detections' goal is to define cases when one phrase was expressed using another – 'rephrase' cases. When financial institutions write their standards and policies, very often they simply paraphrase or

rephrase original paragraphs into similar text with the same meaning. Similar rephrased content scattered across policy documents can have synonyms and different language structures. This functionality allows compliance officers to automatically identify paragraphs with similar interpretations, connecting them to previously prescribed clauses in other documents. In addition, when a new regulation is enacted with slightly different content, it is possible to map it to previous versions. Therefore, a base of related paragraphs linked with regulations is built up, which can then be automatically linked to other relevant content.

Named entity recognition. The ML functionality analyses words that have different endings so that they can identify and group documents and paragraphs into themes. It detects that various combinations of symbols still refer to the same entity. Just like "NY" and "New York". It is helpful for search and also useful for statistical-based reports. For instance, to be able to evaluate fast, what investment types have been covered by new regulation and the frequency across documents. For example, multiple mentions of insurance-related investment types will provide insight to increase the risk for that type of product at the bank.

THE FUTURE

Compliance is evolving at a rapid pace. Over the course of the next ten years, AI-based advancements will radically shift it from what it looks like today. AI will assist compliance professionals by automating time-consuming administrative tasks, while enhancing decision making. It will prompt them with the right decisions, highlight potential errors and allow them to carry out tasks more efficiently and accurately.

This will, of course, require new systems in place and more advanced tech skills from compliance professionals. Fintech and challengers are good examples of companies that are already implementing these changes in full effect due to the lack of legacy systems they have in place. The global banking sector is following suit, leveraging the power of AI to combat rising costs, as using technology like AI to improve operational efficiency was a key theme across 2018 annual reports. **bt**

Tesla-fy your bank

By Dharmesh Mistry

Banks are increasingly worrying about the impact big tech companies such as GAFAA (Google, Amazon, Facebook, Apple and Alibaba) could have on banking. Previously I looked at how banks could learn from Amazon and also from Uber. But why haven't we worried about one of the greatest innovators and 'disruptors' of the 21st Century?

Elon Musk has revolutionised not only products but our thinking about how to save the planet, from sustainable solar power and electric cars to colonising Mars! If you have read his autobiography, you will know before he set up PayX (the company that later acquired and became

PayPal) that's exactly what he wanted to do. However, when looking at the complexity of banking, he decided to focus on payments. What is amazing is that he stepped back from this challenge and went full steam ahead with a plan to colonise Mars. Although Elon Musk couldn't disrupt banking, he might think that he can colonise Mars.

When you consider there are 100 new companies providing banking services in the UK alone – with another 100 following them – you might ask yourself was he wrong? What are the likes of Monzo, Starling and Atom doing to disrupt banking or are they simply providing

choice and competition? Some of these have created their own core banking systems, and even in the core banking solutions space, a number of brand-new players such as 10x, Thought Machine and Levaris have emerged.

So, the question is, have these new players created the same kind of disruption that Elon Musk has with Tesla? I'm sure a lot of comparisons could be made – for example, revenue versus market share. In order to really answer that question, we need to take a closer look at Tesla.

STRONG 'WHY?'

Saving humanity by cleaning up the planet and colonising Mars so that mankind has a 'plan B' is a pretty strong reason as to why customers should buy into Tesla. Not only will they get an amazing car, they'll be contributing to saving mankind! Now the closest banks get to a strong 'why?' is making people's lives easier/better through banking; that's not as compelling, right? Even the Gates Foundation has a stronger 'why': by getting people into the banking system we can eliminate poverty faster. We are in an era where what the product stands for matters as much as how good the product is – gone are the days of buying a product because of the marketing hype, and in comes a strong recognition of what a company stands for.

REINVENTION, NOT RENOVATION

I often present the difference between digital and digitisation and will probably post something along those lines sometime soon. Back to Tesla, it didn't just create a better car by improving what others did. It started from scratch unencumbered by the legacy of previous designs. From creating the first 'upgradeable car' to moving the engine to the centre and creating super-fast charging points, it really reinvented the car rather than just upgrading it. When we look at banks, including challengers, who would you say has reinvented banking? Fintechs have reinvented mono product lines – for example, peer-to-peer lending or crowd funding – but general banking has just had an 'experience' upgrade.

"Unless banks step outside of banking, they will never reinvent it, and never truly capture the hearts of customers seeking for something much more fulfilling."

Dharmesh Mistry

enormity of the challenge would stop most people in the blocks. Not Tesla. Starting with high-end cars for a niche market of those that could afford it, Tesla's plan started to feel like it had legs when it launched a car for the masses. It also started to highlight Tesla's ecosystem with PowerBank (storage to power the home) and solar powered tiles to generate the power. Suddenly the vision to clean up the planet seems much more tenable. Unless banks step outside of banking, they will never reinvent it, and never truly capture the hearts of customers seeking for something much more fulfilling than executing transactions cheaper, faster and from anywhere on any device... sound familiar?

INNOVATION AT ITS CORE

Tesla didn't set up an innovation lab, run a few hackathons and hire a chief innovation officer. Innovation is a core value, part of the way that everything gets done; for example, they were quoted 12 months for delivery of the world's largest stamping press and this was unacceptable. So, it pulled together a team that looked at how they could get it into their factory in three to four months. From cutting inches off the press bed to modifying cranes, the team managed to pull the rabbit out the hat and bring the press in on time. There are many more examples, but the key point is that Tesla has innovation running through its bloodstream and doesn't let anything get in its way.

Tesla may not be a threat to banks, but it certainly has the right principles to succeed in truly disrupting its market and thus set a strong example, not just to banks, but to anyone seeking to create disruption. **bt**

IT'S THE WHOLE JOURNEY, NOT JUST THE DRIVING EXPERIENCE

Tesla looked at every aspect of the customer journey, starting with buying a car in a retail outlet rather than at a car showroom in the middle of nowhere. Now you can browse clothes, electrical goods, food and your next car in the same mall, why hadn't existing manufacturers done that? The driving experience itself was enhanced with a large screen and self-driving mode. When the car is short of fuel it's already looked at where you can recharge without you asking it to. And as for charging the car, Tesla didn't wait for others; it built its own charge points and came up with the technology to accelerate the charging process.

IT TAKES MORE THAN CARS

Going back to the 'why', this itself is awe inspiring and thinking about the sheer



Dharmesh Mistry has been in banking for 30 years and has been at the forefront of banking technology and innovation. From the very first internet and mobile banking apps to AI and Virtual Reality. He has been on both sides of the fence and he's not afraid to share his opinions.

Five lessons global banks can learn from African fintechs

By *Chijioke Dozie*, CEO, Carbon

From payment solutions to peer-to-peer lending platforms, African fintech has been a trendsetter in the industry for some time now. While the focus is often on the other things happening on the continent, many of the solutions that have been widely available in Africa for a long time are just being introduced in other parts of the world.

For example, Africans have been using digital wallets for more than a decade, sending and receiving money without a traditional bank account. However, when Mark Zuckerberg said sending money should be as easy as sending photos, suggesting that money could be sent via Facebook and WhatsApp, it was positioned as a ground-breaking idea. Well, Africans have been doing that for a while through the likes of M-Pesa, Airtel and more since the early 2000s.

While the challenges are very different, there are certainly a few lessons that global banks can learn from African fintechs as they navigate the conundrum of challenger banks and the other changes to the global banking landscape. With customer acceptance, loyalty and retention being top of everyone's agenda, there's no harm in looking at what is driving success in the most dynamic financial services market in the world.

EVERYTHING DOESN'T NEED TO BE PERFECT ALL THE TIME

Anyone that has ever done business in Africa will testify that the process is not without its challenges. From infrastructure to regulation, there are many issues that would usually stop things from getting done. However, it is in these circumstances that innovators are flourishing and driving significant, continent-wide change. Where there has been a lack of physical infrastructure, mobile phones have served as a platform for delivering key services. Where regulation has been unclear, innovators have self-regulated to safeguard themselves and their customers.

As much as investment in African infrastructure is much needed, businesses have always thrived on the continent, despite these well-known challenges. Businesses that succeed in Africa do so because they assess the realities on the ground and put the required solutions in place to fulfil their business goals.

FOCUS ON SOLUTIONS THAT INCLUDE AS MANY PEOPLE AS POSSIBLE

The topic of financial inclusion is high on the list of African fintech priorities at the moment. For many of the people that have been excluded from mainstream financial services, financial inclusion is not just about having access to a bank account to put their money in. It is about having access to advisory services that enable their businesses to thrive and expand. Inadequate access to the necessary advice and management support can also be a major barrier to growth and can have a bigger

effect on the wider society.

Unfortunately, most of the financially excluded in Africa are women. For these women, financial inclusion is about putting the necessary systems and structures in place to connect them with the tools and support they need to succeed in business, professionally and personally.

By providing viable solutions to these problems, various studies have shown that there is a correlating impact on improved healthcare, education, investment in children, poverty reduction and other positive changes in society.

MAKE THE MOST OF EVERY CHANNEL

The high mobile phone penetration in Africa has been widely reported. What often goes unreported is the continued prominence of various technologies that are largely in

other parts of the world. Two examples of these are USSD and SMS technology. With sub-Saharan Africa still predominantly a feature phone market, businesses have to depend on these technologies, that would be either unknown or

archaic to the smartphone generation. While smartphones are the future, feature phones are not the relic of the past that many seem to think they are. According to a recent report, feature phones contributed to 23% of the total handset shipments in Q3 of 2018 and remains a sizeable market.

Innovating for feature phones has to remain a priority. Not only because it provides an opportunity to make the most of existing knowledge but also because it makes it easier to bring as many of the benefits of the smartphone experience to users that are yet to come onboard.

FOCUS ON THE CUSTOMER AND THEIR NEEDS

The need to focus on understanding the customer's unique needs to deliver success is perhaps best illustrated in the African fintech story. The old misnomer of "if you build it, they will come" has been roundly disproved, with many established banks failing to convert low-income

consumers to generic solutions of the formal financial system. On the other hand, fintech solutions that meet consumers where they are have seen quite remarkable adoption and customer retention.

For example, since Kenya's M-Pesa launched in 2007, more than 85% of the country's population has adopted mobile payment applications. Today, there are almost 400 million registered mobile money accounts across sub-Saharan Africa, increasing savings, consumption, investment and productivity across the region.

DON'T BE AFRAID TO TAKE A (CALCULATED) CHANCE

One of the historical hindrances to credit and wider financial inclusion has been the absence of traditional credit histories for many unbanked people. The lack of documentation and credit records means it can be difficult for banks and financial institutions to do their due diligence. To find a way around this problem, African fintechs have had to use alternative data, such as mobile phone usage and school fee payment, combined with advanced behavioural APIs to ascertain credit-worthiness. Far from increasing the risk, these methods have shown to be more accurate than traditional credit scoring.

Not only does this approach open up the market to a new customer base, it also allows banks to automate various tasks in the process, freeing employees from monotonous data processing to provide insight and advice that will add real value to customers' lives and livelihoods.

In some of the toughest and most unpredictable economic environments in the world, Africans have created successful solutions, changing many lives for the better in the process. With the ongoing changes and the uncertainty with what the global financial landscape of the future will look like, Africa's fintech success story might just be the template for navigating this new world. **bt**

Sitting pretty

Netherlands-based mobile bank, bunq, has caused quite a splash since it launched in 2015. But has its markedly disruptive business model created a successful bank? *Martin Whybrow caught up with founder, Ali Niknam.*

Among the bank entrants of the last few years, bunq is at the rather sparsely populated disruptor end of the scale. While many have arrived with much the same business model and technology as the incumbents, bunq has some clear differentiators. Whether this culminates in it becoming a successful mainstream bank remains to be seen but it is on an interesting journey.

At the helm is Ali Niknam. He was born in Canada from Iranian descent and now lives in the Netherlands, where he set up bunq. He has financed the venture, with no involvement from venture capitalists, having stepped aside from TransIP, the company he set up when in his 20s and now the biggest domain name and web hosting provider in the Netherlands.

With more time on his hands, he looked around at what to do next, seeking something that would “contribute to the common good”, he says. It was the time of the financial crisis. “A lot of people were getting hurt,” including entrepreneurs who couldn’t get credit and individuals struggling for a mortgage or loan.

“The people who were meant to be sorting this out were just shouting at each

other, not coming up with real answers,” he says. Niknam concluded that although the financial system had come close to “utter meltdown”, there was insufficient focus on how to prevent the next one.

What should the next generation of bank look like? Clearly, he says, it would not have branches. It would be truly user centric, with products that users would love to use, rather than merely constituting a necessity. At its heart there would be a different business model, not one based on attracting money as cheaply as possible and selling it at the highest price, with a black box in the middle.

That standard banking model is akin to a second-hand car salesman, says Niknam, and seldom brings a satisfactory return for the customer. Under a pure services model, if the customers are happy, the business flourishes. It was also clear that there was a need for speed and transparency. A bunq account can be set up in five minutes, with phone and ID, and there is a monthly fee of €9.99 for businesses and €7.99 for personal customers.

The decision to set up a bank was not taken lightly, Niknam emphasises – “no one does it for fun” – and it was the height of the financial crisis. He left the UK following the Brexit vote, driven by the uncertainty. The UK’s loss was the Netherlands’ gain, with bunq setting up in Amsterdam. The Netherlands and its regulator are recognised as one of the world’s toughest, he says, and there had been no green-field bank in the country for 30-plus years. The



process for bunq to gain its licence took around three years and, indeed, working with the regulator, it established the processes for anyone wanting to follow in its footsteps.

BUILT FROM THE GROUND UP

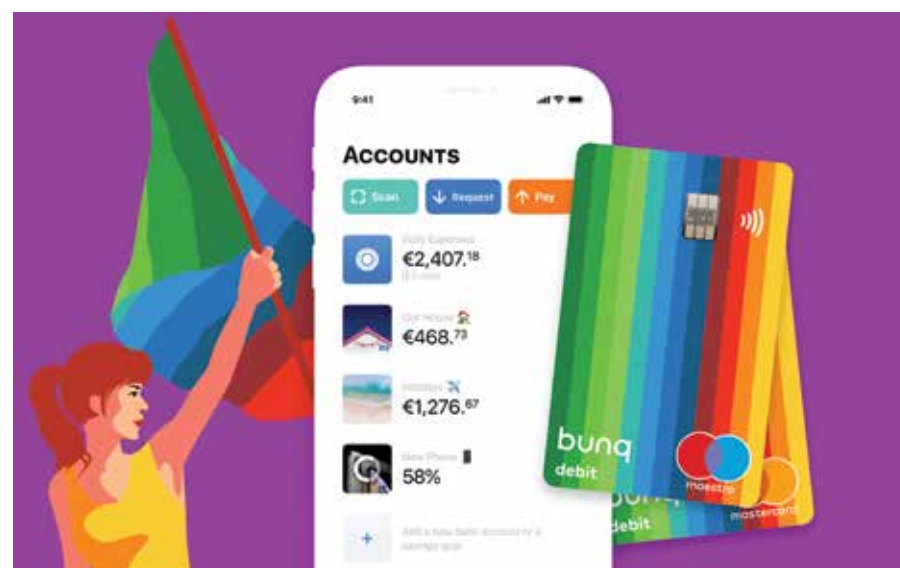
The technology was developed from scratch and took around one year. Niknam describes bunq as “a bank built by coders”. This was from the database level to the app level, including card processing. Everything is on Amazon’s AWS cloud apart from the bank’s private keys, which reside in a couple of data centres in the Netherlands. Fundamental to the development was scalability and keeping things simple.

Today, the bank has about 100 staff, with 36 different nationalities. Part of the first-line support is outsourced, while everything else is in-house. The core team of Amsterdam-based coders for the back-end consists of six or seven people, with a similar number of app developers. “It is a small but very effective team,” says Niknam.

So what does user centricity look like at bunq? There are instant notifications, for each card payment, direct debit or any other transaction. In real-time, customers can block their cards (Maestro and Mastercard), change PINs or adjust limits. For direct debits, an upfront notification allows the user to decide whether or not to approve it.

Payments are processed in real-time and there are no foreign exchange fees. A partnership with TransferWise means support for 39 currencies. Another partnership, with Barzahlen, has brought support for cash withdrawals and deposits at more than 10,000 locations across Germany, Austria and Italy.

When it comes to investments, again via the app, users can choose where bunq invests their money, through a check-list of investment types. At present that list is not particularly granular, comprising personal lending, personal mortgages, green companies, all companies and other bank loans, but it is likely to evolve, with bunq proactively asking its users for suggestions. Users can also opt not to receive interest, which might fit with their religious beliefs. bunq’s current interest rate is 0.27% and this is on all accounts, not just savings. >>



There is also the ability to open sub-accounts. Each one is a full bank account, with its own IBAN, so can incorporate direct debits, external payments and card transactions. All payments can be rounded up to the next euro, saving the difference on a dedicated account.

GETTING THE USERS INVOLVED

bunq is always looking to expand its product set, says Niknam. It is directed by a combination of intuition, analysis of the usage of its existing products, and its users, via its public forums – users have the ability to vote on particular ideas. It seeks to “surprise” its users, he says, and holds public launches of its new updates, which can attract 500 or 600 users.

Anyone residing in the EU can open a bunq account but the bank has translated and tailored its apps for the Netherlands, Germany, Austria, Italy, Spain, France and Ireland. That expansion has come in the last year or so, with “soft launches” followed by full ones. When it comes to the UK, uncertainty remains the “number one problem, which is a terrible shame”.

bunq’s open API has been available since early 2017 and there is currently a range of third-party apps, with a particular focus on SMEs. “Being a techy, I love open APIs,” says Niknam. The approach unlocks third-party creativity and brings more solutions than is possible under Bunq’s own steam, he says.

A popular app in the bunq marketplace provides real-time connectivity to accounting packages, saving users time

“There is a totally different player in town, that really cares about its customers.”

Ali Niknam, bunq

and providing reporting and analysis. Another will automate the creation and management of “kitty pots” allowing, for instance, customers to specify a percentage of their salary to be automatically allocated. Another app allows groups to be set up for expenses, keeping track of who paid what and then automatically settling at the end. There are plenty more apps to follow, says Niknam.

There is also a “PSD2 [Second Payments Services Directive]-compliant sandbox” with a software developers’ kit. While it remains to be seen what comes out of this facility, Niknam describes himself as “a huge sceptic” of PSD2. He feels the reasoning was correct but the implementation is wrong: “It is the result of a political process rather than something that makes technical sense.” He feels there’s also confusion around privacy and security, with a lack of standardisation. What’s needed, in his opinion, is a simple mechanism that allows customers to move their bank account numbers, as they can do with their mobile phone numbers, from one bank to another.

Customer feedback for bunq certainly looks positive, with far higher satisfaction ratings for than most banks. Frustration has typically been around compliance and know your client (KYC) checks, with users complaining of blocked accounts or not being able to open new ones. This is one of the huge challenges, says Niknam, because there is no single European register of fraudsters. It makes the life of every banking entity very complicated, he says. Indeed, solving the problem is technically feasible, and he expresses himself keen to help facilitate a pan-European solution.

In terms of the small number of unhappy customers, Niknam says bunq always monitors feedback and claims that more than 90% of the negative feedback related to KYC is from fraudsters, who are still trying to break in by posing as legitimate customers.

HAPPY CUSTOMERS

So does all of this add up to a successful business? The bank opened in 2015 and, at present, is not disclosing its number of users. The emphasis, says Niknam, is on happy users. Without the pressure of venture capital backers, “we have the luxury of doing things well” rather than rushing. It is not currently making a profit but, he points out, its revenue is increasing steeply. Being founder-led and owned, making bunq sustainable is a strong motivation, Niknam says.

It has been interesting to see, says Niknam, the large number of people who have been willing to pay a monthly fee for their banking. “By and large, most people wrongly believe banking is free,” he says. An example is the UK, which in reality has one of the most expensive banking sectors but with this lost on many people through lack of transparency.

There is a dearth of competition in banking, with little point in customers swapping one bank for a similar one. “There is a totally different player in town, that really cares about its customers,” concludes Niknam. These are still relatively early days, so the challenge is now to turn customer satisfaction, monthly fees and all of the current and future features into a profitable business model. The signs are promising and, for ever more customers, the proposition looks to be a compelling one. **bt**

Uncovering the hidden costs of liquidity

By Nadeem Shamim, head of cash and liquidity management, SmartStream

Liquidity is paramount and real-time liquidity is now a must-have. Without it, financial institutions cannot meet their settlement obligations or proactively manage risks (counterparty, market, or own institution stresses). Those institutions that actively manage liquidity and know its position at any given point in the day, are better placed to deal with market risks and uncertainty and to minimise the hidden costs of liquidity.

The days when financial institutions could rely on cheap and abundant liquidity are coming to an end. Interest rates are on the rise again as central banks tighten monetary policies, which saw rates in zero or negative territory for more than a decade following the 2007-2008 global financial crisis. As interest rate volatility continues, so too does the cost of liquidity.

Some estimates suggest that the cost of intraday liquidity to financial institutions could be as high as \$100 million to \$300 million annually. These costs will be even higher as interest rates rise. The cost is compounded as many financial institutions rely on collateralised overdrafts, which incur additional costs. Opportunity costs can also arise from tying up liquidity and collateral unnecessarily.

Is there an opportunity for banks to avoid these hidden costs? Why maintain unnecessarily high liquidity buffers or borrow at the last minute, when there’s liquidity needed to fulfil your settlement or regulatory obligations?

Feedback from our customers suggests

that by actively managing their liquidity, financial institutions could reduce their liquidity buffers by as much as 90%, which significantly impacts their profitability. Other estimates suggest that a 30% reduction in collateral costs through optimised intraday liquidity management could net financial institutions a saving of at least €4 million a year.

REGULATORS SHARPEN THEIR FOCUS

In addition to reducing the hidden costs of intraday liquidity, active intraday liquidity management allows financial institutions to demonstrate control of liquidity and settlement risks. Eleven years on from the 2007-2008 global financial crisis, regulators continue to stress the importance for institutions to maintain adequate systems and processes to support the active management of intraday liquidity.

In its guide to the internal liquidity adequacy assessment process issued in November 2018, the European Central Bank reiterated the requirements laid out in Article 86(1) of the European Banking Authority’s Capital Requirements Directive IV, which calls on financial institutions to have “robust strategies, policies, processes and systems for the

identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons.” Regulators are not just concerned with institutions’ ability to monitor and report their liquidity usage: there is now a need for them to clearly demonstrate active management of their liquidity at regular intervals (hourly or more frequently).

Drawing on the Basel Committee for Banking Supervision’s (BCBS) Monitoring Tools for Intraday Liquidity Management (April 2013), active intraday liquidity management is now a priority for a growing number of financial regulators globally. The UK was one of the first jurisdictions to implement the BCBS’s recommendations and remains at the forefront of the drive to manage intraday liquidity risks. In February 2018, the UK’s Prudential Regulation Authority (PRA) stated in its recommendations for Pillar II liquidity risk assessment that it would consider the quality and full extent of institutions’ intraday liquidity management tools: from detailed metrics and operational processes, through to stress testing and risk frameworks, and the internal policies governing them.

The more that financial institutions can demonstrate to regulators that they have real-time visibility and control over their intraday liquidity, the less likely they will need to maintain high liquidity buffers. **bt**

Funding innovation: a penny for the thought you never had

By Leda Glyptis



A few years ago, my boss told me he had no intention of making any decisions around the things I kept bringing to him. So we are clear. He had no intention of making long-term bets, spending money or transforming the business model.

So why am I here? I asked with barely suppressed incredulity, not that he actually thought this but that he openly told me what I already knew was true. We weren't even keeping up pretences here.

You are my canary in the mine, he said. Fat lot of good that's gonna do you, I said.

Don't underestimate yourself, he said. Don't overestimate yourself, I said. It was high noon.

And I wasn't trying to be a brat. Or at least no more than usual.

What I was saying is what I have firmly believed since way before that conversation.

Looking at what other people are doing in order to decide where to place your bets when it comes to digital transformation writ large is going to be as effective as looking at other people's blood tests to determine your own state of health. And if you are doing it to spot the unicorns, by the time they look like unicorns, you are too late.

Your own journey is your own. It doesn't happen unless you are on it.

A truism, perhaps.

But having seen banks and big financial institutions (FIs) try to take short cuts over the past ten years, I feel it needs to be said: you cannot outsource this. You cannot send in the cavalry to fix this for you.

You cannot avoid the pain and discomfort of change no matter how many digital agencies and management consultancies you engage. There are no silver bullets, there are no generic answers and the only way for your organisation

to make it to the other end of this road is to get on the road. Nobody can do it on your behalf.

A digital future entails moving away from your analogue present. All of you. The bits that can change and the bits that have to be ditched because they cannot change. And the angst of working out the difference.

No canary in the mine can do that for you. Or even remotely help.

A PENNY FOR THE THOUGHT YOU NEVER HAD

The transformation our industry is on is terrifying because it is sweeping and relentless. It's been going on for ten years and it feels like it is only getting started. Noting is safe.

Systems, processes, products, definitions of value, stores of expertise. Everything is being questioned, challenged and redefined.

Everyone is looking around them to see where things will land, where others are pushing the boat out, where the new normal is emerging. Everyone is trying to keep calm, maintain a semblance of control, try and impose a bit of their own wishful thinking on the future. Everyone is hoping their canaries in the mine will tell them if someone is getting it more right than wrong so they can copy or buy. Or if they, themselves, are getting it exceptionally wrong. By comparison.

The problem is that comparative advantage makes little sense in a fluid constantly changing world, and the unique ideas that really propel the change tend to be too tied to the moment in time, the market niche, the capabilities of the bringer or the genius of a team that looks at the world and thinks thoughts that are not constrained by legacy, experience, ulterior motives and prior interests.

"We are the custodians of old, we know stuff and have skills that will make the journey safer, faster, less painful, more beneficial for all. Have no fear. There is a place for us."

Leda Glyptis

DISCOVERY CONSISTS OF SEEING WHAT EVERYONE ELSE HAS SEEN AND THINKING WHAT NO ONE ELSE HAS THOUGHT

I didn't think that. A man called Albert von Szent-Györgyi did. But I wish I had thought it. Because it's snappy, it's clever and I agree.

Ideas.

Technology.

Money.

Humans.

The things that make you stand up and go "hey that's cool, I wish I had thought of that myself" are:

- either spectacular in their simplicity – be it IFTT, natural language rules engines or the clean simplicity of businesses like Trade It, looking at the client job to be done and doing it with no drama and with full deployment of digital capabilities: the art of the recently possible at the service of the human, fancy that...

• or ideas that are staggering in their freshness. Stellar's collateralised goat remaining my all-time favourite example of what imagining a solution that is not bound to the way things used to be looks like. Stellar created a financial instrument that allows people to lend and borrow with no bank accounts involved by tokenising sources of wealth such as a collectively owned goat or future crops.

Tech, check. Problem, check. Solution, check. Imagination bound up in knots by what used to be possible, normal and accepted? Not so much.

And that is the point, old boss of mine.

That is the point, banking boss, banking colleague, banking client.

That is the point.

The thought you and I can't have because we are part of the machine that needs to change. We have to be part of the change itself, don't get me wrong. We are the custodians of old, we know stuff and have skills that will make the journey safer, faster, less painful, more beneficial for all. Have no fear. There is a place for us.

But it is not that or architect. It is not that of canary either.

It is the place of acceptance that the most incredible things about this new world of ours are yet to be thought. The most incredible ideas are yet unborn.

And if they are thought by people who work with us for people who bank with us, then this journey may have a pretty awesome destination for us all.

So as we count the pennies of prior profitability, and fear for their future, we should pay them out, not to the endless parade of comforting PowerPoint peddlers. But to the thinkers of crazy new things, the people who look at the same world you and I look at and see a totally different one. **bt**



Leda Glyptis is *FinTech Futures'* resident thought provocateur – she leads, writes on, lives and breathes transformation and digital disruption as chief of staff at 11:FS and CEO of 11:FS Foundry. She is a recovering banker, lapsed academic and long-term resident of the banking ecosystem.

All opinions are her own. You can't have them – but you are welcome to debate and comment!

Follow Leda on Twitter @LedaGlyptis and visit our website for more of her articles.

Fintech funding round-up

This month, TouchBistro dines out on Series E funding boost, Paris-based Spendesk feels the love with €35 million injection and Credit Sesame scores big

San Francisco-based payments firm **Stripe** announced an additional \$250 million funding round, bringing the company's total valuation to \$35 billion.

The new valuation means that the company has experienced a 56% increase in value since the start of 2019. Sequoia Capital, Andreessen Horowitz and General Catalyst were among the firms that participated in the funding, according to Stripe.

"Even now, in 2019, less than eight percent of commerce happens online," says John Collison, president and co-founder of Stripe. "We're investing now to build the infrastructure that will power internet commerce in 2030 and beyond. If we get it right, we can help the internet fulfil its potential as an engine for global economic progress."

The \$35 billion figure also means the fintech firm has leapfrogged fellow Silicon Valley companies Airbnb and Palantir Technologies in valuation. According to a statement on its website, Stripe plans to use the capital to accelerate its growth in "three key areas": international expansion, product growth and extending its enterprise offerings.

Canada-based restaurant software company **TouchBistro** has raised CA\$158 million (\$118.8 million) in a Series E funding round with participation from Barclays and JP Morgan Chase.

Led by OMERS Growth Equity, the round welcomes new investors RBC Ventures and BMO Capital Partners, along with existing investors OMERS Ventures, Napier Park Financial Partners, BDC IT Venture Fund and Kensington Capital Partners.

The fintech will use the funding to acquire "complementary products" in a bid to advance its technologies, expand its international marketing presence and grow its team.

"The global restaurant industry is undergoing a technology renaissance, and TouchBistro is leading the way in driving the industry forward," says its CEO, Alex Barrotti. "We have teamed up with some of the largest financial institutions in key markets around the world to provide our customers with enriched payment services and easier access to financial services."

Barrotti is excited to expand his company's global footprint, which already services more than 16,000 restaurants with its iPad point of sale system (POS) and payments solution, helps restaurants with order taking, payments, accounting, reporting, inventory management and staff scheduling.

OMERS Growth Equity MD Mark Shulgan praised TouchBistro for leading "the restaurant industry's platform shift from legacy POS to mobile and cloud."

Recently the fintech revealed its partnerships with the UK's Barclaycard and Mexico's EVO Payments to provide integrated payment solutions.

"At least half of all new restaurants that open in Toronto use TouchBistro," says Barrotti, "and we are confident we can achieve that level of success in other cities all over the world."



US-based artificial intelligence (AI) fintech **Digital Reasoning** announced investment from Standard Chartered Bank's innovation arm SC Ventures, bringing its Series D-1 funding round total to \$40 million.

As well as investing, Standard Chartered will also partner with the AI firm to expand its communications surveillance products across Asia Pacific, Middle Eastern and African markets.

Digital Reasoning uses AI to understand human communication in an array of languages. Its product

Synthesys reads data from any source, picking out what's valuable while reading a 'dynamic knowledge graph' to help financial services, among other industries, to find "concealed relationships, risks and opportunities".

The fintech's founder Tim Estes highlights the importance of an "increased understanding of diverse languages and contexts across numerous cultures", and how AI can be used as a democratising tool to break into and include new markets.

SC Ventures' global head Alex Manson says: "Fighting misconduct and unethical behaviour in financial services is a non-negotiable commitment as a bank, a task rendered even more complex by our digitally connected financial system."

Manson believes Digital Reasoning is a "leader" in its field of conduct surveillance and is well positioned to help the financial industry fulfil its moral commitment.

Paris-based spend management platform **Spendesk** is aiming for international expansion after raising Series B funding of €35 million (\$38 million).

The round was led by Index Ventures, which also led last year's Series A round. This takes the total raised to €45 million.

Spendesk will use the funding to develop its products and grow internationally, with a special focus on the UK market following year-to-year annual revenue growth of 300% in the country. The company, which doubled its European customer base to 1,500 businesses in the last 12 months, plans to open new offices in London and Berlin.

"Spendesk is the first spend management platform built for both finance teams and employees," says Rodolphe Ardant, CEO and founder. "With visibility along the entire spending process, finance leaders can decentralise spending across the business without any loss of control. Employees benefit from streamlined expense and invoice management through the Spendesk website or app, whether on the road or in the office."

The platform claims to help SMEs save on average three days per month on reconciliation tasks alone. Spendesk combines virtual and physical payment methods with approval workflows, automatic receipt capture, real-time spend analysis and invoice management, along with reporting and accounting integrations.



Credit score and loan management platform **Credit Sesame** has raised \$43 million so far in its latest funding round, which is likely to be the last before the firm goes public.

The round, led by ATW Partners with participation from previous investors, has not yet closed. The funding is a combination of equity and debt for the profitable company, which has seen 90% annual revenue growth for the last five years. It will be spent on business expansion and developing Credit Sesame's RoboCredit artificial intelligence algorithms, which enable consumers to see what actions they can take to improve their credit scores.

"Credit Sesame is revolutionising how consumers manage their credit," says Kerry Propper, co-founder and managing partner of ATW Partners. "What once was a mystery and black box is now distilled by Credit Sesame's PCM platform into easy to digest actionable insights that can effortlessly and meaningfully change a consumer's credit and financial health."

Users of Credit Sesame, which coined the term 'Personal Credit Management', can check their initial credit score and look at debt rebalancing options for free, but pay fees to take up products referred through the engine.



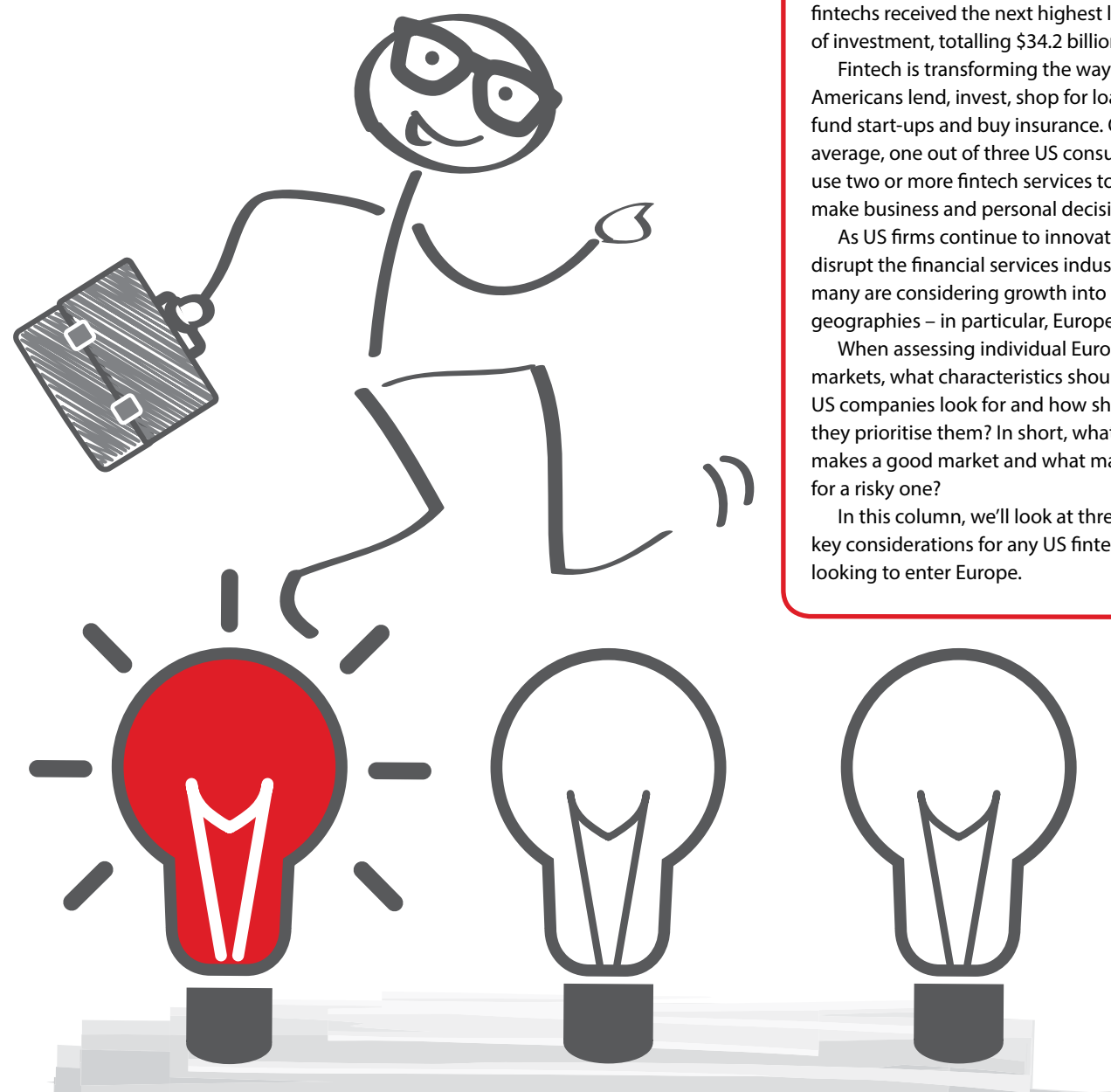
Canadian online identity verification service **Trulioo** has raised CA\$60 million (\$70 million) in an investment round led by big backer Goldman Sachs with participation from Citi Ventures and Santander. Goldman Sachs' growth equity arm, along with Citi, Spain's Banco Santander and old investor American Express, made up CA\$60 million of the funding.

Another CA\$10 million was raised earlier this year in a separate funding by Blumberg Capital and Business Development Bank of Canada (BDC).

Trulioo's CEO Stephen Ufford says the company plans to hire an additional 70 people to its 130-strong team, ensuring it "organically scales". "With trust comes opportunity and with opportunity comes economic gain, and economic gain is what's lining those people up at the borders," says Ufford, referring to those trying to migrate to other countries.

Ask the expert

Greg Watts is our resident expert. He is the founder of Demand Creation Partners, a London-based growth consultancy that helps fintechs and paytechs to scale. A visiting lecturer at the American University in Paris and regular industry speaker, he was previously head of market acceleration at Visa Europe.



QUESTION

US FINTECHS, DO YOU HAVE WHAT IT TAKES TO SUCCEED IN YOUR TARGET EUROPEAN MARKET?

According to KPMG, global investment in fintechs reached \$111.8 billion in 2018, with 2,196 deals. Of those investments, US fintechs took the lion's share, at \$52.5 billion across 1,061 deals. European fintechs received the next highest level of investment, totalling \$34.2 billion.

Fintech is transforming the way Americans lend, invest, shop for loans, fund start-ups and buy insurance. On average, one out of three US consumers use two or more fintech services to make business and personal decisions.

As US firms continue to innovate and disrupt the financial services industry, many are considering growth into other geographies – in particular, Europe.

When assessing individual European markets, what characteristics should US companies look for and how should they prioritise them? In short, what makes a good market and what makes for a risky one?

In this column, we'll look at three key considerations for any US fintech looking to enter Europe.

1. Identify market launch criteria

When looking at Europe as a whole, it can be tempting to start with large, financially lucrative markets such as the UK.

Despite the dreaded B-word, the UK remained the EU leader in the fintech space in 2018, accounting for half the region's VC deals – for example, the \$110 million funding of Monzo and \$80 million allocated to BitFury. High-value deals have continued this year, with BCR investing £280 million into Metro Bank, Starling and ClearBank, collectively.

However, even with significant investment, the UK can be a hard market to crack. It's mature, with just over half of all payments being made via card. And even though the US and UK share the same language, there are many subtle cultural differences that must be understood before engaging potential partners or signing up users.

To assess your chances of success in a particular European market, it's important to research and weigh launch criteria. For example:

- Macroeconomic factors such as GDP, economic performance and availability of government incentives.
- Barriers to entry – are these high or low? How will local legislation or regulation impact your launch?
- Consumer behaviours and indicators to gauge market opportunity, such as penetration of mobile phones and percentage of cash versus digital payments.
- Structure of the retail and payments market: is it comprised of local players you'll need to establish partnerships with or global organisations with which you already have relationships?
- State of existing players – how many other fintechs operate locally? How do they differ from you? What is the advantage you can offer?

Knowing where you stand *vis-à-vis* such criteria will help you to realistically gauge and prioritise which markets to invest in.

2. Undertake a detailed market assessment

Now that you've prioritised your launch market(s), the next step is to undertake a detailed market assessment for each.

A market assessment is a comprehensive analysis of market trends, entry barriers, regulatory requirements, competition, risks, opportunities and available company resources. Whether you're thinking of venturing into a new market or launching a new product, conducting a marketing assessment is a critical step in determining if there is a need or customer base for your product.

A well-executed market assessment will enable you to decide where to apply resources for the best return. Be aware that failure to conduct a proper assessment could result in wasted resources, missed opportunities or even financial losses that could be detrimental to your company.

3. Develop a go-to-market plan

Now that you've prepared a market assessment, the next step is to develop a go-to-market plan to ensure successful entry. Here are some relevant points:

- Access to experienced local talent is crucial. Recruit leaders and sales and marketing personnel with a thorough understanding of the market. Be aware, however, that securing the best people can be difficult for a lesser known brand, so think about your resourcing strategy. In the short term – while momentum is being built and resources are constrained – support functions such as product, legal, operations and technology can be performed by HQ.

- Identify local partners that can help you raise awareness and introduce you to prospects – for example, chambers of commerce, payment associations or retail consortiums. And who are the banks, acquirers, PSPs and retailers you need to cultivate relationships with? Can you leverage existing relationships? Choosing partners with presence in multiple markets will save you a lot of time.
- Differentiate yourself from local players. Understand local business issues and market nuances and develop a value proposition that resonates with key decision makers. Review your collateral with local experts to ensure your messages are relevant and cannot be misinterpreted through subtleties of language.
- Create an integrated demand generation plan to qualify opportunities for the sales team such as must-attend events where you can build relationships with target clients and partners.
- Identify a local PR agency to support your launch and develop a map of local influencers to form relationships with – for example, journalists, bankers and retailers.

Bringing it all together

Many fintechs underestimate the planning, focus and resources it requires to effectively launch into the European market. Many believe that success in one market will lead to replicable success in another, but that's rarely the case.

However, with careful planning and support from HQ, you're more likely to scale into new geographies successfully.

If you have a question for Greg and would like a practical, no-nonsense answer/advice, please get in touch! We'll be answering your questions in this column – free and open to everyone.

You can post your questions in the comments section below, email Greg Watts and/or FinTech Futures' editor, Sharon Kimathi, or get in touch with Greg on LinkedIn.



Movers and shakers

The Royal Bank of Scotland Group (RBS) has announced the appointment of **Alison Rose** as executive director and its CEO. Rose has spent 27 years at the group, and previously held the roles of deputy CEO of NatWest Holdings and CEO of commercial and private banking. Rose is set to be the first woman to head up one of the UK's leading banks. She will take up her new position on 1 November.

Virgilijus Mirkės has been appointed CEO of **Revolut Lithuania**. Virgilijus is responsible for Revolut's overall operations in the country including recruiting and co-managing the team in Vilnius. He was previously CEO for SEB Investment Management and head of capital markets for SEB, as well as spending three years in Canada with Scotiabank Technology Application Group.

Revolut has made a new agreement with **Visa** to expand its business into eight new countries and the UK fintech is set to hire 3,500 new staff, according to Reuters, and is on the lookout for eight new CEOs.

Vesta has hired **Tan Truong** as CIO. He will be responsible for all aspects of the company's technology, operations and product development as well as spearheading innovation globally. Truong joins Vesta after building the issuing platform for SVM LP, a provider of gift and prepaid cards and has more than 15 years of experience in financial technology.

Paysafe has appointed **Alan Osborne** as its chief information security officer (CISO). Osborne will be responsible for cyber and physical security across Paysafe. He previously held the role of chief security officer at global payment processing company Worldpay and most recently was the CISO for National Grid.

Elisha Wiesel, CTO and the most senior

technology executive at **Goldman Sachs** is reported to be stepping down amid a clear out of senior partners. He joined the bank as a college graduate to work as a coder in its commodities division but is set to leave the bank to pursue a philanthropic venture, according to the Wall Street Journal.

NatWest Markets has appointed **Oliver Cooke** as chief digital officer, a newly-created role in which he will lead and shape the bank's digital client strategy to improve user experiences and solutions for our clients. He begins in post immediately.

Monzo has disbanded the entire team responsible for its subscription-based Monzo Plus offering after receiving a wash of negative feedback from customers who signed up for the service.

Tandem Bank has named **Noam Zeigerson** as its new chief digital officer. Zeigerson will supervise AI operations for Tandem in addition to responsibilities in data governance and business strategy.

Tribe Payments has announced three C-level appointments. **Fadi Mahmoud** has been appointed chief information officer, **Vytautas Mickevicius** appointed as chief technology officer and **Alex Reddish** appointed as chief commercial officer. The announcement follows the company's official launch in June, and Tribe's certification as the first issuer processor in Europe to allow institutions to issue UnionPay International cards.

Becky Jones, from **BNY Mellon**, has been appointed as the new president of the Chartered Institute for Securities & Investment (CISI) Manchester and North West District Branch Committee. She is the second female and the youngest person, aged 29, to be appointed president in the branch's 21-year history.

EVENTS CALENDAR

October

8-9: ATM & Cyber Security, London
rbrlondon.com/conferences/acs

14-16: Finovate Asia, Singapore
bit.ly/finovate-asia

14-16: CX Exchange BFSI, Miami
bit.ly/cx-exchange-bfsi

18: Finnovation-AI-FinTech-Industry 4.0
www.innovationmauritus.com/

21-23: MoneyLIVE: Nordic Banking, Copenhagen
bit.ly/moneylive-nordic-banking

21-23: RiskMinds Asia, Hong Kong
bit.ly/riskminds-asia

22-23: Finnovex West Africa, Lagos
finnovex.com/wa

28-1: Nigeria FinTech Week
nigeriafintechweek.org

November

4-6: SAP Treasury Conference - US Edition
bit.ly/2MMrGZ9

13-14: Insurance Innovators Summit
marketforcelive.com/insurance-innovators/events/summit

13-20: RiskConnect 2019
www.riskconnect.eu

19-21: FIMA Europe
fimaurope.wbresearch.com

19-21: Finovate Middle East
finance.knect365.com/finovate-middle-east

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