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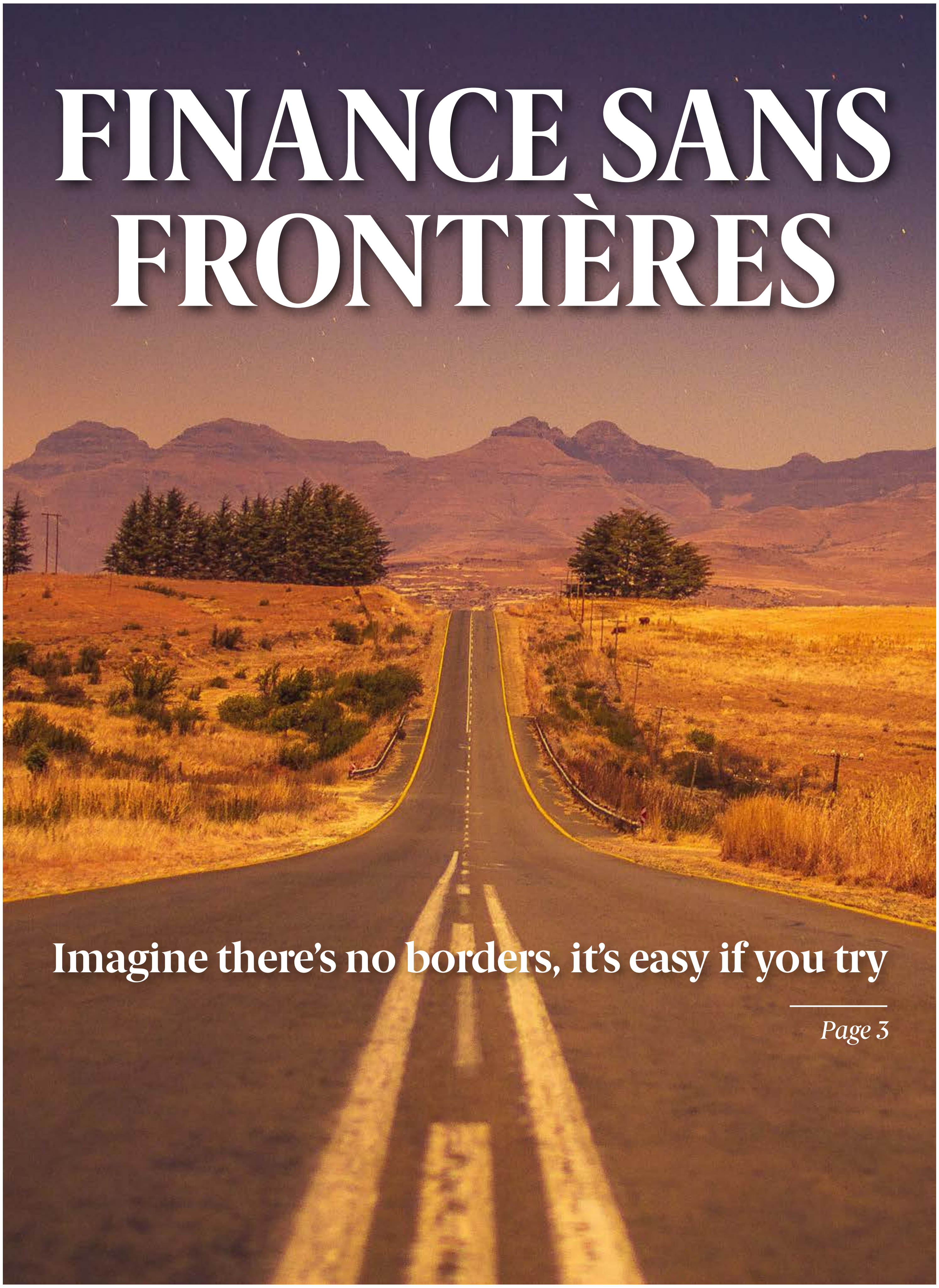
ASIAN SPENDING POWER:
Tapping Behemoth Eastern Markets

WE'RE ALL IN THIS TOGETHER
The Value of Associations in Fintech

LOOKING LIKE AN INCUMBENT BUT THINKING LIKE A FINTECH
An exclusive interview with Benoit Legrand of ING Bank



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EDITOR'S NOTE

Bonfire of the Middlemen

As the price of Bitcoin spiked this week, commentators were quick to put 2 and 2 together and get Facebook. The launch of the Zuck Buck was widely credited as having a direct influence on a long overdue bounce for BTC which sits at a princely 10,459 USD at time of going to press. The irony of this causal link will be lost on few....

Satoshi Nakamoto's vision for Bitcoin was as a fully decentralised cash system devoid of the need to trust the perennial middle man. A cheap and secure pseudonymous network for peer-to-peer exchanges of value, sans government, *sans banks, sans frontière*.

Facebook meanwhile controls the lion's share of the world's social media data in its centralised archives. The value of that data, your data, grows by the hour. Consumers feed the beast in exchange for services whilst advertisers, marketeers and all manner of dodgy characters (talkin' bout you Putin!) suckle at its ample teat. Facebook sees payments as a logical extension of social networking, just another transfer of information.

So, on the one hand you have Bitcoin which has "proposed a system for electronic transactions without relying on trust" whilst, on the other, you have Zuck screaming; TRUST ME! I'M CEO, BITCH!

The pair stand poised to do battle for the fate of payments present and future. Not that the incumbents are going quietly. There's a fair amount of noise coming from our neighbours to the East as well...

In payments, there's a lot of idle chatter about value propositions and now it's crunch time. In these pages we ask the industry; what do consumers value and can you deliver it? If not, then the chances are that you need them a lot more than they need you.

Representing the challengers, Starling CEO Anne Boden thinks that the hard-sell is on its way out along with most of the legacies, "I don't think what we do, and what the fintech movement is all about, is selling product. That's how the old banks did it." Elsewhere, Ryan Frere strives to tackle payments in truly global terms. Frere's Flywire traverses even the most entrenched boundaries between East and West, going where incumbents fear to tread.

Keen not to go quietly into that good night - ING, JCB Card and Swift mount a spirited defense of the old guard.

ING's Benoit Legrand is positively bullish about the Dutch giant's place in the market!

"We have everything within ourselves, in a bank like ours, to take our future in our hands. We have the engineers and we know banking. We've got 50,000 people who've been doing this for centuries."

All of the major players will need piss and vinegar by the barrel full. If the middlemen of payments can't rise to the challenge then Facebook and Bitcoin will be waiting in the wings, eager to deliver a coup de grace. Send not for whom the bell tolls, it tolls for thee...

◆TFT

MATTHEW DOVE,

Senior Editor

Is Facebook Coin About to Kill the Nation State?

While Facebook's digital coin technically isn't a cryptocurrency given that it operates from a largely centralised network, this does serve to distance Facebook from the often roguish and volatile reputation of cryptocurrencies. That's not to say that this won't impact the cryptocurrency market however. With huge backers in Visa and MasterCard, Libra may will represent a watershed moment for the mass adoption of crypto – potentially kick-starting a domino effect of other big brands trying to get in on the digital currency game.

PayPal Launches its First UK Debit Card with Unlimited Cash Back for Businesses

PayPal has launched its first UK business debit Mastercard, offering its business customers instant, worldwide access to their PayPal funds for online and high street business purchases and unlimited cash back on their spending. Mastercard is the most widely accepted card in the world, meaning PayPal's UK business customers can now spend money held in their PayPal account at over 45 million Mastercard acceptance locations worldwide. The new card has no monthly fees and offers uncapped 0.5% cashback on every pound spent. There are no foreign exchange fees and a flat ATM withdrawal charge of just £1 worldwide.

Research Forecasts Digital Ad Spend to Reach $520 billion by 2023

A new study from Juniper Research forecasts that total spend on digital advertising will reach $520 billion by 2023; rising from $294 billion in 2019. This is an average annual growth of 15% over the next 5 years; driven by the use of AI-based programmatic advertising to deliver highly targeted ads. Digital advertising includes online, mobile browsing, in-app, SMS, DOOH (Digital-Out-of-Home) and OTT (Over-the-Top) TV services.

N26 Launches MoneyBeam for UK Users

N26 has introduced MoneyBeam for its UK users. The feature allows users to transfer money to someone else's bank account using just their mobile phone number or email address. MoneyBeam lets you receive or transfer up to £100 with other N26 users in the UK. Users can send as many MoneyBeams as they like (up to £500 per day).

Study Finds One in Five UK Businesses Loses Revenue and Customers Due to Inaccurate Data

A new report from Dun & Bradstreet reveals businesses are missing revenue opportunities and losing customers due to bad data practices. Almost 20 percent of businesses have lost a customer due to using incomplete or inaccurate information about them, with a further 15 percent saying they failed to sign a new contract with a customer for the same reason. Nearly a quarter (22 percent) said their financial forecasts have been inaccurate, while 17 percent of organisations offered too much credit to a customer due to a lack of information about them – and lost money as a result.

Majority of Investors Doubt Bank of England's Interest Rate Prediction

54% of peer-to-peer lenders surveyed are not confident in the Bank of England's claim that there will be more frequent increases to the interest rate in the next two years, according to the latest figures from Assetz Capital's Q2 Investor Barometer. The peer-to-peer marketplace lender canvassed the views of its 34,400-strong investor community and found that 41% were confident in the central bank's prediction that there will be more frequent increases to the interest rate. Just 4% were very confident in the claim.

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Editorial Enquiries:
editor@thefintechtimes.com

Sales Enquiries:
Michael Folayan
michael@thefintechtimes.com

CEO:
Katia Lang

Senior Editor:
Matthew Dove

Digital Editor:
Charley Brooke Barnett

Associate Editor:
Kate Goldfinch

Designer:
Somari van der Westhuizen

Images:
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London HQ
Rocketspace
40 Islington High St, London, N1 8EQ
United Kingdom

Japan
5-1-2 Mita, Minato-ku, Tokyo
Japan

San Francisco
555 Montgomery St #1501, San Francisco, CA 94111
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FINANCE SANS FRONTIÈRES

KATE GOLDFINCH

Associate Editor

A revolution is unfolding in the global remittance and payments market. Every day we read announcements from different financial services providers – whether they are fintechs, or incumbents – heralding new products or new partnerships. The latest breaking news is Facebook's Libra Association – which not only aims to reimagine the user experience for financial transactions, but also creates a global precedent for a realignment of the international payments market.

All this frenzied activity can be summed up simply – the existing system is failing to meet the demands and realities of its time. It's all too complex - it needs to be overhauled, streamlined, with faster data throughput, fewer intermediaries, faster transaction times, and lower fees. "The past five years have brought increasing change to the world of cross-border payments. The trusted and tested correspondent banking approach has encountered challenges from emerging alternative solutions and new players upending some of the industry's fundamentals. The nature and direction of these changes, however, remains unclear in many cases," according to joint McKinsey & SWIFT research: *A vision for the future of cross-border payments*. Let's attempt to figure out what's happening in the 'kitchen' of the international payments market.

How does this all work currently?

It's worth noting that at present, there are several different systems and conceptual approaches in operation to carry out cross-border payments. The first one to mention is SWIFT (Society for Worldwide Interbank Financial Telecommunication), that provides a network enabling financial institutions worldwide to send and receive information about financial transactions in a secure, standardised and reliable environment.

Created in 1973, SWIFT enables participating financial institutions (FI) – of whom there are several thousand – to find the shortest payment route through the options which SWIFT provides. When a FI becomes a SWIFT participant, it is allocated an ID-code, which subsequently simplifies message-reading on the movement of funds within the system. In an earlier incarnation, the system operated on the principle of checking messages less frequently than now, when SWIFT is rolling out its new gpi product. This innovation forces system participants to respond promptly to notifications they receive – and this is reflected in the speed at which transactions are processed. However, this product cannot be regarded as a breakthrough. We could say that more kinds of push notifications were added into the system to make messages more visible and trackable, with a motivational system bolted on to improve response. As SWIFT's own representatives say, since the roll-out of the new product, transactions take just minutes, or sometimes even seconds. The costs of sending a message have fallen over the past seven years by over 60%.

In addition to the SWIFT network, Visa and Mastercard have their own Worldwide Networks operating on a traditional payments basis, working through card-issuing banks, acquirers, and clearing partners. For example, when paying by card at a card-accepting retailer, 'behind the scenes' a huge number of operations are going on, involving all participant members of the system. The merchant card terminal sends a request through the Visa or MasterCard system to the card-issuing bank (the bank who issued the card to the card-holder) – and in seconds a response is received to indicate if the card account has sufficient funds to honour the transaction. If so, the terminal displays the message 'transaction approved'. Next, the acquiring partner (which provided the retailer with a merchant terminal to receive non-cash payments) receives the transaction information from the merchant for the whole day, and transfers this information to the relevant payment system which carries out clearing. This rather simplified picture doesn't include many nuances we haven't cited – for example, at what speed the information is transferred to the acquiring partner, or how quickly the information is moved to the payment system's network.

As the end-user when making a non-cash payment, you will get a 'pending transaction' notification, which will enter the records of already-completed transactions within 1 to 3 days on average. What's interesting is that the amount listed in the pending transactions can differ from the amount actually charged from your account. This happens because the funds are pre-blocked at the moment of purchase, yet can be charged later – so you never really know for certain what specific amount is going to be charged.

Basically, to sum this up: the current SWIFT approach and philosophy are very complex and rely on the involvement of a large number of intermediaries in the system. Transactions don't take place in real time, and serve card-holders poorly from the viewpoint of the time period for dispatching or receiving funds (quite apart from the costs of the transactions).

All of this, gives a poor perception of the financial system to the new generation; and creates new demands and expectations from consumers about the operations of this system. Nowadays, we expect a user experience on the same level as social networks – in which money can be transmitted right here and right now, to be available anywhere in the world in real time, and with the minimum of service fees. And there are many companies – neo-banks, fintech-providers, and incumbents who are competing for the rights to provide exactly these solutions. Those who can succeed in doing so first, will hit the jackpot, and secure massive coverage. However, success will require rather more than just being a developer with a good idea. What are the trump cards that will define this game?

Who will win?

New-gen electronic tools, integration, partnerships, smart-clearing, and Big Data will form the basis for future global remittance and payments markets. It's a battle being fought among major brands such as Visa and MasterCard, able to secure massive deals when purchasing leading financial providers. For example, Visa acquired Earthport this year for £198M GBP.

Traditional banks are entering this game too – not in their own names, but through leading payment systems and SWIFT, or through partnerships with fintech providers. Everything we mentioned earlier has been rolled-out across traditional monetary systems. There's also the area of that market based on decentralised technology to consider.

These solutions include IBM's service IBM World Wire - which in practice provides financial

> **The future of cross-border relies on cross-industrial partnerships and smart-clearing**

OPINION

Borders must not hinder money turnover

KATE GOLDFINCH

The global cross-border market is figured to be worth $20 trillion – with estimates for global markets in education and medicine pegged at $800 billion and $500 billion, respectively. Education, medicine, and travel are the key drivers of international mobility and global payments.

According to McKinsey & SWIFT, the market has some key niches although most revenue is concentrated in the B2B sector. Today, cross-border trade is at the epicentre of specific trends that are substantially changing competitive dynamics – the increasing pressure from new technologies (including decentralised technologies – DLT – and innovations in card-based and network businesses); side-stepping of regulations and sanctions barriers; development of international commerce (both retail and corporate); and most especially, changing consumer demand. Over and above all this, new players in cross-border markets (such as TransferWise, Alibaba, and Facebook) are piling the competitive pressure onto the established players.

Even though income from cross-border transactions remain pretty high, the ongoing dynamic of change in consumer behaviour, alongside the appearance of new market players, increases pressure on the most stable segments of the market.

Cross-border e-commerce is a separate field of research. According to McKinsey & SWIFT, retail cross-border ecommerce sales totaled $300 billion in 2015 and are poised to exceed $900 billion by 2020, representing a 25 percent annual growth rate. Currently, one-fifth of these transactions involve high-ticket orders (over $200), although this is trending downward as casual online purchases (e.g., $5 staples) become more commonplace. Throughout 2018, we saw a dynamic industry continuing to break new ground in transaction tech and poised to grow at rates even greater than 25 percent.

However, much of the C2B cross-border market remains characterised by complexity—for example, a lack of familiar local payments options on international websites—as well as limited infrastructure and lack of transparency on foreign exchange fees.

Non-traditional firms offer digital solutions that provide a seamless experience, putting pressure on incumbents to improve. For example, Uber and Lyft let business travellers use charge codes for expense reimbursement rather than card settlement. Cross-border ecommerce is not the only C2B payments category with double-digit growth rates. International bill payments— for items such as tuition, rent, or subscriptions—are growing substantially, as they remain hard to manage if not facilitated from an "in-country" bank account. The same is true for loan repayments (for instance, the mortgage on a second home abroad) or investments.

◆**TFT**

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FINANCE SANS FRONTIÈRES

institutions a blockchain-based platform for making cross-border payments – as well as partnerships with which fintech companies are beginning to work (for example, the cross border provider TransferGo had its first quarter live for money transfers to India with Ripple as a partner). Yet this is still only part of the story – nor does it list all those interested in the cross-border payments market.

'The Dark Horse'

Who else, then, is pitching for a piece of the pie? Well, 'the king is the one who owns Big Data' and thus the tech giants enter the arena. There's much talk nowadays of Google, Amazon, and Facebook. Let's concentrate on this latter brand. Opinion is strongly divided in the industry currently as to who has the best chances of victory in this tight field. Will it be providers with financial DNA or will it be tech firms, or even telcos with their huge resources of Big Data?

The role played by financial institutions and global payment systems is radically changing. Within 5 years, the number of intermediaries will fall (and many neo-banks have already popped up to replace numerous archaic players). This implies a lost business sector for those who, just five years ago, had been working well and felt things were going fine. But things are no longer like that, and in a further five years they'll be even more different.

Seeing the way the world is heading – towards that notorious financial internet, in which commission fees tend towards zero – global payment systems like Visa and Mastercard are becoming technological hubs. Banks are beginning to build partnerships with more innovative, younger players to help improve their service. Huge, lumbering systems like SWIFT are rolling-out new products – but in all honesty, they're not going to help them much. Even the few thousand banks in the SWIFT network, with their information-exchange systems, are outweighed in the balance by the might of Facebook's Big Data, and its two billion users.

During an interview with a fintech firm specialising in cross-border, we heard the opinion that it's easy to imagine anyone as the winners but it will probably be the incumbents rather than Facebook or Google. The very next day, we were given the announcement of Facebook's new project, Libra Association, which already featured around 100 brands. It's a blockchain-based system, built on the BFT-consensus system like EOS. Except that where EOS has 21 validators on its network, Libra already has over 100 (with numbers projected to rise to between 500 and 1000 in future).

Who are these validators?

They're all the international brands who've signed up to the Association, and among them are payment systems (Visa, Mastercard et al.) as well as Uber, eBay, Spotify, Stripe, Vodafone, PayPal, Coinbase and many others. Blockchain developers themselves have commented that this project is a corporate blockchain for stablecoins. Let's take an overview of Libra from a number of different viewpoints. Taking a global perspective, I see the roll-out of an attempt at mass adoption of corporate money.

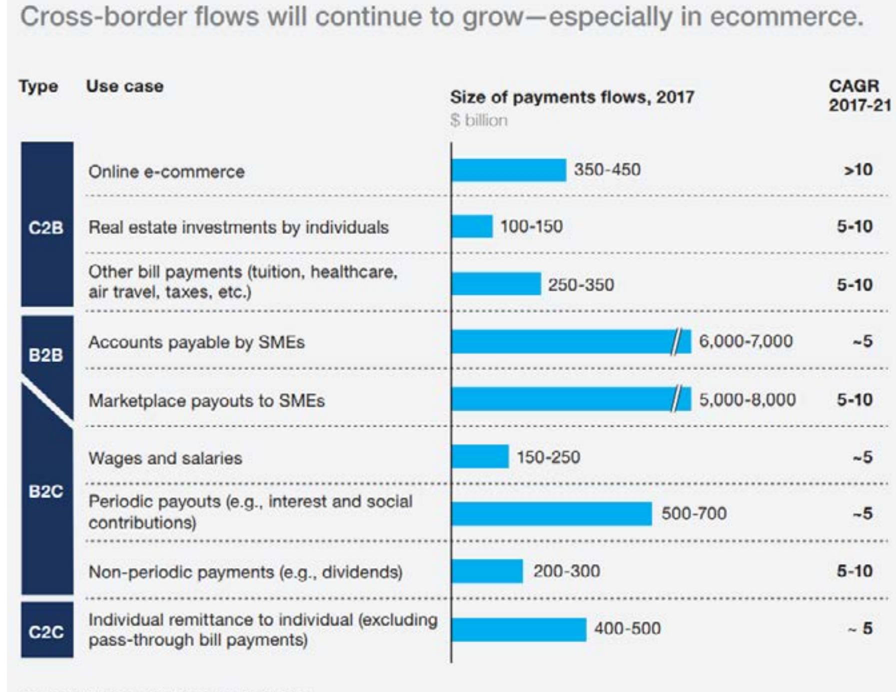
Facebook has 2.5 billion active users, this is more than double the population of China. This constitutes a tectonic shift in mass-adoption of corporate money and will create a new payment experience. Libra will be backed by a basket of assets, meaning that it can be accepted by businesses all over the world for everyday use, due to its low volatility when compared to public crypto assets.

A brief survey of its technology inspires a good impression. The code is gleaming, and written in Rust, a great basis for a lightning-fast, memory efficient and safety-focused Libra system. We should also mention the usage of the most advanced cryptography primitives and BFT-consensus, which have been the primary focus of academic research in distributed systems for the past 20 years as Vitaliy Bulychov (board member at Geo Protocol) has noted extensively.

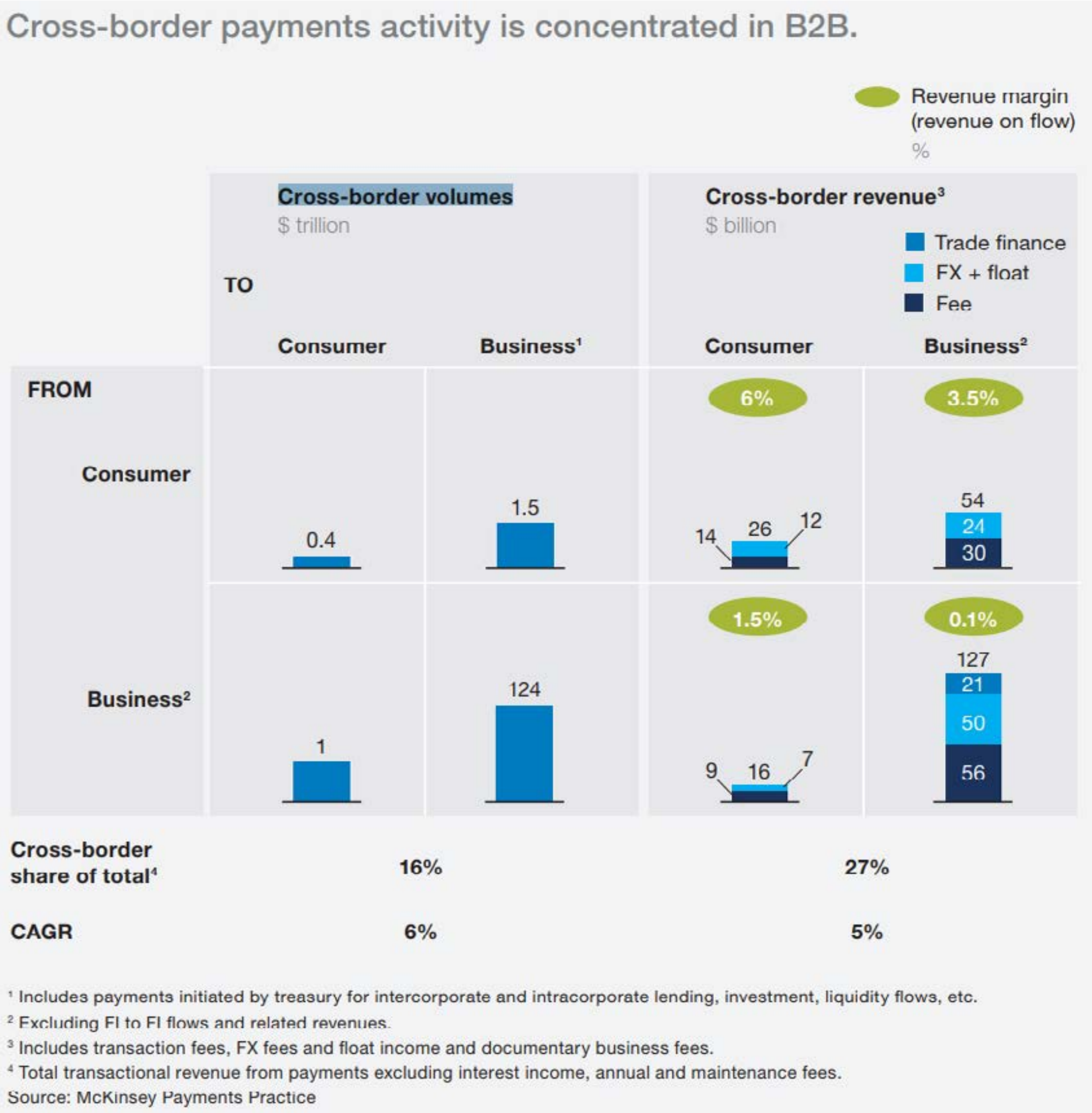
Incidentally, many sceptics said that Facebook wouldn't be able to launch its own financial system and that the likelihood of getting a financial licence for Facebook had been greatly exaggerated. Furthermore, many feel it long overdue that Facebook be stripped of its monopoly position. But now there appears the news of this project that unites the world's leading brands and global payment systems, which have become the validators of the platform that will carry out the operations within FB. But why would all this be needed by so many major brands? To keep fantasy in check, we cite this insert from Visa press release:

"With our mission and broader strategy in mind, today Visa announced an intent to join the Libra Association, a group of companies, non-profits, and academic institutions that will govern Libra, a new kind of digital currency. Libra is built on a new blockchain and its value will be aligned with, and backed by, a reserve of low volatility financial assets. Digital currencies like Libra could provide new pathways out of cash-dependence and accelerate the journey of the estimated 1.7 billion unbanked consumers into the formal financial system — this is why we're interested in better understanding the Libra Association, and potentially shaping its development. We see an opportunity to be a voice at the table and provide the expertise for our clients and the payment ecosystem"

Currently, global experts are carrying out various



Cross-border flows will continue to grow—especially in ecommerce.



comparisons between Libra and existing payment models. Some experts suggest, for example, that with Libra Association, Facebook is trying to create an analogue of the Chinese ecosystem headed by Tencent & WeChat with their WeChat Pay service included - except that it is based on electronic systems, and not on fiat currency, as the basis of Chinese system.

"Comparisons with existing big players such as WeChat pay, AliPay, PayPal and others would be invidious - even if we put to one side issues of greater centralisation. These are just providing a logistic channel for national currencies, while FB is creating a whole new self-sufficient digital currency," - Vitaliy Bulychov believes.

Meanwhile, other experts are drawing parallels between the new model of Libra, and the SWIFT system. To claim that SWIFT is out-dated when compared to the Facebook project is mistaken, says Valeriia Vahorovska, Managing Partner of Fondy (London);

"SWIFT is an international system of electronic exchange of information concerning financial transactions between stakeholders in the financial market. SWIFT itself is not either a holder of funds nor of card-user data and there is no money circulation within the system. On the contrary, Facebook is creating a completely different ecosystem in which to use digital currency. This is all in addition to Facebook itself being an account holder and a holder of huge amounts of user data.

Let's see how the Facebook project will develop, as so far there are not many details or any clear understanding of how the whole system will work. But it is obvious that new approaches are gaining more and more traction, while world demand is on the increase - and therefore, a change in paradigms and approaches is inevitable."

So what is being said here?

Of course, against the background of the transformation of the world of global payments, there is much that is still unknown, it's rather like an experiment. However, one thing is clear - a global remittance and payments market in the future will not be possible without electronic money (even if, for now, it's carried in cash – such are the realities of life in many world countries). The future of cross-border relies on cross-industrial partnerships and smart-clearing – in which clients will not just get a seamless payment experience, but also access to all the services they might need on a daily basis, in the context of a global consumer experience. It no longer matters whereabouts in the world the clients happen to be located.

◆TFT

THE SECRET MONEY 20/20 DIARY OF MATTHEW DOVE (AGED 34 ½)

MATTHEW DOVE

Senior Editor

DAY 1: Trump In/TFT Out

Much like the miasmic expulsion of gas that bears his name, the Fintech Times beat a hasty retreat from President Donald J Trump yesterday morning. Just as the leader of the free world touched down in Stansted – to be met, grim faced, by Queen Elizabeth II – the guardians of TFT Towers headed to Money 20/20 Amsterdam. Their mission? To wait out perhaps the least stately state visit in living memory. Oh, and to learn about payments and whatnot.

As the second-generation immigrant, formerly known as Drumpf, faced an inevitable salvo of milkshakes back in Blighty, what was everyone at the world's shiniest fintech conference talking about? Err, Donald Trump as it turned out...

With the POTUS firmly in mind, the highlight of day one was surely the introduction of Naspers CEO Bob van Dijk to the strains of Ol' Dirty Bastard's *Got Your Money*. Considering much of van Dijk's conversation with CNBC's Elizabeth Schulze involved thinly veiled references to the Donald's numerous trade wars, the track could hardly have been more fitting. Coupled with the fact that a song so sleazy would be played unironically to a room full of bankers and this hack was in pressing need of a shower.

Not that anyone here seems to rate Trump's chances of winning any of the petulant pissing contests he so readily instigates.

Just after lunch, moderator Louisa Bojeson happily announced that the US lagged behind both China and India in a poll which asked delegates who they thought would lead future payments innovations.

Contempt for Il Douche continued on the main stage when Dr. Hermann Hauser was invited to join Ralph Simon for a fireside chat. Once the pulsing disco of Abba's *Money, Money, Money* had subsided (*ed. - where did they get this DJ?*), Simon asked Hauser for his opinion of Trump's stance on Huawei.

The Amadeus Capital partner didn't pull any punches, spitting that the self-proclaimed "very stable genius" had behaved unacceptably with regards to the Chinese tech giant. Hauser argued that whatever security issues Huawei's conduct may raise, America has no right to dictate the commercial behaviour of sovereign nations. Referring to ARM's capitulation to Trump's Huawei ban, Hauser opined that decisions affecting the British-Japanese microchip manufacturer should've been made, "in London or Tokyo not the White House."

Both here and in earlier talks, the prevailing sense was one of foreboding. There exists real trepidation that a tech cold war could escalate between China and the States. It's feared that a "Splinternet" (to use Schulze's turn of phrase) may form, with each behemoth attempting to garner influence through investment in areas as diffuse as India, Western Europe and Southeast Asia. It would then essentially be left to the lesser tech nations to choose sides.

Decision making also occupied the foreground when machine learning, blockchain tech and quantum computing were discussed. All three are likely to compliment each other in the advancement of risk management and complex portfolio optimisation. Neural networks and Gaussian processes (powerful algorithms for the analysis and classification of huge data sets) will make automated decision making cheaper, faster and more reliable. If only they made Presidents like that...

DAY 2: Cash of the Titans

The human brain is programmed to identify patterns and, for better or worse, make arbitrary distinctions. Categorisation was also the spirit wind filling the sails of day two at Money 20/20 Amsterdam.

"The line it is drawn and the curse it is cast, the slow one now will later be fast."

These words not only showcase Bob Dylan's effortless grasp of verse but also his prodigious talent for gauging developments in financial technology. Whether the line be drawn between China and the US or the banks and big tech, it's becoming urgently apparent that the spoils will belong to the fleetest of foot.

Roaming the floor of the Dutch capital's RAI Convention Centre, TFT was privy to the same story by different authors. In the ING Cafe with Katrina Hermann (ING), Shamir Karkal (Sila) and Toby Otsuka (Rakuten), the narrative revolved around trust and cohesion.

The delegate from Rakuten confidently asserted that the decision to place one's hard-earned cash in the hands of a third party is second only to one's life in terms of gravity. The level of trust involved being reserved solely for the banks. Big tech doesn't get a look in.

Despite a wealth of evidence to suggest the contrary is, in fact, true, Otsuka ploughed on regardless. For Otsuka, it logically follows that different services require different levels of trust and Amazon and co. don't have sufficient "brand equity" to carry the weight of finance.

Sila's Karkal was deft in his retort, "customers don't trust banks, they trust FDIC deposit insurance!"

The pair also failed to reach consensus on matters geographic. Otsuka implied that the homogeneous platform models emerging in the US, China and Japan are unique to those regions, whilst the diversity of Europe can support a wider range of service providers.

Karkal, on the other hand, ventured that the States and China are ramping up a tech cold war which will inevitably engulf the rest of the world. Proxy war-as-a-service, anyone?

On the bafflingly named Industry Transmutation stage, attendees expecting to see Jeff Goldblum morph into a hideous fly were to prove hopelessly dismayed. They were instead treated to a wonderfully acerbic turn from David Birch. Hyperion Consult's director made no allowance for his audience of bankers. In fact, his performance appeared tailor-made to dishevel one or two starched collars.

On the implications of open banking, Birch asked what the crowd thought big tech is going to do with all the information banks have been forced to pony up. Addressing his own enquiry, Birch answered that they're not going to, "piss about with data like you lot do."

He continued that the real challengers in distribution aren't the, erm, challengers but the tax-averse wizards of Silicon Valley. The geek will inherit the earth as it were. A poll of attendees seemed to confirmed as much; two-thirds believing that the long-term beneficiaries of open banking would be "as yet unspecified competitors" whilst only 19% pushed the button labelled "challengers."

"What are you going to do about it?" came Birch's rhetorical provocation. A resounding response there came none...

DAY 3: The Importance of Being Verified as Being Earnest

Attendees blinked in the dawn of day three at Money 20/20 yesterday morning, "de finale" as it's known in local parlance. By this point, a collective fatigue hung over delegates, organisers and hacks alike. The cumulative malaise was especially pronounced in the countenance of TFT's own senior editor...

In the pantheon of humanity's greatest mistakes, the conference hall is sandwiched somewhere between nuclear weapons and the plastic packaging headphones come in. Webster's dictionary describes the phenomenon as follows;

An open-plan nightmare whose true layout only reveals itself 15 minutes before delegates are due to leave for the airport. Abject disorientation is further compounded by the insistent rumble of upbeat/off-brand pop music.

With our man in Amsterdam's existential fugue reaching feverish levels it was appropriate that the final day's lectures focussed on identity.

Over on the Commercial Galvanisation stage, delegates hoping for tips on the rust-proofing of billboards and hoardings were to be left seriously disappointed (and presumably ill-prepared for the rainy season). Digital identity dominated the agenda with Nikhil Kumar (Setu), Robert Prigge (Jumio), Natasha Vernier (Monzo) and Michael Salmony (equensWorldline) setting the scene with a panel entitled; A World of Digital Identity: *Exploring the Most Powerful Asset of the Modern World.*

Discussion centred on the need to reconcile state-issued "foundational" ID (passports, birth certificates etc.) with service-related "functional" ID like bank cards, biometrics, usernames and passwords. A seamless conflation of the two would dramatically reduce the potential for fraud as well as the friction which accompanies accessing new services. Nikhil Kumar cited the Indian model - in which self-sovereign identity is established with digitally signed state-issued credentials - as one to follow.

Jumio's president Prigge argued that the area is so fertile for innovation that he expects to see a pan-sector "war over who can verify ID." He sees this conflict primarily taking place between telcos, social media giants, utility providers and banks, dead-panning that, "begun the ID wars have, if I was Yoda..."

Why so much corporate interest in user and institutional authentication, you ask?

Nikhil Kumar defined the value of authentication in finance in the following terms, "there's a real threat from giving away authentication" venturing that it's from this basis that all other financial interaction springs. Salmony concurred, illustrating the point with an anecdote about a professor from his university days. Refuting the notion that identity verification is an outlier to finance proper, the unnamed Prof apparently asserted that, "everything else is just accounting."

Elsewhere, delegates were treated to real-time demonstrations of the issues surrounding identity in finance, specifically self-generated identity. On the Main Stage, Andrew Vorster vociferously lambasted those who self-identify as "Java ninjas" and "code wizards" whilst only belatedly acknowledging the irony of his own designation as an "innovation catalyst."

On a panel tackling KYC, Nico Strauss of Rabobank was having a full-blown identity crisis! Listed in the agenda as a "chapter lead", Strauss appeared on stage as an entirely metamorphosed "tribal lead." At least the transformation didn't leave anyone perplexed as to what the man does for a living, no more than they were already at any rate.

Confused and unkempt, TFT shambled over to the ING Cafe for our final interview of the event. When we asked the bank's chief innovation officer Benoit Legrand what his proudest achievement was he responded; "Still being alive after three days at Money 20/20." Amen, brother, amen.

And on that note, we're heading home...has Trump left yet? ◆**TFT**

HOW NECESSITY PROVED THE MOTHER OF INVENTION FOR MANGOPAY CEO ROMAIN MAZERIES

Over the last 10 years, there's been an explosion in online retail that few could have predicted. Each new commercial proposition comes with its own unique payments challenges. For **ROMAIN MAZERIES** *and his colleagues, the issue became so pressing that they developed their own solution. Here, senior editor Matthew Dove speaks with one of the sector's rising stars about the birth of MANGOPAY and its place in an ever-changing payments landscape...*

Matthew Dove, Senior Editor

TFT: When did your interest first turn to fintech? How did you get started?

RM: I was always interested in economics during my studies and also in science and mathematics. I obtained a masters degree in econometrics...a mix of economics and statistics. I followed this with another masters in management science from a French business school. From there, I decided to move abroad, I worked a year in California in a start-up when I was 24/25. Working for a start-up gave me the desire to create something. After that, I did another year, this time in Mexico, to finish my studies and I had a couple of professional experiences there too but I had interesting opportunities in France. There, I started consulting and auditing at Deloitte...

TFT: You were at Deloitte during the financial crisis. How did that experience influence your view of finance in general?

RM: It was a great experience, I learnt a lot and I worked with many different industry leaders but in the end I felt that what I was doing did not have any impact. While everything was going great, it really shifted my focus to innovating technologies and getting back to working in start-ups. That's when I decided to join Leetchi. That was 10 years ago and was actually the beginning of this company.

TFT: So, MANGOPAY was created at Leetchi?

RM: Basically. I started as CEO deputy at Leetchi and from there we decided, together with Céline Lazorthes (the founder of Leetchi), to create MANGOPAY.

TFT: How did that come about?

RM: To create Leetchi, we needed to develop an in-house technology and we instantly saw the potential for the use of our technology as an API for people who were doing payment intermediation. In a way, we created MANGOPAY to answer our own needs at Leetchi. We saw that this was a huge opportunity to develop an end-to-end payment API for the B2B market.

TFT: Essentially you were MANGOPAY's first customer?

RM: Yeah, exactly!

TFT: What precisely is MANGOPAY and how does it work?

RM: As I said, MANGOPAY is an end-to-end payment solution and we're targeting marketplaces, crowdfunding platforms, the sharing-economy and also fintechs. We're the payment solution for all platforms doing intermediation in either C2C, B2B or B2C.

We provide an API which is very easy to integrate. A platform can integrate payment processing into its website using escrow wallets with the ability to send the money worldwide.

All of these solutions are white-label and what makes the success of MANGOPAY is the adaptability of the product. Today, we have over 2,500 platforms using our technology, using MANGOPAY, like Vinted. In the UK, we've got Ovalmoney, ArchOver and many others.

We're a Luxembourg based company but we have desks in Paris, London and Berlin. It's also important to note that we were acquired by a French bank called Credit Mutuel Arkéa in 2015. They were our first banking partners so it was the right choice to join them in 2015.

TFT: Twenty-five hundred platforms is a lot, what's the main reason they chose MANGOPAY and not one of your competitors?

RM: It is indeed a lot and we're very proud of the product and of the success of our clients. We grow alongside them. Vinted, for instance, today's leading European marketplace for fashion, is a really beautiful example of this. When they started to use MANGOPAY they were a very small start-up and wanted to scale-up. We then had the opportunity to secure their payments and to scale-up in all of Europe very quickly.

TFT: And they've stuck with you throughout that process?

RM: Exactly, the real difference between us and our competitors today is that each client, each platform, can create their own payment flow exactly matching their business model. This is really our thing. The flexibility of the API and the flexibility of the product create MANGOPAY's success.

TFT: A lot of retail brands are opening their own marketplace, how do you see this trend going?

RM: It's clear that all of them want to get their own marketplace and I won't say that there's only one way to explain this because there are many, but I'll name a few.

The first reason is the margin, obviously! They get much more of a margin selling in marketplaces. Some of them are looking for a more extensive product offering, some are looking to implement an omnichannel strategy or add services to their product.

I really think that within a couple of years a huge majority of payments on the internet will be done in marketplaces. We can already see it today.

TFT: Can you see Big Tech moving into that space as well?

RM: Of course, everybody is trying to get there. They're all going there and the good thing about that is that we've developed a solution for the big retailers. We do offer a specialised "escrow only" service to large retailers.

Basically, we let them take care of the acquisition part - because a lot of them are very competent and well set up for this part - and we do all of the escrow and the KYCs.

We're working with large retailers like La Redoute (part of the French department store giant Groupe Galeries Lafayette) for example and more recently Rakuten. In fact, we'll be attending Paris Retail Week (24 Sep – 26 Sep) and a lot of international retail brands will be there too. So, if any of them need a payment solution, we'll be there!

TFT: How is MANGOPAY dealing with Brexit?

RM: We opened our desk in London years ago, before the announcement of Brexit so it didn't change our plan. We collaborate closely with the FCA and have obtained the temporary permission regime. Brexit will not affect our ability to passport our services into the UK. We'll still be able to work with our current platform and, even in this last two years, we were still able to onboard a lot of clients in the UK. As we don't know the future of Brexit, it's clear that if we need to make a move and get a full license in the UK, then we'll do it. It's a very important market for us.

TFT: Do you have a UK-based team? Where and when can we meet them?

RM: We opened the office (presently located at 41 Luke St, Hackney, EC2A 4DP) in early 2015. This team is run by Tikhoze Banda, our head country manager. She'll be at London Fintech Week (26th-27th July) so don't hesitate to come by and say hello!

TFT: What does the next six months look like for MANGOPAY?

RM: Well, regulations are moving very fast so in the next 6 months we'll be making sure that we're in full compliance of the PSD2 and innovating accordingly. In parallel, we'll be expanding in Europe. One of this year's goals is to expand into Portugal, Spain, Greece, the Nordics and the Netherlands. We'll also be strengthening our existing teams since we overdid 2.2 billion euros processed in 2018 and we are targeting 4 billion Euros of payments processed this year. And we're on the right path!

As uncertainty abounds, it's clear that the payments sector has found a safe pair of hands in Romain Mazeries and MANGOPAY... ◆**TFT**

Romain Mazeries

OCCUPATION

CEO, MANGOPAY

BIRTHPLACE

Point-a-Pitre, Guadeloupe

BOOKS

The Royal Game - Stefan Zweig ("because I love chess!")
Promise at Dawn - Romain Gary
Hyperion - Dan Simmons ("because I really like sci-fi too")

FILMS

There Will Be Blood (Paul Thomas Anderson), Gattaca (Andrew Niccol)

HOBBIES

Chess, skiing and photography

Riding the third wave of APIs in payments

Innovation around open application programming interfaces (APIs) and banking has now entered its third and most powerful phase. Open APIs are now emerging as the vital enabler underpinning a new era of 'platformification' in banking and payments services. This new generation of services is driven and enabled by an open, collaborative ecosystem of innovative API providers - characterised by a remorseless focus on delivering the optimal payments experience for customers. API hubs - especially when combined with other advances like cloud and immediate payments - bring a host of benefits for banks, their customers and their ecosystem partners. The third wave of open API innovation is here. For banks, the choice is clear: move proactively to ride the wave - or get submerged by it.

ANDERS OLOFSSON,
Head of Payments
Finastra

The third wave

You might assume that API banking is fundamentally new. But you'd be wrong. The 'first wave' of banking APIs emerged as long ago as the 1980s, mostly focussed on internal reconciliation and account information rather than executing transactions. These were typically developed for specific projects or customer requirements and were delivered using complex proprietary technologies as they pre-dated the commercial Internet.

We are now well into the 'second wave' of APIs in banking. This wave has several distinct and powerful drivers. One is the introduction of new regulations including the European Union's PSD2 and the UK's Open Banking initiative. These drivers have the goal of moving data ownership from the bank to the client (working in conjunction with other regulations such as General Data Protection Regulation [GDPR]). Another driver is rapid advances in technology including pervasive broadband Internet access,

cloud computing, and easier-to-use Representational State Transfer (REST) APIs. The third—is growing demand for real-time, connected customer experiences from both consumers and businesses.

The second phase of APIs is now being subsumed by the third and most powerful wave of all: banking as a platform. This is driven by an ecosystem of API providers that operate in an environment of open collaboration, and accounts for the vast majority of financial services innovation taking place outside banking institutions.

The API-enabled payment hub

Payments is a fundamental component of modern API ecosystems and the third wave is seeing the emergence of ever more advanced payment APIs that cut across silos and across multiple industries. As innovation continues, a robust suite of payment APIs is becoming essential to the success of any bank's API program.

The latest step in payments is the move to 'platforms': flexible environments that provide a single access point to a full array of products and solutions, which are integrated through open APIs and provide broader additional value. To participate in the latest phase of API banking, banks need to move beyond traditional payments hubs, and start thinking in terms of 'payment API hubs' capable of supporting API access and consumption.

With the new model of API-enabled banking, services such as payment initiation and account aggregation will come from a much wider range of sources. For banks, moving to a payment hub can be the first step in breaking down the traditional monolithic, silo-based payment model. The extension to a payment API hub allows these services to be externalised and accessed by other systems within and beyond the bank.

For example, with data enrichment processes for validation; payment hubs currently carry these out using internal data. With an API-tenabled payment hub these functionalities can become a collaborative effort between the hub and third parties, with Fintechs exposing valuable reference data that can be combined and integrated with internal bank data to enhance the overall service.

Some other areas API payment hubs can benefit a bank and its customers come in the form of 'Pay Later' and 'Request to Pay' APIs. Through 'Pay Later' APIs, instead of having the customer pay through a single credit transfer, a bank can expose the ability for a user to pay in installments or defer the entire payment to a later date. In effect, the customer is making an online application for a loan utilising payment and loan APIs.

With 'Request to Pay' APIs, a bank can turn customers' requests for payments into 'push' payments, where the user simply has to approve the payment for it to go ahead. This allows for a greater degree of flexibility when making payments, giving the ability for customers to pay in full versus paying partially, ask for extension, or decline a request to pay.

On top of these benefits, payment API hubs also give the ability to expand the reach and functionality of a traditional payment hub. Most payment hubs have been built from ground-up to support specific networks in the bank in terms of payment methods or regions. But by collaborating with Fintechs and consuming third-party payment execution APIs, the bank can extend the hub's scope to support additional or alternative services layered on top of payment methods.

Steps to success

While third-wave API payment hubs offer clear benefits for all participants, there are a number of factors that still act as blockers for progress—and could stand in the way of building momentum for their adoption.

Regulations such as the European Union's PSD2 and UK's Open Banking are major drivers, however, some major markets—notably the US—have been slower than others to embrace open banking concepts. Banks often fear that regulations like PSD2, with their focus on opening up banks' systems to innovative third parties, present a risk that they will become disintermediated from their customers.

In addition, regulators are leaving it to the market to come up with standards and guidelines for open APIs, and a lack of these could reduce the ubiquity and economies of scale that is so vital to the commercial viability of open APIs.

Finally, most banks' IT estates consist largely of legacy applications and systems. Because of this, there are often question marks around the competency and capability of banks' IT resources to participate effectively in the open API world. To combat this, banks must build a layer on top of their legacy systems to enable them to break down legacy processes into services and translate their communication methods from old to new technology.

All in all, it is imperative to keep the customer experience front and centre throughout. All banks should approach API banking and payments platformification in the context of delivering a differentiated customer experience for both consumers and businesses. The customer has always been the ultimate arbiter of commercial success—and amid the disruptive impacts of the move to open APIs, that's one factor that won't change. ◆**TFT**

All Roads Lead to Osaka:

THE FATF'S NEW CRYPTO RULES

Bitcoin was designed for pure decentralisation and the sovereignty of its holder and since its birth, over 2200 more cryptocurrencies have been minted. It's widely agreed that virtual assets will be the future of money. **BEN COHEN** *from Torca reports*

However, the transition to that point from a post-economic crash counter-culture is a long and winding road. The centralised economy benefits from decades of legislation and regulation and the security that offers; crypto evangelists seek the same security for the decentralised economy while retaining the autonomy of its participants. This presents a conundrum that will take significant innovation to solve.

So, last week, the cryptocurrency industry looked towards Osaka. Running concurrent to the G20 Summit, a round table—dubbed the 'V20 Summit'—brought together government agencies, leading crypto companies and representatives of the Financial Action Task Force (FATF) to discuss a workable, unified regulatory approach for all market participants.

The FATF's proposed standards

The summit presented a fantastic opportunity for industry experts and legislators to collaborate on the best route forward, but a key driver for this conversation are the recommendations that the FATF finalised this week.

The inter-governmental body is already moving forward with the expectation that they laid out in their Interpretive Note from February this year. Virtual Asset Service Providers (VASPs), they say, should "obtain and hold accurate originator information on virtual asset transfers". This direction, which clearly aims to protect consumers and stem the flow of cryptocurrency-based money laundering, runs contrary to the nature of many digital currencies.

The digital wallet addresses used to store virtual assets are generated randomly, contain no detail about the owner and do not exist on a single register. What the FATF proposed would equate these addresses with conventional IBAN numbers, which contain the country, bank, brand and account number of a transaction originator.

The implementation of these rules would either mean a fundamental restructuring of Distributed Ledger Technology (DLT) or the building of a brand new system that works in line with the FATF's requirements.

Contributing to this vital conversation in Osaka were big crypto players such as Huobi, Coinbase, Kraken and international industry bodies Global Digital Finance, the Australian Digital Commerce Association (ADCA) and ACCESS of Singapore. It is vital that the industry has a voice at the table, not to ward off rules and regulations completely, but to ensure that a more measured approach is taken than that which the FATF has proposed.

A pivotal point for crypto

On face value it's clear to see why the FATF have taken this approach. Money laundering and other criminal activity has been a thorn in the side of the crypto space and the FATF, which represents 36 countries, was created after 9/11 to set global standards that combat exactly that.

Stories of cryptocurrency theft and its use in financing criminal organisations are a key theme in the general public's crypto consciousness. Mt. Gox, a Tokyo-based exchange, went bankrupt in 2014 after losing $435 million of bitcoin to hackers; in 2018, Coincheck, BitGrail and Tech Bureau similarly lost a combined $771 million and most recently, Binance lost $41 million of bitcoin in May this year. It has also been reported to the U.N. Security Council that North Korea has successfully attacked Asian cryptocurrency exchanges at least five times, acquiring $571 million in the process.

The recommendations mimic the longstanding "travel rule" that international banks are subject to. Under the guidance, each cryptocurrency transfer would need to include five pieces of information:

1. The originator's name;
2. The originator's account number where such an account is used to process the transaction (e.g. the virtual asset wallet);
3. The originator's physical address, or national identity number, or customer identification number (i.e. not a transaction number) that uniquely identifies the originator to the ordering institution, or date and place of birth;
4. The beneficiary's name, and;
5. The beneficiary account number where such an account is used to process the transaction (e.g. the virtual asset wallet).

But the unique nature of virtual assets and the underlying technology asks for an equally unique solution. The travel rule was created for a system where transactions had clear intermediaries, so rather than focusing solely on screening the originator and the beneficiary, perhaps the onus of these rules should be on how to demonstrate regulatory compliance through blockchain's native transparency and traceability.

Just last week, Ripple papered a partnership with crypto RegTech startup Coinfirm to explore precisely this. Ripple's XRP is the third-largest cryptocurrency and the deal will enable them to collect more anti-money laundering data about its users – without needing their actual identities. Information such as whether not an address is owned by an exchange that allows anonymous trading and whether or not the entity that owns the address is registered in a country deemed high risk will contribute to a grade of low, medium or high risk for the user, all without the need for personal data. Certainly a novel solution, but whether the FATF deem this as sufficient for their requirements is yet to be seen.

For crypto in its current state, the guidance proposed would tick boxes when it comes to increasing overall global governance and helping to reduce money laundering, but it stifles innovation and lands significant compliance costs at the doors of service providers in favour of a relatively easy fix. Furthermore, by rendering services non-compliant, cryptocurrency transactions may be driven underground through non-custodial wallets, away from official venues where processes and rules can be more effectively maintained.

Finding a fix

It is important to note that the FATF guidance is not immediately binding; there is a 12-month period within which member countries should independently legislate for the rules before they risk being placed on a blacklist.

This gives some time to find a suitable fix. JP Morgan have developed a solution called the Interbank Information Network (IIN) to fulfil this purpose, although it is specifically for banks. The IIN is a blockchain-powered peer-to-peer network which "allows member banks to exchange information in real-time as a way to verify that a payment has been approved." A private, permissioned blockchain such as this is precisely what VASPs would need to fulfil the FATF requirements.

But therein lies the problem: a standardised KYC chain isn't in common use today and we are yet to see it in practice. The crypto space moves quickly, but can it move fast enough to deliver a global blockchain that facilitates the exchange and verification of information between VASPs?

So what's next?

Cryptocurrency exchanges and custodial wallet providers will certainly feel the operational and compliance burden of these rules, but asking privacy-conscious cryptocurrency users to relinquish their personal data may cause an exodus. Some exchanges—which have somewhat of a chequered past when it comes to securing currency—have faced criticism over lax KYC processes. Now, with increased KYC requirements, users may rightly feel unnerved in handing over yet more information.

With regards to finding a solution, Mary Beth Buchanan, General Counsel at San Diego-based cryptocurrency exchange Kraken, says "there's not a technology solution that would allow us to comply fully. We are working with international exchanges to try to come up with a solution." So, VASPs are preparing to comply with the FATF's rules as they are within the time limit given, but the general feedback from the industry highlights the importance of the discussions in Osaka.

The summit had four key initiatives:

1. An urgent meeting of key parties during the G20 Summit in Osaka including government agencies and crypto companies, as well as notable representatives of the FATF working group
2. A coordinated proposal for 'bottom up' regulation by the industry and to influence the standards proposed by FATF to better reflect the unique nature of virtual asset transactions
3. A proposal for the extension of the timeline for the updated FATF standards to come into effect to allow an appropriate response to be prepared
4. Development of protocols and standards to underpin a new platform (or similar) to meet the information collection requirements of FATF

A favourable outcome for the industry would be one where sufficient regulatory oversight is achieved while the speed and openness of distributed ledgers are preserved. The current President of the FATF, Marshall Billingslea, cited cryptocurrency regulation as an urgent priority, so time is a precious commodity as the dialogue progresses.

An extension to the 12-month transition period may be necessary to develop the best possible technological solution to the money laundering problem, but we are on the precipice of another new dawn; one where the cryptocurrency space is no longer seen as radioactive by traditional financial services and where true collaboration can take place. At the close of the V20 Summit, the attendees signed a Memorandum of Understanding "to establish an association to provide a global unified voice for the virtual asset industry". In the short term, the FATF recommendations appear to present problems by retrofitting rules, but we can hope that in practice, they contribute to new, progressive industry standards and protect legitimate cryptocurrency users.

All views expressed in this piece are those of the author and do not necessarily reflect the official policy or position of Torca or any of its employees.

ASIAN SPENDING POWER:

Tapping Behemoth Eastern Markets

MATTHEW DOVE, Senior Editor

Since it's first issuance in 1961, JCB Card has risen to a near unparalleled position of authority in the Asian payments market. This ascent has coincided with a growth in Asian spending power unseen in human history. Fortunately for us, JCB kindly provided TFT with A Guide To How European Retailers Can Tap Into Asian Spending Power.

The stats are formidable. Asia-Pacific JCB cardmembers will exercise an estimated spending might of 32.6 trillion US dollars (USD) by 2026. And that cash is increasingly mobile, with the first eight months of 2018 seeing outbound trips from the region rising by an impressive 8%.

There are also the 330 million internet users in Southeast Asia to think about. According to Google, they're spending an average of 140 minutes shopping online each month. Coupled with the fact that Southeast Asians spend twice as long in ecommerce marketplaces as Americans do and this is a demographic as appealing in the fine print as it is in the abstract.

In Europe, and the West more generally, the scope of the Asian market can be intimidating with many retailers and payment providers struggling to exploit fully the opportunities at hand. As the report states;

"It is apparent that whilst foreign purchases are increasing, retailers are unsure of how to utilise this new revenue stream."

So, what's holding them back? Understanding the rich diversity of the Asian consumer and their specific needs comes high on the list.

Citing a common and basic difficulty encountered by nearly all foreign travellers looking to make purchases a long way from home, Mark Harvey, JCB general manager UK and Ireland had this to say;

"Language barriers are the obvious challenge retailers face when serving Asian customers. However, visualisation of the JCB logo tackles these issues, as the cardmember is confident of entering the store and making a purchase without the need for dialogue."

Regional differences need to be factored-in too. For example, "the average age of the JCB Chinese cardmember leans towards the 35-to-44-year-old bracket." Almost half (44%) of those using their card abroad do so to make high-value purchases, reflecting the rise of a young, wealthy and ever-expanding Chinese middle class.

The report brings similar focus to the analysis of JCB's Japanese customers. The average spend in the UK for a Japanese JCB cardmember is 1,011 GBP and the volume and value of transactions is growing across the continent. In Austria in 2018, spending was up amongst this group by 8% and transaction values rose by over a third. Germany saw a more modest bump of 3% on spending and 27% on transaction value. Spain was arguably last year's biggest winner with year-on-year spending up by 28% whilst transaction value shot up by 60%.

JCB are also keen to highlight more niche areas of the market. Back in the UK, "one luxury retail store took more than 10% of Chinese visitor spend while Thais made 18% of their purchases at one specific luxury retail department store."

Across the Channel in France, the same trend was in evidence as "one specific merchant took 42% of Chinese transactional spend in 2018, 31.5% of South Korean spend and 26% of Thai spend."

The average Euros spent by all five nationalities included in the report (Chinese, Thai, Japanese, Taiwanese and South Korean) hums of the well-heeled international consumer:

- UK - 125.26
- Germany - 173.60
- France - 275.80
- Austria - 188.60
- Spain - 159.40
- Italy - 271.40

When it comes to capitalising on all these enticing facts and figures, JCB are uniquely placed to offer words of wisdom. In a ten-point breakdown given to its country managers and senior leadership, JCB maps the terrain;

Know your customer

Retailers and processors need to be aware of whether their target customer is a business or leisure traveller, or an online prospect. Regional differences in these metrics cannot be overlooked.

Partner well

Simple, clean omnichannel integration of cross-border payments is the key to winning and retaining a global market share. Factor in the need to employ the services of companies that Asian consumers already trust.

Keep up

This market is changing at a breakneck pace so keep your ear to the ground and your wits about you. Progress waits for no one.

Remain visible

"Data shows that the best way to increase recognition of the reach and acceptance of a credit card is clear signage at the merchant's own premises."

Understand tiered membership

"In France in 2018 nearly half of the total value of transactions from Japanese purchasers came from JCB Gold cardmembers and .... the total value of transactions by Thais came from Platinum cardmembers." Enough said!

Discounts and privileges can make all the difference

Understanding the packages offered by individual card providers can be just as important as understanding the people using them.

Mobile payment is King

By 2025, GSMA Intelligence estimates that there will be close to half a billion new smartphone users in Asia-Pacific, meaning three-quarters of the region's population will expect to access mobile payments abroad. Be prepared or lament at your leisure!

Check support availability

If the card company you facilitate has a concierge or help centre locally, make sure you know where it is. More importantly, make sure your visiting customers know where it is.

Buy an Asian holiday calendar

Asian holidays vary by country and generally won't fall on set dates. As spending spikes during these periods, flexibility is paramount or opportunities will be missed.

Investigate the barriers to ecommerce as well as the benefits

Ecommerce may seem a win-win prospect but bear in mind the logistical, forex and linguistic implications of international fulfilment, especially considering the complex geopolitical nature of the region.

There isn't a unified one-size-fits-all approach to tapping the behemoth markets of the East. Asia comprises a full 30% of the world's land area with 60% of the world's current population. It also has the highest growth rate today, its population having almost quadrupled during the 20th century.

JCB's report covers just 5 nations

The scope of the proposition is staggering and so are the possibilities. As ever, the correct path lies neither in fixity nor change, but in a dialogue between the two.

Roberto Morales, general manager Spain (JCB Europe), advises that you to "educate your teams about the Asian social media platforms such as WeChat and Weibo and experiment with geo-location targeting of Asian shoppers in your area."

You should also be aware that everything you think you know about the market can change with little notice...

"It will be fascinating to see the changes in purchase behaviour over the next few years as customers' experiences change in the light of new payment technology and expanding ecommerce opportunities."

◆TFT

Lack of big deals could cause a drop in cybersecurity investment in 2019

The capital raised by transactions valued at $75m and over in H1 2019 is 57.9% of the corresponding figure for the first half of last year

The total amount invested in cybersecurity companies offering products in financial services globally reached $3.1bn across 169 deals in the first half of the year, just surpassing 40% of 2018's annual level. Smaller transactions, valued under $75m, made up 63.3% of the capital raised in H1, showcasing the diverse range of smaller companies thriving in the sector. In fact, funding rounds in this bracket have collectively raised more than $2bn every year between 2014 and 2018, increasing from $2.2bn to over $3.0bn during that period.

Global cybersecurity investment set a new record in 2018, with almost $6.9bn invested across 404 deals. This was due to a surge in larger deals, valued at $75m and over, which collectively raised $3.8bn.

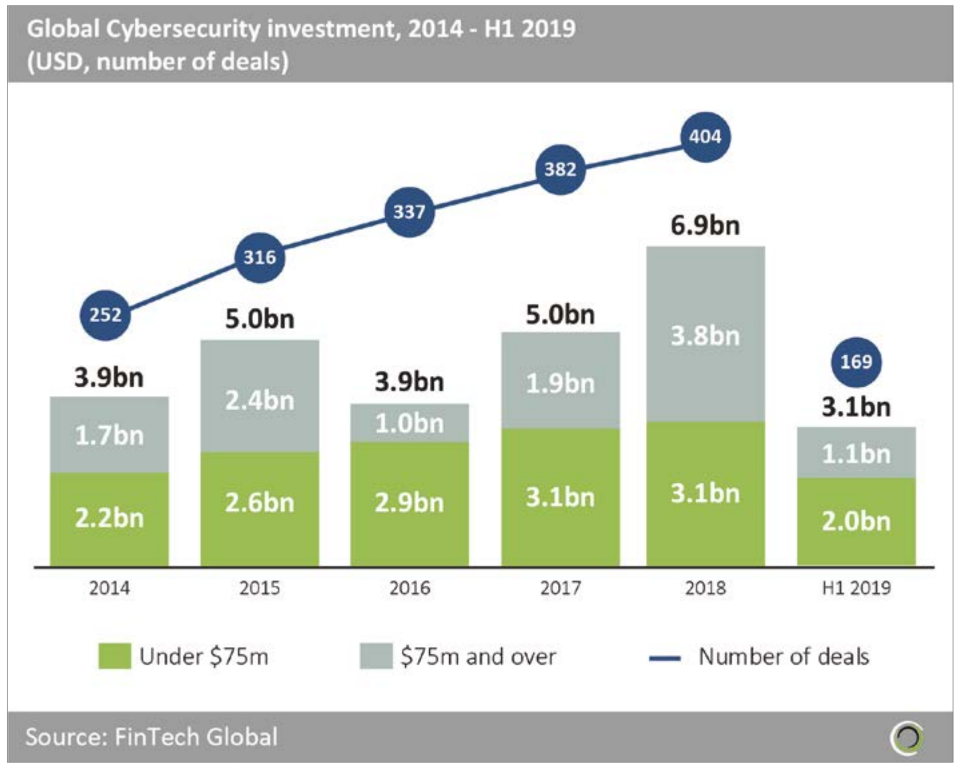
More than half of this capital was made up of three massive transactions, each valued at over $500m, completed by Hong Kong-based AI company SenseTime. The software company, which specialises in AI-powered recognition technologies, raised $2.2bn last year. Its offering includes face and text authentication services for fraud prevention. Since inception in 2014 it has reached a valuation of $4.5bn, and currently has over 700 clients and partners including Honda and Qualcomm.

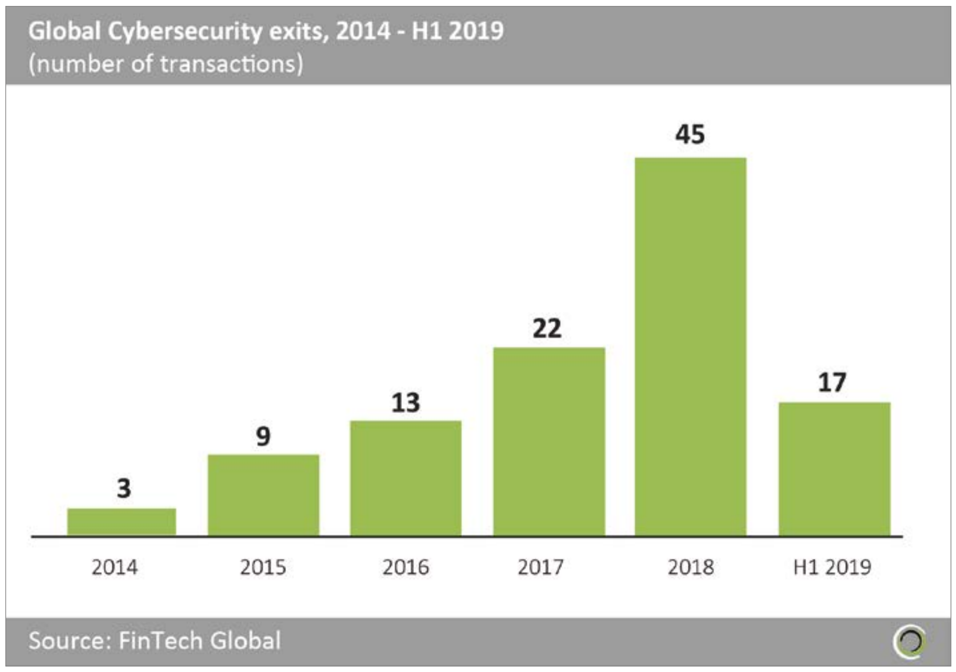
There was only one transaction valued at $500m or more in H1 2019. This dearth of massive funding rounds explains the lag in cybersecurity investment, which was $0.7bn lower than in H1 2018. New York-based Kaseya raised $500m in a private equity round in May. The company provides IT infrastructure management solutions. The CEO Fred Voccola said that the latest capital injection will be used to push sales to MSPs, which are deploying the software for the rapidly increasing demand of SMEs.

Cybersecurity exits increased 15x between 2014 and 2018

Exits in the cybersecurity space, including acquisitions and IPOs, have increased by a whopping 15x from 2014 to 2018. However, in the first half of 2019, there was a slowdown in exit momentum, with only 17 deals being completed, compared with the 23 in H1 2018. Tufin, a global leader in enterprise Network Security Policy Orchestration, completed the only IPO in the first half of 2019, raising $108m at a valuation of $453.6m.

From 2014 to 2018, there has been a YoY growth in the number of exits, with a compound annual growth rate of 96.8%. This is testament to the growing importance among FIs and enterprises of installing adequate cybersecurity. A rise in cybercrime and cyber-attacks have increased the need for the integration of tighter cybersecurity controls. An example of this is California-based software firm Cylance, which utilizes AI to prevent computer viruses and malware. Cylance was acquired by multinational tech conglomerate Blackberry for a $1.4bn price tag in November 2018.





The data for this article is sourced from the FinTech Global platform. More in-depth research, data and analytics on investments and companies across all FinTech subsectors and regions around the world are available to subscribers of FinTech Global at www.FinTech.Global ©2019 FinTech Global

STRAIGHT OUTTA SHOREDITCH

Money Revolutionary Anne Boden is Coming Straight Outta Shoreditch to a Town Near You

With a revolution to extend and a book to promote, **ANNE BODEN** *was on sparkling form at last month's Money 20/20 conference. So, by pairing the Starling CEO with senior editor* **MATTHEW DOVE**, *had the Fintech Times managed to kill two birds with one stone?*

Anne Boden doesn't mince her words so it was no surprise to hear that she'd already ruffled a few feathers before our meeting on day two of M2020 Amsterdam. By her own modest assessment the Starling CEO had "made quite a point about the relationship between the incumbents and the fintechs" on a morning panel entitled Wake Up with the CEOs.

"Some of these poor fintechs are being exploited by the big banks. They're being used as experiments that they can suck all the knowledge out of and move on with when they're done.

There's a huge amount of conversation at events where people from big banks talk about "getting down" with the fintechs. They're doing all this innoventure stuff and innovation labs and accelerators. That's all very good for the incumbents, they get a lot of new ideas and a lot of new people challenging the status quo. I question whether that's good for some of these fintechs.

Anne Boden

Of course, Starling is in a very different position. We're a bank. We're no longer a start-up. We've got a substantial business. Starling has a B2C business and a B2B business."

All this and I hadn't even hit record yet! Time straighten up and fly right, Dove...

TFT: What portion of Starling consists of the B2B offering?

AB: Well, each of those businesses is at a different stage. Our retail business can grow very, very fast as we're acquiring one customer at a time. We've now got about 650,000 customers but we've also got an SME business. Nobody's really brought fintech to SMEs yet. You can see all the rapid changes and all the things customers are getting out of the fintech world but SMEs aren't really benefiting yet. We've got about 55,000 SME customers now.

You may have heard that we were awarded a £100 million Capability and Innovation Fund. The intention of the fund is to break the stronghold of the big banks in the SME market. It's been awarded to the banks that can actually shake up the competition. With that in mind, we'll be able to build fantastic capability to help UK SME businesses.

TFT: Our last edition was on AI and we're seeing a lot of potential in the application of artificial intelligence in SME lending.

AB: AI needs to be considered from all angles. First of all, it's AI to help the bank make decisions and protect itself from fraud and then it's AI to actually help the customer. I think that's where the most potential is. One of the complexities of running an SME business is managing your cash flow. You don't actually know when a customer's going to pay you but with data, your own data, you can make those decisions and get those forecasts.

At the moment, work in capital management is very important for all SMEs. Small companies need to borrow because they need to pay for goods before they sell them. They could probably borrow less and therefore lower costs if they could predict when they're going to be paid and when they have to pay. Predicting when people are going to pay you is one of the simplest things you can do with artificial intelligence.

We have two sets of projects; machine learning (both supervised and unsupervised) to help us make better credit decisions and fraud detection decisions but also, what we're starting to do now using the Capability and Innovation Fund, is create those wonderful tools for our customers.

TFT: I've not heard that mentioned once by anyone working in this area.

AB: Yeah! Imagine the situation; you're a new business and you download a business plan from a website and you get no data in there to help you make those real pricing decisions. The data's out there in the Wild West! You can actually use that data to help those individuals. We shouldn't have this situation where every entrepreneur, every small business owner, has to do that learning themselves. They should be learning from other businesses. What we're doing is connecting those individuals to, not only a human with sector knowledge, but ... with the data and experience they need to be successful.

What do successful businesses look like? What can they leverage?

This is in its infancy but we have a number of data scientists working in this space. We were awarded the funds in February/March and that's one of the things we're doing with that.

I think this is the exciting thing; can we use artificial intelligence and machine learning to help businesses thrive?

It shouldn't just be something that banks use to decide which businesses to lend to, it should be something that makes businesses more successful.

TFT: Your book is called The Money Revolution, what place do you think Starling occupies within the fintech revolution?

AB: What I'm most proud of is that as well as creating Starling - a bank that's all about new technology and new ways of thinking about our relationship with customers - we triggered off a revolution within an industry.

When we started Starling a few years ago, you didn't have big banks really taking technology and fintech seriously. What we've created is a response from the big banks. They're improving their act, even though a lot of what they do is just copying us!

Just the fact that you have people like us doing what we're doing - as well as the other companies in the book - means that the whole industry is getting its act together.

I spend a lot of my life talking to people in this industry ... but fintech's not just about Shoreditch. People up and down the country can benefit from these tools. This book is designed to make fintech accessible.

This should be something that people see on the shelves at 'Smiths. Fintech isn't a case study at a business school. Fintech is what people with real jobs running their day-to-day finances do. Those people are all around the country.

TFT: One of the main issues for fintech is adoption. How do you convince the average consumer to adopt a solution to a problem that they may not realise exists?

AB: I don't think we should try to sell people the proposition. I don't think what we do, and what the fintech movement is all about, is selling product. That's how the old banks did it. I think people will embrace it.

Anne Boden

First of all, you have to have knowledge and I think more and more people are getting to know the new banks. You work in the industry and you may have Starling, and before long, some of your family will have Starling and eventually some of the people you meet down the pub will start using it too. And that's how you build trust. This is all part of the story of people realising that life can be simpler, easier, with fintech.

Throughout the last 3-4 years I've been hearing that "people don't switch bank accounts, they're more likely to get a divorce than switch banks." That's not the case now. People are adopting these tools and embracing them. And once you start using them, you never go back.

The range of new banks offer more than just a product at a price. It comes with a whole set of values. Consumers are far more discerning about who they want to do business with. It's about what they stand for, it's about making money equal, it's about fairness, it's about transparency. It's about bringing the best possible technology to solve the problem. Then we let the product stand on its own feet. People use it and they develop a relationship with us and they'll tell their friends about it.

TFT: Recently we've seen challengers like Metro and Revolut run into trouble. Is the speed with which fintech moves a double-edged sword regards issues concerning compliance?

AB: I think the big banks get into trouble a lot as well. I think if you did an analysis of the week's stories, there'd probably be more bad stories about the incumbents than about the new fintechs.

TFT: Do you think that the model itself is sustainable or are we building towards our first challenger bank disaster?

AB: The industry at the moment is quite varied with different people in different spaces. We're a bank and we're regulated by the PRA and the FCA. Other products you've mentioned aren't regulated in the same way. We're all very different and we do things in a slightly different way.

The fact that the industry's growing and people are talking about it means that more people will find out about these things and will choose the products that suit them.

[At this point, Starling's head of corporate affairs, Alexandra Frean, offered her own insights on the subject]

AF: If I can butt in, if you look at Metro Bank and Revolut, the problems that they've had have nothing to do with being agile and doing things quickly. There's other things behind what's going wrong there. Speed, if you do it right, is a massive advantage.

TFT: Fintechs are often predominantly tech crews with a compliance team recruited from finance. There seems to be more potential for internal discord...

AB: If you think about the big compliance scandals of the last year, it's been the HSBCs etc. The big compliance issues and the big fines aren't for the fintechs.

As an industry, we've sold the line that this is fresh new minds, technologists, coming up with new banks ... I'm a computer scientist who's worked for big banks, running big departments, for 30-odd years. There's no naivety in Starling about how things work.

We have a lot of knowledge about what's good and bad about the incumbent banks. I came to the conclusion that it was easier to start a new bank with new technology, with new values, new ethics and new beliefs about how you should treat customers. It was easier to do it in a new entity than change the old.

TFT: Starling has cultivated some of fintech's heaviest hitters, including Megan Caywood and Tom Blomfield. What it is about Starling's culture which fosters such meteoric talent?

AB: We're good at picking talent! I think it's fair to say that when I started this in 2014, nobody thought this was possible. A new bank, with a new banking license and a new approach. Nobody thought that was possible.

I proud of, not just creating Starling, but a new way of engaging.

TFT: What does the next six months look like for Starling?

AB: At the moment, we're really building out our capability of our SME banking proposition. We're opening an office in Southampton which will be a fantastic place for all sorts of Starling people to get together to create things. It's a fantastic office looking over the sea and it's part of our proposition to bring Starling out of Shoreditch. It isn't just about people who look cool and hang around in the right bars, drinking the right beer.

TFT: I don't do any of those things...

AB: Exactly! It's about people all over the country. Southampton's where we chose because of the connection to the local universities and the local talent. It's all very exciting.

TFT: To what extent can legacy finance adopt a fintech mentality?

AB: The first thing a bank will do is appoint a head of digital, then they say, "okay, it's digital and innovation." They'll hire someone from a different industry perhaps and they'll wander into the boardroom in a pair of jeans. That doesn't change the culture. Those people can run the innovation labs, they can do the innoventures, they can do the Shoreditch events. What they can't do is take the organisation as a whole and convince everyone that it has to change.

Convincing leaders to change takes a lot of guts, because changing is very, very dangerous.

You can see what happened with TSB! Taking a system and migrating it to another set of systems is just too complex and to do that, you take a lot of personal risks. As a chief information officer, you've got to press the button and pressing the button is dangerous, especially in the senior management regime where there are consequences.

What the big banks are doing is little speed boats and little innovations around the side because they can't tackle the big problem. I was in those larger organisations...and I couldn't fix that problem.

TFT: So, they're doomed to irrelevance?

AB: I don't think they're doomed, I think some will survive. They'll pick a certain element of the proposition. Not everybody will do everything. Some will focus on the back end, some will focus on the front end. I don't think they have the organisational resilience to do it all.

TFT: Their dominance will shrink then?

AB: We have a very bad situation at the moment where you have huge market shares concentrated amongst a few players, especially in the case of the SME market. When you have that concentration, those players don't give the customers a good deal. That's one of the reasons we've been awarded the Capability and Innovation Fund. We have the capability to actually take real market share from the big players. ◆TFT

> ” **Convincing leaders to change takes a lot of guts, because changing is very, very dangerous.** “

Over the past seven years SWIFT has reduced average message prices by more than 60%...

KATE GOLDFINCH

Associate Editor

WIM RAYMAEKERS, *SWIFT gpi Programme Manager spoke to The Fintech Times reporter* **KATE GOLDFINCH** *on the future of the cross-border payments market*

TFT: Cross-border finance remains concentrated in business-to-business operations according to SWIFT & McKinsey's latest joint research. However B2C & C2B markets are also fast growing. Which niche of the cross-border market do you see as your core and why?

WR: Change in the cross-border payments industry is being driven by the opportunities presented by technology, the need to reduce costs and improve processes, as well as by evolving consumer expectations born from a hyper-connected, technology-centric world.

With SWIFT gpi, we have dramatically improved the experience in cross-border payments for both banks and their end customers by increasing the speed, transparency and traceability of payments. We continue to evolve gpi to maximise efficiency, improve end-user experience and extend the benefits deeper into the marketplace.

TFT: Do you feel increasing pressure from emerging technologies including distributed ledger technology (DLT), card and network innovations?

WR: It is a fascinating time to be in payments and the industry is rising to the challenge by working together for the benefit of customers. There are many great initiatives and a lot of collaboration between banks, fintechs and SWIFT.

With all technology, we continue to help our customers maximise its potential in a secure and cost-effective way, and will work with whichever technology best serves our community and their needs.

With SWIFT gpi, we have transformed cross-border payments by modernising the existing rails, for instance, by using APIs. SWIFT gpi payments are typically made within minutes and in some cases seconds, and the toolset we are evolving alongside it is rapidly leading to the elimination of many of the issues that have previously led to time-consuming costly enquiries for banks.

WIM RAYMAEKERS,
SWIFT gpi Programme Manager

TFT: Growth in the cross border market is increasingly driven by lower-value payments. What is the transaction fee and speed of SWIFT gpi at the moment?

WR: As cross-border payment volumes have risen, it is natural that pricing has come under pressure. Cross-border payments tend to involve more banks, more complexity, FX conversions, regulatory checks – all of which incur costs which have to ultimately be passed on. Increased volumes, accompanied by improvements in processes however will help to reduce prices over time – but cross-border, cross-currency payments will always involve more costs than domestic, single currency payments.

While SWIFT message prices are already negligible, over the past seven years, SWIFT has reduced average message prices by more than 60%, as we've been able to pass the benefits of increased volume back to the community. gpi, together with the gpi toolset, should help to reduce errors, exceptions and enquiries, all of which should help to lead to lower costs.

TFT: Do you have plans to lower fees and increase transaction speed?

WR: SWIFT has reduced average message prices by more than 60%, while with gpi we have dramatically improved the speed of payments. On average, 40% of SWIFT gpi payments are credited to end beneficiaries within five minutes. Half are credited within 30 minutes; three quarters within six hours; and almost 100% within 24 hours. Wherever possible we will continue to improve the time it takes for payments to reach end customers, and alongside that we aim to continue extending our toolset to make the process smoother for banks, and the experience better for end customers.

TFT: How many banks use SWIFT gpi at the moment?

WR: More than 3,500 banks have signed up to gpi, and more and more are signing up all the time.

TFT: Who will dominate the cross-border market in the future - DLT based solutions or traditional network innovators?

WR: With SWIFT gpi, we have transformed cross-border payments by modernising the existing rails, rather than reinventing the entire system.

We have been monitoring the development of DLT for several years at SWIFT, and have explored the technology through a number of proofs of concept. While significant progress has been made, it is still not clear that it is mature and scalable enough for mission critical applications such as cross-border payments.

As with all technology, we will continue to help our customers maximise DLT's potential in a secure and cost-effective way, and will work with whichever technology best serves our community and their needs.

TFT: How would you describe your customers' evolving needs and how do you support those expanding needs with your services and products?

WR: Our customers expect a reliable, secure, trusted network with global reach that can deliver solid solutions at pace and at scale. They want reliable, innovative solutions to address real problems – rather than innovation for innovation's sake. We have delivered on the demands for speed, transparency and traceability with gpi, and we are now building on that to really transform the payments experience – both for banks and their end customers. ◆**TFT**

The Splinternet Will Polarise the Web Before Collapsing In On Itself - Genome COO

KATIA LANG

CEO

This year's Money 20/20 in Amsterdam was positively awash with fintech talent. Not that **DAUMANTAS BARAUSKAS** *felt the pressure. When he sat down with TFT's* **KATIA LANG**, *the Genome COO happily waxed lyrical on everything from paytech to Big Tech, China to the States and all that's in between...*

KL: Did you enjoy Money 20/20 this year? What did you get out of the conference?

DB: The fintech community is expanding rapidly and I saw a lot of new faces as well as good friends from previous meet-ups. This year's discussion about the future of money was especially exciting for us since our new product Genome is specifically designed as an operational financial system for merchants and users. All in one place.

KL: What do you want our readers to know about Genome?

DB: You know how the industry used to separate multi-currency wallets, IBAN banking accounts for business and personal use? I am not nostalgic about those times. Since companies started to introduce more hybrid solutions, we took it one step further and created one place with a seamless experience, smart onboarding, and absolutely all interactions online. We've started Genome as an ecosystem that makes it easy to meet a growing list of financial needs for online entrepreneurs who live, work and travel worldwide. Anyone who has lived and worked in several countries, anyone for whom business is really personal has experienced how fragmented and broken the world of finance is. I am proud to say that with Genome we'll be able to fix a lot of what's frustrating with cross-border banking and, instead, open a lot of new possibilities to all the global citizens out there. And that's what Genome is all about.

KL: What changes can we expect to see in cross-border payments over the next 18 months?

DB: The traditional payments infrastructure is complex and we can't control fees charged by third parties, which is why with new fintech products like Genome, we rely on regulated but optimised infrastructure partners. I suppose that the goal is to minimise cross-border friction in terms of costs, requirements and processing time. I think those trends will shape a new future for the sector.

The share of the cross-border payments will grow dramatically, but growth might not come from the expected sources.

Customers, not providers, will shape future services. Also, liquidity cannot be overlooked as a source of differentiation.

KL: What are the major changes that you have seen in payments since 2018? Is the recent pace of change sustainable?

DB: Well, the rapid digitisation is what comes to mind first. According to EY research, fintech adoption rate among consumers almost doubled over the past 18 months. Furthermore, 96% of the 27 thousand consumers surveyed were aware of at least one fintech service that was alternative to the traditional way of payments and money transfers. Can we just take a second to comprehend this number? However, I don't think this pace is sustainable. It will plateau inevitably, but only time will prove me wrong or right.

KL: How has Open Banking affected the payments industry and your company in particular? Does PSD2 give Big Tech an unfair advantage over the banks?

DB: I don't think that PSD2 necessarily gives fintech "an unfair advantage over the banks", but it's radically changing the power dynamic. I mean now the banks will lose their untouchable status and fintech startups and companies can use this shortcut to build better payment systems, provide better services. Was Genome affected by Open Banking? We were prepared upfront so this major change gave us more opportunities. We are ready to standardise data from banks and ready to embrace changes that September will bring.

KL: What are your thoughts on the so-called tech cold war developing between the States and China? Can you see it leading to the formation of a Splinternet?

DB: I am very invested in it attention-wise. I think this so-called tech cold war is directly shaping innovations globally. If we're talking about fintech, China and India are at the top with 87% fintech adoption, thanks in part to the massive usage of the Alipay and WeChat e-commerce apps in China and the Paytm payment app in India.

Can we compete with that?

I don't know. And, in my personal opinion, we've already entered the era of Splinternet and the next stage will polarise the web to the extreme before collapsing altogether. Also, I'm concerned how the Internet varies greatly by country depending on political, regulatory, legal and other factors.

KL: What do you think about the future of payments in emerging markets?

Is adoption easier in areas with less legacy infrastructure?

DB: Yes, and no. According to the IFC (the International Finance Corporation) general challenges for fintech in those emerging markets include low levels of formal financial services (like cash prevalence), lower income and financial literacy literacy levels, where the clients and users require education in terms of financial glossary, shortage of skilled entrepreneurs, revenue potential and last but not least – weak infrastructure. That includes a weak legal enforcement mechanism. So fintech startups can emerge faster, but if there's no regulation, fraud will follow quickly. In Genome, we follow the highest security and encryption standards when it comes to customers' data, payment details, and history. If there's no privacy, can we really talk about safe payments?

KL: The Cashless Society — Is it going to happen? If so, when?

DB: I've recently read a piece about it and there was a quote from Charles Hoskinson, founder of a blockchain development startup Input Output Hong Kong, who said that "A necessary step toward a cashless society is having an open conversation about the future of money, including how to comply with different laws and regulatory changes in different countries". Sweden is already a blueprint of a cashless society. They will start using their national digital currency, e-Krona, next year and become fully cashless in about 4 years. Following the question about Splinternet – a cashless society will be ensured not by countries but by tech giants like Google, Apple, Facebook and Amazon. And as far as I can see, their plans and expansion speed in finance are astonishing. Faster than any government can follow. This is my prediction towards the cashless society. ◆**TFT**

How Fintechs with Tight Budgets Can Keep Regulators Happy Without Sacrificing Customer Experience

As diverse as the fintech sector is, the grand unifier driving innovation, disruption and growth in almost every fintech business is customer experience. From Monzo to Mojo, fintechs are born from a frustration with the customer experience offered by incumbents.

Unlike many of Silicon Valley's most exciting tech startups, fintechs are up against heavy regulation. Keeping customers and regulators satisfied is a challenge, and both are crucial to fintechs' success and sustainability.

What's more, incumbents are starting to adapt. They're already well versed and comfortable with regulation, but now they're being forced to innovate or else lose market share to fintechs. If they're successful, fintechs may begin to lose their edge.

And so the challenge for fintechs is to find cost-effective solutions to burdensome regulatory challenges that won't come at the expense of great customer experiences.

The problem may sound insurmountable, especially for fintechs and startups working with limited budgets – but compliance and user experience are both in the interests of consumers and don't have to be at odds. In reality, they're not.

Global identity data intelligence experts, GBG, have a range of solutions designed to help organisations of any size and budget to deliver frictionless, compliant customer experiences.

Great expectations

Consumer expectations are higher than ever before. According to Salesforce research, 76% of users are prepared to take their business elsewhere to find experiences that meet their expectations.

With such high demands, fintechs must be careful not to scare potential customers away as they attempt to meet their regulatory requirements, and that starts at onboarding.

For those that get it right, there are significant rewards to be reaped.

McKinsey research found that for every one-point increase in onboarding satisfaction on the ten-point Net Promoter Score scale, there was a 3% uplift in customer revenue. For a business onboarding $500 million worth of new customers, this small increase in customer satisfaction could be worth $15 million. It stands to reason that a poor experience could have the opposite effect.

But even if there were no financial rewards for a great onboarding experience, the risk of abandonment is reason enough to want to get it right.

According to Javelin Strategy & Research, 38% of millennials have abandoned mobile banking interactions because of long and poorly designed processes. Meanwhile, Sale Cycle reported that 76% of all online registrations are abandoned.

A poor onboarding experience can cost you customers - potentially to your rivals, which means there are competitive and reputational costs to getting it wrong.

The customer challenge is clear and present but the regulatory challenge is complex, multi-faceted and evolving.

Clear today, wrong tomorrow

Great UX today can fail to meet compliance requirements tomorrow – it's the nature of the regulatory landscape.

Staying ahead of the UX game in fintech means keeping yourself up to date with the latest changes in regulation, and there are three big changes that fintechs need to be aware of.

The fifth iteration of the Anti-Money Laundering Directive (AMLD) takes effect from January 2020. It's called 5AMLD and it builds on 4AMLD to further combat the financing of terrorism and make financial transactions more transparent.

5AMLD will affect fintechs in three main ways: tighter Customer Due Diligence (CDD) checks, beneficial ownership registers and new rules around Politically Exposed Persons (PEPs).

Firstly, it'll mean markets that never used to be affected by AMLD will now fall under its scope. This includes: prepaid cards and mobile wallets, payment service providers with customers who make remote payments over €50, states outside the EU and firms handling cryptocurrencies, estate agents, free ports and art dealers.

All will face new or stricter CDD checks.

Secondly, firms will have to perform strict and frequent CDD and Know Your Customer (KYC) checks on beneficial owners of corporate and other legal entities.

Thirdly, 5AMLD will force EU member states to draw up lists of PEPs. These lists won't name individuals, but enhanced CDD checks will be required when there's a match against a job function in the registers.

Darnell Walker, Head of Fintech at GBG, said: "AML regulations can introduce friction, but high quality data and agile analytics are key to balancing customer experience with AML obligations".

The Revised Payment Services Directive (PSD2) will change financial services in September by facilitating Open Banking, which is a huge opportunity for fintechs.

Allowing third parties to make peer-to-peer transactions using open APIs comes with new regulatory requirements in the form of Strong Customer Authentication (SCA).

Again, this has the potential to add friction, which means fintechs should think carefully about what they implement and how.

Finally, and most familiar to fintechs, is GDPR. It requires firms to get consent for the data they collect, be clear about what they collect and up-front about how they use it. Companies in all sectors have been forced to consider how best to achieve GDPR compliance in a way that doesn't impair customer experience.

6 ways to stay ahead

Follow these six key principles to ensure a great, compliant user experience:

1. Think about how you can fold new technologies into your processes to meet your regulatory obligations. For example, can you verify a customer's address by analysing their location via GPS? Remember to think about your customer's attitude to new technology to minimise abandonment.
2. If you operate across borders, be sure to account for international variations. You need to be certain all potential customers can verify their identities on your platform, which means you'll need to consider differences in documents from country to country and the differing regulatory requirements in each territory.
3. Keep your UI as simple as you can. Users won't tolerate spending a long time verifying their identity just to use your service – they'll look for a better experience elsewhere. The best way to reduce the time it takes is to implement a simple, intuitive design backed by efficient technology.
4. Motivate customers who are on the fence about your products and services with visual and contextual feedback that will guide them through the onboarding process. Use progress bars to show them how close they are to finishing, validate their responses to show them they've inputted what's required and help them to complete the checks as much as you can.
5. The onus of meeting regulatory requirements is on your business, so be careful not to pass it on to your customers. Don't frustrate your users with complicated verification processes. Instead, make onboarding as seamless an experience as possible.
6. Test your products to make sure they're as easy and enjoyable to use as you've designed them to be. However many steps you take to remove friction from your onboarding experience, the proof is in the pudding. Do as much usability testing as you can to prove your UX works.

Cost-effective tech solutions

GBG has a range of solutions to the UX challenges presented by ever-evolving regulations that work for businesses and budgets of any size.

Their fast and simple onboarding experience, combined with regulatory rigour, means you can win customers with no compromise on compliance.

And their unique, expansive data partnerships empower you to onboard customers from around the globe quickly and compliantly.

What's more,their flexible risk profiles allow you to optimise your identity verification process to maximise the number of good customers you sign up and minimise the time you waste on less viable customers. GBG's layering of ID documents, data, biometrics and human review gives you the insights and accuracy you need.

GBG's solutions already help the likes of Stripe, Plus 500 and Admiral Markets to meet compliance requirements without compromising on their UX.

Learn more by downloading the whitepaper: The Future of Identity Verification UX at www.gbgplc.com/cx-whitepaper
◆**TFT**

WE'RE ALL IN THIS TOGETHER

THE VALUE OF ASSOCIATIONS IN FINTECH

JAMES BATY

Senior Vice President
and Special Advisor
US Capital Global

THE VALUE OF ASSOCIATIONS IN TECHNICAL AND INDUSTRY INNOVATION

In any industry there are groups / associations where individual entities come together to create a larger consensus on technology, practices, regulation, and education. The financial industry is replete with many forms of trade associations some of which become regulatory bodies such as FINRA in the US. When there is a technology inflection point, like the current wave of financial technology innovation, then the charters of existing groups and regulators may be biased towards existing technology and practices. And the members of these stakeholders may be primarily experts in the previous generations of technology.

With a significant evolution in the industry, and innovative technology that causes significant potential disruption, new associations and groups will likely emerge to bring experts in the evolving technology together, to focus on key questions of implementation and practices. Fostering these groups is of interest not just to the industry, but to the regulators and lawmakers, who need to adapt to the emerging innovation. One of their mandates is to foster collective practices that bring the best from the current regulatory and transactional system to the possibility of a more efficient and innovative future.

Digital broadcast, Cellular telephony, Electronic payments, Crowdfunding are all areas where the affected industry develops many new trade groups and associations to develop technology standards, collaborate with regulators and contribute to emerging business practices. Let's consider some of the types of new associations in Fintech and their different goals.

DIGITAL LEDGER TECHNOLOGY, BLOCKCHAIN, DIGITAL SECURITIES INNOVATION

The emergence of Digital Ledger Technology and Digital Securities clearly has the potential to add significant efficiency to capital markets practices. Governments and regulators are interested in innovation for several reasons. Increased technological efficiency in capital markets promises to foster more rapid economic development, certainly a governmental priority. Regulators must avoid new potential abuses, but at the same time not stifle the common desire for expanding economic growth and broader public participation in that growth. Vendors are eager to contribute to emerging standards, and industry practitioners are eager to understand how the technology may affect or improve their business practices.

Regulators are specifically reaching out to encourage this thoughtful financial industry innovation. In the US the Securities Exchange Commission (SEC) has established the FinHub function to explicitly interact with the financial industry on technical innovation. The Commodities Futures Trading Commission (CFTC) has a similar function, the Lab CFTC -Guide Point. In the UK the Financial Conduct Authority (FCA) has an ongoing Regulatory Sandbox programme to encourage and guide financial innovation. The sandbox function seeks to provide firms the ability to test products and services in a controlled environment and support in identifying appropriate consumer protection safeguards. Around the world, other governments of various financial centres have, in the course of evaluating how to approach digital securities technology, established many similar programmes to encourage and guide the development of new Fintech.

On the industry side, technology developers, industry incumbents and financial professionals have developed a large number of new different types of associations, whose missions include regulatory and policy outreach, collaborative development of platform technology, development of industry standards and practices, and solving some of the problems of interoperability of Fintech products.

EXAMPLES OF EMERGING FINTECH / DIGITAL SECURITY ASSOCIATIONS FOCUSSED ON TECHNOLOGY

INDUSTRY ASSOCIATIONS

Faced with regulator attention and the need to clarify regulation, the new technology innovators come together to collectively influence public policy. Examples include the Blockchain Association (members include e.g. Coinbase, Circle, Protocol Labs) and the Digital Asset Trade Association. These types of groups are primarily concentrated on tech vendors, and focused on representing the underlying technology, lobbying regulators and public policy makers on industry issues. There's now a plethora of similar groups, The US Blockchain Assoc., the British Blockchain Assoc., the Nordic Blockchain Assoc., the Government Blockchain Assoc., mostly concentrated on similar policy issues in their respective geographies, sometimes involved in specific standards and interoperability projects, and in some areas working with academic researchers.

PLATFORM DEVELOPMENT ASSOCIATIONS

Collaborative technology development – Beyond public policy and regulatory issues, industry associations are critical to elaborating common technology platforms. Hyperledger (members include e.g., IBM, Intel, R3, DTCC, J.P. Morgan, Symbiont) is a notable example – an umbrella group of open source projects started by the Linux Foundation. This includes both large incumbents and small innovators working on toolkits, ecosystems, smart contracting terms, and implementation standards, essentially a technical collaboration.

Technical Platform Specification – The Fintech revolution offers the potential efficiency of executing secure digital transaction, but also offers more significant technical advances in algorithmic execution of 'smart contract' terms, terms that have to be collectively defined. The Ethereum Foundation, and the Enterprise Ethereum Alliance groups are focused on establishing language and extensions standards. Bringing to Fintech the open source model popular in software development, an Ethereum Improvement Proposal (EIP) is a design document providing information to the Ethereum community or describing a new feature for Ethereum or its processes or environment. The current ERC catalogue includes ~58 final and ~150 draft, EIP specifications these include basic execution functionality, smart contracting terms, vendor interface specifications.

Associations / groups focused on industry interoperability

While technical platform specification naturally implies some level of technical interoperability, there is also the need for a higher level of business interoperability. For example, where can digital securities be traded? Initially digital securities for private placements are basically traded on captive markets – you offer the securities on the specific token platform vendor's environment. But many issuers would like broader offerings on multiple exchanges, perhaps spanning multiple geographies and jurisdictions. And while the viability of digital secondary markets has yet to be fully demonstrated, investors and issuers show increasing interest in secondary trading on multiple Alternative Trading Systems (ATSs). Digital tokens created by one issuer, may be desired to be listed on different exchanges, and be able to be traded on secondary exchanges.

Industry interoperation / standards associations / groups – One example of a cross vendor trading environment is proposed by Blocktrade, formed late in 2018. Blocktrade, is an 'association' of a number of token platforms into a common platform. Members include Securitize, Neufund, Tokeny, and Highcastle, and this effort is creating standards to enable cross listing of tokens issued by the members on a unified exchange.

EMERGING ASSOCIATIONS FOCUSSED ON BUSINESS PRACTICES & EDUCATION

Clearly technical specifications and regulator public policy issues are important early functions of industry associations, but in the longer-term successful adoption involves not just the technology vendors and digital platforms, but also includes how the existing industry professionals (Broker Dealers, Custodians, Lawyers, Transfer Agents, KYC/AML Services, etc.) adopt the technology to evolving business practices.

Example business practices issue – Digital Security Custody

In traditional security sales there is provision for a custodian to hold shares privately or in a 'street name'. The owner does not have to take physical delivery of the shares, and future transactions are not delayed by physical transfer. How do digital securities change this? One simple argument is that the share owner holds the keys to the wallet containing the digital share and this constitutes the equivalent of 'self custody'.

But more fluid markets are based on intermediary transactions and certain classes of investors (e.g., institutional funds) require a custodian function. There are also operational security issues around very large volume transactions. An alternative technical proposal is to implement custodian services on 'multisignature' tokens, where the custodian or transfer agent has an additional signature and the transaction scheme may require 1of2, 2of2, 2of3 signatures etc. to transfer. Other providers are implementing more traditional schemes of auditable custody rules, but where the broker-dealer, custodian and exchange are linked.

In general, while the regulators suggest that the technology does not change the basic law, the technology may make multiple alternatives possible for new business practice elaborations and functions. Who should decide this? Ideally it is the licensed and regulated industry professional ecosystem, working together through some form of association. In the existing securities market the general US model for industry self-regulation is FINRA (Financial Industry Regulatory Authority) a not-for-profit organisation authorised by Congress to protect America's investors by writing and enforcing broker-dealer industry self regulation. How can the industry elaborate new business practices enabled by the new technology? What follows are two ways in which industry practitioners may collectively address some of these new business practices issues.

Industry membership org. for practices and innovation

This publication, The Fintech Times is launching a Members Organisation for Fintechs + Finance. The working title is "Fintech Ambassador Club (FAC)" – there are quarterly events planned in four geographies (16 events a year), to cover most verticals in fintech not just focused on digital securities. This will expand the publications industry support to an ongoing membership organisation for collaboration and direct participation in providing solutions to some of these challenges.

Digital securities ecosystem self organisation

The evolution of the custody function is an example of the need to have an 'association' of multiple disciplines to support operational standards, education and self-regulation of the overall digital security ecosystem (BD, Issuer, Token platform, KYC/AML, etc.). This would focus on the business practices, and larger issues of the ecosystem, and perhaps take the form of self regulating practitioner group (similar to how FINRA works). Such a group can link the industry practitioners with connections to the newly formed regulatory liaisons. Our firm, US Capital Global is conducting conversations with several of our clients and partners, to promote an association response to our evolving collective business practices.

CONCLUSION – INDUSTRY ASSOCIATIONS ARE A KEY FOCUS OF FINTECH INNOVATION

This is just a small sample of different types of Fintech / Digital Security groups and associations. They specifically give examples across a spectrum ranging from technology vendors and open source groups, to collective exchanges and the professional practitioner ecosystem addressing business practices. The larger point is that Fintech innovation requires industry collaborations to be successful. Some of the groups formed in this phase may disappear or merge.

Eventually the immediate need for Fintech associations may gradually merge back into evolved versions of the larger traditional general industry groups and public policy forums. For example, in January of this year the World Economic Forum announced at their annual meeting Davos a Global Council on Blockchain, and in the UK the Ditchley Foundation recently held a Ditchley 100 Roundtable discussion on The Future of Financial Service

These various Fintech focused associations are critical to this phase of elaborating both the technical standards, and the effect on business practices. ◆**TFT**

Flywire's Ryan Frere On Circumventing the Bamboo Curtain to Offer Cross Border Payments in China

KATE GOLDFINCH

RYAN FRERE

TFT: What trends do you see in the global cross-border market for 2019?

RF: The market for cross border payments is worth over $20 trillion worldwide, with the global education and healthcare markets alone valued at $800bn and $500bn respectively. Businesses and organisations operate internationally as the demand for services and products is high, however these products are becoming more accessible every day. Borders shouldn't slow money down, it needs to move to keep up with these demands. Education, Healthcare, Travel are all key drivers for international mobility and companies can easily expand their reach through e-commerce and social platforms.

TFT: What market share in the global cross border market do you aim for?

RF: This depends on the vertical and size of the market. For education, Flywire is the leader in 5 core destination markets and there's no reason why we won't be able to expand further. Healthcare needs are typically domestic first, followed by the need to support cross border transactions. The commercial vertical is very segmented so we've expanded into the adventure travel space and will look to gain market share with those companies before expanding more broadly.

TFT: The Chinese ecosystem is very closed. How did you partner with Union Pay?

RF: Since UnionPay is such a strong brand and the preferred payment option for payers in China, we knew that a relationship with UnionPay would be key to our success with Chinese payers. We started by acquiring UnionPay transactions through a global acquirer, based on the early success of the payment method in our solution. We then transitioned to a partnership with Union Pay directly. Both companies place strategic importance on the reliable flow of cross border payments for Education and Healthcare so there is much in common between us and UnionPay.

TFT: What are the main goals of the partnership with Union Pay?

RF: Our goal is to provide the best payment methods for our client's payers across the globe. Our partnership with UnionPay provides a familiar payment method for Chinese payers that is best in class for cross border payments in Education and Healthcare. This means it creates value around speed, security and cost for our payers and clients.

TFT: What does the next 5 years hold for the payments industry and where does Flywire fit in?

RF: In 5 years, I'd expect the global movement of funds to be uninhibited irrespective of the markets involved. Payers will be able to have a local payment experience regardless of where the destination of their payment is. In addition to that, it will be cost effective and transparent. Our service is working towards this future, with our vision being to provide the best marketplace of methods that supports both local in, and local out, in each of our supported markets. ◆**TFT**

MOVING HEAVEN AND EARTHPORT TO STAY AHEAD OF THE PAYMENTS CURVE

KATE GOLDFINCH

This year, Visa made an offer to acquire a leading cross-border payments business, Earthport. The acquisition was completed in May, resulting in a final price of over $250m. This purchase will enable Visa to reach the vast majority of the world's banked population through fast and secure payments.

Earthport works with numerous tier-1 banks, ecommerce businesses, platforms and payment service providers, and has been a Ripple partner since 2015. The Fintech Times spoke to Earthport's Valli Ardalan, Vice President of Business Development and Marketing, about what the future of cross-border payments may look like.

TFT: What segment of cross-border markets is at your core?

Valli Ardalan: If you look at cross-border payments in terms of B2B and B2C, we operate in B2B. Right now, depending on where you read it, about 95 percent of B2B cross-border payments are still happening through the incumbent banking system, through correspondent banking. Typically, it is an inefficient and expensive process that was built to manage the movement of large sums of money. However, with the increase in globalisation and the use of micro-payments that all businesses tend to have, it is not the most efficient system, so people have been looking for alternatives. That, for example, is where you see the concepts of some of the blockchain-based providers coming to light.

What we have done, however, is use the incumbent system, refocussed in a way that enables a more direct path to a network of global partners. So, we do cross-border payments but we settle them locally. Our clients typically send us a single transfer of batched smaller payments. We then send it to a local partner who will distribute at local cost rather than at an international cost. It is an interesting place for us to be. Today we work with a lot of tier 1 banks, money transfer organisations, payments service providers etc.

TFT: How does your service work?

VA: We offer kind of a niche channel to settle through the Automated Clearing House (ACH) in local territories. We focus on a specific transaction type which is large volumes of low-value payments. Typically, the advantage of using us is around the batching of payments, a single international transfer from the client" bank to our Earthport bank. Then, we will send that to our local network partners, who will distribute the individual payments to the individual bank accounts. The efficiencies in this is that rather than sending 10,000 payments through SWIFT or through the correspondent banking network, you would send one international payment and we would then settle it as a local payment in the jurisdiction that you were sending the money to. The net result is increased speed, visibility, and it is more cost efficient than doing it otherwise. ◆**TFT**

VALLI ARDALAN

Is Donald Trump's Twitter Account Tanking the Quant Market?

MATTHEW DOVE

Senior Editor

The emergence of quant trading seemed a perfect demonstration of technical innovation yielding concrete results under market conditions. For almost a decade, quant funds performed well year-on-year. However, that all changed in 2018 and the picture is barely any brighter today.

So, what went wrong and what does it have to do with a hangry grandpa with a Twitter fixation? Furthermore, what does the solution have to do with WeChat?

Virginia-based Quantitative Investments Management (QIM) rose from the ashes of 2008's global economic crisis and, like the proverbial Phoenix, enjoyed blue skies despite the chaos unfolding on the ground below. By 2017, the fund was up by an annualised 16%, putting on an impressive 60% in that year alone. Alongside other sector leaders like WorldQuant and AQR, QIM it appeared to be proving the theory that hitech can be used to safely navigate volatile markets.

The benefits of quant trading are abundant.

Quantitative trading uses mathematical functions (trading algorithms) to automate trading models, with market data being applied to multiple trading scenarios to identify profitable opportunities.

Algorithmic trading allows for the optimised exploitation of huge data sets and all but eliminates the vagaries of human traders (pride, sloth, avarice - you know the ones!). This in turn stabilises markets and reduces the level of risk investors are exposed to.

That's the theory anyway, and until the big funds starting taking baths left, right and centre, it seemed to be bearing fruit. By October of last year QIM was down 3.2%, its only other annual loss coming in 2015 (when the fund lost 5.8% of its value). Elsewhere, major players like WorldQuant and Cubist barely scraped a 1% return, whilst Och Ziff was down by the same amount for the year. The most notable nosedive however was performed by AQR, which ran at a loss of 10% for 2018.

As the larger funds faltered, institutional backing for smaller concerns dematerialised too. Manoj Narang's Mana Partners, which only began trading in 2017, had the plug pulled by its primary investor, JPMorgan Chase & Co.'s asset management unit. The 930 million USD fund based in New York sought to combine high-frequency trading and statistical arbitrage, ventured south of 400 million USD before losing 8% for 2017.

With the honeymoon for quants ending in separate beds and early flights home, some have begun to blame "quantitative strategies" for all manner of ills. Disgruntled investors have accused quant trading of worsening general downturns in the stock market over the past 18 months. The reasoning follows that when algorithms get it wrong, they get wrong big and they get it wrong fast.

AQR founder Clifford Asness told the FT in January that such claims are "insane", arguing instead that wider market trends have influenced the performance of quant funds and not the other way around. Assuming the lion's share of the blame for himself, Asness was also keen to deflect a little responsibility elsewhere;

"We've done lousily, and I'm not blaming others...I'm sick of people saying this without a theory for why (quants exacerbate volatility) ... Markets move for reasons like corporate news, economic data, or what the president or the central bank says".

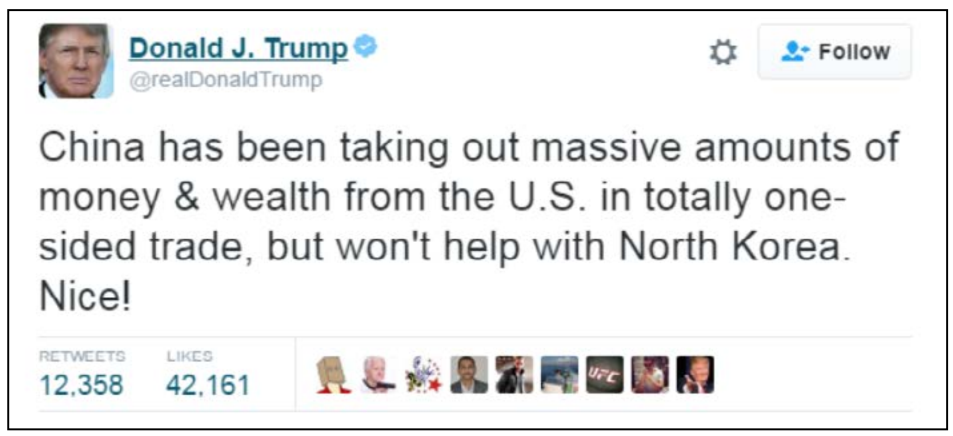
Asness isn't the first to draw a correlation between what "the President says" and the volatility of the market. Perhaps diplomatically, many commentators have identified ongoing US/China trade tension as a major source of turbulence (alongside other geopolitical maelstroms like Brexit). Mo Mayet of quant headhunters Westbourne Partners confirmed as much when told TFT;

"We saw big winners and losers in the quants market last year. This was largely driven by geopolitical uncertainty i.e. Brexit, US/China trade relations etc. In addition to this, most funds were looking to diversify strategies and look into new areas of research – some approaches which we've been told have lost money."

Others have been a tad more direct...

Donald J Trump's sabre rattling jingoism won him the 2016 US election as well as a number of fans on Wall Street, who foresaw his ascent as the second coming of Reagan. Unfortunately, despite his pro-business attestations, Trump is less a free-market Reaganite and more an egotistical nationalist.

Il Douchebag's Twitter account is enough to cause an international incident by itself:



Trump's foreign policy is seemingly tied more to his conception of himself as the strongman saviour of a weakened America than anything resembling economic reality. This makes him unpredictable, a quality quantitative algorithms find difficult to compute. Mark Hamrick, senior economic analyst at Bankrate.com recently told Fortune that;

"His decisions on trade have been negative for business sentiment and also for the real economy."

How then can the humble quant offset the volatility of a post-truth world?

We need look no further than the very nation the Donald so routinely pokes with a stick.

China boasts 800 million internet users (roughly half the population) with social media platforms proving particularly dominant (WeChat recorded 1.08 billion users for Q3 2018). It's no surprise then that China's approach to bringing stability and predictability to the quants market involves data, lots and lots of data...

Chinese quant developers are busy ferreting through the social media posts of the country's 147 million retail investors in order to predict buying and selling habits. The process is supplemented by AI analysis and fuelled by vast caches of data purchased from the likes of Tencent Holdings.

Never knowingly late to the buffet, Western funds like Blackrock are already getting in on the act by scrutinising the chatter found on investment sites like Eastmoney.com and Xueqiu.com.

When they're not giving George Osborne his pocket money or trying to short the Post Office, the guys and gals at the world's largest asset manager can be found pouring over 100,000 investment related posts a day.

With Big Tech's advances into financial services continuing unabated, how long will it be until we see the Chinese model coming to the attention of Messrs Bezos and Zuckerberg (ed. - heaven forbid!!!)?

The choices we have, it seems, are two; the Orwellian nightmare to the East or a capriciously Trumpian rollercoaster in the West. Put another way, we may soon find ourselves caught between a Blackrock and a very hard place indeed. ◆**TFT**

WEATHERING THE STORM:

MANA Partners CEO On Surviving Volatility in the Quant Market

2017 was a rough year for **MANOJ NARANG**. *As the quant market faltered, Narang's fund MANA Partners had the plug pulled by its primary investor, JP Morgan, in its first year of trading. Having made an 8% loss for 2017, this determined band of quants fought back. Here, senior editor* **MATTHEW DOVE** *asks what the forecast looks like for MANA, and the market more generally, now that the storm clouds have begun to clear...*

TFT: What happened to the quant market last year and why?

MN: Quant has become a highly bifurcated space lately. Some firms are doing well, but in my opinion, most are struggling. This has been going on since the end of last year. As for why this is the case, I believe there are several reasons.

(1a) in Q4 last year, the market sold off precipitously. That is not a great climate for most equity market quants. The reasons are technical, but I will attempt to explain here. The first reason why down markets are tough for quants is that when markets go down, implied volatility goes up. When implied vol goes up, value at risk goes up. This leads to de-levering. Equity hedge funds can often be highly levered (6x is fairly common). When they reduce leverage due to greater value at risk, they do not create any market impact in beta or other directional factors; they strictly hit the equity cross-section (i.e. alpha) because that's what they hold in their portfolios. Thus, that adversely impacts other equity market neutral managers who did NOT yet de-lever. This can create a bit of a chain reaction.

(1b) Another reason why down markets are tough for many equity quant managers is that when volatility goes up, correlations between stocks also go up. That means stocks temporarily stop moving idiosyncratically based on their stock-specific information flow (earnings, fundamentals, etc); instead, they tend to move in lock step with the market. Those kinds of environments can be challenging for market neutral strategies because they hedge all systematic risk factors, and instead focus on explaining stock-specific movements. When correlations are extremely high, the amount of stock-specific movement in the market is minimal, making it hard to generate enough alpha to overcome t-costs. This is exacerbated by the fact that t-costs themselves can be higher when volatility is high.

(1c) The combination of the previous two effects can often lead to drawdowns. To mitigate drawdowns, some managers may de-lever further, which can create a positive feedback loop leading to more losses across the industry.

TFT: Is the quant market slump a sign of worse to come?

MN: I don't think so. I think mechanical investment styles have been gaining market share every year for at least three decades, and I highly doubt this trend will stop any time soon.

That said, I believe the space is full of landmines due to the ongoing threat of liquidations. For instance, this March/April, from my understanding, there were billions of dollars of liquidations of equity market neutral books at some of the biggest quant managers. I believe that definitely created temporary pressure on returns, but those pressures always historically mean-revert after the liquidation ceases. In my opinion, there will always be an ongoing continuous shake-out as new managers get funded, many of whom don't perform well, and then they have to shut down, which creates pressure on performance of other managers. However, the flip side is there as well -- as new money comes into the market, that creates tailwinds for other managers as that capital gets deployed.

TFT: What is the status of MANA Partners now?

MN: The manager has been in continuous operation since it launched in 2017. However, I was pretty unhappy with what we accomplished in the first year we launched, so we pretty much did a massive overhaul of our strategies and systems at the beginning of 2018. I'm very heartened by the strategy's performance since the completion of the overhaul last June, especially how well it fared during the volatile fourth quarter of 2018. Now that we have four quarters under our belt since the overhaul, the strategy has begun generating considerable investor interest.

TFT: What remedial measures were taken?

MN: If this question is about how we "fixed" our business after the rocky start in 2017, the answer is that we retained our best and most productive people and everyone worked extremely hard to turn things around. We had a very ambitious blueprint, and it took us 18 months to pull it off instead of the 12 we had hoped for initially. This is a very technology intensive business, and you can't build something successful overnight in such a hyper-competitive space. It takes time, and it took us a bit longer than we hoped. But we've managed to pull it off.

If the question is about what we do to protect ourselves in markets that are challenging for other quant managers, there are several things:

(1) we seek to build economically sound, top-down strategies rather than what many in the industry seem to be working on these days (i.e. AI / ML). Investors have really miscalculated, in my view,

by pouring money into AI strategies. I believe those are now extremely overcrowded and highly undifferentiated. Not to mention, I believe predicting of security prices is one of the least compelling applications of AI I can think of.

(2) we understand that simply being market neutral is not enough protection against down markets, because of the effects I described above related to de-leveraging. The best protection against that is to do unique things that are not overcrowded. The next best thing is to include a healthy dose of "risk off" signals into your alpha mix. These are strategies that we believe are explicitly designed to do well in falling markets Finally, we also run HFT strats alongside our stat arb strategies. These are very pro-volatility and hence, are typically considered protective when the market melts down.

TFT: To what extent is increasing geopolitical uncertainty causing funds to take a disproportionate number of short positions?

MN: If you're talking about quant funds, I believe the biggest component of that space is market-neutral, so there are no "extra" shorts -- EVER. For instance, the strategies seek to have approximately 50% of our capital in short positions, regardless of market conditions. We have a different set of ways to go about managing that uncertainty from our long-only cousins. We operate several strategies that specifically benefit from this sort of geopolitical uncertainty. I'm not going to tell you how we do that, but I believe it is an advantage. In addition, we have very interesting ways to measure stock-by-stock sensitivity to effects like trade wars, Brexit risk, and other similar phenomena. Once you can measure such sensitivities, you can hedge if necessary.

One thing I will say is that the market action has demonstrated fairly conclusively that investors are even MORE worried about missing out on upside than they are about experiencing downside. This is no doubt because of the dual effects of the "Fed Put" and the "Trump Put". The Fed has made it clear that it has Trump's back on the trade wars, and that if these exert downward pressure on growth or employment, they will "act accordingly". This has further cemented the already ingrained "buy every dip" mentality among investors. Similarly, people know that Trump's policy actions are a bit fickle and tenuous, and can be unwound as quickly as they were initiated. That also creates upward pressure on dips.

One big risk I see lurking in the market is the election. Polls (as usual) are showing the Democrat party with a big advantage. If investors buy into this thesis, and if Biden loses his front-runner status (which I see as likely given the zeitgeist and the crowded field), then this could create a self-reinforcing downward momentum spiral. I believe if the market becomes convinced that Democrats will win the presidency and unwind Trump's corporate tax cuts, the market will fall, which could be the catalyst that precipitates a recession. A falling market will reduce Trump's re-election chances, which will only further strengthen those fears, creating a feedback loop.

We could be in for some significant volatility later this year as a result of this.

MANOJ NARANG

> I think the prospect of the Democrat party nominating an unabashed socialist to contest the White House is DEFINITELY enough to trigger a recession.

TFT: Could the downturn make a recession inevitable?

MN: If the market falls back to its lows of Q4, I think that will lead to a recession. I'm skeptical of a deal with China; in my opinion, they know that if the trade wars hit US growth and cause a recession, Trump is likely to be kicked out of office, and they'd prefer to negotiate with the next president. Even if a global recession hits China asymmetrically hard, it will be temporary and the Communist party doesn't really need to worry about re-election. So, I think both sides are pretty much dug in, unless Trump caves.

Anyway, I think the prospect of the Democrat party nominating an unabashed socialist to contest the White House is DEFINITELY enough to trigger a recession. So I believe it really depends how the debates and polls play out on the Democrat side in the next several months.

TFT: What role will AI play in the future of quant trading?

MN: AI is like anything else - there is a high degree of skill differentiation amongst the players. I'm a significant AI skeptic, but I still sit on the board of an AI fund because those guys happen to be extremely skilled and quite differentiated (which I also try to help them with).

Overall, I think the role of AI in finance today is HIGHLY overstated. Thanks to Google's (and a couple of other firms') advances in image recognition, search autocompletion, chess and go playing, text processing and other advances, I think investors naturally assume stock trading is next. I do not believe stocks are the same thing. I believe a good test of what tasks you could expect an ML program to be good at is; If a human can be trained to be good at something, there is a good chance that a computer can also be trained to be good at it using ML algos.

Every successful application of AI thus far is something that humans can be trained to excel in. Chess, driving, understanding a sentence, etc. However, can humans be trained to be good at stock picking? I don't think there is any evidence that this is the case; in fact, I believe there is a mountain of evidence that it is NOT the case, which is why passive investing and indexing have become all the rage. If you can't train a human to do something well, how on earth will you train a computer to do it? The answer is that you CAN'T.

In my view, we are a long way off from AI taking over for traditional quant. In fact, I worry about something totally different - that when investors totally and irrevocably sour on AI in quant trading, which I believe to be inevitable, that this will tarnish the entire quant space for years, including strategies that have nothing to do with AI. This happened after LTCM blew up in the late 90s - that caused the entire quant industry and quant pedigree to temporarily be out of fashion.

Longer term, however, I believe quant will recover. Technology can not be stopped, nor can progress. And, you can bet that after this AI bubble bursts, there will be another one in 5-10 years after that... ◆**TFT**

> Investors have really miscalculated, in my view, by pouring money into AI strategies.

ING'S CIO SHARES THE MAGIC FORMULA FOR LOOKING LIKE AN INCUMBENT BUT THINKING LIKE A FINTECH

If ING is to be counted among the OAPs of finance then it wears its seniority incredibly well. Whilst other incumbents are breaking hips trying to keep up with the youngsters, the Dutch legacy manages to make innovation seem effortless. When TFT's Matthew Dove sat down with Benoit Legrand at Money 20/20, ING's chief innovation officer was happy to divulge the secret to its eternal youth...

TFT: What have you learned from Money 20/20 this year?

BL: I think the excitement is ramping up in the world. A few years ago this was a fintech fair and a couple of start-ups were coming in and the old incumbents were looking and saying "oh, this is funny! We've seen this before, it'll never go anywhere."

Now you see that people are taking it really seriously. We see a couple of them starting to be quite successful and big. I like the way there are partnerships developing whereby we're saying, how can we, together, improve the overall situation. I think there's space for many people and there's very much space for improvement for the customer.

I find it really exciting for the industry to get this challenge from outside. We can do things differently, reinvent ourselves with the pressure coming from the fintechs and big techs. All the incumbents now need to move and I'm seeing this much more than I did in the past.

TFT: Your promo material states that, "at ING innovation begins with you." What's your role in ensuring customer centric innovation?

BL: We have this quote because innovation is a journey and it's a mindset. It's not a journey of 100-200 people in an ivory tower saying "well, you should've done this, you should do this, this is a new technology, do that.."

It's a team at the service of 50,000 people and all those 50,000 people need to innovate themselves and change their mindset.

This is where it starts. With you, with everyone.

Everyone has a share of responsibility and we can't sit back and say "innovation will do it, management will deliver it." No. Everyone has to put different glasses on and move faster, be agile and put itself into question. This is the main mission that we have; get the culture accelerating the change.

We see fintechs, we see big techs, we see whatever techs you have. There's competition, there always was competition and there always will be competition, so I don't think the world has really changed in this respect.

We have everything within ourselves, in a bank like ours, to take our future in our hands. We have the engineers and we know banking. We've got 50,000 people who've been doing this for centuries ... The question is; why have others been able to do things better and faster than us?

We had to ask ourselves, as individuals, questions like; why are you still using the same IT systems? Why are you not trying to use another one? Put those questions to yourself and get some movement, change things.

Don't expect things to happen!

TFT: To what extent are fintechs (Starling, Monzo etc.) leading such an approach whilst the legacies simply play catch-up and what is ING doing differently?

BL: I'll take it back to leadership...and people. It's not about having ideas, it's about executing ideas, ideas that are relevant to customers. These ideas are driven by people and by leadership telling you "this is important!" Walking into the unknown and building the future is something important. Then I'll ask you in one year "what did you do this year to build the best bank for the coming five to ten years?"

As Ralph Hamers (ING's CEO) is doing with his team, we're saying what have you done this year to deliver KPIs, results etc.? He also asks "what have you done to deliver on the long-term strategy that we have in innovation?" It's then that you start to get a different mindset.

MATTHEW DOVE (L), BENOIT LEGRAND (R), CIO, ING

People on the board will ask their senior leaders, senior leaders will ask and so on... Then you get the whole transformation moving.

TFT: So it's from the top down?

BL: Yes, from the top down just to get this mindset but also from the bottom up to make sure we've deployed all the different tools which are necessary to get this kind of movement. From bootcamps to labs where we deploy our innovations, to our partnerships with fintechs and the simplified processes that get those partnerships working. Investing, buying, whatever means, it's all very Dutch and pragmatic! So, top-down leadership is very important i.e. "this is your responsibility" and bottom up, saying "guys, these are the means, now do it!"

This is what I think is a bit different about ING. I've tried to put this in a mathematical formula, what we call the innovation power behind an organisation.

You first need a set of three basic elements;

Psychological safety: you need to feel safe to take risks and make mistakes

Flexibility: we want to go to Rome but I don't know if we'll go through Paris or Zurich. It will depend on the price of fuel and then people I meet along the way. You need to be flexible in that way but know the direction you're going in.

Pragmatism: this refers to the 4 or 5 different tools that we have to most effectively build a new customer proposition. Whether I build it myself or I partner with someone or I buy it from somewhere else. It's about having all the tools and trying them.

That's the basics, then I multiply this by leadership squared or even to the power of 3, 4, 5 or whatever you want because this is the accelerator of your transformation. If you have this environment but leadership is saying "well, we'll just do this for the press or for corporate", then it doesn't work. If there's a genuine willingness to do this, then you're getting the real power of your tool.

Then I divide this by organisational complexity!

You can have this very multi-facetted leadership and the tools inside but you still have 25 people responsible for the same thing and they have to meet 425 times to make a decision. To address this, you really need to speak the language of the organisation. I cannot say "Change!" to 50,000 people, I can ask you what's important to you, what's driving you? Is it recognition, is it Euros, is it changing the world? Then, I'll give you the tools to reach that goal and you'll say "okay, change is good, I like change!"

TFT: It seems that if you reverse that formula you're left with what a lot of the legacies have. A problem.

BL: Right, and how do you tackle that problem?

It's very complicated but also very simple. For instance, I report to Ralph Hamers, right? I'm not reporting to IT, I'm not reporting to one business line, I'm following him. That immediately sends a very strong signal to the organisation about what's important. It's not lost somewhere on the fourth level of IT, you know? It's not an IT problem, it's a CEO matter.

It's easy to do but you have to be very consistent in the messages which you give. So, Ralph says things and it's important for people within the organisation to see that things that are being said are also being implemented. It's not always 100% - we're not perfect! - but at least people can see that we're consistent.

Say we want to be a platform so we invest in Yolt. Yolt isn't profitable today, okay. That's fine because we see this for the long term, we're investing and we're building and we know why we're doing this. Those are the things that make people believe, not a powerpoint, not a speech. Just facts.

It's basic yet it's highly complicated to do this every single day without default. You're building trust so if you derail just a little bit, it will have a terrible impact...

TFT: What achievement as ING's chief innovation officer are you most proud of and why?

BL: To still be alive after three days at Money 20/20!

TFT: That'd be top of my list too!

BL: But the day's not over yet!

First of all, I'd say that ING is known and recognised in the market as one of the top innovators. It's something we're proud of and it's a virtuous circle.

Innovation is on the agenda of the bank, it's not a small detail. We need to innovate so sometimes we're not very popular because we're challenging everyone. Still, we keep on doing the job so this is a source of pride.

It's a really hard endeavour to go against the tide every single day, we're making everyone miserable! We're trying new things and moving out of our comfort zone, changing priorities and then getting the boss saying "why haven't you done this?"

That we can keep doing this for 5 or 6 years in a row is remarkable.

Then there's Yolt which will be reaching 1 million customers in the summer after two years of operation. I remember 10-years ago I didn't get 10 minutes of attention for that project. I could say the same about Cobase which is a Yolt for corporates, getting all data from all banks into one cockpit where you can manage all of your accounts ... We have 4 or 5 companies like that which are about to scale, there's an MVP (minimum viable product) and customers like it. Now we just need to inject some fuel in there.

All these points link to one thing, which is consistency over time ... This has been the success of ING Direct also. Even through difficult times we said "come on guys, we know where to go, so let's go!"

We had losses of 900, a bit less than 1 billion, in all those different initiatives in ING Direct but we went on...

Can you imagine what kind of leadership this takes? To swim against the tide and just go for it, 10 countries, 24 million customers. This makes all the difference and it's certainly not just me!

I'm just one of the elements and every one of those 50,000 people needs to take their own share in it. I have one share, he has one share, you know, we all have one share.

The power and the leverage we can have is with 50,000 people, not the 200 people we have in innovation. Innovation is nothing if it's not 100% at the service of the organisation.

TFT: What is ING primarily investing in for 2020?

BL: Certainly money management, aggregation and payments. Those are the new battles and over the next 2 years a lot will be settled there. Another one is SME lending which is a very important point of attention. We have trade. Trade is very important to us as it's a humongous market with lots of possibilities so we're investing a fair bit there too.

TFT: Where does AI feature in all this?

BL: I get all these questions about AI, blockchain and quantum and I say "fine, but those are enablers." I don't care about AI! I care about having a better KYC tool and if it's driven by AI then fine. My problem is just to improve KYC this is what's important, not whether we do it on blockchain. Frankly, it's a means not an end.

We've invested in a company called Axion.ai which delivers solutions to traders...this makes sense for customers and it's AI...fine. It's about solving a problem which is substantial for a customer.

So there it is, ING's holy grail - the fiendishly complex made to look effortlessly simple... ◆**TFT**

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GoodDollar: Send Not For Whom The Bell Tolls, It Tolls For Thee

Interview by Matthew Dove, Senior Editor

It's rare that fintech and the words of great poets make apt bedfellows but GoodDollar is no ordinary fintech and its goal - the reduction of the global wealth gap - commands the loftiest of literary comparisons.

When John Donne wrote Devotions Upon Emergent Occasions he could never have imagined that his 17th century meditations on the interconnectedness of humanity would still be as fresh in 2019 as they were on the day that he committed them to paper:

"No man is an island, entire of itself; every man is a piece of the continent, a part of the main. If a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friend's or of thine own were: any man's death diminishes me."

GoodDollar is a project keen to remind us that, in a world of extremes of wealth and poverty, one should never send to know for whom the bell tolls, it tolls for thee...

So, what is GoodDollar and how does it work?

GoodDollar is a not-for-profit project that intends to launch a payment network, and explores how decentralised cryptocurrencies and blockchain technology may be enabled to redistribute the added value of the network together with donation, through models based on universal basic income (UBI) with the central aim of reducing global wealth inequality.

Thanks to the advancement and confluence of a number of technologies, such as cryptoassets and blockchain (the distributed digital ledger that underpins bitcoin), hope is building that UBI principles can be adopted – by GoodDollar and other projects – to help the poorest people in the world achieve more financial freedom.

Projects in the OpenUBI community are working hard and collaborating to deliver solutions around digital identity – ensuring a user on UBI-based systems such as GoodDollar is verifiable and unique – and governance structures.

Momentum is building. Advanced economic models are currently being tested. GoodDollar will launch a pilot scheme in 2019 and our vision is to expand it on a global scale.

Our economic model employs UBI principles, and the vision is that a cryptocurrency (GoodDollar) will be distributed in a fair and transparent way, using "smart contracts" on the blockchain.

By adopting a carefully crafted, and fully tested model – to be determined through experiments and pilots – the least advantaged on the decentralised GoodDollar network will receive the greatest relative benefit. Eventually, users – in the developing and developed world – will be able to use their GoodDollars to purchase goods and services and even exchange them for other cryptocurrencies, thereby empowering the beneficiaries. Ultimately, this will help generate a sense of purpose for many more people while reducing global wealth inequality.

At what stage in development is the project at now?

GoodDollar was officially introduced in November 2018 at Web Summit, but for most of the year before the launch work had been going on, and a team of economists, scientists and like minded people had been established.

That core group has expanded, partly thanks to the support of eToro; the global multi-asset investment platform initially committed $1 million to the project in autumn 2018.

In November 2018, GoodDollar helped launch the OpenUBI ecosystem, in Berlin. This was established to foster collaboration and discussion around universal basic income (UBI) and its technological implementation. We hope to use the principles of UBI to deliver GoodDollar.

GoodDollar has a number of interesting projects planned in 2019, and we are working hard to deliver them as quickly as we can. For example, we will be launching a pilot UBI project, and will reveal more details in due course.

In 2019, we expect to build upon the early momentum GoodDollar has generated so far. We want to scale our research. We will encourage more meet-ups and hackathons (the first "Hackinequality" took place in March), engaging and collaborating with like minded people, with a common aim of using blockchain to reduce global wealth inequality.

Are projects like GoodDollar inevitable given the rise of automation and machine learning?

Wealth inequality is the crucial economic challenge of our time. It's no coincidence that the number-one goal (out of 17) of the United Nations' Sustainable Development Goals is "end poverty in all its forms everywhere". Furthermore, goal 10 is "reduce inequality within and among countries".

With the rise of technology unemployment – the jobs of up to 800 million human workers (one-fifth of the global workforce) are forecast to be displaced by 2030 (McKinsey Global Institute, November 2017) – we believe the tech industry needs to find solutions for those with less money to participate in the economy and pursue their purpose.

Add to that the fact that the 26 richest people on the planet own as much in terms of assets as the 3.8 billion people that comprise the poorest half of the globe's population (Oxfam, January 2019).

Were GoodDollar (or a similar UBI model) to scale, what kind of resistance could it expect to experience from established concentrations of centralised power (governments, corporations etc.)? Has the project experienced any resistance thus far?

Hitherto, GoodDollar has not met any resistance, or negative sentiment, from governments, or centralised authorities. We have been encouraged by the fact that the United Nations is turning to blockchain solutions in a bid to solve humanitarian challenges. We are interested to learn more about what blockchain technology can help with. The GoodDollar team hopes that we can work alongside and together centralised platforms and payment networks to help reduce global wealth inequality. We strongly believe the two types of system can co-exist and help one another.

Is GoodDollar working with other organisations (governments, corporations, charities, NGOs etc.) to bring its vision to fruition?

Ultimately, we are well aware that delivering decentralised UBI on a large scale requires much input from the whole ecosystem – we cannot do this alone.

Now – together – we need to determine a network or system to exchange ideas, particularly around identity and governance of UBI projects. Additionally, we must scale the OpenUBI activity and would like meetups to happen all over the world on a regular basis.

We are currently in discussions about partnerships with several people and organisations that can make our collective vision – to reduce global wealth inequality – possible. GoodDollar is open to collaborations, and we welcome any and all suggestions. ◆**TFT**

> **Momentum is building. Advanced economic models are currently being tested. GoodDollar will launch a pilot scheme in 2019 and our vision is to expand it on a global scale.**

Blockchain, a barrier against ransomware

Over the past decade, ransomware has become one of the most prolific criminal business models in the world, due to the fact that cyber-criminals usually target high profile individuals, corporations and even governmental institutions.

George Popa, Modex

Ransomware works by locking a victim's computer through encryption and demanding a substantial sum of money, usually in cryptocurrency form, most notably Bitcoin (because it is the most valuable crypto and because it maintains a level of pseudonymity) for the decryption key necessary to decrypt the data. Failure to comply with the demands leads to a permanent loss of the data. Ransomware propagates through malicious email attachments, infected software apps, infected external storage devices, and compromised websites. There have also been cases where attackers used remote desktop protocol and other approaches that do not rely on any form of user interaction.

Incidences of ransomware

On May 7, 2019, Baltimore, USA, discovered that the city's government computer systems were infected with an aggressive ransomware called RobbinHood which encrypted a large number of critical files. As a result of the attack, at least 1 500 pending home sales have been delayed. The city's water billing system was also affected, so residents are faced with larger than usual water bills, and parking or speeding fines could only be paid using paper tickets instead of electronic methods. A copy of the digital ransom note, states that the city can recover the infected files for a price: three Bitcoins per system or 13 Bitcoins for them all. It is estimated that the aftermath of the attack will cost the city USD 10 million, in addition to the USD 8 million lost while the city was unable to process payments.

The events from the US are not isolated cases. On June 20, 2019, multiple hospitals from Romania had their computer systems targeted by ransomware. As a result of the cyber attack, hospital activities such as admissions, discharges, and issuing of receipts were more difficult to perform. The Romanian National Computer Security Incident Response Team together with Cyberint and Bitdefender concluded that the hospitals were attacked with Maoloa and Phobos malware.

Maoloa is a relatively new strain of malware which first appeared in February 2019. Maoloa is inspired by and shares common characteristics with a family of ransomware known as GlobeImposter. Maoloa spreads through emails with infected attachments, or through hackers who access unprotected Remote Desktop Protocol instances. Once a system has been infected, Maoloa encrypts files created with the Office suite, OpenOffice, PDF documents, text files, databases, and multimedia files.

Phobos is one of the many variants of the prolific Crysys ransomware family. Phobos spreads mainly through manual infections that hackers initiate after entering the organisation through exposed instances of the Remote Desktop Protocol. After the documents are encrypted, the victim is asked to send a message to an anonymous email address to receive the decryption price, which varies depending on the company profile and estimated turnover.

These recent attacks suggest that the ransomware phenomenon unfolds on a global magnitude and that many organisations and institutions, including governments, still rely on legacy systems which do not employ proper security measures.

Blockchain, a solution for ransomware

Blockchain is a digital, distributed and decentralised ledger of transaction which stores transaction data in structures called blocks. Each block contains transaction data and metadata (a set of data which provides information about the respective block), the advantage of this structure is that each block is constructed upon the previous block, in a chain-like structure (hence the name blockchain), by calculating the hash of the previous block and combining it with the hash of the second block of transactions. This complex design is what gives the data introduced in the blockchain its immutability and integrity.

Decentralisation and distribution are core features which further increase blockchain's tolerance to attacks. Decentralisation means that the network does not rely on a central server to host all the data, but distributes it across every network participant, also called nodes. There are many types of nodes in a blockchain network, full nodes for example store a copy of the entire blockchain. As a result, the entire system doesn't have a single point of failure.

In case of encryption by ransomware, the attacker would find it impossible to hold all the data hostage, because the entire network is distributed among thousands of users (even more depending on the size of the blockchain), and even if they manage to encrypt a node, admins close the proverbial backdoor through which the attacker entered and restore the node to its previous version.

It is safe to assume that a blockchain powered database can be an ideal solution to ransomware or other types of data hijacking.

Modex BCDB

Modex Blockchain Database (BCDB) was designed to help people without a background in tech, access the benefits of blockchain technology and remove the dangers posed by the loss of sensitive data.

Currently, the majority of blockchain solutions present on the market are oriented towards blockchain as a service, limiting themselves to a rigid view and application of the technology. A company or the CTO of a company can come to the realisation, after a bit of study that their business can solve several issues and streamline back-end processes by implementing blockchain. The problem is that in order for a company to implement blockchain technology only through its own tech team, they need to invest a significant amount of time and resources to study what type of blockchain is most suited for their needs, and commence a lengthy process of learning the development specificity of the respective blockchain, as well as scouting for developers proficient in the technology.

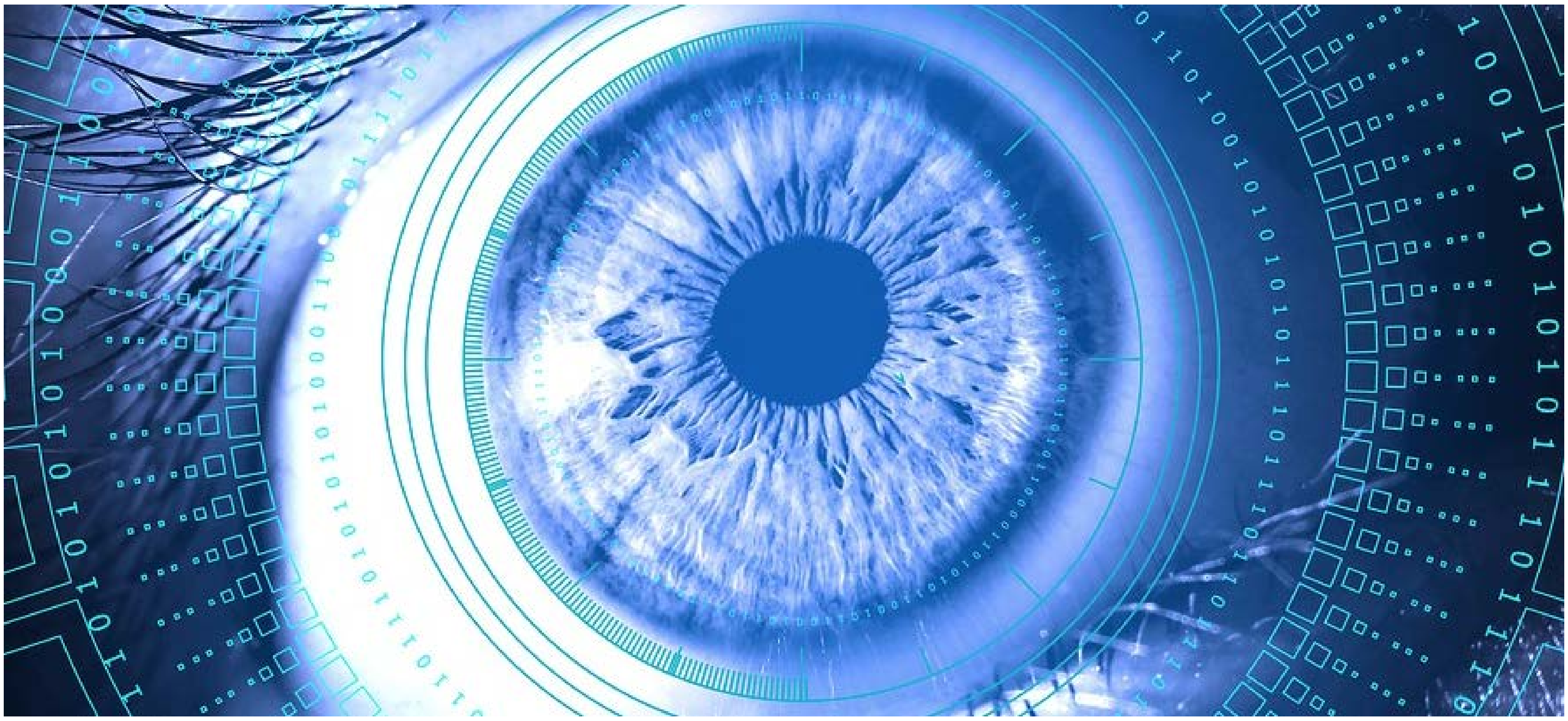
Modex BCDB is a new take on blockchain technology which removes the need to invest resources in blockchain training and facilitates fast adoption of the technology in businesses. The solution proposed by Modex is a middleware which fuses a blockchain with a database to create a structure which is easy to use and understand by developers with no prior knowledge in blockchain development. As a result, any developer who knows how to work with a database system can operate with this solution, without needing to change their programming style or learn blockchain.

Through our blockchain component Modex BCDB is able to transform with minimal changes any type of database into a decentralised database which holds the same valuable characteristics inherent to blockchain technology: transparency, increased security, data immutability, and integrity.

Every enterprise is reluctant to make changes to its database, and for good reason, as data loss or data corruption constitute major risks. Modex BCDB doesn't work by deleting the existing database, or data entries. The database is maintained intact throughout the process, data integrity is ensured by calculating the metadata of the records and storing it on the blockchain. Moreover, the system does not restrict access to the blockchain or to the database, so when a developer needs to make a report or ETL transformations, they can always perform warehouse analytics by accessing the database directly. This is because Modex BCDB has been purposely designed to be agnostic. With our solution, clients are able to set up a network, regardless of the type of database employed. In a consortium, each company can maintain what type of database they prefer (Oracle, Microsoft, IBM, Mogo DB), and connect them through a blockchain powered network to ensure cohesion, availability while protecting corporate interests.

◆TFT

Collaboration in the Banking Sector Required to Defeat Cyber Criminals



Financial service organisations accrue a frightening amount of data, making them the perfect target for exploitation by calculated cyber criminals. As the security of our digital world is under siege, the banking sector finds itself manning the ramparts.

Charley Brooke Barnett, Digital Editor

The National Cyber Security Centre (NCSC) published a survey in April this year revealing that the British public's greatest concern is having their money stolen (42% believing it likely to happen by 2021).

The government agency also found that 23.2 million people were hacked after using the password '123456'. Other easily guessed passwords on the list included 'qwerty', fictional characters such as Superman, and the names of the majority of Premier League football teams (a few of us here at TFT may have to change our passwords!).

One banking scam to be wary of involves Authorised Push Payments (APP) in which the victim is tricked into transferring money from their account. Although banks tend to refund stolen money, it can be a different story if the customer authorised the payment themselves.

The consumer group Which? found that £354 million was lost in bank transfer scams last year. Banks like Barclays, HSBC and Starling have all signed up to a new voluntary code, which offers customers reimbursement in the event of money falling into the wrong hands.

So who's the best bet when it comes to protecting your money? The tech savvy challenger potentially growing too fast for its own good or the legacy, whose expiring technologies threaten its defences?

Revolut ran into trouble earlier this year when it was reported that the challenger had allowed lapses in its anti-money laundering protocol for three consecutive months. Even though Revolut reported no security breaches, it doesn't put the mind at rest to know the juggernaut challenger failed such basic compliance.

In 2016, the digital bank N26 was shown as having security holes in its app by a researcher, leaving users exposed to fraudulent activity. Metro Bank recently fell victim to a cyber attack that involved hackers intercepting codes sent via SMS text messages to customers in order to authorise payments.

The big banks have also scooped up their fair share of shameful headlines.

TSB made a £330m blunder last year when they attempted to move customer data to a new IT system, which locked users out of their accounts. Payouts, fraud and operational losses thus followed.

Meanwhile at HSBC last October, US customer bank accounts were hacked causing data breaches.

The Financial Ombudsman Service, set up by Parliament to handle complaints between finance companies and their customers, revealed that NatWest was the most complained about bank for fraud this year.

Ashok Vaswani, Barclays' head of consumer banking and payments, believes the legacy's vast experience still trumps the dexterity of their younger competitors:

"We've been doing this for 328 years, we are even older than the Bank of England and we are older than the United States of America. So we've been at this for a long period of time and we've weathered a lot of change."

Curtailing the 'old is better' mentality and fighting the challenger's corner, Anne Boden, CEO of Starling Bank, commented to TFT:

"We have a lot of knowledge about what's good and bad about the incumbent banks. I came to the conclusion that it was easier to start a new bank with new technology, with new values, new ethics and new beliefs about how you should treat customers. It was easier to do it in a new entity than change the old."

Bodens out-with-the-old approach to banking is certainly gaining traction, as more consumers crave the transparency new technology affords fintechs.

Whatever the size, age or technological ability of the bank, once criminals infiltrate the system it's a matter of damage control. So, how best to prevent attacks from happening in the first place?

At Cyber UK 2019, the creation of partnerships to encourage collaboration between organisations was lauded. The reason being a single organisation can't tackle the problem alone, so raising awareness is fundamental.

The Financial Conduct Authority (FCA) run cyber coordination groups to provide a platform for the industry to unite and share information on the latest developments in areas like governance, protection, response and recovery.

The FCA also released a report in March 2019 which shed some much needed light for businesses in the dark. One key theme addressed was education. Executives need to put cybersecurity at the top of their agenda and learn from previous attacks. This can pinpoint next steps that are relevant for the whole business to adopt and identify cyber risks accordingly.

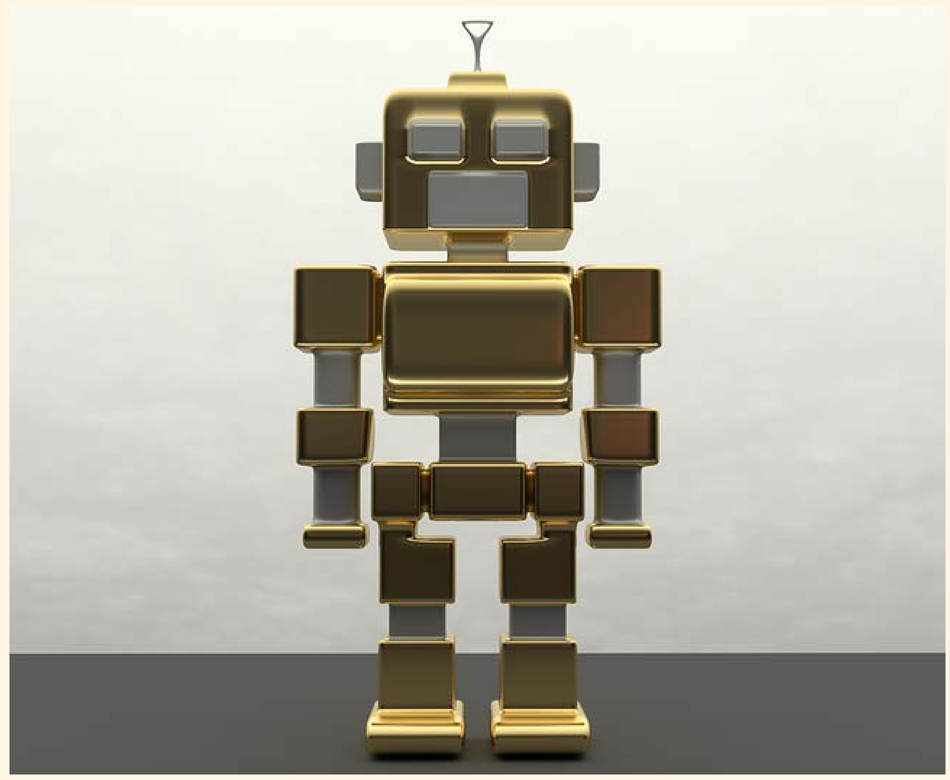
Thinking about who your attackers might be, their goals and motivation, can help to establish a long-term strategy. The report encourages ongoing security training in organisations and frequent testing to expose security limitations before attackers get the chance to exploit them.

Whether you're a Barclays or a Starling, security needs to be addressed through collaboration and by promoting awareness. Cybercrime is an industry-wide problem on the rise that demands immediate and ongoing attention to ensure that banks and customers aren't the ones who have to pay. ◆**TFT**

THE AI ETHICS CONUNDRUM – HOW TO MITIGATE BIAS

CRAIG STEWART
SVP Product SnapLogic

As the pace of AI uptake increases, it's clear that it will have a considerable impact on the future of business, finance and our wider society. While flourishing AI innovation is a positive thing, we must also manage the potential risks and do our part to ensure that it advances in a responsible way.



> ”
> **The most commonly acknowledged bias concerns the initial process of collecting, selecting and cleaning data.**
> “

In fact, our new research shows that ethical and responsible AI development is a top concern, with 94% of IT leaders believing that more attention needs to be paid to corporate responsibility and ethics in the application of AI.

Much evidence shows that the insights AI offers can be highly beneficial, however we must also recognise its limits in providing perfect answers. Data quality, security and privacy concerns are real and thus the AI regulation debate will continue.

A key threat to the effective use of AI is the phenomenon of AI bias. This occurs when an algorithm delivers prejudiced results based on incorrect assumptions in the AI development process.

These are often 'built-in' through the unconscious preferences of the human being who created the process or selected the training data. They can also reflect issues in the data gathering stage where weighting procedures cause incorrect conclusions to be made about certain data sets.

As we become increasingly reliant on AI, it's essential to eliminate biases as much as possible because it can often cause undesirable decisions and outcomes. Legal cases have already taken place where groups have forced the disclosure of how algorithmic processes make decisions. Many have won compensation when either the algorithm or the underlying data has been found to introduce bias. A recent example involved teachers who were not paid performance bonuses, and won damages when it was realised that the algorithm assessing eligibility for the bonus did not take into account class sizes – a factor found to be highly significant in pupil attainment.

How does AI perpetuate bias?

Bias can enter the system at any stage of the learning process and it's not always related purely to training data. It can emerge at any time throughout the deep learning process, whether that includes collecting data, setting objectives or preparing the data for training or operation.

The most commonly acknowledged bias concerns the initial process of collecting, selecting and cleaning data. Here bias can arise in training data if decisions around rejecting outliers, or data that is perceived as irrelevant, is not tested and then accidentally introduces prejudices. This can result in certain factors being mistakenly favoured by the AI in place of others that could be more relevant to the desired outcome.

Take for example a growing male-dominated business looking to use AI to screen candidates. If the AI was trained on the CVs and employment data of current successful employees, it is likely that it will develop a bias towards selecting male applicants for interviews as they fit the pattern of the company as it exists. Simple fixes like removing the sex of the employees from the training data may not work as the AI algorithm may identify patterns of male-dominated hobbies as indicators of desirable employees, for example.

Secondly, in setting objectives for a deep learning model (i.e. what the designers want it to achieve) the objective needs to be set in context in order for recommendations to be correctly computed. For example, if the objective is to increase profits without context and boundaries set relating to maintaining customer satisfaction, the output will be skewed. The AI could seek to achieve the goal by making short term decisions that achieve the objective of profit, at the expense of the long term viability of the business.

Lastly, bias can be introduced during the stage where data is prepared for processing. This often results in certain attributes for the algorithms being prioritised over others. The choice of which attributes should be considered or ignored will have a significant impact on the accuracy a model can predict. It's therefore imperative to grade and rank them correctly. It's also important to avoid dropping data that is hard to process. Designing a data pipeline that can handle exceptions well is essential to ensure there is sufficient data for good training outcomes.

The above processes highlight that in many cases, bias can easily leak into the system. It's often only discovered when a system goes fully live, by which time the issue can become far more difficult to address. Therefore, testing the system against expectations as it develops and involving a diverse group of stakeholders in the evaluation is critical.

So how can we mitigate bias within AI?

There are many examples of how the industry is working towards addressing the bias conundrum. Most have involved revisiting and updating data after the event when bias is discovered, and it's often the human element (or the personalities that feed into the underlying systems) which were the source of bias.

Once the human factor is addressed, developers need to thoroughly check the underlying data. This is to ensure the data is fully representative of all factors that could inform the business decision where a lack of or erroneous data might impact the algorithm in a negative way. As an example, would rejecting data from subjects who did not include a mobile phone number or email address matter? That decision may make future sales contact easier, but could it mean that a generational bias had been introduced skewing the analysis?

It's important to ensure that the algorithms that feed into an AI system's underlying data minimise bias as much as possible. Those involved in AI research and implementation have had considerable success in addressing the bias challenge. Many have created algorithms that can effectively detect and reduce bias. Progress has also been made in the regulatory environment to help mitigate the potentially negative effects of bias on AI.

The EU's GDPR regulation, for example, gives consumers a right to explanation on how automatic decisions have been made based on their data. How much impact this has had to date is unclear, but those rights, and the penalties for not recognising them, should be a factor in ensuring efforts are made to design out bias.

A problem from the top

There's also an argument that we need to rethink AI and how it's often approached from the top of the global status hierarchy. It is too heavily influenced by the biases of first-world cultures. This results too often in AI systems outputs reflecting those biases to the detriment of the less well off in society. Recent real world examples include the high profile facial recognition issues of a certain blue chip tech company. Situations like this should be addressed to ensure the inclusion of a widely diversified spread of society. Incorporating inputs from a wider, more globalised and diverse data set can address this.

Additionally, building AI models from original data can help to eliminate bias. This allows far more scope for ideas and actual evidence to feed into AI systems that can evolve to offer insights beyond the typical first-world perspective. This inversion of the scientific principle, looking for patterns of interest to explore rather than testing a hypothesis, remains a powerful application of data science for identifying new behaviours and groups of customers.

This data driven approach would also build far more flexibility and responsiveness into AI systems and open them up to a far more comprehensive and diversified set of global considerations and imperatives.

Breaking down the data silos

However to be data-driven, and make use of the greatest possible diversity of data, it is essential to focus on developing systems that break down data silos and enable the integration of the broadest possible range of data sets. The tools already exist to rapidly configure integrations between a huge range of systems - without heavy lifting by software developers, so data teams have this diverse data within their grasp.

Businesses need to consider new sources of data and new ways of interpreting and understanding it. Ultimately those who invest in ensuring they can access a wide diverse pool of data will benefit the most by identifying the true value of AI. ◆TFT

Expanding into Emerging Markets: Potential Pitfalls and Payment Solutions

PAUL MARCANTONIO,
CEO
ECOMMPAY

New business can be risky business, but the allure of an emerging market, filled to the brim with untapped potential, is often enough to send even the most sober-minded of industry veterans running to plant their flag. Developing countries with maturing markets are immensely attractive to industry leaders hoping to get in on the ground floor of growth, but is it always the right move? Could it be smarter to wait and see how a market develops before rushing to get in the door? Or does hesitating let competitors jump the queue?

As much fun as it is to make sweeping declarations, figuring out which market to break into demands a case-by-case approach. Being able to quickly and accurately weigh business needs against the potential offerings of an emerging market is crucial to making the right decision, so here's some potential pitfalls to consider, as well as payment solutions capable of tipping the scales.

Growing fast, but are they fast enough?

Before leaping into an emerging market it's worth making sure it's actually, well, emerging. Though this may not sound like the most profound advice, growing markets exist on a spectrum, and expanding businesses would do well to sort the magic beanstalks from the slow-growing sequoias. That doesn't mean they have to undertake this challenge on their own. Payment service providers employ teams of client managers ready to personalise their advice to the client's hopes, dreams, goals, and aspirations. If a client is ready to expand, it's the client manager's job to tailor payment solutions to their industry's specifications, not to mention national legislation and regional consumer preferences.

Preparation, preparation, preparation

But it's not just a matter of picking the fastest-growing market and rushing in. It's also about a whole lot of market research. For example, those fast-growing Asian economies run on a different payment infrastructure than their European counterparts, so any businesses wanting to make headway in the region need to come equipped with a diverse range of alternative payment methods. In China, where cashless transactions made up a cool $17 trillion in 2017, that might mean integrating WeChat Pay and Alipay, while Japanese consumers may require Konbini or Pay-Easy in addition to major credit cards.

Meeting them where they are

Easy, right? Well, maybe not. Even if an expanding business has found an emerging market and pinpointed a rich vein of consumer demand, there's the chance that no one will buy. What gives? Well, it turns out that while local consumers may want the new products or services on offer, there's no way that they can afford the price tag. The demographics and average spend of an emerging market are pretty important aspects to consider on top of everything else. Technologies such as recurring or incremental payments, which ease the burden of a single transaction, could be the answer.

Like with so many things in business, making the right moves in emerging markets is a question of having complete data and using it intelligently. Still, the right company, with the right information, in the right place, can make all the difference in the world. ◆TFT

PAYMENTS, WHAT'S NEW?

HEAVY HITTERS AT LONDON TECH WEEK

On the third day of London Tech Week, the TFT team headed to **BARCLAYS RISE,** *a start-up playground in the heart of Shoreditch. The location played host to the 'Payments, What's New?' event, which brought together a room of industry professionals ready to dissect the subject at hand.*

CHARLEY BROOKE BARNETT
Digital Editor

The panel, moderated by TFT's own senior editor Matthew Dove, consisted of Howard Young, (Global Head of Channel Partners, Western Union Business Solutions), Mark Bolsom, (MD UK, M3 Payments), Nigel Green, (MD, GPS Capital Markets) and Aleks Stefanovski, (VP Banking, CurrencyCloud).

Young opened proceedings on how the rate of change is making the payment space more aggressive. The nimble fintechs have created a playing field which is better, cheaper and faster for the consumer. The sheer size of the big banks and their decaying technologies make them far less agile in orchestrating innovation. Stefanovski put it succinctly, "banks have to embrace change and partner or risk falling behind."

Next up on the agenda was the impact of open banking. The panel unanimously agreed it's here to stay but regulation will govern the journey and time will tell of its value proposition. Green stated that regulation needs to sit behind the technology and forecast that the younger generation will see an omni channel world of payments that'll only make life easier for business and consumer.

Following the US President's recent touchdown on British soil, it was timely for Dove to ask the panel for their thoughts on the "very stable genius" Trump and the trade war between the United States and China.

Bolsom urged the audience to consider the actions of China before casting judgement, whilst Young quipped, "when the US sneezes, the rest of the world catches a cold". But our panel soon acknowledged the dispute won't necessarily leave Europe reaching for the lozenges.

Onto emerging markets, the discussion moved to the widespread growth of mobile wallets in Africa and Asia. Stefanovski praised the opportunities technology has provided but warned of a "fragmentation of standards" as regulation differs between countries which complicates cross-border payments. In agreement, Green highlighted his trouble sending a payment from China to the UK and encouraged worldwide regulation to be more consistent.

Dove then steered the conversation onto the cashless society debate. As managing cash is such a cumbersome operation, Bolsom told us its use will inevitably decline as technology advances. This may be the case in London, but Young was quick to point out that in his Welsh town, there's only one Uber. Until suppliers cooperate, he won't be ditching cash just yet.

Whether the UK becomes completely cashless or not, infrastructure has to be in place to support the transition. Cybersecurity issues and personal preferences were cited as factors against going completely cashless by Stefanovski.

As technology directs the future of payments, understanding regulation and championing the creation of partnerships will be critical to survival in an industry as dynamic as this. ◆TFT

THE FINTECH TIMES

JOBS IN FINTECH

TFT selection of Top Fintech Marketing jobs in LONDON this month

Community Lead
at Monzo

We're looking for an experienced leader to join our Community team here in London.

Community is a part of everything we do at Monzo. Our community of super-engaged Monzo fans have been involved in every step of our journey, from helping us pick a new name to deciding what features to build next. And they've invested in us through record-breaking crowdfunding rounds.

We run events every month around the country, have more than 50k people on our community forum, hundreds of thousands of followers on social media and millions engaging with our emails. And we're growing. Fast.

We want community activity to keep pace with that growth, and we want to take things to the next level. One part of that will be to bring together our community to make real change in society, through initiatives like our No Barriers to Banking campaign. Working closely with teams across the company, especially our Public Policy and Vulnerable Customers team, our Community team are at the forefront of our mission to make money work for everyone.

And we'd love you to join us!

What will you be doing

- Setting the vision, pace, direction and focus of the community team
- Explaining the value of community to senior stakeholders across the company
- Shaping community goals to align with business needs
- Unblocking community team members to drive forward the areas they own in the most impactful way
- Empowering other teams to engage with our community to support their own goals
- You should apply if:
- You share our vision for building community into the heart of a company with 10+ million customers
- You have experience operating at the senior levels of an organisation
- You've managed people before and love helping them succeed
- You're just as happy getting hands-on as you are taking a step back and thinking long-term
- You're comfortable combining quantitative and qualitative insights to measure success
- You've worked with diverse communities at scale

More: monzo.com/careers/

Digital Marketing Manager - SEO & App Store Optimisation
at Revolut

When you join Revolut, it's not just another job. You'll have the chance to build something that really matters, with a team that will become like family to you. We'll give you the freedom and tools to bring your absolute best, and the opportunities will be limitless.

We look for people who apply deep logic to their thinking and back everything up with data. We look for natural self-starters who see things through from start to finish, and who learn from every mistake.

Armed to the teeth with technology, we are diving deeper into the world of traditional banking, showing a lost generation that things can be done better. Things can be different. From tearing down financial borders to mending the broken trust, we are the disruption that is needed.

Our marketing team work like special forces. They identify problems, propose solutions and then implement. It's really that simple. You could be growing the business in Europe, by working with central and local country teams to help them grow.

What you'll be doing

- Ensuring strong understanding of search engine strategy, including research, optimization tactics, back-end/technology SEO, and analytics both for brand keywords and app
- Identifying areas of improvement in the website structure, internal linking, and content to increase the visibility on the company website
- Working with the marketing team to develop a content strategy according to search opportunity, keyword analysis and various intent
- Aligning with marketing teams to ensure we are leveraging the search insights across the business
- Investigating and reporting shifts in traffic and ranks
- Performing keyword research & mapping
- Driving conversion of visits to responses to signups and identifying how to improve the end results

More: revolut.com/careers/location/london

Global Campaign Manager - Small Business
at GoCardless

We are seeking an ambitious and high-performing Global Campaign Manager to join our rapidly expanding team at a very exciting time. We are looking for a candidate that has successful experience in planning and executing global/local marketing campaigns that drive new customer acquisition from the small business segment.
This role requires a highly organised, hard-working individual who thrives in a fast-paced environment where collaboration across teams is crucial to success. Someone who is metrics driven and motivated by seeing their work contribute to the achievement of business goals. This role reports to the Head of Global Campaigns.

What you'll be doing:

- Own end-to-end global campaign planning, development and execution for the small business segment
- Create innovative, successful and measurable global demand generation campaigns to drive pipeline and self-serve (web) sign-ups
- Work with creative and content teams to define content goals and approach, identify and ideate on compelling storylines, and align these elements to the campaign brief, messaging documents and activation strategy to create a comprehensive and measurable content plan
- Develop/project manage integrated media plans for campaigns – including web marketing, nurture, paid search, social media and events – in partnership with the rest of the marketing team
- Partner closely with product marketing and sales to confirm/strategise on campaign themes, messaging, personas, industries and assets etc.
- Apply KPIs, analytics, and insights to better profile, target and re-target prospects, driving continual campaign optimisation
- Work with marketing operations to ensure all tracking requirements are in place for necessary performance reporting
- Work cross-functionally to ensure the timely execution of small business segment campaigns across all geos

More: boards.greenhouse.io/gocardless/jobs

Marketing Associate
Klarna

Swedish Klarna has come to London! Yay :)

Working in Marketing at Klarna means executing world-class strategic and creative marketing frameworks, guiding the Klarna brand in all marketing touch points. You will strive to turn complex propositions into simple communication so that our end-users find it simple to understand and buy Klarna. The work you do will solve a clearly scoped problem-space with defined KPIs and you will continuously seek improvements in performance and quality. You will regularly align with internal stakeholders such as regional marketing teams, product, commercial, and legal to mention a few.

More: klarna.com/careers

Product Marketing Manager - Futures
Kraken

Wanna work in Crypto? There we go...

As PMM, you will lead product marketing efforts at Kraken Futures. Reporting to the VP of Growth, you will be responsible for launching, developing and executing marketing strategies and tactics to drive user acquisition, conversion and ongoing engagement across our growing portfolio of products.

You should be data driven and growth obsessed, with at least 3 years experience growing startups into market leading businesses. The ideal candidate should be equal parts technical and creative, highly analytical and willing to roll their sleeves up. You will be expected to build a world-class product marketing practice, taking our Futures business to the next level in record time.

More: jobs.lever.co/kraken

Head of Paid Marketing
Plum Fintech

Plum is on a mission to help people lead a healthier financial life effortlessly. Join to do Good in Fintech!

You will lead and expand all our paid activities. Paid social is a core component of our current strategy which is why it's important to come from a background which has a strong paid social grounding. However, we are looking for you to be ambitious and to have either ran other channels or have the desire to do so. You will be responsible for scaling new channels across Podcasts, Paid Search & Affiliates. As part of this role you will also be leading any out-of-home activities that Plum is considering!

More: withplum.workable.com/jobs/945596

4th-9th July, 2019
London Fintech Week 2019

Held in London, the heart of the Fintech revolution, the annual event brings together the Fintech sector in London and beyond to discuss the latest developments in Fintech.

www.fintechweek.com

11 July, 2019
How to join the Fintech revolution?

Located in the heart of Canary Wharf, CFTE's Fintech Campus is hosting a Summer Programme composed of exciting learning sessions, great networking events and advanced discussions on the Future of Finance.

eventbrite.co.uk/e/how-to-join-the-fintech-revolution-tickets-64224776034?aff=ebdssbdestsearch

29th-31st July 2019
CXFS, Boston

The conference that prepares senior executives in CX, operations, and technology to lead their companies into the future.

cxfinance.wbresearch.com

5th-8th August 2019
Intelligent Automation Week Chicago 2019

Bringing together a speaker faculty of 95% new faces with new insights, ideas, and content to share, you can't miss out on this chance to take your IA program to the next level.

www.aiia.net/events-intelligentautomation-chicago

29th-30th August 2019
FiNext USA 2019, Orlando

FiNext Awards & Conference provides a platform for the global FinTech sector, allowing start-ups, SMEs, incumbent tech providers, investors, financial institutions and other stakeholders to connect and interact under one roof.

https://finextcon.com

26th-27th September 2019
LendIt Fintech Europe 2019, London

Europe's Leading Event in Financial Services Innovation

www.lendit.com/europe/2019

To see the full list of upcoming events in London and around the world, visit **thefintechtimes.com/fintech-events/**

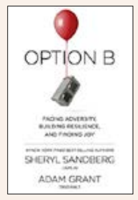
The Fintech Times hosts a range of exclusive events addressing topics at the bleeding edge of financial innovation. If you'd like to get involved, email **michael@thefintechtimes.com** for details of what's coming up.

Great ideas don't thrive in a vacuum so if you've got something to say, say it on the main stage.

Five Books To Get Ahead: Building Resilience

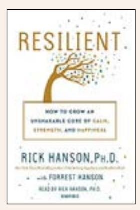
By **JAKE COURAGE,** co-founder of the edtech company 42courses.com and avid reader, author & car fanatic

As human beings, we like to feel in control of our lives. The reality is so much of life is dictated by chance. Sometimes good luck comes our way and sometimes it's the opposite. Resilience is the ability to cope and recover from difficult situations. It's a skill well worth developing, especially in this world of increasing speed and complexity that we live in. The below books will teach you the key strategies for how to overcome any hardship - whether professional or personal. ◆**TFT**



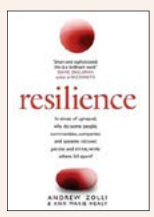
Option B: Facing Adversity, Building Resilience, and Finding Joy
by Sheryl Sandberg & Adam Grant

Don't be put off by the fact that the author looks like the typical white-toothed self-development guru. Brian Tracy is the real deal and has consulted for many large organisations around the world. As the book implies, it is focused on the psychology of selling and that to be an effective salesperson, you need to develop the right mindset. Not only is a positive outlook a prerequisite, the author explains that self-discipline is also necessary. By this he means a successful salesperson needs to be comfortable with setting goals and must remain a life-long learner. Tracy makes things easier for the reader by including a helpful summary at the end of each chapter which acts as a great refresher of what's been covered. Overall, a valuable read.



Resilient: How to Grow an Unshakable Core of Calm, Strength, and Happiness
by Forrest Hanson and Rick Hanson

The message of this book is that resilience is not just about enduring terrible conditions, it's a useful tool for everyday life. Dr. Rick Hanson is a New York Times bestselling author who blends his knowledge of neuroscience, mindfulness, and positive psychology to show you how to develop your inner resolve. It's full of interesting insights into how the brain works and offers a practical guide of how to feel less stressed and stay calm in the face of adversity. Dr. Hanson explains how to overcome the brain's inbuilt negativity bias by harnessing the power of positive neuroplasticity. This is the idea that it's possible to rewire our thought patterns for greater self-compassion, inner peace and a more balanced outlook.

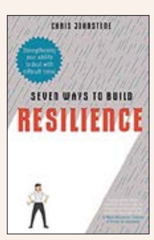


Resilience: Why Things Bounce Back
by Andrew Zolli & Anne Marie Healy

For business people, this book is perhaps the most valuable as it looks not just at human resilience but the resilience of systems in general. It examines the ways different systems can become fragile and break and strategies for preventing this from happening. This covers everything from the structural characteristics of resilient systems to the tools required for strategic resilience. For example, modular systems which operate a bit like Lego bricks (in the sense that they can unplug from one another when needed) are less likely to fail than linearly constructed ones. The book goes into some detail about feedback loops, decoupling, diversity, simplicity and interoperability which are vital to understand to prevent failures cascading through systems. Part complexity theory, part psychology it's a valuable resource for how to navigate the increasingly fast rate of change that characterises our world today.

13 Things Mentally Strong People Don't Do: 13 Things Mentally Strong People Avoid and How You Can Become Your Strongest and Best Self
by Amy Morin

How do you strengthen your mind to stay strong in tough times? In answering this question, Amy Morin draws on her many years of experience counselling patients as a psychotherapist as well as her own experiences of personal loss. The book expands on her viral blog post that reached millions worldwide and is a helpful and easy-to-read guide to mastering your mental strength. She explains how resilient people 'don't waste time feeling sorry for themselves', 'don't shy away from change' and 'don't fear taking calculated risks' as well as ten other important characteristics. It's probably the quickest and easiest read of the five books.



Seven Ways To Build Resilience: Strengthening Your Ability to Deal with Difficult Times
by Joe Girard

Dr. Chris Johnstone is one of the UK's leading resilience trainers with over 30 years of experience. His book is like a toolkit of resources for emotional first aid. Amongst the seven techniques he shares is 'storyboarding' which is a way of viewing the present moment as part of a larger sequence of events to put things into perspective. He also encourages the reader to 'think flexibly' by trying to look at things from different perspectives as well as being proactive about 'overload management'. The earlier we can identify we're taking on too much pressure, the more we can avoid things going too far. He also has an online course 'Personal Resilience in an Hour' for those who prefer to learn by watching videos.

Can't wait for the books to arrive? Try a master class in Fintech, Behavioural Economics, Problem Solving, Sleep, Social Media and many more. Head to the website and click on a course title. The Fintech Times readers get 25% off with the code '**FintechTimes25**'. Have you enjoyed other books on AI? Please get in touch via **jake@42courses.com**