

THE FINTECH TIMES

THE WORLD'S FINTECH NEWSPAPER

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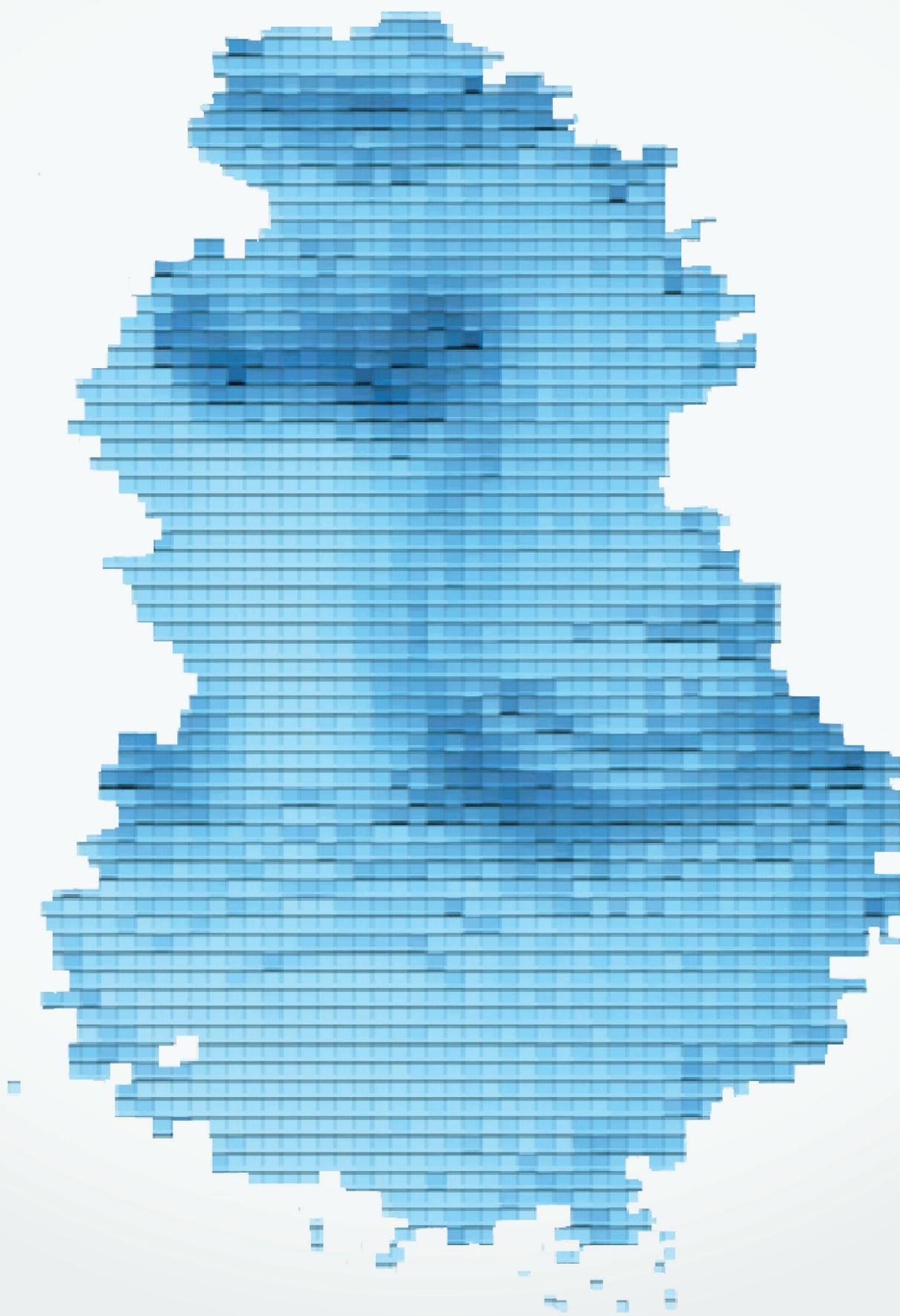
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THE FINTECH TIMES

BRINGING FINTECH TO THE WORLD

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IT'S TIME TO TALK DIGITAL!



In this edition we are going deep into everything 'digital'! With all the stuff going on around us – the pandemic being the biggest force of change – digital is being accelerated, implemented and embedded in almost all aspects of our life.

An obvious change that many have had to adapt to is, of course, money, which is no longer accepted in some shops as physical cash notes and coins (at least not in the UK). This is where our cover story begins, with a focus on central bank digital currencies (CBDCs), a big topic that, depending on implementation, has the potential to not only redefine how we consumers use money but also how banks manage the payments and money space.

Another obvious topic that continues to make the headlines is, of course, open banking. Here, we will look at the angle of payments for the gig economy on the one hand and we will also shed light on what the European payments regulatory framework of Payment Services Directive 2 (PSD2) has so far yielded for the payments fintech sector. In particular, the third-party providers that have brought a lot of innovation to the market over the last few

years. Continuing with consumer payments, we will also explore the evolution of banking in the context of rebundling services, similar to what we are used to across the world of music, TV, shopping, and so on.

Naturally, the next topic closely linked to digital payments is, of course, digital identity. This is a growing space for fintech and in particular, as most activities have now moved online, leading to significant growth in e-commerce transactions, the role of

The role of digital identity is becoming crucial in the fight against fraud and identity theft

digital identity is becoming crucial in the fight against fraud and identity theft as well as bringing the much-needed user ease of use and control of their identity data. One of our articles will explore exactly that in the context of digital identity for corporates.

The space of trade finance is also undergoing a digitisation spree, which is worthwhile exploring. The combination of new technologies and processes with the increased drive

of the trade finance ecosystem to remove inefficiencies, paper and fraud of the past is truly transforming this market and we will read about the latest trends in this space.

The next area to explore is the growing crypto currency and digital asset ecosystem. Sticking with cryptocurrencies, a market that has seen increasing activity during the uncertain times we find ourselves in, we will discuss the critical importance of good controls in this space to ensure that no money laundering or other illegal activities take place. With the extension of the regulatory framework to cryptocurrency exchanges and wallet providers, technical solutions will need to be in place to ensure compliance. More and more interesting providers are playing in this market and we will hear from one of them on what they are seeing and working on. Continuing the digital theme, we will also have the opportunity to welcome the first, about to be regulated digital asset exchange of the UK. Expanding the universe of cryptocurrencies with digital assets of potentially any kind is an exciting prospect as we see our capital markets slowly but surely reinventing themselves for the digital future.

With everything digital happening around us, it would be amiss if we didn't talk about artificial intelligence (AI). In fact, apart from the many 'narrow' or 'general' AI solutions that we already use in our daily lives, we see broader AI applications emerging, that are starting to address the deeper challenges, such as how governments should plan for pandemics or how corporates should manage their supply chains in times of severe uncertainty. Agent based simulation has emerged as the most effective means to benchmark models (and decisions) used by AI and machine learning using a synthetic environment. With help of this, technology companies, institutions and governments can transparently and more effectively make decisions that benefit humanity instead of, for example, a small group of special interests at the expense of humanity.

We will complete this latest edition with a forward-looking piece on the future of finance, which will be a function of where innovation lies across industry, government and society. **TFTI**
Dr Ruth Wandhöfer and David Birch

It's digital currency time

Dr. Ruth Wandhöfer, Partner at Gauss Ventures and David Birch, Author and Advisor on digital financial services



From technologists to business strategists, economists to national and international regulators; all eyes are on the coming era of digital currency

Steam engines were known about in ancient Greece but were used as toys. The raw materials for steam engines (iron, coal and so forth) were widely available to many civilisations around the world. The need for mechanical work to increase productivity must have been evident from time immemorial.

So why did steam engines for commercial use arise in England at a particular point in history as an inefficient and energy-intensive way to get water out of mines? Well, there are all sorts of complicated explanations to do with the availability of capital, the transition from a feudal economy, the proximity of supply and demand and so on, and so forth. In a way though, it is simple and sufficient to say that steam engines arose because it was steam engine time. Hold that thought.

One of the hottest topics in fintech today, other than more efficient steam engines to mine Bitcoins, of course, is digital currency and it's not hard to see why. Few people interested in the future of financial services can have failed to notice the contrast between the United States Treasury mailing out physical stimulus cheques in the post at the same time that the People's Bank of China began its beta testing of a national digital currency in four cities. We think it's impossible to undertake any serious strategic planning or even scenario building about the future of this industry without understanding three crucial things about digital currency: why we are talking about it now, what exactly is it and what it means not only for the fintech industry but for the global monetary and financial system.

When we first began discussing digital currency a few years ago, while Ruth was looking at it for her PhD research and Dave was boring people senseless with talks about the relationship between digital money and digital identity, we both felt that something was about to change. We knew that the way that money works is a temporary institutional arrangement and we knew that it must change in response to technology, businesses and societal change. But when would it change and what would it change to? As the former governor of the Bank of England, Mervyn King, wrote in his book *The End of Alchemy*, 'although central banks have matured, they have not yet reached old age. But their extinction cannot be ruled out altogether. Societies were managed without central banks in the past'.

Fiat currencies managed by central banks are only one way to organise the world and there are others. Yet our discussions about new ways to organise the financial system may have seemed to some observers a trifle speculative, to say the least. Well, they were. Until Mark Carney, then governor of the Bank of England, gave a speech at the Jackson Hole economic symposium in Wyoming last autumn in which he said that a new form of global digital currency could be 'the answer to the destabilising dominance of the US dollar in today's global monetary system'.

The problem that Carney and others are alluding to is that the US dollar's global electronic hegemony which, as the *Wall Street Journal* noted, 'made sense after World War II, when the US accounted for 28 per cent of global exports. Now, the figure is just nine per cent, according to

the International Monetary Fund (IMF). Yet the dollar still dominates international trade'. In his speech, Carney went on to talk about the international monetary system using some kind of 'synthetic hegemonic currency' (SHC) instead. That's a pretty big deal, frankly, because it means that a proportion of the world's financial transactions stop being dollar denominated and the demand for dollars falls. As Robert Kaplan, president of the Dallas Federal Reserve, said recently: "The dollar may not be the world's reserve currency forever, and if that changes, and you tack on 100 basis points to \$20trillion [that is] \$200billion a year and all of a sudden we've got a tremendous problem."

So that's why we are talking about digital currency. Not because technologists like Dave or bankers like Ruth are talking about it. But because central bankers are not only talking about it, but starting to pilot it and explore different architectures.

It's digital currency time

For a great many reasons at the intersection of fintech and regtech, economics and politics, demand and

demographics, the fact is that it's digital currency time.

So, what is digital currency? The first thing that we need to be clear about is, and we make no apology for this, terminology. Ruth is German and Dave is a nerd, so it drives both of us to distraction when we see presentations that intermingle and abuse the terms digital money, electronic cash, crypto currency and digital currency. We're going to use these terms in utterly specific ways. Broadly speaking electronic cash is a specific kind of digital money that allows value transfer without intermediaries, crypto currency is a mechanism for such value transfer and digital currency is a mechanism for such value transfer that links the values being transferred to some external benchmark.

Where that external benchmark is another currency, or basket of currencies, we then have what people refer to as a 'stablecoin'. The graphic opposite will show you what we mean.

A globally-acceptable SHC in the form of a digital currency made from digital

money denominated in a synthetic unit of account sounds a little like Facebook's much-discussed Libra. While Libra has dominated the headlines, it will undoubtedly be only the first of many attempts to create a global digital currency, about which we will have more to say later on.

From a payment perspective alone, Libra is interesting but not a revolution. Facebook just launched its new payment system in Brazil without it, in fact. We think that a frictionless Facebook payment system could be beneficial. The ability to send money around on the internet is clearly useful and there are all sorts of new products and services that it might support. A currency, however, has more far reaching implications than a payment system. What if, for example, the inhabitants of some countries abandon their failing inflationary fiat currency and begin to use Libra instead? The ability of central banks to manage the economy would then surely be subverted and this must have political implications. Hence it is unsurprising that both the international Financial Stability Board and the UK's Financial Conduct Authority have said they will not allow the world's largest social network to launch its planned digital currency without 'close scrutiny'.

People refer to the new currency as Facebook's Libra but as Mark Zuckerberg testified to the House Finance Committee, Facebook is merely one of the 21 members of the Libra Association that launched in Geneva. The association recently issued its new white paper in which it talked about creating stablecoins tied to national currencies (e.g. Lib\$ and Lib£) alongside the original 'basket' stablecoin. The white paper says that the consortium hopes 'as central banks develop central bank digital currencies (CBDCs), these CBDCs could be directly integrated with the Libra network, removing the need for Libra Networks to manage the associated reserves'. At the same time, Facebook renamed its Calibra digital wallet to Novi, presumably to emphasise that its ambitions extend beyond simply serving as a personal storage mechanism for Libra value.

(It was noticeable, incidentally, that when it launched, the Libra Association did not include most of the payments organisations that had been identified in initial discussions, such as PayPal and Visa, but did include the organisations who are users of payments, such as Uber and Spotify.)

Is Libra the world digital currency of the future? Maybe, but let us now switch attention to what is (in the opinion of many observers) the most important current initiative in the world of digital

fiat. The People's Bank of China (PBOC) has been looking at a digital currency strategy to replace cash for some years. Three years ago, the then-governor of PBOC, Zhou Xiaochuan, very clearly set out their thinking about digital currency, saying that 'it is an irresistible trend that paper money will be replaced by new products and new technologies'. He went on to say that as a legal tender, *digital currency should be issued by the central bank* and after noting that he thought it would take a decade or so for digital currency to completely replace cash went on to state clearly that 'he has plans how to gradually phase out paper money'.

What would be the impact of phasing out paper money? Yao Qian, from PBOC's technology department wrote on this subject back in 2017, noting (as I have done) that CBDC would have some consequences for commercial banks, so that it might be better to keep those banks as part of the new monetary arrangement. He described what has been called the 'two-tier' approach, noting that to offset the shock to the current banking system imposed by an independent digital currency system (and to protect the investment made by commercial banks on infrastructure), it is possible to incorporate digital currency wallet attributes into the existing commercial bank account system 'so that electronic currency and digital currency are managed under the same account'.

of China have made clear in their recent pronouncements, these will soon store the 'DC/EP' (digital currency and electronic payment), the Chinese digital currency that is being tested in four cities: Shenzhen, Chengdu, Suzhou and Xiong'an.

The deputy governor of the PBOC, Fan Yifei, recently gave an interview to *Central Banking* magazine in which he expanded on the two-tier approach, noting that this approach allows 'more effective exploitation of existing business resources, human resources and technologies' and that 'a two-tier model could also boost the public's acceptance of a CBDC'.

He went on to say that the circulation of the digital yuan should be 'based on 'loosely coupled account links' so that transactional reliance on accounts could be significantly reduced'. What he means by this is that the currency can be transferred wallet-to-wallet without going through bank accounts. Why? Well, so that the electronic cash 'could attain a similar function of currency to cash. The public could use it directly for various purchases, and it would prove conducive to the yuan's circulation'. (We cannot help but draw attention to the fact that the first implementations seen out in the wild do indeed include this person-to-person offline transfer functionality.)

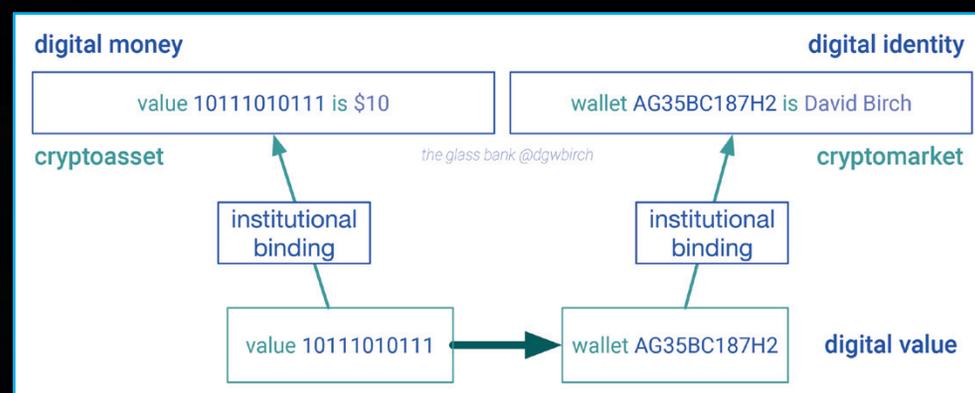
We agree with a recent *Fortune* magazine article, that the shift to what we call 'smart money' will reward first-mover economies. As the article notes,

Note that this does not mean that other countries' implementations of CBDC will be the same as the Chinese implementation, in which the PBOC retains central control over transactions. Other models that emphasise privacy, for example, are more in sync with the approach of Western economies.

The contrast brings into focus the new 'Cold War' that Ferguson talks about. What he means is that if the Alipay and WeChat wallets become widely used by a couple of billion people, starting with those along the 'belt and road' trading corridors, they may well begin by using their own currencies but they will pretty soon shift to the digital yuan if it does indeed offer speed, convenience and person-to-person transfers. A trader in Africa may soon find it more than a little convenient to order goods from a Chinese partner via WeChat and settle via Alipay. And, if they can settle instantly with their Chinese digital currency (or, to be fair, Libra or something similar), then they will soon find themselves accepting the same in payment. This is not necessarily a bad thing for some countries. In a very interesting recent paper on this topic in 2019, Raskin, Salah and Yermack highlight 'the potential for private digital currencies to improve welfare within an emerging market with a selfish government'. Along the belt and road then, not only might digital currency be acceptable, it might be highly beneficial.

We could see a new kind of Cold War as digital currency blocs battle for control of the international money and financial system, with Novi facing off against Alipay on the one hand but, more importantly, the digital yuan facing off against the digital dollar. This means that the virtual money debate is no longer about electronic money vs. digital cash, about hash tables vs. smart chips or about proof-of-work vs. proof of stake.

Whether you think it might be a good thing or not, the dollar's dominance gives America the ability to use the international payments system as an arm of its foreign policy. The real and serious implication of replacing the existing payment systems with the new infrastructure based on digital currency is that no clearing and settlement means no transactions going through the international banking system, and no transactions going through the international banking system means that America's ability to deliver soft power through the Society for Worldwide Interbank Financial Telecommunication (SWIFT) disappears. We think that deserves attention and if you are serious about strategy in the financial services world, it deserves your attention, too. [TFI](#)



This is not a uniquely Chinese approach. Many researchers and organisations (including the IMF and the European Central Bank) have highlighted this two-tier approach as the way forward. On to the third key point then.

Why is digital currency such a big deal?

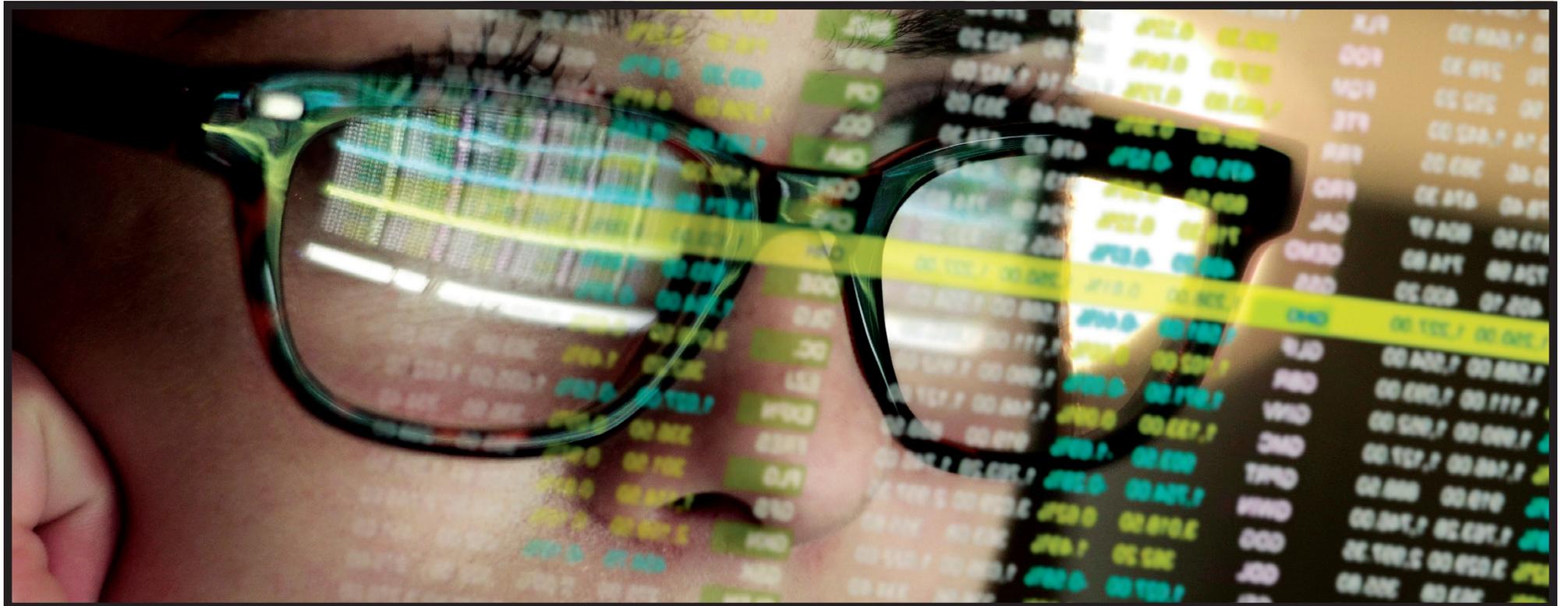
We agree with the noted historian Niall Ferguson, who stated plainly in *The Sunday Times* that 'if America is smart, it will wake up and start competing for dominance in digital payments'. He is concerned about hegemony and argues that a good way for America to rival Chinese initiatives, such as Alibaba and Tencent, is to support the aforementioned Libra, an argument repeated by David Marcus, the head of Libra. Right now, Alipay and WeChat wallets store renminbi (RMB) exchanged in and out of bank accounts, but as the People's Bank

China will quickly integrate its digital currency into hundreds of 'blockchain' projects in which autonomous digital sensors and devices directly exchange information and money. Removing intermediaries from these device-to-device transactions will allow China to automate entire internet of things ecosystems, bringing efficiency gains to smart cities, supply chains and electricity grids.

Meanwhile, back in the US, the Digital Dollar Foundation, led by Chris Giancarlo (former chairman of the US Commodity Futures Trading Commission), has released a white paper putting forward a suggestion for the US CBDC. It suggests following the Chinese approach with a 'two tier' CBDC, which means that while the Federal Reserve will regulate and control the digital dollar, it will end up in consumers' pockets (in their mobile phones) through the commercial banks.

Opening up finance

The Fintech Times asks CEO Yoni Assia to reflect on eToro's founding mission to make investing simple as the trading platform approaches 15 million users worldwide



About Yoni Assia
Yoni Assia is the CEO and founder of eToro, the world's leading social trading platform. Yoni has shown interest in finance and computer science since youth and so decided to merge his passions. Yoni is a member of the YPO and was included by *Financial News* in its prestigious Fintech 40 ranking and by *City A.M.* as a Fintech 100 top influencer. He holds a B.Sc. in Computer Science and Management and an MSC in Computer Science.



“When we started eToro our goal was to open up finance,” begins Yoni Assia. “We wanted to change the way people think about trading and investing, ultimately reducing dependency on traditional financial institutions and make trading and investing more transparent and fun. This mission remains our guiding light and we will continue to evolve both organically and by acquisition in order to bring our customers the very best experience.”

At a time when other fintechs claim to be not targeting profitability, eToro says it

is proud to be a ‘well-funded, profitable business’ that is growing both in terms of geographical coverage but also product range. The global multi-asset investment platform, founded in 2007, enables people around the world to easily invest in shares, commodities and cryptos, either directly, by copying the investment strategies of others or in a portfolio.

The idea is to be more of a community where people can share ideas, like a social network for traders and investors to execute trades, but also see what others are doing and talk to each other.

eToro is regulated in Europe by the Cyprus Securities and Exchange Commission, by the Financial Conduct Authority in the UK and by the Australian Securities and Investments Commission in Australia. It is a FINRA member in the US and also has a distributed ledger technology (DLT) licence in Gibraltar.

Despite the difficult and unpredictable time for global markets during the global coronavirus pandemic, eToro says the growing financial effect of the virus has generated increased interest in global markets for many people worldwide – with the largest increase in activity since the 2017 to 18 crypto boom. The eToro community itself has now reached more than 14 million registered users from over 100 countries.

Assia says: “One thing we noticed this year was the pandemic-induced market volatility has put the topic of investing front of mind for many. Because of this, eToro has seen an uptick so far this year in terms of new registrants to eToro and also trading

volume. In the first half of this year, global trading volume reached over \$600billion. Furthermore, we saw a 400 per cent increase in new users globally, making their first deposit on the platform in the half of the year compared with the same period last year.”

According to Assia, while Covid-related market volatility played a part, he believes the growth is also driven by the launch of eToro’s zero commission stocks offering with stock investments on eToro quadrupling in H1 compared with last year.

In the first half of 2020, it also saw an increase in new people from across the globe coming to the platform to copy more experienced investors, compared with the same period last year. Equally, the number of copy positions on its platform globally has grown by 155 per cent in the same timeframe.

During the month of June, customers globally favoured coins with proof of stake mechanisms behind them. Bitcoin remained in top spot as the most popular cryptoasset on the platform globally that month, while in altcoins, eToro saw a clear trend from investors towards blockchains that have proof of stake mechanisms. Cardano’s ADA saw a month-on-month increase in investment on eToro, up 11 per cent in June, compared to May 2020.

Recent months have seen investors look to cryptoassets, such as Bitcoin, as long-term investment opportunities, given widespread fiscal stimulus and performance that has dwarfed most

traditional equity markets. eToro says it expects to see this trend gather steam as coins, such as ADA and Ethereum, of which the latter is undergoing its own raft of technical improvements, join Bitcoin as assets at the forefront of investors’ minds.

Assia says: “Over the past decade we saw different rates of adoption of crypto in different markets but today we see interest in investing in cryptoassets across all

of the markets where we offer crypto.

I would say the most advanced crypto markets are the US and the UK.”

For eToro, crypto – and the blockchain technology that underpins it – will have a huge impact on global finance in the future, facilitating the greatest transfer of wealth ever seen, not from one group of people to another, but from privately held databases to publicly available distributed ledgers – the process of tokenisation.

“Tokenisation will convert the rights of ownership of any asset into a digital token which is then available on the blockchain” Assia says. “This may seem complex but in

eToro has seen an uptick so far this year in terms of new registrants to eToro and also trading volume. In the first half of this year, global trading volume reached over \$600billion

essence, tokenisation will mean ownership of traditional asset classes will be more easily transferred and more securely stored. Perhaps most importantly, markets for more niche asset classes, previously the preserve of the wealthiest, will be made far more accessible. Just as eToro has opened traditional markets for investors, in the future, we want to do the same in a tokenised world.”

So, what's next for eToro?

“We've spent the last 13 years building the operational scale to support a global business and we have ambitious plans for our future growth particularly in the US,” comments Assia. “In 2018, we launched our US crypto offering and added our unique copy function last October. We're excited to announce that we were granted a FINRA licence so in the future we will be able to offer commission-free stocks to US retail investors.”

“Opening up markets is not just about providing investment options it is also about financial education. We offer our clients a virtual portfolio where they can practice investing without actually having to risk any of their hard-earned cash. We host regular webinars and work hard to produce informative materials from commentary on the latest market movements to simple explainer guides on the different asset classes. We also recently launched a podcast. There is a lot of information on investing out there but as an industry we need to continue to challenge ourselves to make this accessible.” **TFT**

MOST INVESTED STOCKS BY CLIENTS GLOBALLY ON THE ETORO INVESTMENT PLATFORM – JULY 2020

July rank	Stock	Percentage change in trading activity MoM	June rank
1	Microsoft	14%	1
2	Amazon	71%	7
3	Tesla	105%	13
4	Apple	29%	3
5	Facebook	21%	2
6	Netflix	64%	9
7	Advanced Micro Devices	32%	6
8	Nio	183%	20
9	Google	15%	5
10	Alibaba	63%	14

MOST INVESTED CRYPTOASSETS BY CLIENTS GLOBALLY ON THE ETORO INVESTMENT PLATFORM – JULY 2020

July rank	Cryptoasset	MoM change	June rank
1	Bitcoin	7%	1
2	Ethereum	89%	2
3	ADA	97%	4
4	XRP	77%	3
5	Tezos	170%	5
6	Binance Coin	521%	15
7	Zcash	294%	13
8	Stellar	72%	7
9	MIOTA	15%	6
10	Litecoin	80%	11

The Coronavirus Rollercoaster

How currency exchanges have coped during the Covid-19 pandemic

In the wake of a global pandemic, market uncertainty has plagued financial transactions – both fiat and crypto. For the gatekeepers of digital currencies – online exchanges, such as Currency.com, CEX.IO and Bitcoin.com – Covid-19 has either pushed clients and traders towards them or held them back.

One thing that has emerged from the pandemic is a global conversation around the benefits of digital currencies, with the US Congress debating the use of digital dollars to help distribute cash to citizens. Back in March, the US government committed to an immediate fiscal stimulus of just under \$2trillion but as there are approximately 14 million adults (or six per cent of all households) in the US that have no primary bank account, these cheque payments were of limited use. Compounded by delays and the risk of infection while banking a cheque, discussion continues as to whether digital dollars could eliminate these problems.

Experts believe that a digital dollar already technically exists today and, therefore, Congress should have no problems in putting a case together, but there are other things to consider. Dave Hodgson, chief investment officer at NEM Group, said: “The use cases for a digital currency are broadly similar to those occupied by the US dollar (USD) in other forms, or most USD denominated cryptocurrency stable coins like Tether, Paxos and Binance USD. Those use cases could range from online or electronic payments, savings, other financial products, money markets and almost anywhere else fiat is used right now – with the exception of physical funds transfer.”

“The important differentiation to make with a digital dollar is whether it is controlled by the state, or if it is decentralised and outside of government control. If the former, then it really isn't much of a change from today, however the latter moves the economy towards a more open, less controllable economic model. The move to such a model would likely require multiple smaller steps and I personally will be surprised to see state actors give up that control or power over the citizens' lives whom they are meant to serve.”

Still, the concept of a decentralised currency is the reason why millions of people across the world continue to drive the digital currency market, often crossing over to cryptocurrencies when trading globally. But these types of assets are essentially investments, so how have both fiat and crypto exchanges coped during the crisis?

Currency.com analyst Mikhail Karkhalev, says: “Cryptocurrencies have always been risky. The pandemic, like any other negative macroeconomic event, forces investors to switch from risky assets to safe havens. We have seen this in mid-March, when the markets collapsed, including cryptocurrencies. The pandemic is holding back the growth of the market, not just the crypto market, but all of the markets. There is no doubt that as soon as Covid-19 is over and economies begin to recover, investors will come back to risky assets, including crypto markets. Another thing is that many investors consider Bitcoin as some kind of an alternative asset or a digital equivalent of gold. Therefore, there is also a chance that the value of cryptocurrencies will grow in the near future. As a response to the challenges in the traditional economy, the transition to digital seems reasonable. Simply put, the crypto market is expected to gain force either in the coming months or after the end of the pandemic.”

Danish Chaudary, Bitcoin.com exchange managing director, says: “Crypto has been seeing increased volumes and activity ever since the Covid-19 lockdown was enforced across various geographies. As an exchange, we've seen our volumes grow three

and even four-fold, mainly because users have more time to spend at home. This along with the state of various economies across the world, people are seeking refuge in crypto assets as a hedge against the inflationary tactics being employed by central banks globally, that's partially why we're seeing a rise in decentralised finance (DeFi) right now – a lack of trust, over heated markets etc.

“Generally, I believe Covid-19 is an accelerator for adoption both for cryptocurrencies and for blockchain technology as a whole. While cryptocurrencies are usually discussed on the payment system and store of value context, I believe that a big impact will be made on the digital identity industry as well.”

Dmytro Volkov, CTO at CEX.IO, comments: “Trading volumes in July doubled compared to June. This is due to the increased interest in the Ethereum (ETH) market to DeFi and the imminent release of Ethereum 2.0. In addition, volumes in pairs with ETH have grown several times over the past few weeks. If earlier, in relation to the BTC/USD currency pair, the volumes with ETH were slightly less than half, now it is 80 per cent of the volume. It is safe to say that ETH is now the driver of the cryptocurrency market growth. Bitcoin is confidently moving towards the \$11,000 mark. Such movement of this main cryptocurrency was fairly predictable after a bullish trend formed around two months ago. The cryptocurrency has been gradually going upward, passing one level after another. The strengthening of the Bitcoin rate was also facilitated by the increase in the USD emission. With the release of cheques by the American government in Spring earlier this year, the purchase level of cryptocurrencies went up sharply. This means that Americans are increasingly thinking about alternative sources of investment, and cryptocurrencies are one of them.”

I believe Covid-19 is an accelerator for adoption both for cryptocurrencies and for blockchain technology as a whole

And it's not just digital currencies that are pushing forward with mainstream adoption. The use of blockchain, the technology behind cryptocurrencies, could also be used to facilitate a safe and secure digital identity for online users.

Lior Yaffe, co-founder and director of Jelurida, explains: “Coronavirus might finally convince us to stop using pen and paper to prove our identity and to stop the archaic and environmentally harmful ritual of print, sign and scan to sign digital documents. In addition, the global government response to the pandemic expands the discussion on privacy and the use of personal info. Lastly, existing digital signing certificates are too complex and expensive for mainstream adoption. Blockchain is a perfect infrastructure for creating a decentralised ID platform, as we can see from initiatives like QualiSig, funded by the Austrian government, and aimed at solving Covid-19 patients information sharing – and this trend will continue to accelerate.” **TFT**



Red herrings and China's CBDC

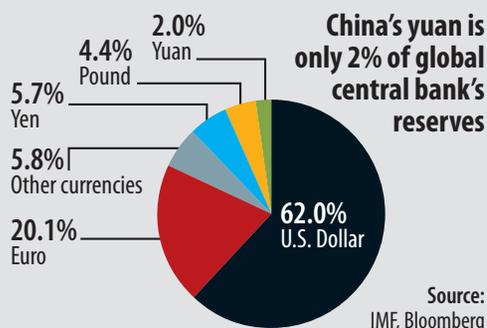
Richard Turrin is a fintech innovation expert

Can China's central bank digital currency replace the dollar?



China's coming launch of its breakthrough central bank digital currency (CBDC) is causing quite a stir. Across the globe, pundits are asking the same question: 'Can China's new digital renminbi (eRMB) replace the dollar as a reserve currency?'. It's undoubtedly an exciting question, but frankly, it's the wrong one.

With some 60 per cent of the world's currency reserves and 80 per cent of international trade denominated in US dollars, it's easy to take for granted that the dollar will be the currency of choice for years to come. So, the question of whether the digital yuan can replace the dollar is a 'red herring', or, to put it a different way, akin to a magician's sleight of hand. The question is designed to distract from the real issue, by refuting the possibility that the digital RMB will change the game by challenging the dollar. Most articles then go on to confirm that the dollar's reign as the reserve currency is secure and emphasise that the RMB's holdings in global central banks are at only two per cent of the worldwide total. The pundits smugly predict that there is nothing to fear, the status quo will be maintained and the eRMB will be a failure, inasmuch as it won't challenge the dollar.



Not so fast. The digital RMB was never intended to dethrone the dollar in global financial markets. Chinese officials have never issued a statement along these lines. The launch date of the digital RMB, now in testing stages in Shenzhen, Suzhou, Chengdu and Xiong'an, is still unknown. Its use in global trade will only initiate after fine-tuning in domestic markets. So, the dollar's dominant position as a global leader won't see a challenge for a few years to come – good news for the dollar.

The People's Bank of China (PBOC) is working meticulously to ensure the launch of the currency goes off without a hitch. Furthermore, it considers internationalisation of the RMB a top long-term goal – a defensive goal. Zhou Li, a former deputy director of the Communist



Party, said it very clearly: "By taking advantage of the dollar's global monopoly position in the financial sector, the US will pose an increasingly severe threat to China's further development."

China's CBDC and fintech are now part of a much larger geopolitical game than when conceived in a laboratory six years ago.

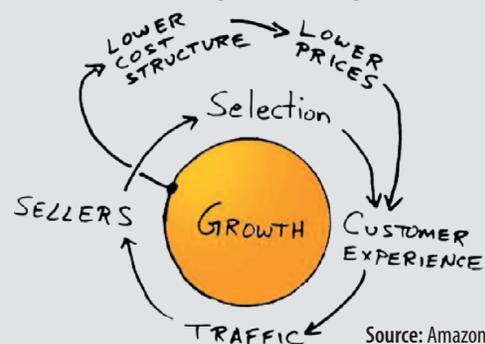
What pundits are missing with the eRMB is that it's not a play to replace the dollar in international financial markets. Instead, the eRMB aims to provide access to an entirely new platform, the likes of which the world has not yet seen. If China can't beat the US on the old playground, it will build a new one, with better slides, swings and climbing frames. It will give the users a host of benefits from preferential exchange rates and trade loans through digital logistics systems that speed shipments through customs.

China's digital RMB will use a game plan taken straight off the internet: entice users to use it with free services, convenience and good value. Like Alibaba, it will be a digital platform offering multiple services all bound together to form an ecosystem. Amazon's flywheel at a country-wide level. China's CBDC is going to give users access to a new attraction in global trade, making transacting with China as easy as buying on Amazon or Alibaba. Buying from China will be a breeze and potentially act as a counter to a world that is actively looking to 'decouple' from China.

Unlike internet companies, where the cost of supporting free services, whether email or bank accounts, is born by investors, the PBOC and the banking system will pay for the services offered on this platform. The real costs, however, are exceedingly low and easy to support when compared to the benefits to China of increased use of the RMB and trade. For example, preferential rates on RMB foreign exchange and free money transfer are easy to support on a digital system that is closed to currency speculators, and the RMB exchanged will go

directly into China's factory system. The digital RMB, in no small degree, changes the rules of what China can do to entice users.

China's CBDC will allow access to a global trade platform that will model Amazon's Flywheel. A 'virtuous cycle' that improves cost structure and prices for imports



Evidence for how this system will work is easy to find in China's existing blockchain-based digital trade finance systems. So far, the three major systems – run by the PBOC, China Construction Bank and a CITIC / Bank of China initiative – have processed \$63 billion in trade finance transactions. These systems allow for end-to-end digital trade finance, accounts

Rank	Currency	Share (%)
1	USD	43.37%
2	EUR	31.46%
3	GBP	6.57%
4	JPY	3.79%
5	CAD	1.79%
6	CNY	1.66%
7	AUD	1.45%
8	HKD	1.25%
9	SGD	1.15%
10	THB	1.05%
11	NOK	0.87%
12	CHF	0.82%
13	SEK	0.72%
14	PLN	0.50%
15	MYR	0.43%
16	DKK	0.37%
17	ZAR	0.31%
18	NZD	0.30%
19	EGP	0.29%
20	MXN	0.28%

RMB's share as a global payments currency
The flow of RMB in trade starts to look a bit better than central bank holdings.
Source: SWIFT RMB Tracker

receivable and tax filing, greatly simplifying a paper and time-intensive process. Right now, transacting on these digital platforms can save time and money for trade companies, but these are just the beginning.

Alibaba owned Ant Group, the world's largest fintech, is working with China's largest port operator to build a blockchain-based platform to carry out completely digital import-export transactions. When China's digital trade systems are complete, the preferential terms for digital-RMB users and access to fast-track customs and delivery will make it hard for many to say no. China is going to do for trade with the eRMB what Alibaba did with fintech and e-commerce sales in China. It will put international trade on a platform that makes it irresistible to use, take payment away from the established SWIFT network, and make the amount of RMB held by central banks irrelevant. The 'red herring' is exposed.

So, the real question is: 'Can the eRMB help increase the use of the RMB in trade?'. Here, the eRMB's impacts will be more dramatic and, frankly, with the digital trade systems coming online, the answer is that they can. A brief analysis of RMB usage with Belt and Road Initiative (BRI) countries gives a good indication of what is possible. BRI countries have \$1.34 trillion in trade with China, conducting only 14 per cent in RMB. Increasing this to 50 per cent would result in eRMB usage that was 1.6 times that of the Japanese yen in all global trade. For perspective, this could potentially boost the RMB to roughly third place in the SWIFT league tables above. Is such a rise in eRMB use reasonable? Last year RMB use within BRI countries increased by a range of 35 per cent to 230 per cent, so in five years, anything is possible.

Traditional currency analysts are getting it wrong, frankly. They see the digital RMB as nothing more than a repackaging of the RMB. They ignore the associated benefits of the digital trade ecosystem. Former US Treasury Secretary Hank Paulson stated that: "A central bank-backed digital currency does not alter the fundamental nature of the RMB." I agree with him completely. At the same time, I can't blame him or other analysts for being myopic. Their view of currency is formed by years of experience where currency played by a predefined set of rules and only worked on the existing US-built financial system, the 80-year-old playground. By now, we all should have learned from cryptocurrencies that digital currencies don't follow the rules, they make new ones. The recess bell is ringing on the global currency market and its hierarchy of players. China's CBDC ushers in not just a currency, but an entirely new trade ecosystem. **IFT**

Thomas Trepanier,
Director of Business
Development, Apify



US digital dollar done right is better than 'done now'

It's not a race'. Remember when your grade school teacher would say that to the class while you were taking a test? That seems like an appropriate reminder to the many interested parties – stakeholders and observers alike – awaiting the arrival of a central bank digital currency (CBDC) in the United States. As traction grows for CBDCs in more and more countries, it's tempting to urge America to push that pencil a little faster and complete the exam.

Launching the US CBDC isn't about doing it at top speed, despite the myriad use cases and benefits that a national digital currency presents. However, it's not hard to understand why the pressure is ramping up lately. The clock started ticking a little faster when the Digital Dollar Foundation, a not-for-profit organisation promoting public discussion about a US CBDC and consultancy Accenture, published a recent white paper with proposals.

Dubbed the *Digital Dollar Project*, the 50-page document lays out a comprehensive outline for how a US CBDC might look, while noting the distinct role such an instrument would play in the global economy. Many people pushing for its benefits – improved time and cost efficiencies, broader accessibility to central bank money and payments, a smooth transition to a cashless society, and support of USD as the world's reserve currency – see the white paper as an immediate call to action.

One part of the paper's conclusion states that 'this wave of digital token innovation is still gaining



momentum'. Read just a little further, however, and it also notes that 'successfully creating (a universal digital dollar) is an enormous undertaking and needs to be done carefully, thoughtfully, and deliberately'. So, what should dictate the US timeline here – the need for speed, or proceeding with caution?

A competitive landscape

The world's central banks are making CBDC inroads.

In a survey issued by the Bank for International Settlements (BIS), 70 per cent of the banks that responded indicated that they are engaged in, or planning to begin, work on a CBDC. In Asia, for example, serious studies and pilot projects are underway in Japan, Cambodia, South Korea, Malaysia and Thailand, among others. China is even further along, announcing recently that trials of the digital yuan will start in Beijing at McDonald's, Starbucks and Subway restaurants.

The global interest in CBDCs is understandable because they address key gaps in traditional finance today, including security, transparency, cost, speed and access. A CBDC effectively prepares next-gen digital economies to meet their payment needs as cash use gradually declines.

Meanwhile, a CBDC has the power to transform financial value transfer for many payment categories, including cross-border payments, international remittances, retail and wholesale payments, and peer-to-peer payments. In a time when many traditional financial networks have been overwhelmed by the Covid-19 pandemic, payment of government benefits via a CBDC could be measured in moments, instead of months.

These CBDC benefits are pretty much universal, which is why the adoption of a US CBDC would appear to be inevitable. However, there are unique considerations that take precedence as America charts its path to a digital currency. The US dollar is much more than just a medium of exchange and store of value for US citizens – it functions as a reserve currency worldwide, with proven stability against most other currencies making it central to international transactions.

With great power comes great responsibility, however, which is why it's no wonder that the US Federal Reserve is taking a deep look at the digital dollar. America's central bank has extra research to do before it adopts a CBDC because it stands to play a very outsized global

role in foreign exchange transactions, bank funding, imports/exports, central bank foreign exchange reserves, international loans and more.

The US CBDC challenge

Launching a CBDC is daunting enough when the global economy rides on its successful execution. Consider that a high-functioning CBDC requires near-flawless technical excellence a myriad of moving parts, and planning the digital dollar becomes even more complicated.

Launching a CBDC is daunting enough when the global economy rides on its successful execution

A CBDC optimally balances a wide range of considerations. Privacy, resilience, business partners, cost model, user experience, and security must all be taken into account during the design phase.

From there, more key questions unfold for the Fed's decision-makers, including: How best to achieve universal access? Should the core architecture be fully centralised, or should some components

be decentralised and built on a blockchain? How many transactions per second (TPS) does the network infrastructure need to support? How will it scale up? How is settlement finality defined? Can transactions be revoked if necessary? Is the model interest-bearing? How do we integrate this seamlessly with the United States' existing retail payment system and banking ecosystem? What role is a US dollar-pegged stablecoin, such as USD Coin (USDC) already playing, having surpassed a \$1billion market cap just 21 months after launch?

CBDCs are extremely challenging mechanisms to create and deploy. In the US and everywhere else, the officials and administrators steering a CBDC's development have a responsibility to scan the horizon for the tech and resources that can help them.

New platforms and protocols are constantly being developed in the private sector, which sees a growing opportunity to support the US on its path towards a digital dollar launch. Identifying and incorporating the right innovations can be key to maximising cost efficiencies.

Most CBDC models are designed using blockchain

technology, with the unique capabilities of distributed ledger technology (DLT) at its core. Blockchain-based currencies make online transactions, such as money transfers and payments, easier and more transparent; and cross-border currency exchange becomes a level playing field between economies via a simpler, more standardised online exchange.

One innovative solution gaining traction is that of an instant global settlement network for banks, central banks and other ecosystem partners. Just as DTCC provides settlement for US equities, for example, blockchain-based settlement networks, such as Ripple, Roxel, and Copper, have the potential to provide near-instant settlement for global fiat currencies and digital assets. Entirely new remittance and payment products could potentially be developed for the digital dollar, which would work seamlessly with other participants in the network.

Replacing first place

Solutions like this stand to transform the way commerce is done. However, patience is needed for US regulators, due to the necessity of evaluating advanced technology like instant global settlement networks.

Ultimately, what regulators want is assurance that they can control their system. Once they see that blockchain can head off many potential CBDC hazards like double spending, while providing transparency and global interoperability, US regulators will be more open to DLT. From there, they'll see how these innovative technologies will allow them to maintain the structure they expect, from the wholesale level to retail.

All of this shows why the race to launch a CBDC isn't a race at all. A sense of urgency is definitely warranted for the US to move it forward, but it's not only about finishing first. The result of a digital dollar done right – in the right time frame – is a win-win for all involved. **IFT**

Wing (Cambodia) Limited Specialised Bank was launched in 2009 to help people with little or no access to financial services use their mobile phones to make person-to-person payments, transfers and pre-paid purchases. Now, just over a decade later, Wing is the Cambodia's leading mobile money and electronic payments service provider. That top status includes 100 per cent district coverage through a national network of almost 8,000 Wing Cash Xpress agent outlets and partnerships with 40,000 merchants and global industry leaders, such as Mastercard, MoneyGram, Alipay, WeChat Pay and Western Union.

Today, Wing is led by Manu Rajan, who first joined the company in December 2018 as chief commercial officer. Last year, he took on the role of CEO from his predecessor, Jojo Malolos. Before joining Wing, Rajan held top positions with multiple telecommunications and mobile banking companies across Africa and the Asia Pacific. That includes time at telecoms operator MTN in Liberia and Zambia and also with telecommunications giant Bharti Airtel, in Kenyan and then in Airtel's Ghana group office managing 17 countries in Africa. He later helped manage the Digicel Group in Papua New Guinea.

In this interview with *The Fintech Times*, Rajan speaks about Wing's commitment to improving lives by providing financial inclusion to the unbanked and under-banked population of Cambodia.

THE FINTECH TIMES: How has Wing evolved since launch and what challenges has the organisation faced?

MANU RAJAN: Wing started off in 2009 as an experiment between the National Bank of Cambodia and ANZ Royal Bank. They had looked at Kenya to study how (mobile-based money transfer service) M-Pesa enjoyed big success in driving financial inclusion and they wanted to replicate the same success, or at least try a pilot in Cambodia. For the first three years we didn't do well at all. In fact, we jokingly say Wing led many firsts in Cambodia over the years, including being the first failed fintech operation. The company was eventually sold off by ANZ Royal to the Royal Group of Companies. It was the Royal Group Management that introduced the now famous agent banking model for Wing that turned around our fortunes. The idea there was that, if customers did not want to use their phone or smartphone to send money, an agent could do the digital transaction for them through an OTC (over-the-counter) transaction. That was the tipping point. From there, we became profitable in 2013 and have remained profitable thereafter.

In that time, we have made a lot of firsts in the Cambodian market. Among other

Mobile money firm Wing is pushing to make Cambodia the next Asian fintech hub

Manu Rajan, CEO of Wing, Cambodia's leading mobile banking services provider, talks about finding the right formula and how going digital can build a better Cambodia

things, we launched the first mobile fintech app here, the first plastic card and first Mastercard for the unbanked, a new line of remittance services with partners like MoneyGram, Western Union and many others that now allow customers to send and receive money from more than 200 countries. One of the biggest challenges we faced in the recent past was when competitors started a price war attempting to capture market share. Wing followed suit and matched prices, but the market value crashed, leaving Cambodia's mobile financial services and fintech market one of the lowest priced in the world. We are now committed to keeping it that way because most of our target audience includes all the country's unbanked population. Being accessible and affordable is key to our vision of bettering the lives of every single Cambodian using mobile financial service products.

The way we are structured means Wing enables a lot of transactions. Wing's total transaction volume last year was almost 90 per cent of the national GDP. After reaching that kind of scale, the biggest challenge for us is to plan what comes next. This includes constantly re-thinking our positioning: Are we a money transfer company, or are we something else? That was the biggest challenge, considering the bigger perspective. We were a money transfer company, yes, but moving forward, we are really looking at ourselves as an ecosystem builder. Already, we have built an amazing agent-driven banking ecosystem of almost 8,000 agents who cover every single district and almost every commune in Cambodia. Interestingly, 80 per cent of these agents are women, who are stay-at-home mothers earning a second income for their families. They are functionally some of the most successful SMEs (small and medium-sized enterprises) here. But then we looked at the

other vital networks driving financial inclusion and digitisation in Cambodia. Apart from our agent ecosystem, Wing has also built a 40,000-member-strong network of merchants who use our various products to operate more seamlessly. We provide these merchant-partners with online and offline payment solutions through WingPay, Masterpass, Alipay and WeChat Pay. We've created a lot, but we still see many new and unfilled opportunities in the market.

TFT: How do you think the mobile phone has developed in Cambodia as popular vehicle for payments and transactions?

MR: We have about 128 per cent mobile penetration in Cambodia and high internet usage as well. In so many places, whether in Cambodia or any developed country, the mobile phone has become like an extension of the self. Here, many people always carry their phones, even in the villages. That might not always be a smartphone, but we do see smartphone penetration is relatively high and a lot of people, especially young people, are already comfortable enough to pick up and use Wing services on their own. We have learned the three important factors that drive the adoption of digital payments are trust, self-confidence and use cases.

In Cambodia, what has become successful are agent-led or assisted digital payments, but the increasing mobile penetration and especially the smartphone penetration tells us the younger generation will be more likely to use these services themselves. The median age for Cambodia is about 25 years and more than 50 per cent of the population is younger than that.

TFT: How easy is it to predict customer behaviour? Have you noticed a difference between individual and agent usage?

MR: That comes back to those three things I just mentioned. First is trust. The person

has to trust the brand and make sure they're OK with using its services. The second is self-confidence. Most of the time, when you are looking at the unbanked customers, they may lack self-confidence in using these services. For example, what we see is that, if an unbanked customer gets paid \$200 in one month and half of that goes to their parents back home in the village, they might not feel confident enough to carry out the transaction themselves, thinking they might make a mistake and send a substantial amount of money to the wrong person. So, they hand over the cash to the agent and ask them to send it, even though that incurs a fee and doing it themselves would be free.

The third thing is the profile of use case – there are certain use cases that are better supported by an agent, such as bill payments, but others, such as bank transfers, where it's more convenient to do it yourself. So, we have created more use cases in the past two to three years that are more suited for self-usage, which led to a decrease in agent banking as a percentage of our transactions. That has been a gradual shift that we hope to accelerate in the coming year.

TFT: How do you think digital currencies are going to affect traditional payment systems in Cambodia?

MR: Looking back 40 years ago, during the civil unrest here, the currency of the day was abolished, and Cambodians were using rice to barter. Jump forward to today, and we are one of the very few countries in the world that has a blockchain-based interoperability platform, called Bakong, to facilitate digital payments. So, we can say Cambodia as a country has already come a very long way in adopting digital currencies, and we are all quite proud of that.

Wing was the first fintech to be on board when the National Bank launched Bakong. Cambodia today has more than 100 financial institutions, so to have a unified platform like Bakong will facilitate a lot of integration between these disparate FIs.

Bakong can also bring great complimentary value to companies like ours in terms of linking that platform's access to funds from different FIs to our expansive customer base through our agent network.

It's worth noting that Bakong is not a cryptocurrency. It is a digital currency, backed by fiat currency, that is enabling these transactions.

TFT: How do you see the rise of other digital currencies in other countries?

MR: Simply put, there are two types of economies – those with high banking penetration and those with low banking penetration. For economies with high banking penetration, it is easier to maintain a digital currency because your access to funds can also be digital as well by linking to a bank account. But when you have an economy with low banking penetration, the challenge is finding that physical point where cash can change

hands. That is where the agent banking model players like Wing are going to come in. Even if you are a large player wanting to launch a digital currency in Cambodia, the question will be: What is the source of the funds? How are you going to cash in or cash out? For this second types of economy, there is a journey to make before we reach a place where these digital currencies dependent on bank accounts as funding source can compete.

TFT: In the UK, we talk about open banking and open data as the key to support financial and social inclusion. Does that resonate with Cambodia?

MR: Yes, and I think we are far ahead when it comes to open banking. On the Wing platform, we have close to 200 APIs connected. We are trying to package these APIs into a bundle to help the industry, so they don't have to go and individually integrate with different operators. So, if somebody wants to do a phone top-up, then we will offer a bundled package and they can just integrate with the one API. Staying open-minded to open banking has really helped us drive financial inclusion in the market.

TFT: Has anything changed in the way Wing does business during the Covid-19 pandemic?

MR: Yes, certainly. The pandemic has changed mindsets, perspectives and our approach to the market. We are lucky we are not one of those countries that was severely affected by Covid-19, so we did not have a lockdown except for a little bit of a travel restriction in April. But even before the travel restriction started, we had prepared for the worst. We had to think about generating income for the people who are most affected and, here, one group that was immediately hit were the tuk-tuk taxi drivers and tourist guides. Tourism is a big revenue generator in Cambodia thanks to the millions of people who visit each year, so when the borders closed, tourism and related industries were hit hard. Seeing this, we worked with others and created a marketplace for food delivery services with the hope of helping these people whose livelihoods were impacted. Siem Reap, a popular tourist city, almost closed entirely, so we also started fundraising for tour guides there.

Tourism is not the only industry here that was affected by the pandemic. We also have about 1 million factory workers in Cambodia who had problems first when supply from China was disrupted and then when closures hurt demand in their biggest markets, such as Europe.

With much at stake, the government decided to send out relief funds to people who lost their jobs due to the global

Some businesses are
just there for the money.
But for us, our business
must be beneficial
to the community

downturn. They called on us to help, so now, using our Wing network, we've been able to send funds to the accounts of more than hundreds of thousands of poor people. We want to do our part to help, so we don't charge the government regular fee for this service. In this time, many migrant workers have returned to Cambodia. The government hopes to integrate them into the domestic agriculture sector, so Wing is facilitating a public-private joint venture to create an agri-commerce platform that will provide farmers with access to technology, finance and markets. Before Covid-19, our agents stayed put, and our customers were mobile. Now, with many people hesitant to go out due to Covid-19, it will be interesting to see if that changes how our agents operate.

In the end, some businesses are just there for the money. But for us, our business must be beneficial to the community. **TFT**

AT A GLANCE

WHO WE ARE: Wing (Cambodia) Limited Specialised Bank is Cambodia's leading mobile banking service provider. Launched in 2009, Wing is committed to providing financial inclusion to the unbanked and under-banked, granting every Cambodian access to services including local money transfers, bill payments and phone top-ups, online shopping, QR payment and instant international money transfer from more than 200 countries. Wing remains at the forefront of the mobile money and electronic payment services market in Cambodia with 100 per cent district coverage via a nationwide network of almost 8,000 Wing Cash Xpress outlets.

COMPANY: Wing (Cambodia) Limited Specialised Bank

FOUNDED: 2009

CATEGORY: Mobile banking and mobile payments

KEY PERSONNEL: Manu Rajan, CEO

HEAD OFFICE: Phnom Penh, Cambodia

ACTIVE IN: Global

WEBSITE: www.wingmoney.com

LINKEDIN: [linkedin.com/company/wing-cambodia-limited-specialised-bank](https://www.linkedin.com/company/wing-cambodia-limited-specialised-bank)

TWITTER: @wingcambodia



Will the pandemic change how we make decisions?

Simulations are useful when markets are going both up and down

Justin Lyon, CEO at Simudyne

The world is irrevocably different. We know we will continue to experience highly amplified shocks as the world becomes more global and interconnected. We as a society cannot continue to ignore the utility of modelling and simulation to help our leaders solve or mitigate problems, such as the pandemic. There is too much at stake.

Fire sales and the resulting whipsaws in pricing are endemic to the herding behaviour that both amplifies and reinforces them. It is a trend that will get worse if institutions abdicate their understanding of potential protective measures.

But if leaders and policymakers augment their decision-making with simulation and agent-based modelling (ABM), solutions can be found and agreed early enough to make a difference by preventing much of the damage we inflict on ourselves.

Models are simply representations of objects and things seen in the real world. They can exist only in our minds and can be simple mental models. They can also be codified into software when they are written as formulas and code. These computer models are used to simulate and understand what the model is trying to capture.

They help translate data, observations and assumptions into forecasts. They are also used as testing environments for ideas, decisions or strategies. Importantly, they also help decision-makers question behaviour or sets or behaviours. Computer models expose our assumptions, reveal cognitive distortions and uncover biases that are impossible to see in mental models. When the underlying formulas and code of computer models are made publicly available, as they should be, then they are well-suited to supporting democratic decision-making.

ABM is a useful technique for modelling complex systems to gain a

deeper understanding of how systems behave. ABMs simulate how all kinds of agents, which can be people, governments, regulators, corporations, banks or markets, interact with one other and how that interaction could cause specific things to happen to them and to the economy more broadly. Let's look at human behaviour by comparing an asset price collapse with escaping a burning building. They are strikingly similar.

A market on fire

Just a few months ago we again experienced a rapidly falling market, that is, an asset price collapse. Getting out of one during a time of crisis is, oddly enough, much like escaping a fire. In a fire, three key things determine whether you live or die.

- First, how many people are in the building?
- Second, how many exits are there and how many people can get through them every minute?
- Third, the more flammable the building, the less time there is to escape

During a fire, people panic because they are faced with a life or death decision. So, engineers use computer simulation to study this and to build safer buildings that take into account our tendency to panic when faced with death. We can use the same science to design resilient institutions and markets. Once again, we have three things to track:

- Market concentration, like the people in the burning building, consists of the number of people in the market
- Exiting a position is defined by liquidity – how easy it is to buy or sell an asset
- The flammability of a financial market is intimately tied to the amount of leverage present. Leverage typically triggers forced selling during a price collapse

However, rather than people dying, value is destroyed. Modelling and simulation help us explore these issues in detail. And, what we've discovered is that financial markets are harder to escape than burning buildings – much harder. In fact, without simulation it is almost impossible.

That's because, in our example above, as prices collapse, the number of people in danger can rapidly increase as participants in other markets get drawn into the crisis. And, unlike a building, the exits in financial markets shrink when prices collapse. That's because liquidity seizes up, no one wants to buy your assets, and it's as if the exits are getting smaller and smaller. You can't escape.

When liquidity seizes up, the markets get more and more flammable and the time to escape gets shorter and shorter.

A rapidly falling market is like being stuck in a burning building with the doors slammed in your face while fuel is poured onto the fire. It's bad. Getting this right is critical for institutions everywhere.

Preparing for any crisis

Agent-based modelling and simulation are one of the most effective means of making decisions. By building computer models to make decisions, we can explore a much wider range of potential conditions across a vast number of synthetic futures. That is, governments and institutions can essentially create a virtual version of the real world. Decision-makers can interact with and train in a hyper-realistic synthetic environment.

Ultimately, companies, institutions and governments can transparently and more effectively make decisions that benefit all of us instead of, for example, a small group of special interests at the expense of humanity.

Agent-based simulation opens up new opportunities by providing a significant

competitive edge to sectors, such as banking and finance, fraud, healthcare, transportation and government policy.

Modelling and simulation can also be used to develop strategies for restarting cities, economies and trade and for confronting a host of multi-disciplinary problems, such as:

- Responding to natural disasters like earthquakes, climate change and increasingly frequent extreme weather events
- Addressing complex policy challenges; for example, mass migration, strengthening the economy and reducing healthcare costs
- Establishing effective foreign policy; for example, striking the right balance of competition and cooperation between nations

It is an increasingly complex and interconnected world that our leaders must contend with. Now, more than ever, they need to embrace modelling and simulation. Post Covid-19, the utility modelling and simulation provide will help leaders make better policy decisions and a better world for us all. **TFT**

About Justin Lyon

Justin is the CEO of Simudyne, a simulation technology company based in London. Simudyne uses advanced analytics and AI alongside

agent-based modelling and simulation to help institutions, exchanges and governments solve complex problems and make better decisions.

Simudyne



THE REBUNDLING OF FINANCE

*With a disconnected world of money, customers want to simplify fragmented financial services into one place again, says **Shachar Bialick**, Founder and CEO of Curve*

The commonly held belief in finance today is the inevitability of what people refer to as the ‘rebundling’ of finance and its movement into a few platforms that will act as your financial control centre across retail and SME banking.

The common banking growth strategy so far has been to follow the traditional banking paradigm: acquire customers via a (loss-making) debit account, build a relationship, move to cross-selling and upselling more (lucrative) financial products and services. This approach is an extremely competitive business model and many incumbents are well established with multiple products, geographical coverage and brand awareness.

The greatest strength of challenger banks is also their greatest weakness; they’re new. When it comes to savings, people want safety, predictability and security. Traditional banks have a track record and customers trust them. There are still many customers, especially the digitally sceptical, that will require challenger banks to work even harder to gain their trust and ultimately, their funds. The banking incumbents know this and are already investing heavily in revamping infrastructure, building better experiences, and promoting offers to stave off the threat of newer banks.

Not a better bank, but a better banking experience

In the past, our parents bundled all of their finances together in one place – their bank. However, advances in technology and the ways in which banking services are being distributed have meant a change from this bundled market position where global banks own a significant share of the market, to an unbundled market where many players and new entrants offer better, faster, cheaper banking services.

Firms, such as BlueVine and Kabbage, introduced new models and experiences in business lending; TransferWise introduced fee free money transfer and foreign exchange; Robinhood is offering fee free trading; Affirm simpler lending; Habito faster and cheaper mortgages. That’s just a fraction of the offerings available today in banking. There are tens of thousands of fintechs today, providing faster, cheaper, and better financial services that compete directly with the incumbent banks.

This unbundling has made money complicated, difficult to access, and can end up being more expensive. Although consumers are offered more choice, they now need to learn about these new financial products and services, weighing up the advantages and disadvantages to

make the right choices. In addition, now no one company has a complete view of their customer.

Additionally, when analysing the jobs incumbent banks do, we found that the only real job of the bank is to keep customers money safe, and they do a pretty good job of it, with little appetite from customers who want to move accounts from trusted bank accounts to rival banks or challenger banks. In fact, only around 10 per cent of current account holders have switched banks since the Current Account Switch Service launched in 2013.

Speaking to *The Fintech Times* in June, Samantha Seaton, CEO of Moneyhub, argues that while the challenger banks might have succeeded in changing early adopters’ behaviour through supplementing traditional banks, they are yet to make any real headway in replacing them.

“People get paid into their traditional bank account, so are spending their main outgoings from that account,” she says. “People tend

People’s expectations in banking are no different to their expectations in other aspects of their lives – They want it simple, affordable, and always available

to transfer a small portion of any ‘spare cash’ into their challenger account, which they will use to spend on day-to-day small costs, like going to the pub or out for dinner. People will often feel safer bringing out their challenger bank card if it has a much smaller amount on it, rather than their main bank card where there is more to possibly lose.”

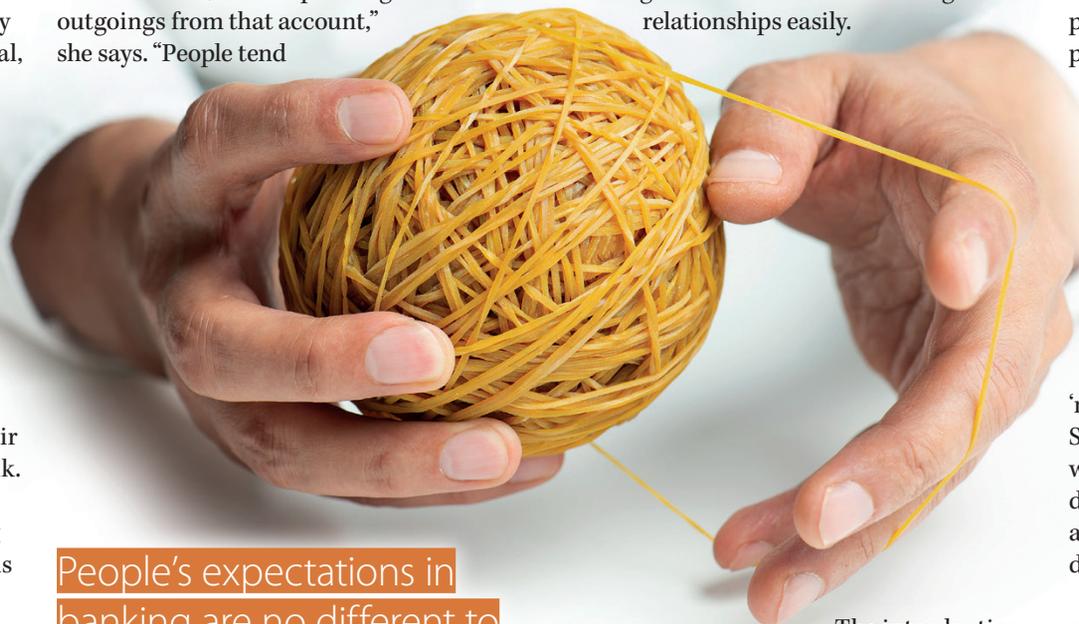
Rebundling banking

People’s expectations in banking are no different to their expectations in other aspects of their lives – listening to music, watching TV and shopping. They want it simple, affordable and always available.

So, what will be the type of product that wins the rebundling race? We believe it is unlikely that the incumbent banks will be the rebundlers. They are often vast, complex businesses with archaic processes and legacy infrastructure. To change what they have done successfully for decades would be too much of an undertaking.

From organisational change to conflicting business models, there are predictable patterns and reasons that Walmart did not become Amazon and Warner Group Music did not become Spotify.

Several startups have realised the need for change and, as they are more nimble, have started to develop new banking experiences. Companies, such as Monzo, Starling, N26, and Chime, have all tried to do banking better; building fully regulated banks with an accompanying app that provides people with a better banking experience. However, as previously discussed, people don’t tend to change accounts or break banking relationships easily.



The introduction of challenger banks implies that incumbent banks are doing a poor job of keeping people’s money safe. The challenger banks are also choosing to compete directly with huge, established, incumbent banks, who won’t go down without a long, expensive fight. It also disregards the fact that we use many financial services, from shopping online with PayPal, to using rewards credit cards, to business expense cards.

Unless the challenger banks think they’d be able to compete with all these businesses and replace them, their solution disregards the financial world of the average Joe. All in all, by becoming a bank, challenger banks will spend more money, make more enemies and find it more difficult to attract customers because they opted for a banking route, which requires people’s trust and the displacement of their money or the services they’re using.

The winning strategy is to rebundle

money and move banking to the cloud, which is what Curve has done. It requires a different strategy that fits better with the need to manage the multiple offerings used by consumers today.

Going over the top

History teaches us that most successful rebundlers started by building an ‘over-the-top’ layer on existing technology, thereby providing a better way of accessing existing products and behaviours. For instance, WhatsApp did not create a new mobile network, it used the prevalence of internet connected smartphones to build a new way of sending messages, focusing on seamless user experience. Similarly, Netflix did not initially create its own new media content and Amazon did not publish its own books. The winning rebundlers are consistently companies that build their business as an over-the-top layer providing better, faster, cheaper experience on top of existing rails, products and behaviours. This in turn provides a greater level of insight based on the data and habits of those that use the platforms, enabling them to see pain points of processes and improve the overall experience based on that data.

The rebundlers in each category – Netflix, Amazon, Spotify – are all customer-focused data companies. Sixty-five per cent of the profits in many businesses are in distribution of products and services, not in ‘manufacturing’ of products and services. Similarly, in banking, the future rebundler will be the company that is focused on distribution, has the highest access to data and builds the best, fastest, cheapest, most delightful user experience on top of it.

Curve is just that. It does not ask the customer to change the products they are using. It does not ask customers to trust it with their money – only with their attention. This approach provides Curve with a phenomenal access to data with the ability to move money between accounts at the touch of a button, putting Curve in prime position to distribute financial products and services while creating incremental value to its customers and partners. A good example for that is Curve’s latest announcement of Curve Credit – which enables its customers to go back in time and ‘pay later’ for any transaction made on Curve, thus accessing favourable payment terms with a tap of a button.

A true rebundler must be agnostic of where the customer’s money sits and connect it all together into one interface. The over-the-top paradigm, which Curve introduced into banking, is the way in which Curve believes the rebundlers will emerge in the ‘Western world’. **FTI**

Without payments legislation, starting with the first Payment Services Directive in 2005, we would have not seen the incredible rise of fintech in Europe and arguably we would have not been able to disrupt what has ever since the beginning been the domain of banks alone.

The second Payment Services Directive (PSD2), in force since 2018, has the objective to further increase competition in the payments market in a way that ensures better choice and more security for all users. The arrival of third party payment providers (TPPs), which allowed users to make seamless digital payments over the internet and via their mobile applications and other channels as well as manage information across different types of payment accounts, were a welcome addition to the increasingly vibrant payments landscape in Europe. PSD2 level one text was carefully crafted to be technology neutral and thereby protect TPP business and product continuity. PSD2 therefore plays a crucial role in setting a level-playing-field between these new types of payment service providers (PSPs) and the incumbent banks.

However, through second level legislation, represented by the European Banking Authority's (EBA) Regulatory Technical Standards (RTS) adopted in 2018, TPPs needed to migrate their access-to-account technologies to dedicated interfaces, more commonly known as application programming interfaces (APIs), which have to be built by banks (also called account servicing payment service providers or ASPSPs). It is crucial that the quality of such APIs is at a level that can ensure TPP business and product continuity. To avoid the creation of obstacles, the API Evaluation Group, an industry-wide stakeholder group, was set up in 2018 at the initiative of the European Commission in

order to craft recommendations to the industry about how APIs should be designed. A final list of recommendations was eventually adopted by all stakeholders and serves as a template for 'what good looks like' for APIs. The 'recipe for success' is hence there, but banks to date have resisted implementing these recommendations.

Ralf Ohlhausen, vice chair of the European TPP Association (ETPPA), who was one of the three TPP reps in that group, recounts: "We started off hopeful with a long wish list of API functionalities, which the bank reps negotiated down to the bone over almost one year. It was really hard work to reach an agreement at the end, and I am still gobsmacked that the bank groups defining the API standards then refused to implement it."

TPPs have so far spent significant resources to onboard the bank APIs, but as of June 2020 the low quality and availability of bank APIs has been a challenge.

But this is not all. There are other important issues that need to be addressed urgently in order to allow the fintech TPP community to survive and thrive.

For example, many banks or ASPSPs have made their life easy and their customer's life difficult by implementing strong customer authentications (SCAs) for every login rather than only once every 90 days as legally required. And, they are also not bothered implementing this without disrupting automated TPP services. This non-compliant introduction of SCA has required TPPs to add a third technology layer quickly, because regulators did not react to escalations and have still not intervened now nine months later. As a consequence, where TPPs were previously using one access technology successfully, they are now obliged to use up to three different types, leading to much higher cost and significant deterioration of the user conversion

Let payment fintechs strive with PSD2

National regulators need to step up the pace to enforce API improvements required by the European Banking Authority
By European Third Party Providers Association (ETPPA)



rates and the quality of the service that can be provided to them.

Furthermore, the practical application of the SCA provisions have shown that ASPSPs tend to require additional SCAs for account information services (AIS) and payment initiation services (PIS), API access and consent confirmation, meaning that for simple payment initiation, the user is prompted to respond to up to four SCA requests for a single transfer through a payment initiation service provider (PISP). The recent European Banking Authority's (EBA) clarification is therefore very important, which stated that for both AIS and PIS-only payment journeys no more than one SCA is required.

The introduction of mandatory redirection by

most banks, which removes from TPPs their (existing) possibility to design good user experiences and also slows down the payment flow, has also resulted in a significant reduction of conversion rates. The ETPPA is therefore very supportive of the EBA's recent clarification that redirection cannot be more cumbersome than the equivalent in the ASPSP's own channel although that is setting the bar still far too low.

Another big problem for TPPs providing AIS is the obligation of customers to re-authorise their TPP at least every 90 days - if not every time. Every single bank requires this to be performed by them, despite the fact that PSD2 specifies that it is the TPPs managing the consent and that PSPs in general can perform SCA.

This is an insurmountable barrier for the provision of AIS, because users having several banks managed by the same TPP would have to go through several different SCAs, at different points in time and with completely different user experiences. In essence, TPPs have to start from scratch and onboard their customer base at least every 90 days. Unfortunately, the EBA has not removed this problem and only advises national competent authorities (NCAs) now to encourage ASPSPs to at least use the SCA-exemption that avoids the need to do this daily.

Another important observation is the widespread lack of data parity between the ASPSPs' user interfaces and their APIs, both in terms of data fields and data quality, which means that the TPPs firstly cannot provide the same functionality and quality, and secondly cannot mitigate fraud as well as before. This is despite the work and recommendations of the API Evaluation Group specifying what is necessary data for TPPs.

At the time of writing, card-based payment systems, where increased security would be most required, continue to enjoy the postponement of SCAs across Europe (until end 2020) with further national delays in the UK (and maybe soon some other countries) going beyond that date. This creates an unlevel playing field misaligned with the political objectives of PSD2 and this has also been publicly recognised by some of the regulators.

Ohlhausen welcomes the new EBA opinion, saying: "We are very glad that many of the issues we have raised over the past two years have now been addressed and clarified. Several obstacles are now recognised as such and banks will have to take them away. In particular, those relating to user journeys, like unnecessary redirections, multiple redundant SCAs or manual IBAN entries. It's not all good news though, there is

some devil in the detail of the EBA opinion and worst of all, they could not resolve the 90-day reauthentication problem, which means that we now need an RTS2 to overcome this and some other unintended consequences of the existing legal text. Strangely, direct debit mandates allowing money to be taken off an account are valid for life, whilst just looking at an account requires SCA at least every 90 days and with some banks even every day. What is the sense of that? Where is there more risk? This requirement should be taken out completely. Hopefully, the national regulators will now hurry up in enforcing the API improvements required and requested by the EBA."

All of the above means that PSD2 is not yet providing the regulatory certainty and enforcement to enable TPPs to compete with banks. Instead, many consumers that have enjoyed using different types of TPP services in the past are often encountering difficulties to do so since PSD2 is being implemented. Some users receive message alerts in the middle of the night asking them to authenticate themselves, fearing that fraudsters have tampered with their online accounts - even though it is clumsy banks requiring extra checks before TPPs can provide alerts to their customers on account balances, incoming payments or better deals elsewhere. Is it a paradox that strengthening of Europe's key payments innovators - TPPs - is being made so difficult in light of the importance for Europe to become more competitive with US and Asian big techs. [ETPPA](#)

About ETPPA
ETPPA is the European trade association representing the interests of bank-independent TPPs.
Website: www.etppa.org
LinkedIn: www.linkedin.com/company/etppa
Twitter: [@etppa_org](https://twitter.com/etppa_org)

ETPPA

MAINSTREAMING CRYPTOCURRENCY

David Carlisle, Head of Policy and Regulatory Affairs, Elliptic

Building trust in this emerging asset class

Bitcoin, the first cryptocurrency, was understood by few in its infancy, only coming into existence in 2009. Early adopters saw the potential in this new 'digital money' as a more efficient means of value transfer and investment than cash. They pushed boundaries and conceived a new asset class at lightning speed which is now valued at around \$250 billion, according to CoinMarketCap.

Once dismissed as a curiosity, cryptoassets are now capturing the attention of global financial institutions, who increasingly see opportunities in this exciting technology. The biggest news in the mainstreaming of crypto story is a letter published by the US Treasury's Office of the Comptroller of the Currency (OCC) to an unnamed bank last week, clarifying that banks in the US can provide crypto custody services. This clarification is vital in giving US banks the confidence in offering crypto-related services. JPMorgan is one bank that has been early to the game by offering banking services to two of the world's largest crypto exchanges, Coinbase and Gemini.

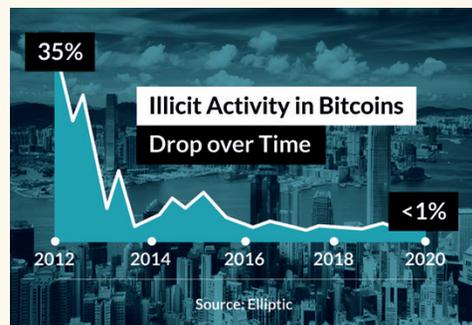
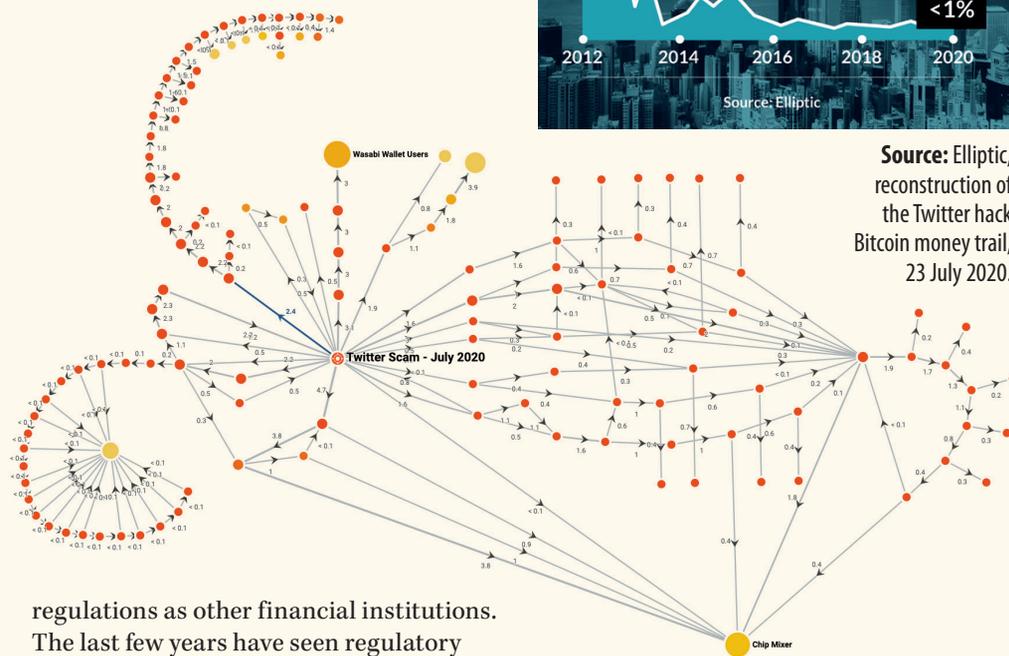
Why all the hype? Bitcoin had a rocky start as it attracted attention from criminals for being 'anonymous and untraceable'. This was more media hype and lack of understanding of Bitcoin, which is by no means anonymous. At the core of Bitcoin is a public, online ledger recording every transaction, for all to see, known as the

blockchain. This digital footprint is immutable, making crypto transactions infinitely transparent.

Blockchain analytics firms like Elliptic gather this blockchain data from public records and use sophisticated algorithms to recreate the money trail. The recent Twitter hack in which the criminals laundered money via Bitcoin in an elaborate web of transactions demonstrates blockchain analytics at work.

This kind of headline story gives crypto a bad reputation, but illicit activity is down to less than one per cent of Bitcoin trading volume, compared to 35 per cent in 2012. Despite contrary belief, the crypto community is 'compliance first' by nature and in its business operations.

Crypto businesses are bound by some of the same anti-money laundering (AML)



Source: Elliptic, reconstruction of the Twitter hack Bitcoin money trail, 23 July 2020.

regulations as other financial institutions. The last few years have seen regulatory milestones put into place, starting with the Financial Action Task Force (FATF) Guidance for a Risk-Based Approach: Virtual Currencies, issued in 2015.

Since then FATF has been reviewing the progress of virtual asset service providers (VASPs), especially in relation to Travel Rule compliance, bringing the expectations of VASPs to the same standard as other financial institutions.

into a fiat currency account. If the link is not made between crypto and fiat currency accounts, it raises the question of whether financial institutions are wholly fulfilling their regulatory responsibilities. Eventually, there will be a convergence where banks will need to have the same crypto AML tools in their compliance tech stack as crypto businesses have.

Another question banks face is whether to diversify their portfolio by offering banking services to the crypto

market. Typically, risk policies have put all crypto in the 'bad' category and banks haven't had the reliable data needed to develop meaningful risk parameters.

Banks can now risk score crypto businesses with tools, such as Elliptic Discovery created for this very purpose. By assessing risk associated with crypto businesses, banks can open their doors to offer cash accounts and other services, just as we've seen with JPMorgan. Banks in Singapore and Canada are also early movers in offering direct crypto products and services.

With the recent news out of the OCC, US policymakers are catching up fast to ensure their financial system remains competitive and innovative.

And, the best is yet to come. The conditions are ripe for financial institutions to engage in the crypto space: mature regulation is in place, crypto AML tools are widely available and proven, crypto businesses are taking compliance seriously, and there is an appetite for a new, efficient means of value transfer and investment.

If that is not convincing enough, the World Economic Forum's (WEF) platform on blockchain and digital assets, in which Elliptic is recognised as a 2020 Technology Pioneer, established the Digital Currency Governance Consortium earlier this year. This collaboration with the WEF will drive forward policy that welcomes crypto into the global financial system, in a way that protects society, governments and business. [TFI](#)

About David Carlisle
David is the Head of Policy and Regulatory Affairs at Elliptic, a provider of cryptocurrency forensics and compliance solutions,



where he leads engagement with regulators and other external stakeholders. With over a decade of experience in AML, counter-terrorist financing compliance and regulatory matters, he previously worked as a policy advisor at the US Department of the Treasury's Office of Terrorism and Financial Intelligence. He is an associate fellow at the Royal United Services Institute, a UK think tank, where he has authored reports on terrorist and criminal use of cryptocurrencies and policy responses.

ELLIPTIC



Future of finance

Values and a financial ecosystem that is evolving to create a better future

Hazem Danny Al-Nakib, Partner at 7BC Venture Capital and Dr. Ruth Wandhöfer, Partner Gauss Ventures

The world of finance is changing. With the onset of digital and the internet we have all been witness to and participated in accelerated change over the last several decades that has begun to explore areas of digital sovereign currency, digital identity and decentralisation more realistically.

New technologies are being used to both enhance privacy by design, such as zero-knowledge proofs, but also routes around privacy protection. This is also seen with the decrease in regulatory barriers to the provision of certain products and services leading to the trend from 'banks' to 'banking' and digital platforms entering financial services.

But, as people, we are not particularly savvy at predicting what and how these changes will affect our day-to-day lives until they have reached maturity.

Our shortcoming comes in not being able to identify the mode in which that change takes place. But what we can do, is equip ourselves with the tools to better understand some of those possible ways on the basis of 'values' that lead to knowing what is 'valuable' as we attempt to reimagine the future of the financial sector with technology as its enabler.

Values and the digital social contract

Change in the financial sector operates at the nexus that is the intersection between

society, government and industry, and is powered by technological developments – values across each group help identify the trajectory of any possible mode because it ultimately determines what is valuable to or valued by each group and is the basis for a digital social contract between the three groups.

This in turn helps technologists, economists, policymakers, entrepreneurs and customers better consider good innovation, which comes at the alignment of what is valuable to each group, whereas bad innovation comes at the misalignment between them. Examples of this misalignment include

the global financial crisis, the repeated misuse of consumer data and the stifling of innovation in payments because of outdated regulation.

As it relates to finance, we have seen astounding advances in automation, analytics, prediction and digitalisation, but we have not seen a modal shift into the digitally native similar to what we have seen with information, such as with photographs and books, much earlier on in the beginnings of the digital economy.

Everything is becoming digital, automated and data-driven and we need a core set of values for a

digital social contract that will shape and transform the future of finance that powers the digital economy and permeates every area of our lives.

A few areas of what is valuable include privacy, sustainability and wellbeing, each derived from one value – trust. We need to ask ourselves: how do we want to reimagine the financial sector in a way that reflects our collective values?

We are at a critical inflection point where we need to collectively decide what the future of finance will look like. To build on

the often-cited clerics of innovation that have tried to place technology into historic and future waves, those being Kondratieff waves and Šmihula waves, the wave we are now in is the 'wave of trust'.

Technology as an enabler

We are using and contributing to the growth of the digital economy in our day-to-day lives. Transactions, exchange and communication operates in the form of data in a more global way while more is being invested in tech than ever before.

The dramatic potential is clear – entire states are developing digital infrastructure programmes because technology allows for better, automated digital delivery of services and goods for virtually every area, but on the other hand it also enables mass surveillance.

Large platforms themselves are becoming more and more similar to states – we call them digital states – and it is because of the technologies at their disposal that enables them to expand into every area of the digital economy.

The potential to lead to good or bad innovation in areas of privacy, sustainability and wellbeing are more present than they have ever been because technology enables it.

Society values trust

In recent years, there has been a greater emphasis placed on the value of trust, particularly amid such accelerated technological change and the shift from the physical to the digital.

With the digital transformation, more and more information about people, processes and businesses is accessible and more occurs digitally, hence the digital economy.

Trust has emerged as a fundamental value in all societies as they entrust their information, their wellbeing and the Earth to organisations, governments and each other in a digital and global forum. All the while relationships themselves are being rewritten and reconfigured digitally.

Trust is an interesting thing, it drives people to be

We need to ask ourselves: how do we want to reimagine the financial sector in a way that reflects our collective values? We are at a critical inflection point where we need to collectively decide what the future of finance will look like



We are the recipients of tools like robo-advisors, decentralised systems, online banking and machine learning models geared to anticipate our wants and needs and to sell us products and services.

Technology can be good or bad. For example, a platform built that is not private by design allows a certain type of behaviour. The type of behaviour displayed by providers, operators or nefarious actors depends on their values and what they find valuable. Misalignment of what is valuable can lead to exploitation and so can trade-offs.

able to act in a particular way without the suspicion of being taken advantage of, that their possessions, property, home and identity will be treated safely if entrusted to another party as part of their social contract. The question is simple: 'are they operating in our best interest in a way that garners trust?'

This can also manifest differently. It could be about knowing with certainty that one's data is not being tracked or not being resold in aggregate data sets. Or it may be that long term behaviour of the entrusted party demonstrates that they are operating in the best interest of their citizens, users or customers. It could be that intermediaries are not extracting fees at every turn. But it could also be that organisations are not benefiting from behaviours that negatively impact the Earth and that governments are disincentivising such behaviour.

Trust is measurable and has a direct influence on loyalty, use, support, perception, profits, and more. Trust itself has value.

Government values growth

For governments, long having been seen as the slowest to change and more lately being predominantly focused on cutting costs and driving economic growth have primarily had a laissez-faire approach in general.

Yet, what they find valuable is engaged in a few ways. The first relates to their use of technology itself to deliver what it needs to deliver for its citizens and its economy, such as protection, economic growth and regulation.

Governments and regulators often have difficulty grappling with and understanding certain technologies, their support of them, and their use of them.

Although, many governments have played fundamental roles in the creation of technologies, like the internet, they have also adopted outdated regulations, such as in payments.

Governments are beginning to feel the fundamental nature of trust as a measurable requirement and precondition for pursuing a just digital society where alignment of values is necessary. This has been obvious with recent dialogues surrounding track and trace applications.

Industry values profits

Industry values profits and is looking for new ways to capture new or existing markets, increase productivity, reduce costs and generate greater profits. Examples of this include large digital platforms being interested in global digital currencies, which would allow them to extract revenue from transactions they currently only facilitate, and to have access to more and better data.

For as long as what is most valuable to industry remains constant, there will be continued value misalignment. For as long as what is valuable remains the same, little of practical change can happen.

Where to now

The future of finance will be a function of where innovation lies, which is at the nexus between society, government and industry. We want that modal change to be comprised of good innovation that is based on the alignment of values on the one hand, and how that correlates to what is valuable across each group on the other hand. This should constitute the basis for the formation of the digital social contract, the foundation of a fair and trusted digital economy and financial system.

The finance sector has been around since bartering began and

the mode and the vehicle that it operates through will continue to change. We can spend our time failing to predict each of those, or we can spend it ensuring that value alignment is in place and moving toward continuous good innovation that builds and strengthens trust across society, government and industry in order to cultivate more of what is valuable, such as privacy, sustainability, wellbeing and much more.

We will share deeper insights into this journey in the book that we are currently working on that will be published in early 2021. Stay tuned! **TFT**

About 7BC

7BC Venture Capital exclusively focuses on investing in and supporting the digital economy using frontier technologies, including artificial intelligence, fintech and software infrastructure technology companies connecting and underpinning the digital economy.

Website: 7bc.vc

7BC.VC

About Gauss Ventures

Gauss Ventures packs over 100 years in cumulative experience in building successful businesses, running major international banks, and investing into transformational companies. We specialise in hands-on domain specific investments in fintech and smart industry companies. We stand by our companies; rolling up our sleeves and providing ongoing support to each and every company we work with.

Website: www.gauss.vc



GAUSS VENTURES

PAY360 goes virtual

Bringing together the paytech community to shine a spotlight on payments innovation

Now in its eighth year, PAY360 is the flagship annual conference of the Emerging Payments Association, the UK's trade body for the emerging payments industry. This event is a true celebration of payments innovation and we're very excited that amid all the chaos and uncertainty of the last few months, that the show will still go on – as a virtual event – on 4 to 5 August.

The second quarter of 2020 was unprecedented. Rewind to this time last year and no one had even heard of phrases like 'lockdown' and 'social distancing', but now they are very much part of our day-to-day vocabulary and reality. But throughout all the ups and downs of the last few months, the payments industry has remained resilient.

Consumer behaviour is changing. People are spending less overall, particularly in some sectors like hospitality and travel. Cash payments have seen a steep dive following World Health Organisation (WHO) recommendations that consumers use contactless payments to limit the spread of the virus via cash. However, this decline in some areas of payments is also partially offset by an increase in online spending and a shift towards contactless payments. People may be staying at home, but they still need to pay for their basic goods and services, so some sectors of the industry have seen a corresponding upswing.

The long-term impact of Covid-19 on the global economy remains to be seen, but there is no doubt that it will be profound. Preparing for this new normal now will help us to come out the other side, stronger and more innovative than ever before. And, that's where PAY360 comes in.

In partnership with Visa, PAY360 brings together the leaders in the emerging payments community to discuss the future of our industry. We expect an audience of more than 800 C-level executives to join us to learn about future innovations and to gain insight into what is driving the industry forward.



EMERGING PAYMENTS ASSOCIATION

Attendees will benefit from more than 10 hours of unique content presented by a plethora of expert speakers from leading companies, including Visa, Revolut, Citi, HSBC, Mastercard and more. The agenda covers all the hottest topics, such as mastering the post EU Payments Services Directive (PSD2) landscape, winning the digital transformation battle, digital identity and the power of partnerships. And, of course, no conference would be complete without some handshaking and deal-making, so our attendees can expect plenty of networking opportunities with fellow paytech innovators before, during and after the event itself. Well, not actual handshaking of course, but the virtual equivalent we are now all used to.

We will also be announcing the finalists for the Emerging Payments Awards at PAY360. The Awards celebrate innovation and collaboration, recognising companies that have made significant advances in how we pay today. With 20 hotly contested categories including Best International Payments, Best Financial Inclusion Payments Initiative and Best B2C Payments Programme, the finalists will be announced and celebrated at the Awards ceremony in November.

We at the EPA are proud to host this event every year, to provide a forum for payments pioneers to come together to collaborate and drive innovation, which is needed now more than ever. With more than 115 members and growing, EPA members come from across the payments value chain – payments schemes, banks and issuers, merchant acquirers, payment service providers, retailers and more. These companies come together at PAY360 to learn and share ideas, and it gives us great pleasure to see the event continue to thrive and grow, especially in these turbulent times. **TFT**

THE EMERGENCE OF THE DIGITAL SECURITY ECOSYSTEM

Graham Rodford, CEO, Archax

Growth predicted as traditional financial institutions push deeper into digital assets

We've recently seen a slew of announcements by large financial services incumbents regarding their work with digital securities.

HSBC has put \$10 billion of private placements onto a digital ledger, SocGen has performed a digital securities transaction using an European central bank digital currency (CBDC) and Nasdaq has announced that it will be building a blockchain native platform on R3's Corda technology. So, what are digital securities and what is required to move this nascent space into one of mass adoption?

What are digital securities?

Digital securities are a digital representation of an asset that happens to be a security. When a 'security' is tokenised using blockchain technology to create digital tokens that represents fractions of that asset – these tokens are termed digital securities. They are, as confirmed by the Financial Conduct Authority (FCA) in its consultation paper CP 19-03, just like traditional 'securities' from a regulatory standpoint. That is, they meet the definition of a specified investment as set out in the regulatory activity order and a financial instrument under the Markets in Financial Instruments Regulation (MiFID II). Therefore, we should consider that digital securities are not actually a new asset class, but just a new way of digitally representing any existing asset class.

Efficiencies

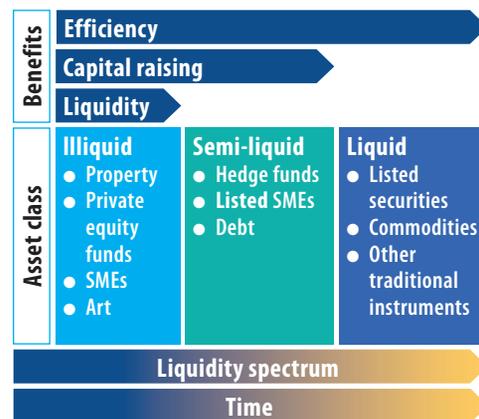
So, what exactly is the difference here? A key difference is in the technology. Distributed ledger technology (DLT), of which blockchains are a type, is the technology being used to underpin these new digital instruments, and this new technology provides a much more efficient way of handling financial instruments. While many people have heard of things, such as 24/7 trading or fractional ownership, these are not truly advantages caused directly by the technology. These were possible in the traditional world, but the drive that has been brought about by the movement of DLT proponents has led to them being considered new initiatives. There are a number of specific advantages, however.

Creation of a digital representation of an asset on DLT technology first allows a trusted record of any transactions to be shared. So, when a trade in that asset takes place, for example, all participants involved have

access to the same transactional information instantaneously. Gone are the days where entities would need to reconcile all their individual books and records with each other.

Also, since digital securities are all held within digital wallets, it is possible to monitor holders/owners of an asset on a real-time basis, allowing for enhanced capital table management and an improved facilitation of corporate actions. While central bank digital currencies are not the focus of this article, it is worth noting that a government-backed CBDC that can move along these rails further enhances the benefit of this technology. For example, dividends paid across a blockchain can use the information to identify holders and immediately send a CBDC to a holder's wallet in a fraction of the time and cost of traditional distribution.

Since these efficiencies exist, why is it that we are seeing such a large volume of illiquid assets becoming digital securities and fewer large assets? The answer lies in the liquidity spectrum below.



If we plot assets on a 'liquidity spectrum' with illiquid assets on the left and liquid assets on the right, most of the activity in the space is currently occurring on the left of the spectrum – so this is also a good representation of time. The reason that we believe this is happening is that for these illiquid assets there exists the largest number of benefits in creating a digital security.

Firstly, for illiquid assets there is the ability to facilitate liquidity. Note that we are not saying that everything will suddenly become liquid, but if there is pent up liquidity, having a secondary market can expose this liquidity and allow people to discover its depth – and as a result, hopefully some price discovery too. It may also be the case that a 24/7

central limit order book is not the ideal marketplace for every type of asset, but a landmark property, say, that currently trades once every several years could benefit from a quarterly auction, for example.

Next, these assets often have access to limited pools of capital. Landmark buildings, again, trade at size and are only discussed by institutional investors. It's not that other investors aren't interesting in participating, it is more a question of accessibility and size. A fractional share in a landmark building would be an interesting investment for a lot of investors.

Finally, the efficiency points we discussed above are also beneficial to the issuer. Therefore, an efficient issuance with the potential for increased liquidity and capital raising is going to be really appealing to many issuers.

If you look at semi-liquid assets like hedge funds, they don't necessarily need the liquidity as much as the illiquid assets do, they already have perhaps monthly redemption cycles or may be listed on the junior market like the Alternative Investment Market (AIM). But they can still benefit from the efficiencies we have discussed as well as the access to new pools of capital that digital securities can offer.

For liquid securities, such as Apple, Amazon and Vodafone, they don't need any more liquidity and they probably don't need to raise capital from new sources either. However, they can still benefit from efficiencies, such as efficient corporate actions or cap table management. For these types of companies though, there is also the interest in benefitting from the technological efficiencies DLT can bring from the market infrastructure providers, such as the traditional regulated markets, particularly in the post-trade space. Therefore, we think a lot of the pressure on the left-hand side of the liquidity spectrum will come from the issuers and companies like Archax, who are trying to democratise financial markets, whereas on the right-hand side pressures will come from current market incumbents, like the London Stock Exchange (LSE) or the SIX Swiss Exchange, which are looking to improve their trading workflows.

If you believe, as we do, that this means all asset classes can benefit from tokenisation and will move 'on chain' in the short to medium term, the market opportunity is actually made up of every tradeable asset class in existence (see graph, below).

While that may seem farfetched, if you work through each of these assets, most of them have already started to transition onto a blockchain already, either actively or in a test environment. Digital assets are obviously natively on chain, central bank currencies are being considered by various central banks, individual stocks are being looked at by the likes of SIX, which is reimagining the way existing securities should trade and commodities, such as gold, are being expressed with products like CoinShares' DGLD and Tether Gold. Finally, real estate is probably one of the most oft talked about tokenisation opportunities. Therefore, when you start walking through the products out there, you realise that asset tokenisation is happening a lot faster than most predicted.

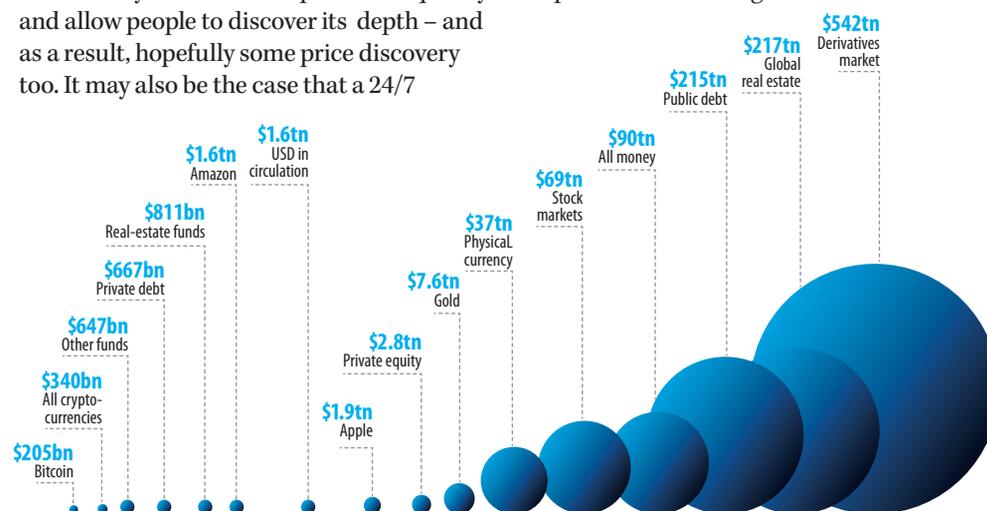
Accessibility

As efficiencies go up and costs go down, as with any product, accessibility also increases. Capital markets were only available to those entities that could afford the fees associated with a fund raising, engaging a sponsoring broker and other significant counterparties, and listing onto a trading venue.

With new entrants moving into all these verticals, we are seeing a complete disruption of the capital markets value chain that will ultimately lead to improved democratisation of capital markets. For example, Globacap is assisting companies with enhanced cap table management, Nivaura is automating legal documentation, Securitise is allowing creation and lifetime management of securities and Archax is providing a natively digital secondary market. The result of this is that a company can now approach many of the firms in the space to create a digital security, raise money, track shareholders, process corporate actions and facilitate trading for a fraction of the cost previously.

Movement

This hasn't been lost on the current market incumbents, which is why we are increasingly seeing the names of the large players associated with this movement. The London Stock Exchange Group (LSEG) invested and participated in the FCA's sandbox with Nivaura, SIX in Switzerland is building SIX Digital Exchange (SDX) on R3's Corda, Nasdaq is building issuance, trading and settlement on Corda too, SocGen and HSBC are performing test DLT transactions, and the Depository Trust & Clearing Corporation (DTCC) has announced two new initiatives to improve post-trade settlement in public and private markets. The list goes on, and notably this isn't confined to one sector or location, this is a global movement. [TFI](#)



Making transaction data actionable in real time

Are you maximising operational and business agility?

Transaction data has become a strategic asset. Accessing transaction data is critical for client service and compliance teams, and it is increasingly fuelling automated processes that rely on transaction details to support both operational and market level decision-making. Business teams within wholesale banking need continuous insights on their past and ongoing business activity while operations teams require access to transaction details for business activity monitoring and alerting on operational incidents. Similarly, compliance officers need continuous access to transaction data for scrutiny. Increased regulatory mandates make effective information management no longer optional.

As transaction banking is witnessing a flurry of digital innovations, one major value proposition stands out: maximising visibility and control on end-to-end transaction processing.

Monitoring the internal processing of financial transactions is critical to ensure flawless operations and straight-through processing from front- to back-office. Financial transactions, such as payments, foreign exchange, trade finance and securities, are processed and executed by a multitude of specialised systems. To obtain a real-time overview of all systems and of all granular flows

involved can be a challenge. Additionally, transactions can get blocked in one of those systems for a myriad of reasons – usually without notice – even as the system is reported to be running, leading to additional costs and reputational



damage. The institution then needs to investigate and localise the problem, which takes avoidable time and effort. INTIX makes this seamless.

Financial institutions are hungry for analytics as this allows them to grasp their own operations and own client behaviours. Therefore, business teams heavily rely on analytics and insights on transactions processed by their own institution. However, business teams often face technical and operational challenges as transactions are processed by a multitude of internal systems in different, often complex, formats.

Manual aggregation of transaction details leads to delays and is prone to errors which is why technology has become vital to produce enterprise-wide analytics in real time. INTIX delivers real-time analytics out of

the box. INTIX transforms transaction details into real-time analytics.

As regulatory scrutiny on financial institutions increased drastically during the last decade, the pressure on regulatory compliance officers increased considerably. One

of the main obstacles in this function is related to data accessibility which is often depleted due to legacy technology or dependency on other departments.

Financial institutions are under immense regulatory pressure to analyse transactional flows and spot suspicious activity. This is why compliance officers are continuously scrutinising transactions. To achieve this, they require access to all transaction details. It has become vital for compliance officers to get easy single window access to all the required original transaction data which is what INTIX delivers in standard.

Both operations and business teams along with compliance officers benefit from data management technology to help them access original transaction details from long-term archives and from

production systems, whilst recognising all past and current financial messaging formats. They need an instantaneous system with the ability to search and produce ad hoc reporting with easy navigation through huge data sets. Seamless

integration with legacy systems while minimising technical integration is a must to guarantee data integrity. Financial institutions can increase their level of responsiveness when all the needed data sources become available at their fingertips.

INTIX addresses the challenges faced by financial institutions such as accessing and consolidating transaction data from multiple internal systems and delivering real-time analytics and insights. Thanks to real-time access to transaction details, the INTIX technology provides end-to-end business activity monitoring which serves transaction processing operations as well as enhances detection of collusion fraud.

INTIX shields end users from the complexity of handling numerous

internal systems, transaction semantics, messaging formats and e-channels. With improved transaction visibility and control, financial institutions serve their clients better and track their operations more effectively. They develop a competitive

advantage which drives client satisfaction and business growth.

The non-intrusive INTIX technology breaks down the organisational silos that typically exist within financial institutions to provide a complete picture of an institution's financial transactions across a myriad of data sources and data formats.

xTRAIL comfortably meanders amid existing technology in your transaction environment and breaks down organisational and technical silos that typically exist within financial institutions to provide a complete picture across a myriad of data. Real-time access to messaging data enables high performance search, access, reporting and dashboarding.

The savviness of the solution lies in the unlimited array of data sources and

formats supported, including market standards, such as SWIFT MT, MX (ISO 20022) and FIX, including domestic standards. Custom or proprietary formats are covered through the definition of a custom format dictionary.

xTRACE picks up the xTRAIL: indexed (sets of) payments and securities data is being tracked, enriched and correlated or consolidated for use by a range of destination solutions and domains. This way messaging data turns into actionable insights across transaction life cycle for business activity monitoring, transaction integrity surveillance and service level monitoring. Data is tracked, alerts on any discrepancy defined by you flag up and actions and tasks are allocated to the relevant source in the right context and time. **IFTI**

About Marc Braet



INTIX co-founder, CEO & member of the board, Marc co-founded the company in 2011 with Wouter Van Santvliet. At INTIX, Marc is responsible for the company's commercial strategy, profitability and growth.

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Covid-19 accelerates digital banking transformation

Jung Seok Kang,
CEO of AIZEN
discusses the
redesign of digital
banking with an
operating system
powered by
artificial intelligence



Many financial institutions are now re-evaluating their strategies and the associated risks arising from the Covid-19 global pandemic. It made the need for reduced operating costs and improved digital experiences more important than ever. Banks need to revisit their existing business models and try to embrace an innovative mindset with an agile digital stack, as the pace of competition in digital banking is likely to accelerate.

Asia is at the forefront of reinventing banking service in the digital age. Hong Kong has already gone ahead and licensed eight virtual banks, and Singapore is set to issue five digital bank licences in the second half of this year. Sooner or later, every company, even those that have nothing to do with financial services, will have the opportunity to benefit from fintech for the first time'. (*Every Company Will Be a Fintech Company*, a16z)

This inevitably increases pressure on the margins and market share of existing banks as they contend with fierce competition from new fintech players. They strive to attract new customers either by spending heavy marketing costs or partnering with customer-facing channels like e-commerce. However, banks find it difficult to design a product that caters to their risk appetite using non-traditional data, especially in Southeast Asia where only 27 per cent of the population

have a bank account, according to KPMG.

Many companies, on the other hand, want to diversify revenue streams by offering financial services via their own channels, but not every firm is afforded to obtain a banking licence. They have to satisfy a series of tough prerequisites, such as the minimum capital requirement, regulatory compliance, and security and data protection. They tend to make alliances with traditional banks that can disburse loans from their balance sheet. Yet, many banks fail to offer a fully digital onboarding experience due to the legacy process, hence losing qualified customers even before they approve the loans.

Banking as a service that basically changes banking

Different functions in finance are now being disaggregated into independent 'as a service' infrastructure. AIZEN focuses on providing retail banking services, specifically in lending. We are redesigning digital banking in Asia by bridging the gap between traditional banks and companies who are looking to be a financial services company. We serve as an intermediate facilitator by providing 'banking as a service', designed to allow companies to launch banking services faster, boost customer retention and create new revenue streams.

If we take a closer look at business to consumer (B2C) companies, they have a wide range of data sources beyond traditional financial data that make up one's financial life. This includes telecom, utility, tax and different payment transaction history that all connect to one's ability and willingness to pay information. With the rise of the data economy and open application programming interfaces (APIs), it is now easier to connect data from different sources.

Using proprietary artificial intelligence (AI) technology and business know-how, we help companies to assess customers' financial health with a more holistic view, by combining multiple sources of data and converting into 'credit' information in finance. A better understanding of the applicants enables banks to make more informed underwriting decisions and offer the most appropriate loan before approving it in real time. Our AI multi-dimensional models also enable banks to measure profitability not only from individual credit risks but also from prepayment, upsell and cross-sell opportunities.

With our banking as a service model, companies are able to launch banking products faster and monitor each product, segment and channel. This is operated along with a robust risk management framework under our automated

banking operating system (ABOS) designed to automate key decision-making processes in accordance with the credit cycle, from product planning, risk acceptance and approval, to account maintenance and collection.

By offering new banking services, companies can increase stickiness on their platform, attract new customers via more choices and, therefore, increase revenue. Banks can also easily extend their footprint by simply providing their balance sheet (i.e. disburse loan) while keeping risk costs low. The benefits are ultimately returned to customers as better products, services and pricing.

ABACUS 'neural processing unit' in financial services

AIZEN's ABOS is powered by a proprietary AI engine, ABACUS. It is an automated machine learning platform that automates the core decision-making processes in banking, retail payment and insurance. It is like a 'neural processing unit' (NPU) in financial services that operates like a human brain in making real-time decisions. It can process thousands of AI models in parallel, which in turn reduces the burden on building, validating and updating models in accordance with the fast-changing customer dynamics.

In retail banking, the credit policy decisions were

typically made with an annual review process, but this traditional approach can sometimes hinder banks from assessing the risks in advance and making the right risk-mitigation decisions in a timely manner.

ABACUS radically improves credit and operating costs by enabling banks to better understand potential risks, while remaining cost-effective by achieving economies of scale with AI. We provide early indicators of credit risks and diversifies the degree of risks so that banks can dynamically adjust their risk acceptance criteria and the aligned risk-mitigation strategies. They can easily validate and update with an optimal model when the model performance shifts, which is particularly crucial during these times of uncertainty.

In terms of operating efficiencies, ABACUS radically shortens the traditional modelling lifecycle without having to go through a month-long project to build and update a single model to re-evaluate the risks. This further expedites product development cycles from hypothesis setting, testing to full deployment, so that banks can easily launch more competitive banking services and attract more customers.

ABACUS's modern architecture is specifically

designed to accommodate vast amounts and varieties of data in real time. This helps banks and companies to leverage vast amounts and varieties of data to launch more customer-centric services, boost customer retention, and drive more margin.

Our digital banking transformation roadmap

The world is now reinventing digital banking, and incumbents and new entrants are finding partnerships critical to success in achieving scale. They will operate away from branch-heavy, product-centric approaches and move towards more consumer-centric products and services and adopt more scalable and nimbler technologies to achieve economies of scale in the data economy.

Over the last four years, AIZEN has obtained different use cases in digitisation projects with major banks, retail payment, and insurance companies, successfully validating the business impacts of AI in loan underwriting, product development, fraud detection and more. We will continue to accelerate financial institutions' digitisation efforts across the value chain and in different industries including medical and healthcare.

We have recently secured funding from a state-led fintech innovation fund (K-Growth) led by major Korean banks to roll out banking-as-a-service in Southeast Asia. We aim to offer more affordable and accessible banking services, and most importantly facilitate credit in underserved markets together with existing banks and emerging companies. [IT+1](#)



The evolution of exchanges

Stephen Stonberg, COO & CFO of Bittrex Global

The highs and lows of the last few years

Apart from mining, after the release of the Bitcoin white paper in 2008 and Genesis Block in 2009, the only way to obtain Bitcoin was through forums or internet relay chat networks. Trading has since gone a long way from this, with the development of the first exchange in 2010 bringing the sector its own marketplace and, with it, a flurry of customers keen to invest and trade.

As one of the oldest digital asset exchanges, Bittrex Global has been at the forefront of growth. This enables a first-hand experience of how platforms have evolved as well as providing key insights into what the future holds. This includes the vast opportunities for innovative listing projects, regulatory changes causing maturation of the market and the subsequent growing number of Big Tech entrants within the sector.

Rife with opportunities

A key indication of development across any sector is the diversity and quantity of new ideas and projects. This has been evident in

exchanges, with key players constantly reviewing and reviving the token listings available to their customers. Opportunities for new listings has grown across the industry – we recently added BTC-FOR, ETH-CRO token pairs and ECOchain to our exchange platform; this is great for the industry as it means innovative ideas and talented teams are recognised, driving development.

During the reviewal process, many aspects need to be carefully evaluated and every project must pass compliance, legal and technical due diligence before it can be listed. Compliance and regulation will always remain a prominent element of the evolution of exchanges which is ultimately a positive sign. With this legacy concrete in the minds of project directors and creators, we expect this trend to continue with project offerings expanding.

Sustainable maturation

Another high point of the evolution of exchanges is the maturation of the digital asset space. This is driven by two mutually supporting trends, namely the increase in regulation and anti-money laundering initiatives. We have seen both individual nations and trade blocs begin to develop more robust regulatory frameworks. The European Union plans to create a regulatory

regime, as an attempt to 'strengthen its international standing and to become a global standard-setter', while in Liechtenstein, where Bittrex Global is based, the Blockchain Act is a pioneering regulatory framework that will do much to encourage innovation in the space and is a model that others are likely to adopt. The Act allows for the tokenisation of any asset allowing that the underlying asset to be held and traded digitally. By integrating the physical with the digital world of tokens, Liechtenstein legally recognises that tokens can be lost or stolen. For consumers, this is an important development, signifying the evolution of a mature and trustworthy asset class where market participants are required to play by the rules. A sound regulatory environment will bolster consumer trust and inspire investors, and institutions can provide the most significant flows of capital and larger-scale growth; while the greater focus on anti-money laundering, know your customer and asset protection is both improving the sector's reputation as well as providing investor confidence. This will drive the institutional investment on. Big Tech, such as Facebook's Libra and Samsung's Blockchain Wallet, are just a few examples of what is likely to come as both



digital asset investment and infrastructure develop at scale. We anticipate incumbents to accelerate the overall growth in the market, providing further opportunities for exchange development and expansion.

2010 until now

Overall, the evolution of exchanges has been that of continuous growth. While some would claim it to be slow, it's important to understand the maturation of the sector which is necessary to build investor and corporate confidence and develop at a sustainable rate. The progression and increasing interest of Big Techs underlines an encouraging prospect for what is to come. As we believe that the potential of digital currencies can only be fulfilled by larger-scale adoption, the growing flurry of regulation will stimulate this. As regulatory environment which inspires trust from investors and institutions will provide the most significant flows of capital and so larger scale growth. It is a necessary piece of the puzzle and is the key to the evolution of the market into a mature asset class that can support all types of investors. **TFI**

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Travel rule solutions are key to advancing the crypto economy's future

Ways to support the adoption and implementation of new recommendations on detecting and preventing illicit activity via virtual asset transactions

Anti-money laundering (AML) and regulatory compliance has been sitting at the forefront of debate in the cryptocurrency market, including the Financial Action Task Force's (FATF) virtual plenary meeting in June around the so-called 'Travel Rule'.

For a few years now, a select few have been addressing these needs and fulfilling them through advanced technological solutions that exceed the standards set by those in the traditional industry.

In simplest terms, the Travel Rule covers Virtual Asset Service Providers (VASPs) such as cryptocurrency exchanges and digital wallet providers, and custodians, as well as some traditional financial institutions transacting in virtual assets.

It ensures that originators, intermediaries and beneficiaries of virtual asset transactions disclose a minimum standard of customer data. Names and wallet addresses of the remitter and beneficiary can identify financial crime risks, such as international financial sanctions, money laundering, and the financing of terrorism. The rule is comparable to well-established industry rules for international wire transactions in fiat currencies, such as those transferred via the Society for Worldwide Interbank Financial Telecommunications (SWIFT) system between banks. Complexities quickly begin to emerge from behind those simple terms, however.

- VASPs do not all currently have the requisite technology in place and there are no shared standards for the capture, transfer and analysis of customer data. Blockchain, AML and compliance companies, such as Coinfirm, are currently building solutions to address these technological gaps
- By design, individual regulatory regimes have latitude in interpreting

the recommendations on their own; the Travel Rule itself is not a regulation and does not include specs for enabling technologies for compliance

- Implemented regulations must operate in conjunction with existing local regulations, such as the General Data Privacy Regulation (GDPR) in the EU
- Not all transactions take place via VASPs from end-to-end, creating the potential for pockets of unregulated or underregulated activity

Six guiding principles are needed for Travel Rule implementation and standardisation. These principles should form the cornerstones of any technical solution that will facilitate compliance with the Travel Rule.

1 Data minimisation Limiting the collection and use of personally identifiable information about parties to a virtual asset transaction will help ensure compatibility with local data privacy legislation

2 User consent Both senders and receivers must consent to the transfer of information between VASPs

3 Local compliance Each party and intermediary owns the responsibility of complying with local data protection rules even when technical solutions are international in scope

4 Common standards The data set and messaging standards should be compliant with ISO standards. There is not yet a consensus on which standard to apply (i.e. whether ISO 20022 or others)

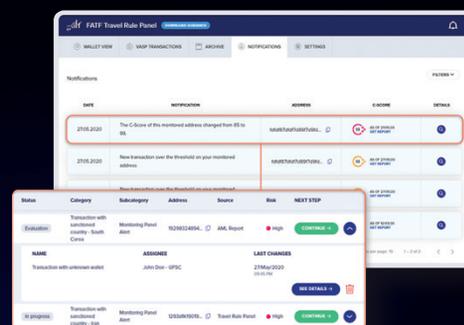
5 Non-VASP participation Solutions and regulatory considerations may only apply to VASP-to-VASP transactions at first, but this represents only a starting point. In future, tests, such as transaction size, volume and account size, should be able to trigger travel rule requirements for transactions involving unhosted (i.e. P2P) wallet transactions. Eventually, implementation must extend to non-custodial wallets, to decentralised exchanges provided they do not hold private keys, to smart contract operators which transfer value, and to owners or administrators of protocols

6 Transaction scope While the FATF does not provide a formalised definition of a transaction, in the context of blockchain transactions, the term

should also cover transactions generated as part of smart contract execution

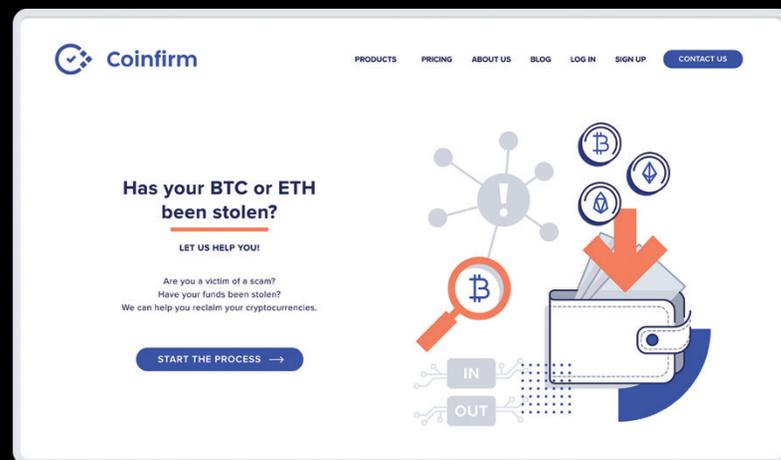
In addition to these overarching principles, effective implementation of travel rule technologies should remain consistent with the FATF's technology-neutral approach. In other words, they should not assume the use of the blockchain or other digital ledger technology running in parallel to the blockchain. Using commercially available technology, as well as open standards, will better suit public and private market participants. It will also enable the FATF to realise its goals around transactional transparency more effectively.

Coinfirm is a company leading the way in providing standard setting AML and risk analytics solutions. A known player in the crypto space since it was founded in 2016, its regulatory solutions for blockchain are helping bring the technology into the regulated market.



Most known globally for its AML and analytics platform, Coinfirm has been providing comprehensive real-time risk analysis and tools that automate and streamline the AML and regulatory compliance aspects of cryptocurrency transactions. Its market leading blockchain coverage that includes XRP, BTC, ETH, ERC20 tokens, Dash, Hyperledger and more than 1,400 others has been used by many industry players around the world.

The 'blockchain agnostic' platform has allowed it to make history multiple times by becoming the first provider of AML and risk analytics for many blockchain protocols. Examples include 2019 when it became the provider of AML analysis for XRP and, more recently in June 2020, Tezos. Such integrations allow protocols and its commercial users to be compliant and operate in regulated markets through the Coinfirm AML platform. The versatility and scope of such solutions enable



compliance with prevailing regulations and contribute to the mass adoption of blockchain technology overall.

Giving companies the ability to analyse and manage risk at scale means they can operate successfully in the crypto space. Coinfirm's core customer base ranges from the largest cryptocurrency exchanges that actively use its capabilities, such as Binance, to major protocols, such as XRP, as well as banks, financial institutions and national governments. It serves any entity that interacts with blockchain assets and wants to operate legitimately in a regulated environment and in markets across the world.

"A complete ecosystem for the transparency and protection of cryptocurrency transactions is essential to the growth of the crypto economy," says Coinfirm's co-founder and CEO Pawel Kuskowski. "We're providing a core component for the legitimate and mature economy of virtual asset exchange."

Coinfirm will release an end-to-end solution dedicated to meeting the requirements of the FATF Travel Rule this year for obligated entities engaging with cryptocurrencies. It will provide counterparty risk analysis for the purposes of AML, with views for regulated VASPs and for regulators. This visibility will directly enable compliance and oversight needed to make Travel Rule recommendations a reality.

Beyond the Travel Rule solution, Coinfirm is expanding operations in the US and in Asian markets while strengthening operations in European markets, especially Switzerland and the UK.

"For 2020 and beyond, our aims are high," says Coinfirm co-founder Pawel Aleksander. "Continuing to deliver usable, scalable solutions that the crypto market needs will keep us positioned as a leading company in the continuing growth and global adoption of cryptocurrency." **TFT**

About Coinfirm

Coinfirm is a global leader in AML and analytics for cryptocurrencies and blockchain. Since being founded in early 2016, Coinfirm has created the most powerful AML and analytics engine for blockchain.

Website: www.coinfirm.com

LinkedIn: linkedin.com/company/coinfirm

Twitter: @Coinfirm_io



CHARGE AHEAD

Online fraud is growing in Southeast Asia, but you don't have to stop selling to stop fraud



Shabab Muhaddes, General Manager at Vesta Asia Pacific

Southeast Asia is home to the world's fastest growing e-commerce markets and that growth is increasing exponentially.

In 2017, research from Google and Temasek predicted a \$200 billion internet economy in the region by 2025 – but by 2019 it was already past the \$100 billion mark. There are 360 million internet users in Southeast Asia and 90 per cent of them connect primarily through their mobile phones. More than 40 per cent of consumers in the region use mobile devices several times a week for e-commerce and nearly half have at least two active digital wallets on their mobile device. This explosion of e-commerce growth also provides a ripe opportunity for fraudsters. Online fraud in Southeast Asia accounted for 40 per cent of Asia Pacific's (APAC) total fraud losses in 2019 and the average overall cost of fraud for

merchants in the region is 1.75 per cent of revenues.

Card not present (CNP) fraud remains APAC's number one fraud driver in terms of losses, accounting for between 85 to 95 per cent of all card fraud within the region. While CNP transactions make up less than 15 per cent of total purchase volume worldwide, it accounts for 54 per cent of all losses to fraud.

Mitigating fraud while ensuring valid transactions are approved poses a unique challenge for traditional organisations (e.g. telcos, e-commerce merchants, money remitters) and new entrants alike (e.g. fintechs, challenger banks, digital wallets, payment enablers, marketplaces), as the fear of fraud often results in turning away good customers. The Covid-19 pandemic has exacerbated this challenge by driving a significant increase in CNP transaction volume across all geographies.

Solving fraud pain points in Asia Pacific

Most organisations in Asia are not equipped to manage these emerging threats on their own, relying on reactive strategies, using manual safeguards and low-tech (rudimentary and rule based) models. For example, it is estimated that Southeast Asia merchants review 42 per cent of orders manually, after which only 98.5 per cent of reviewed orders are accepted. The result is high

operating costs, lost revenue and poor customer experience, as merchants in APAC spend an average of \$3.45-\$3.52 on fraud mitigation per \$1 of transaction volume.

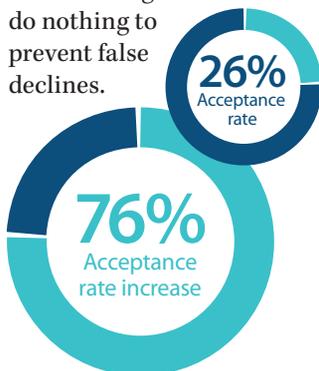
Simply put, organisations in Asia are leaving revenue on the table, declining too many transactions, seeing too many chargebacks and relying on low-grade technology that do not solve for these challenges.

Merchants need fraud protection solutions that deliver on the following to overcome the fear of fraud:

- Increase in approval rates
- Reduce losses and cost
- Drive customer acquisition

A guarantee approach versus score

As bad actors innovate and come up with new fraud attacks, merchants find it extremely challenging to keep up. Rules-based fraud solutions can only prevent a small percentage of fraud related chargebacks and do nothing to prevent false declines.



At Vesta, our one simple goal is to allow our partners to increase revenue by eliminating the fear of fraud.

If we tell our customers a transaction is safe to approve, it is, and we stand behind that with our payment guarantee.

Vesta's guarantee approach has been proven with telcos, e-commerce, money transfer businesses and payment gateways.

"Southeast Asia stands to lose \$260 million to online fraud with Thailand, Vietnam and Indonesia expected to be the most heavily affected"
ASEAN POST

Our promise: Every approved transaction is covered by Vesta's 100 per cent fraud chargeback guarantee. If we are wrong, the fraud is on us. We eliminate the fear and, most importantly, the cost of fraud – all with zero risk and zero liability for you and your business.

Our technology: For more than 20 years, Vesta has led the way in combatting fraud with our proprietary and patented solutions, using machine learning, real-time fraud analytics and deep link analysis. Our unmatched technology keeps us a step ahead of the bad guys.

Our experience: Since 1995, Vesta has been the premier

provider of fraud management and payment technologies. We were the first to guarantee e-commerce transactions. To this day, our solutions remain unmatched. Vesta delivers payment acceptance rates up to three per cent-plus higher than competitors, while protecting your revenue with our no-fraud guarantee.

Our products

Payment Guarantee: Backed by our 100 per cent no-chargeback due to fraud promise, Payment Guarantee is a managed service that leverages our best-in-class machine learning and analytics to pinpoint and isolate fraud while maximising approved transactions. Payment Guarantee supports online merchants seeking a proven solution to risk-free revenue growth, including telcos, airlines, marketplaces, money transfer, payment enablers and all sectors of e-commerce.

Payment Protect: Payment Protect delivers a risk assessment score for all transactions, allowing you to protect payments from fraud and raise approval rates. Powered by our advanced machine learning intelligence, deep link analysis and unmatched consortium data, Payment Protect empowers you with the insight to accurately filter fraud from your online transaction system and

focus on growing revenue. This solution supports e-commerce, telco and fintech stakeholders ready to embrace the latest in artificial intelligence, machine learning and automated decisioning. Payment Protect is ideal for digital banks, challenger banks, e-wallet providers, prepaid platforms, digital marketplaces, money transfer services, payment enablers and all sectors of e-commerce.

Partner with Vesta to enhance approvals and eliminate the fear of fraud. **TFI**

About Vesta

Vesta is a fintech pioneer in fraud protection and fully guaranteed payment technologies, helping online merchants, major telcos, payment processors, and acquirers optimise revenue by eliminating the fear of fraud. The company's flexible, scalable solutions enable companies to grow their businesses by focusing on revenue rather than risk, delivering secure, frictionless transactions that maximise acceptance and improve customer experience – all backed by a zero-fraud liability guarantee.

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Cloud uptake spurs open banking innovation

Only by utilising the latest cloud technology can we build the bank of the future

Dermot O'Kelly,
Head of Europe at Finastra

Open banking and application programming interfaces (APIs) have enabled fintech startups to support critical functions ranging from payments to investment banking, enabling a superior customer experience at a lower cost for traditional banking services.

According to a Finastra survey of 774 financial institutions around the world, 86 per cent of global bank respondents are looking to use APIs to enable open banking capabilities in the next 12 months. Open banking and APIs have democratised financial services, but can the confluence of Big Tech, traditional financial institutions and fintech create an ecosystem benefiting all end users? The answer lies in how data is protected, shared and managed.

Open banking is based on the principle that the data related to financial services customers is safely owned, used and controlled by those customers. On a basic level this enables more holistic financial services in payments and account aggregation, but more importantly, the digitisation of data allows fintechs and banks to readily collaborate, bringing the financial ecosystem closer together.

Open banking offers the potential to improve the integration of payments and accounting platforms for small and medium enterprises (SMEs) and to enable the digitisation of data for managing risk



and access to credit. For open banking to realise its potential, it needs a foundation technology that can enable scalable innovation and accessibility – cloud.

The role of cloud

Cloud enables financial institutions to avoid the burden of managing infrastructure on-premise, and to integrate third-party fintech creativity via APIs. Cloud can also improve operational efficiencies through enhanced automation and resilience.

These benefits will affect the way banks evolve their operations. Many banks are still operating on-premise, but more are now using a hybrid model for cloud applications, such as customer relationship management (CRM) and HR, connecting these to their on-premise core.

Established banks are starting to use private clouds, where they can take advantage of the distributive processing power that cloud provides while moving off-premise and simplifying their IT infrastructure.

Until recently, larger banks' readiness to adopt cloud was constrained by data sovereignty concerns. Today cloud providers have become more flexible in terms of where they locate their data centres. This has created opportunities for banks in territories not

previously regarded as candidates for cloud.

Through a deep dive with a client, we garnered some detailed metrics about the benefits one bank expects to gain from moving to a cloud-enabled environment. They anticipate a 30 per cent saving on IT costs and the opportunity to grow revenue by 50 per cent, fuelled by an improved ability to consume innovation and get ahead in the marketplace.

Small wonder then that European banks are now investing billions of euros to modernise their IT, opting to move more of their business onto the cloud. That has helped to drive uptake for Big Tech giants like Google, Microsoft and Amazon, according to a Bloomberg survey conducted earlier this year. This month, Alphabet's Google and Deutsche Bank AG have agreed to form a long-term partnership that will see Google provide cloud computing capabilities to Germany's largest lender.

This is a sign of things to come. According to Gartner, 28 per cent of enterprises will be using the cloud to support more than half of their transactional systems of record by 2022. Gartner has also predicted that the global cloud computing market will grow by 17 per cent this year, hitting

\$266.4 billion in value. As artificial intelligence (AI) is assimilated into banks' technology stacks, cloud computing will become even more necessary to manage the data involved in digitised banking.

Cloud is therefore a critical foundation technology, but it's taken an extraordinary event to accelerate its adoption. The Covid-19 pandemic has brought the future forward.

The impact of Covid-19

The pandemic has triggered a dramatic increase in online banking and contactless payments. In May, PayPal rolled out QR codes for touch free transactions, and according to Capgemini and EY's *World Retail Banking Report 2020*, 57 per cent of consumers chose internet banking amid Covid-19. Earlier in the crisis, Stripe raised \$600 million for product development following the growth in online and mobile commerce.

In addition, remote working has become the norm. In the US, 46 per cent of businesses had implemented remote working policies by early March 2020.

This behaviour-shift underscores the need for banks and businesses to transform digitally. This is best enabled through cloud-backed software as a service (SaaS). This allows

operations to be scaled up or down remotely, which is critical in a volatile economic environment.

Open banking needs open platforms

Open banking, cloud and APIs enable a decentralised financial system creating flexible business models characterised by innovative, low cost collaboration between fintechs and banks.

A platform replaces traditional one-to-one relationships with an ecosystem, in which multiple relationships can be created, allowing fintechs to establish relationships with many banks simultaneously. In some cases, banks have made their proprietary platforms available, exposed their APIs and invited fintech application creators to collaborate and accelerate innovation.

An alternative model is when vendors offer open technology and a critical mass of banking customers, and act as an intermediary between financial service providers and application creators.

An example of a technology enabling this is FusionFabric.cloud. This open, cloud-based platform enables collaboration across the banking and fintech ecosystem by enabling banks to tap into a community of innovators.

Making it work

For open banking to be successful, it must ensure consistency in data consent, visibility and data security. Consumers must understand where their data has been shared, and they must know their data is protected within every application they use. Third-party developers must have a clear framework within which to develop applications, safe in the knowledge their product will be compatible with data security standards.

Open banking also demands a consistent approach to liability. Everyone in the ecosystem must know who is responsible for the data at what point, and when their liability ends.

Open banking will enable greater access to a wider range of data. This could create highly personalised pricing models, and consumers must all be able to benefit, particularly when some may be more technologically savvy than others.

Open platform ecosystems will facilitate collaboration between developers and fintechs, lowering R&D costs and encourage innovation. At a time when communities are being kept apart, we must support the technology bringing them together, encourage a collaborative multi-stakeholder, multi-modal platform approach and keep the financial ecosystem moving and innovating. **FTI**

About Finastra

Finastra unlocks the potential of people and businesses by creating a platform for open innovation in the world of financial services.

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Democratising Alpha

Close to one year since Outward VC invested, PrimaryBid has revolutionised public markets by becoming the UK's go-to solution for retail offerings



Creating more of a level playing field for retail investors in the last four months than has been seen over the last four decades

chip institutional investors as part of the same accelerated process and, most importantly, on the same discounted terms. Once a deal has been launched and publicly announced to the market, retail investors wishing to participate have a window of opportunity to place an order through the PrimaryBid app with their debit or credit card. Individual orders are then aggregated by PrimaryBid and routed to the company as a single order in guaranteed, cleared funds. This entire process addresses the complexity issues of old, delivering both time efficiency and certainty for listed companies and investment banks as well as a level of access for individual investors that the market has lacked for decades.

As industries still come to terms with the profound impact of Covid-19 on societies and economies, this speed and certainty has never been more important in the context of raising capital, as listed companies in their droves seek to raise record breaking levels of capital in order to protect their futures, and in some cases, seize opportunities for growth.

The last four months in particular has seen PrimaryBid grow rapidly to become the UK market's go-to solution for retail offerings and effectively revolutionise the public markets in the process. In May 2020, Compass Group became the first FTSE 100 business to carry out a retail offer alongside an accelerated institutional capital raise, with PrimaryBid acting as the conduit to access retail investors. PrimaryBid's technology has since been used by dozens of companies across the FTSE 100, FTSE 250 and AIM,

including other household names such as Ocado, Aston Martin and William Hill with international expansion also well in its sights.

It is not hyperbole to say that the impact of PrimaryBid on public markets has been transformational. Firstly, it is providing listed companies with the ability to engage with and efficiently include its retail shareholder base in the capital raising process and respect corporate governance principles relating to the fair treatment of all shareholders, which simply was not possible before. It is also democratising access to the primary markets for retail investors, and in doing so, democratising the potential for 'alpha' returns.

Alpha measures the performance of a stock against a relevant market index and is a key metric in assessing the performance of an actively managed fund, where returns

from attractively priced primary share offerings can often form a strong component of alpha. When analysing the aftermarket performance of listed companies that completed retail offerings through the PrimaryBid platform in recent months, it paints an interesting picture. Two-dozen retail offers were completed through PrimaryBid between the months of April to June 2020. Based on closing prices on 17 July 2020, the retail offers have generated a blended average return of 19 per cent. Benchmarked against the average returns of relevant indices over the period of two per cent this implies an alpha return of 17 per cent, which is impressive by any standard.

Now, it is important to keep in mind that PrimaryBid is not providing recommendations to retail investors on its platform, it is simply providing access to these deals that were previously inaccessible. Secondly, there is absolutely no guarantee that discounted share prices and a fresh capital raise will lead to a company delivering positive returns. It is therefore imperative that sophisticated retail investors are able to assess each opportunity on its own merit. That being said, it is difficult to deny that the so-called democratisation of primary markets provides the potential for retail investors to generate alpha returns that were previously only available to large financial institutions, creating more of a level playing field for retail investors in the last four months than has been seen over the last four decades.

We therefore feel incredibly excited to see how far PrimaryBid and other innovators in the space can go in driving capital markets forward to a place where it is truly transparent, open and inclusive to all of its participants. While it is still early days, the data would suggest that they are on the right track. **ITF**

About Outward VC

Outward VC is a venture capital fund backing the next generation of European fintech and enterprise technology.

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Outward

On the surface, the public stock market by definition is a broadly inclusive marketplace, where investors of all shapes and sizes ranging from large pension funds and asset managers all the way down to the individual retail investor can easily buy and sell shares of listed companies from one another.

A recent wave of innovative digital stockbrokers has driven commissions for retail investors down to zero, while an array of publicly available information remains easily accessible so that retail investors are able to make well-informed decisions. It is important to note however that what I have just described above reflects the secondary capital markets, where investors buy and sell shares already listed on the public stock markets. When companies issue new shares in order to raise capital, through either an IPO or a discounted follow-on equity issuance, this level of inclusivity has generally broken down. Historically, these attractively priced deals were offered almost exclusively to large institutional investors, effectively shutting out retail investors.

Now, before the proverbial finger is pointed at investment banks, who typically advise and control these processes, it is important to note that there were valid and entirely rational reasons behind why this was the case. This largely boiled down to two key factors – timing and certainty.

Institutional-only capital raises can be launched and completed without a prospectus in a matter of hours. When retail investors are added into the mix, this typically would extend the deal timeline to days or even weeks while introducing significant complexity around retail distribution, order management and regulation. With speed and certainty absolutely critical to the majority of these deals, it is no surprise that listed companies opted for institutional-only offers. This is a significant problem that unfairly affects retail investors and one that resonated strongly with the Outward VC team, which is a big reason why almost a year ago we invested in investment platform provider PrimaryBid to support its mission of 'democratising equity capital markets'. PrimaryBid provides publicly listed companies with a technology platform that enables retail investor participation in capital raisings alongside blue

REIMAGINING PAPERWORK

Speeding up digital transformation in financial services with a no-code development platform

The financial services industry is still heavily reliant on manual, paper-based and customer-facing processes that must be digitised. Traditional financial service providers, such as insurance companies, now need to compete with agile, digital-first newcomers and tech innovators, including insurtechs.

Chief information officers often think they can build it themselves. However, IT leaders can underestimate the complexity or don't anticipate the issues that arise after the customer-facing digital journey has been deployed in production.

Today's digital journeys are complex. When built with code, these journeys often take more than a year to build, don't address organisational bottlenecks and remain extremely costly to maintain. When it



comes to customer data collection for core processes, such as customer acquisition and onboarding, the process must be built numerous times with minor adjustments – making it an ideal candidate for no-code development.

Yet, it's often only after developing a few processes in-house, and wasting millions of dollars and enduring months of delays, that enterprises realise the true hardship of coded solutions and the value of no-code development platforms.

No-code tools help create user-friendly digital journeys

that come equipped with advanced functionality that would be very difficult to build quickly in-house, such as remote assistance, permissions, integrations, validations, change management and security. In addition, advanced data analytics, AB testing, personalisation and optimisation capabilities.

EasySend is a no-code platform for building and optimising enterprise-grade digital customer journeys. Its mission is to put an end to inefficient internal processes and frustrating paperwork in the insurance industry and financial services.

It empowers businesses to quickly and easily build complex digital journeys with a powerful drag and drop builder and Kadabra AI, a proprietary artificial intelligence tool that accelerates the development of customised,

easy-to-complete, branded, digital customer journeys.

EasySend also provides a set of tools for continuously optimising digital journeys, improving efficiency and maximising ROI on digital channels. The platform is built with the highest security and compliance standards and integrates with any internal system, third-party tools, apps and services.

By reducing the friction associated with paperwork, it helps clients make customer data collection, processing, and product delivery simple and enjoyable.

A comprehensive solution to all customer-facing challenges, EasySend aims to transform the way insurers communicate with their customers, from the bottom to top, empowering true digital transformation and agility in a traditionally slow-moving space.

Simple to use, no-code

builders can bring organisations into the self-service, digital era and enables business users without advanced technical knowledge to quickly build complex digital customer journeys without having to resort to lengthy and expensive development projects. Data visibility and optimisation tools help business leaders continuously improve efficiency, customer satisfaction and revenues.

Such digital transformation with a no-code development platform is absolutely necessary for modern organisations to achieve increased customer experience. Modern organisations can't get away with outdated, manual and paper-based processes; rather, the Coronavirus proved that remote servicing is a must. Digital transformation must come from within the framework

of business objectives with the customer always put in front and centre for any company aiming to grow.

EasySend is actively expanding in Israel, the US, Europe, the Middle East and Africa and Asia Pacific with enterprise customers who have already transformed their operations by digitising a wide range of processes. Its future roadmap includes more advanced features, such as auto-optimisations, more flexibility in design and a wider range of pre-made templates. **TFT**

About EasySend
 Founded in 2016, EasySend is based in Tel Aviv, New York and Frankfurt.
Website: easysend.io
LinkedIn: www.linkedin.com/company/easysend



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Unleashed in the US

B4B Payments is primed to shake up antiquated expense management processes across US businesses. Here Paul Swinton, CEO and co-founder of B4B Payments, discusses his company's move from the consumer and scrap metal market to helping organisations on both sides of the pond with purchasing and payments



Adapting to change and doing things differently is something frequently associated with fintechs, with the coronavirus pandemic only accentuating the importance of digitisation and leaner, agile operating models. But for many organisations across multiple sectors, adapting to new ways of communicating and collaborating with their customers during the Covid-19 crisis has been a steep learning curve and, often, an unnerving process.

Helping businesses to quickly evolve to new ways of working is something digital payment specialist B4B Payments thrives on, having evolved its business continually to cater for societal needs since entering the prepaid card market more than 14 years ago.

Cash for scrap

When the UK banned the use of cash to pay for scrap metals in 2012, many dealers were put off by the high costs and insecurity of using cheques and wanted greater convenience for their customers to make use of their funds immediately. B4B Payments (under its former name Payment Card Solutions) quickly transformed its consumer-based pre-paid offering into the Bread4Scrap service that enabled scrap metal dealers to issue their customers with prepaid Mastercard cards and instantly load the cards with funds previously paid in cash.

Paul Swinton, CEO and co-founder of B4B Payments, explains: "Around eight years ago, the UK Government changed the law around scrap metal merchants, which meant they could no longer take cash anymore. This presented an opportunity for us overnight and we very quickly got into that marketplace, developing a product that was implemented really rapidly to around 100 of the big scrap yards across the country."

"We suddenly had thousands of customers using an online know-your-customer (KYC) process, which was

unheard of in this type of environment, and we were allowing them to load funds onto prepaid cards while providing the whole electronic footprint that was required by the legislation."

"Once we were able to take a breath, we realised that this approach was applicable to dozens of other industries that were either using cash or cheques and our platform supported a better way for companies to pay recurring payments or one-off payments."

Since then, B4B Payments has 'continuously improved and evolved' to provide 'innovative, flexible, and time-saving solutions that streamline and eliminate antiquated finance and accounting processes'.

The pandemic may encourage more businesses to adopt cashless solutions in the future so they can stay ahead of the curve, rather than waiting for them to be enforced

In 2017, the company was granted Authorised Payment Institute (API) status by the Financial Conduct Authority (FCA) and it now has more than 1,000 customers in Europe, with churches, schools, charities, sports organisations – including the England and Wales Cricket Board – among its client base.

Supporting charities

Its ability to quickly respond to establishing a viable and convenient method of paying suppliers when cash is prohibited proved crucial during the Covid-19 crisis. B4B Payments has worked with Migrant Help, a charity that supports vulnerable migrants, to provide prepaid cards as a primary payment method and a more suitable alternative to cash.

Migrant Help assists victims of modern slavery and human trafficking with money one of the biggest hurdles in the process since displaced or exploited individuals often do not have the facilities to open a typical bank account. Previously, the charity was required to make hand-to-hand payments of cash, but this was understandably too high-risk during the pandemic.

"Refugees and migrants will arrive with no access to bank accounts and will often literally walk around with cash in their hands all week," says Swinton. "Then, when Covid-19 came along, the charity did not want staff to be giving money out to lots of people and equally, shops at the same time didn't want cash either. So, we solved two things very quickly by distributing cards to thousands of recipients that were in hard times to ensure they were getting charitable donations weekly."

According to B4B Payments, its technology is also particularly useful for agile digital companies without the resources to employ full-time administrative staff, or who employ remote or gig economy workers and contractors, because payments can be tracked and made as needed without needing a central interface.

The company believes the gig economy is set to grow massively and businesses that are now looking to life beyond lockdown are considering more remote working arrangements in comparison to pre-virus times. It hopes to provide these businesses 'with a swift, secure and easy-to-use platform that gives them more time and effort to focus on their trade, rather than their administration'.

"The crisis could trigger a shift towards more home working and it's going to be a new paradigm for everybody," says Swinton. "The pandemic may encourage more businesses to adopt cashless solutions in the future so they can stay ahead of the curve, rather than waiting for them to be enforced."

Moving into the US

The next 'significant leap forward' for B4B Payments is its expansion into the US, with a new office in Boston, Massachusetts due to open this August.

B4B Payments has also struck a strategic collaboration with Visa in the US to introduce its technology to organisations who have previously found difficulty managing issues associated with traditional payment methods, such as employee expenses or third-party payments.

"The US is a huge, huge market and, interestingly, when you look at the payment systems or the evolution of payments in the States, they are a few years behind us and there's still a massive prevalence of cheques," explains Swinton.

"Now is the right time for us to unleash our platform into the US market and help companies free up their time from the sometimes-antiquated expense management processes in the same way we have in Europe. We are looking forward to achieving similar levels of success by collaborating with Visa to take our product forward."

"Furthermore, if you look at the banking system in the States as well, there's over 10,000 banks. Some of them are small with limited functionality, so there is a massive opportunity here to go and talk to them about their processes and introduce our products in that market marketplace."

As Swinton says, it is 'exciting times ahead for B4B Payments'. 

About B4B Payments

Website: www.b4bpayments.com

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Twitter: @B4BPayments



Collaboration key to thriving in the digital era

While 'digital transformation' is often viewed as an enormous, standalone project that must be completed by a set date, it should really be viewed as an evolution. The organisations that position their digital transformation as an ongoing process of improvement will be the ones that ultimately succeed in this new digital era

Myles Bertrand, Managing Director – APAC, Mambu

In the banking and finance sector in particular, collaboration and a quest for continuous change are the key components of a successful digital evolution. Banks and financial institutions around the world are currently facing a crossroads of sorts; either accept that the future of banking is digital and embrace new technologies, or keep working towards goals that may have been set decades ago, using legacy systems that are outdated, expensive and incredibly complex.

While this may not seem to be much of a choice, having faced minimal competition for decades, many large and established banks have become complacent and resistant to change. But now, threatened by new entrants to the market in the shape of innovative fintechs and new challengers, incumbent banks are at real risk of being left behind if they don't innovate and digitise. In fact, McKinsey & Co estimates that legacy financial institutions that fail to evolve digitally will see profits decline by up to 60 per cent by 2025. That's a sobering thought, and ought to serve as good motivation for traditional banks to get their digital strategies in place.

Even while economies are suffering and business is uncertain due to the Covid-19 pandemic, banks need to move forward with their digital strategies to ensure they're not left behind when the world eventually settles into the 'new normal'. The biggest mistake any bank can make right now is to do nothing – they need to look at how they can evolve with the times and capitalise on the available opportunities.

The allure of APIs

As mobile and application programming interface (API) technology matures and

becomes more reliable, and banks, fintechs and challengers begin to realise the size, scale and potential of the digital opportunity, the global financial services industry is undergoing a period of intense change.

APIs, in particular, are destined to play a significant role in the digitisation of incumbent banks, as they allow banks to gradually replace their old technology, rather than undertaking a risky and expensive 'knockdown/rebuild' digital transformation project.

Agility and adaptability are key when building a digital technology platform and it is essential that it allows for collaboration

While banks have historically spent huge sums of money on developing custom software and bespoke legacy systems, by embracing API technology they can quickly and easily access new technologies offered by fintechs, including artificial intelligence, data analytics and cloud, all on a software-as-a-service (SaaS) basis. This is not only more cost effective, it also enables the bank to be more responsive to changing market conditions and customer demand, while also being able to focus more resources on fine-tuning their core business.

API technology is not new, having been around for about 20 years now, however it must be noted that modern APIs are vastly different to the APIs of old. While old APIs were notoriously unwieldy, today's APIs are secure, lightweight and easy to understand, and developers don't need special training to access and implement them. What's more, the majority of modern APIs meet the 3:30:3 rule. That is, three seconds to understand

what the API does, 30 seconds to identify the entry point and how it is used, and less than three minutes to create an account on the portal, gain access and start using it.

We are seeing that banks are increasingly using APIs to enable access to technology that can transform the experience they can offer their customers, as well as the rewards they can share with investors.

Power of collaboration

Agility and adaptability are key when building a digital technology platform, and it is essential that it allows for collaboration. As we move forward in this digital age, banks will need to increasingly cultivate a collection of trusted collaborators and partners, with each organisation bringing their particular expertise to the party. Challenger banks are leading the way in terms of collaboration and tend to work with a carefully selected group of fintechs that provide best-for-purpose solutions in a range of functions, leaving the bank itself free to focus on providing the best service it possibly can.

Embracing APIs is the key to collaboration for legacy banks wanting to compete with challenger banks on a level playing field. APIs allow banks to collaborate with third parties, such as fintechs or other technology providers, while also making it possible for banks to leverage all of their advantages – trust, security, customer loyalty, data, sector knowledge and brand awareness – and connect with technology that delivers all of the functionality that the challenger banks are offering.

Collaboration may feel like a very new and foreign concept for legacy banks, many of which have operated under

clouds of secrecy in siloed operations for decades. However, these banks need to shake off their fear of working with others and embrace the opportunities that collaboration can bring.

When banks think and operate more like fintechs – leveraging technology, such as APIs, and collaborating with high-performing cloud and technology partners – they can streamline operations, automate processes and significantly reduce the overall cost of doing business.

In the current climate it is more apparent than ever that banks and financial institutions that proactively plan how they are going to ride the digital wave are the ones that will thrive in this new era. **FTI**

About Mambu

Mambu is the only pure SaaS digital banking platform available that operates exclusively in the Cloud. The centrepiece of Mambu's product portfolio is a powerful cloud-native platform that is provided as a cutting-edge SaaS model to customers in more than 60 countries worldwide. Alongside this platform, Mambu customers have access to best-in-class-services via a vast range of individual specialised connectors available in the Mambu Marketplace.

Find out how Mambu can help your organisation on its digital evolution at www.mambu.com.



Forces that are steadily reshaping the world of trade

It is remarkable how 'unchanged' the world of trade has remained over the last 100 years. The same documents, the same protocols between buyers and sellers, and the same trade letters of credit and documentary collections, that form the bedrock of trade worldwide.

While most of our daily lives today have gone digital – from ordering transport (Uber), to booking a holiday (Airbnb), watching movies (Netflix), and domestic purchases (Amazon), trade finance has unfortunately continued to wallow in paper. Not much has changed from my first day in trade banking in the 1990s when all I did was stamp documents all day long. It's high time that it changed for the better!

The last three decades in trade

Trade financing is a fundamental need for most corporates since it covers working capital – buying or selling. Not surprisingly as it has been around for centuries and today is quite commoditised, putting an enormous pressure on pricing in determining if a flow is won. But how does one price competitively, when every transaction needs manual review, is paper based, time and resource consuming. Logically, one would strive for economies of scale, however, without automation, that's really challenging, since an increase in revenues requires a corresponding increase in operating headcount.

What's hidden right at the bottom of this cost pyramid is a thick layer of expenses that are misplaced to start with. These costs, linked to the processing of transactions, in the past had to be accepted with little choice. The only way to reduce costs was to benefit from labour arbitrage i.e. outsource

operational processes to leverage low cost jurisdictions. In effect, the processes didn't change, just the cost of those steps did. To make matters worse, it's not only banks, but even corporates who find trade finance 'painful'. Inflection events, such as the 2008 financial crisis, the Middle East social unrests, or the current Covid-19 pandemic, have led to disruptions that accentuate how broken the process is. In their wake, these events make liquidity dearer and processing a lot tougher.

What lies ahead?

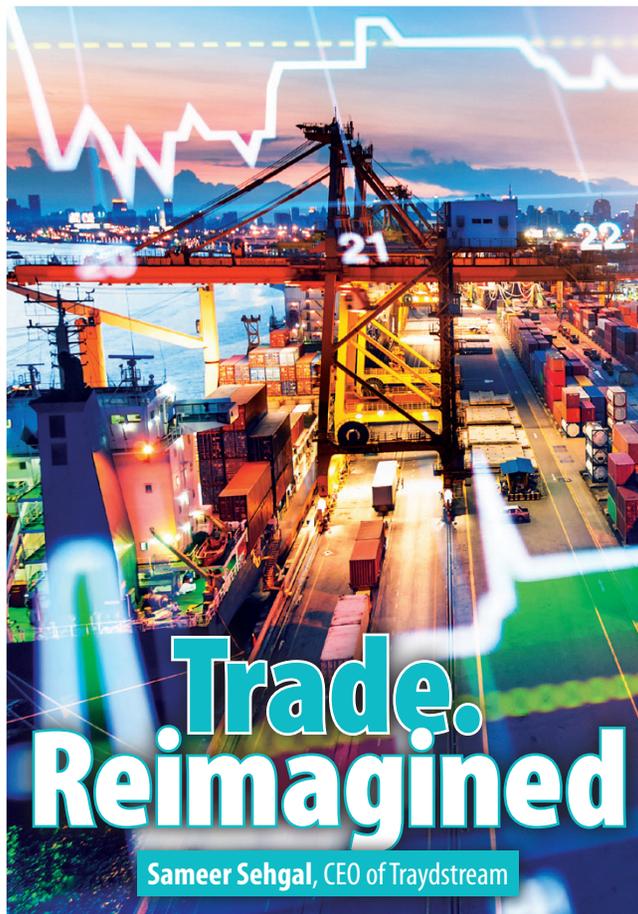
The past cannot continue and with the technologies available today, processing does not need to be frustratingly restrictive anymore. Let us review some of these exciting changes that are starting to deep root as trends and behaviours:

1 Online processing

Trade has always been believed to be complex; hence rationalising the need for extensive manual intervention. That might potentially be true, however looking closer the proverbial 80/20 rule applies here as well. The run-of-the-mill transactions can today be checked on systems and platforms much better than in the physical world. On our Traydstream platform, with optical character recognition (OCR), machine learning (ML), artificial intelligence (AI) and a whole raft of advanced technologies, we can run these transactions faster and more accurately than in the physical world. More so, systems remember and constantly evolve meaning that banks and corporates can process far more, far cheaper, in a more accurate and compliant manner, with lesser usage of working capital than ever before, in a standardised manner.

2 Suppliers and buyers connecting online

This is already happening and with situations, such as Covid-19, the need for such connectivity increases furthermore. Today,



buyers place orders that go straight into the seller enterprise resource planning (ERP), 'through an order to cash process' and into production – just-in-time. In the years ahead, what is likely to also take place is the seamless information flow from these commercial processes onto bank systems such that the two processes overlap and synchronise, making for a much faster end to end process financing overlay.

3 Digital documents

Erstwhile transactional trade banking has depended on paper. However, with the application programming interface (API) tools available today, a safe, seamless and scalable manner of connecting systems is possible such that documents need not be 'physical'. As examples, Bolero and Enigio provide a few excellent solutions in this space, and we have the UNCITRAL model framework as a backdrop to work from. It is not far when corporates and banks would be sharing a digital trade 'digest' with all documents to process.

4 Digital processing

We've seen it during our lifetimes as

paper-based payment methods have given way to online products thereby improving efficiency. Processing has become industrial and costs are a fraction of what they were a few decades ago. Trade is headed in that direction with online processing available today along with logistics and insurance.

5 Convergence of logistics and finance

This is a most exciting convergence that's being catalysed by technology. So as logistical systems converge onto ERP and banking/trade/payment systems, booking of vessels could be online real time, while financing for those transactions would be real time as well. The same information of the cargo on the vessel as the goods made their way from the buyer to seller would be available to all parties to make intelligent decisions on financing and risk mitigation. In fact, technology would be smart enough to indicate the best logistical route and the most optimal financing solution available for the underlying transaction.

6 Convergence of insurance and finance

As insurance gets digitised, buyers and sellers

will have the ability to secure and bind their policies online and real time for all their business needs and hence be able to digitally share those policies with processors who could a) ratify the use of the policy and b) avail of the limits under the policy to process transaction, online and real time.

7 Audio and video

We will see a far greater influence of audio and video tools interspersed in our lives. For example, when instructing on documentation or accepting discrepancies – it would be perfectly acceptable for voice responses to not only be recorded as proof, but also admissible in the courts as evidence. The same will be true of video recording of conversations within the transaction digest as buyers, sellers and the other constituencies in the ecosystem would benefit from an online AV response embedded in the document file.

8 Blockchain

We are at very early stages of the evolution of blockchain or specifically the distributed ledger technology (DLT). If there is one area where DLT should be most applicable it is trade. One can see an interlinked world where parties work of the same chain to add to and consummate a transaction end to end, with checking 'processors' in built at each stage to review and verify the transaction.

9 Ecosystems

We have already started to operate in 'ecosystems' in our personal lives. When we book a hotel, we get directed to sites which offer transport means for our trips or vice versa. Adjacent offerings bundled together to make the experience of the user, easier and effective. It is now rapidly reshaping the business to business (B2B) space as well. For example, as corporates use ERP – corporate contracting, banking, logistics, insurance, point of

'purchase or sale' financing are all coming together as an interlinked world.

10 Own vs. use
One of the most fundamental changes we have seen in the last few years has been the shift to 'own' versus 'use'. In our personal lives we seem to have made that leap, and that's starting to emerge in the banking world as well. Why buy when one can use? Why spend on capex, when managing through opex is easier. Why bother with the upkeep of the entire infrastructure, when it can be done more effectively in a 'pay as you go' mode.

11 Interoperability

Systems being developed today are being built in an interoperable manner. It won't matter whether a transaction has been initiated on paper, on a block chain network, electronic bank front end system, SWIFT or any other mode. Systems will be flexible to operate between each other i.e. the ability to take on transactions and instructions in any medium and be able to auto convert, process and probably hand over to a completely different medium in the next step. The capability to be 'magnostic' (agnostic to the medium) – is going to be the true defining attribute of technology going forward.

Conclusion

These are all exciting trends that are impacting our world of trade and banking today. Rome was not built in a day, and so with these forces, they are steadily making their way into our banking lives. And as they do, our lives are getting changed – indelibly. The decision then rests with each one of us. As Socrates mused: 'The secret of change is to focus all your energies not to change the old but to create the new'. Isn't then the best way to predict this amazing future of an online real time, invisible an interconnected trade world, to join hands in making it happen? **TFT**

Coding with context in a remote-ready world

By **Marcel Klimo**, Fintech Evangelist, Vacuumlabs

The importance of having trusted remote fintech developers on your team

As the coronavirus spread around the world, national containment measures, including lockdowns, quarantines and curfews, essentially forced a global experiment on remote working with millions of small, medium, and large businesses left to grapple with the realities of a flexible workforce.

An understandably cautious approach towards returning to the office means remote working is likely to become the new norm, even when restrictions on movements are eased.

Just like Slack, Twitter and thousands of digital companies around the world, we all collectively moved to a remote-only workplace basically overnight. Unlike others, our teams at Vacuumlabs have been training for this for years. We were never 'remote-first' but we have always been 'remote-ready'. Our developers and team members have been building and engineering software across three continents juggling calls between the US, Europe and Asia for years, so staying connected via online tools became second nature to us all.

There are immediately obvious advantages to remote working – the cost saving of no longer needing huge office spaces or the chance to boost the talent pool, for example. Having a remote team also reduces distraction levels that you have in a company office – that human nature of wanting to talk to other people, have conversations or hold meetings about



Three challenges to address for remote working

- 1 **Get connected** – managing the logistics
- 2 **Feel connected** – getting to know each other and building trust
- 3 **Stay connected** – developing team and company culture

meetings. But when things return to a new normal, we still want to meet people in person. What might remain is that remote-ready now opens the doors to bringing on people who we previously might not have considered.

Companies that have an in-house team may want to either innovate and scale faster but do not have enough capacity or complement their team with additional skill sets and experience. Managing a remote development team goes further than logistics. It will also involve careful consideration to ensure you are getting the right people with the right knowledge and in our industry, the right fintech experience.

Understanding the context

At the very beginning, you need to make sure that you get connected with the right people and sort out the logistics of how you will work together. With people

for hire networks, it is easy to find and hire a developer that works remotely but the real question is whether they understand your company, your brand and your values. And, more importantly, writing code without understanding the industry is a recipe for disaster. By knowing the context, you can ensure faster delivery and more precise solutions.

Choosing the right technology and understanding the impact of a service can be a difficult task for fintechs. When we were approached by subscription management service Cledara, it knew what it wanted to build but needed a guide to help build its minimum valuable product. We did just that and got it live in just under two months, which resulted in an industry award and an investment from Techstars and BBVA a year later. As a design and development company focused on fintech, we believe in a longer-term collaboration and we are happy Cledara continues to work with us years later. And, many others continue because they trust that the only way to move fast, learn and iterate is with a team that understands the context of what they are building from day one.

Since we provide individuals or full teams of software engineers and designers with years of experience building fintech, the CTO can spend less time looking for quality tech talent and more time on delivering features for their customers.

Insider knowledge

When working with financial services technology, you need to have a couple fintech projects under your belt to build with purpose and intention. If a developer has integrated a payment gateway card processor or core banking system of any kind before, they're going to start to see patterns and quirks of each one. And, only then can they make critical decisions to speed up time to market and build it right.

About two years ago, when we kicked off a large project in Hong Kong, we immediately made recommendations on vendors and steered the architecture to prevent problems we have seen in the past. Similarly, when working with 'buy now, pay later' service Twisto, we utilised our card processing and payments knowledge to make customer registration and service 75 per cent more efficient than before.

Our team members typically join existing squads to boost capabilities or we can take full end-to-end responsibility for delivery of specific functionality. We jump on daily stand-up meetings and attend retrospective sessions to work together better as a team and not as a typical vendor and client delivery cycle. It is all about building the stuff you need and reducing the noise that comes from lack of clarity and understanding. For our project managers, the goal is to bring peace of mind to our clients, so that they can focus on growth.

It is all about culture

You need to make sure that people feel connected and thus build trust. Cultural fit is also particularly important. Sometimes, companies will work with an external vendor but find they are too keen to please the client all the time and do not suggest alternatives or other ways of working.

We like to challenge assumptions and ask a lot of questions. It's better to spend a week designing the solution and another week coding it rather than rewriting the codebase eight times in six weeks just to find out that it doesn't actually solve a problem.

Our collaboration with travel and airline booking app Kiwi.com has been going on for years because our cultures meld so perfectly together. Its vice president of search couldn't have said it better: "They are acting more like colleagues or even as friends. It's not just about cooperation on development, but they are always happy to discuss and improve even delivery processes."

There's a mindset within our company to constantly ask questions because developers that have an understanding of the third party providers find it a lot easier to work within their team, and confidently communicate with the requirements of the project and the customer they're working with. Feeling connected is about making people confident, making people heard and building trust among a team.

Motivation is key

Another advantage to hiring

trusted remote workers to your internal team is that there is less chance of your developers becoming demotivated. It is recognised that developers can get dispirited doing the same thing repeatedly with the same sort of project, whereas remote developers have the option of switching projects over time. For example, encouraging our teams to build our own cryptocurrency wallet Adalite as a passion project eventually led to a collaboration with Emurgo in Japan. "By providing us the flexibility of an extended team that feels and works as one of our own, we see ourselves working with Vacuumlabs for a long time," said the CTO of Emurgo.

We built a custom Cardano crypto wallet and continue to work with them and others on projects, which started as passion projects and grew to full production builds.

All of this results in developers that have their creativity enhanced because they can build something from scratch or start something new. Rather than just to keep tweaking a service a little bit day in and day out, they are more likely to think about how something can be done differently, or how it could be made quicker or snappier. We believe companies like yours can benefit from new blood, new people coming in from the outside. **TFT**

About Vacuumlabs
Vacuumlabs partners with clients, providing full-stack engineering teams and product designers to build leading products in the fintech, payments and challenger banking spaces. Every step of the way, Vacuumlabs experts collaborate and guide clients, allowing them to move fast, learn, and iterate.
Website: www.vacuumlabs.com
LinkedIn: www.linkedin.com/company/vacuumlabs

vacuumlabs

Options for fintechs

Anatoly Kapsan, Chief Software Architect, Compass Plus



How the technology choices you make today can drive future business success

The rise of fintechs has been well documented over the past decade, with global investment into this sector reaching a huge \$35.7 billion in 2019, according to Innovate Finance. Initially, their product offerings differed substantially from that of traditional financial institutions (FIs), to the extent that those successful were labelled disruptors and challengers. With the number of fintechs applying for banking licences increasing over the last couple of years, and the transition from value-added service providers to payments giants, many are now being seen as legitimate competitors to traditional FIs.

It is clear that we have reached a new era in the payments industry – a sector that was once limited by technology is now enabled by it. The industry has evolved from an era that embraced the mass distribution of standard services, to one led by the creation of unique financial services and, as such, there have been fundamental changes to the approaches for building payment services. The main driver of development is the penetration of financial services into every aspect of people's lives, creating a digital economy.

The fundamental mission of any challenger in this industry is to bring creative and fresh thinking that truly disrupts the norm of the ecosystem. For many fintechs, they believe they can do this by building their own platform in-house, to maintain control and truly differentiate. If a fintech is determined to independently develop and implement all their main systems, starting with front end applications for customers and ending with a transactional engine, this approach can potentially give them maximum freedom to innovate alongside vendor independence. However, many have tried

to take this route, but only single digits have been successful.

The development of payment applications is a very complex task that requires very unique experience and qualifications. The global market has a finite number of specialists that are capable of building payment systems from scratch. Development from the ground up takes years and has insurmountable risks – from the time it takes to build a full payment application from scratch, the potential is high that the initial idea will already be obsolete and no longer make business sense. By and large, this route is only applicable to giants with near unlimited resources, such as Apple, Google, Facebook, that finance the payment part from a completely different business domain.

Designing a payments platform is a very significant task with the need to find and constantly maintain a delicate balance between conflicting requirements.

- The platform should enable the quick creation of new services, but at the same time strictly meet the requirements associated with security, performance, fault tolerance, scalability and compatibility with industry standards
- The platform must be extremely flexible, but it must not be a do-it-yourself design. It should make it easy to implement standard functions using standard tools, and enable the fintech to focus on the development of innovative functions
- The development tools provided by the platform should allow any idea to be implemented. However, the implementation of a new function should not start from scratch every time; all objects, functions and services in the platform should be available to the developer

- Customers need the opportunity to freely create their own differentiating services on the platform, while continuing to receive platform updates without compromising their own developments
- Development tools should, on one hand, be modern and recognisable to developers, and on the other, focused on being fit for purpose for the payment industry
- The developer must have the freedom of creativity, but the system being created is business critical and must be protected as much as possible from human error

The choice of how you implement your platform – whether to build, buy or a combination of the two – is not an easy task to undertake as the business decisions you make today will affect the future of your business. However, it is obvious that a fintech looking to go-to-market quickly with new and truly innovative products cannot use a system whose skeleton was created at the dawn of the payment industry as a payments platform – as such a 'box' is not only expensive to maintain, requires a lot of support and offers no vendor independence with potentially slow moving development queues. It also cannot adequately represent the objects and functions of a modern payment environment, nor effectively interact with other systems in a service-oriented architecture (SOA) and does not do well in a dynamic cloud environment. Perhaps most importantly, it also does not enable rapid development.

However, what if the platform described above already existed? Step forwards the SOA-based platform, offering a fully functional, reliable, well-structured and documented application programming interface (API) that supports modern standards and technologies for integration embedded into the DNA of the system. This kind of platform will offer a new way of development: through a customisation layer.

On top of such a platform, fintechs or the platform vendor, based on requirements, can create and develop their own customisation layer, where they can implement any unique features they want in order to offer competitive and differentiating payment services.

With this kind of development method there are distinct advantages. For example, there should be no restrictions on what can be done in the custom layer. As the fintech will have access to the development tools the software vendor uses, they should be able to do everything that the platform vendor can, without exception or limitation, such as create their own objects, transactions, interfaces, batch procedures, workplaces, reports, etc. Also, by utilising the replicability inherent in the platform, fintechs do not have to reinvent the wheel so can concentrate on solving their business problems and not waste time re-implementing standard functions.

Rather than spend years building the right system for a product offering that could already be outdated before the platform goes live, fintechs should realise that there are options out there. But before jumping in head first and seeking out a platform that can give them a quick win today, it is important to truly evaluate the market to find a platform that will fit their needs, not only for now, but long into the future. Only then will they have the sufficient margin of flexibility and strength to guarantee the fintech's unhindered development for years to come. **TFT**

JOBS IN FINTECH

The Fintech Times selection of
TOP fintech jobs this month

Chief Technology Officer,
London at



Storm2

Connecting FinTech Talent

▶ The chance to work for a leading regtech organisation based out of London. With a remote working mindset and a mission of transforming the traditional banking and insurance scene, Storm2 uses an AI/machine learning-driven approach that will combat one of the financial market's biggest headaches – cyber fraud.

It is looking for an experienced CTO who is able to lead its technology function through strategic thought, strong personnel leadership and stakeholder engagement.

If you are looking for a dynamic environment, a chance to take on a large team and responsibility and make a genuine impact in an ongoing issue – this is for you.

THE ROLE AND REQUIREMENTS:

- You will be responsible for driving its vision for the core platform and products
- Accountable for a team of 25, growing over the next 18 months
- This team will be spread across engineering, DevOps, QA, test and data science teams
- The role will be hands-on, from architectural design to maximising existing and new products
- You will need a high level of experience in technical leadership roles
- You will have demonstrated an ability to liaise with stakeholders effectively
- You have a previous track record of building and scaling high-performing teams
- You will ideally have experience in the fintech space

THE BENEFITS:

- Equity options
- Excellent pension scheme
- Family health insurance
- Flexible working
- Generous parental leave policy

Senior Data Scientist,
Copenhagen at
BANKING CIRCLE



▶ Banking Circle is a new bank, that is fully licensed yet free from the legacy systems that can make traditional banking slow and expensive. Banking Circle financial infrastructure is built for payments businesses and banks. Do you want to push the frontier of how data can be used to fight financial crime within the payments industry? We are seeking a Senior Data Scientist in our advanced analytics team, to help strengthen Banking Circle's financial crime compliance using data-driven methods.

THE JOB

You will play a crucial part in building a modern machine-learning-based system that can detect suspicious financial behaviour in near real-time and work with an ensemble of machine learning models to detect fraudulent payment patterns based on internal and external data. The models are built on tabular and a network-based data representation. The day-to-day work is done in close collaboration with people across the business, including anti-money laundering (AML) monitoring analysts and compliance. You will understand financial crime drivers and model them to allow automated detection of suspicious patterns dealing with currently 100k+ payments/day.

YOUR SKILLS & PROFILE

- Strong engineering/maths background (PhD or MSc)
- Full stack interests/capabilities and a DevOps approach to working
- Strong Python skills and experience
- Extensive ML experience with some of: Pandas, Sklearn, Keras, PyTorch or Tensorflow
- DevOps experience with some of: Git, Docker, Azure, Kubernetes, SQL, Flask or Django
- Extra plus: Neo4J/Cypher, JS, Airflow, Luigi or C++
- You are inquisitive and curious
- You care about your team members and their success

WHAT WE OFFER YOU

- A collaborative and inclusive team with full autonomy
- An ambitious, growth-embracing culture, that is committed to help you grow personally and professionally
- A company imbued with entrepreneurial spirit and passion, where open communication and collaboration are supported
- An opportunity to work and make an impact in a rapidly growing and technologically changing sector.
- A competitive benefits package
- A community of passionate, collaborative and professional colleagues

Inside Sales Representative,
London at



SmartStream

▶ SmartStream Technologies, a global software and managed services provider to the world's top banks, asset managers, custodians and broker-dealers has a new opportunity for a driven and talented individual who is looking to excel within an inside sales representative role.

The purpose of this role is to cold call prospective business leads and book in meetings for our sales teams to attend, who ultimately sell relevant products and services. Therefore, you must be confident with making 75-100 sales calls per day and must be comfortable in a KPI driven environment.

THE RESPONSIBILITIES:

The focus of this position will be on lead generation and qualification. We are looking for a confident telephone person who can qualify and nature our leads through BANT process to then pass onto the sales team. Other duties will include:

- Achieve quarterly metrics that represent our team's coverage, quality of work, and ability to drive tangible outcomes
- Navigate through CRM(s) to manage through leads and accounts
- Ensure strong data quality and confidentiality
- Partner with the sales teams to establish a strong business rhythm
- Sales development – making roughly 75 to 100 calls per day
- Engage with new prospective customers in order to provide a positive first experience
- Explore their business while helping to identify potential solutions to solve business needs
- Build customer trust by being an expert in marketing industries and landscapes

KEY SKILLS

- Comfortable in goal driven environment and attaining goals with broader team
- Closing skills
- Bachelor's degree with strong academic background
- Experience with cold calling

THE BENEFITS:

- Competitive salary
- www.smartstream-stp.com/Careers

Introducing WIREX

Meet Michael Moore Chief compliance officer

Why did you choose to work at Wirex?

It's rare to find the words cryptocurrency and compliance used in the same sentence, but after meeting the founders of Wirex and hearing their ambitions to bring cryptocurrency into the mainstream, along with Wirex's revolutionary product offerings, I couldn't pass on the opportunity to build a world-class compliance programme looking to encompass crypto.

What does your role involve?

I maintain oversight of Wirex's global compliance function, with teams in Europe, Asia and North America that are responsible for financial crime controls, regulatory applications and ongoing adherence to those regulatory requirements. I also provide crucial advice to the board of directors to support Wirex's ambitions to expand globally into other key markets.

What's the most exciting project you've worked on at Wirex?

I was the primary stakeholder in obtaining our recently announced principal



membership application with Mastercard – a world first for a crypto-friendly company. The process for having an application approved by them is challenging, especially for a company that

operates in the crypto space, but has shown our vision of bringing crypto into the everyday is now being embraced by other leading companies in the payments and financial world.

WHO IS WIREX...

Wirex is a worldwide and regulated institution that has forged new rules in the digital payments space. A proven industry pioneer, in 2015 Wirex developed the world's first payment card that gives users the ability to seamlessly spend digital and traditional currencies in real life, as well as the first Bitcoin rewards programme, Cryptoback™, in 2018.

Wirex was created in 2014 by CEOs and co-founders Pavel Mateev and Dmitry Lazarichev, with the core aim of making it as easy as possible to use cryptocurrency in everyday life.

With more than three million customers across 130 countries, we offer secure accounts that allow customers to seamlessly store, buy and exchange multiple traditional and cryptocurrencies at more than

54 million locations around the world using the Wirex debit card.

Wirex has over 200 employees based in London, Kyiv, Singapore, Tokyo, Toronto, Dallas and Atlanta. With ambitions to continue incorporating the next generation of payments infrastructure with blockchain and rapid expansion into new territories, Wirex is seeking to support this by growing its world-class team.

New roles at Wirex Compliance analyst

➡ Wirex has a world-class compliance function and this is a great opportunity for someone with a passion for financial crime who wants to progress their career. We have many examples of successful stories within the compliance team at Wirex and we always look for ambitious individuals to grow with us. With our international expansion, this team is growing rapidly so it's an excellent time to join a business that can offer you a genuine scope for progression.

Performance marketing manager

➡ This is an extremely broad role covering all paid channels, programmatic, affiliates and SEO. Being the first performance manager on the team, this person will be tasked with leading the strategy and managing multiple agencies to deliver on return on investment. The view for this role is to take ownership over performance marketing within Wirex and start to build out a world-class team.

Finance manager, Ireland

➡ Wirex recently launched in Ireland and are looking to scale the team across multiple functions, with finance at the heart of this. Working directly with our managing director in Ireland, this role would involve leading the financial side of our new European licensing applications, while having great exposure to commercial operations.



CLASH OF THE CASHLESS

In years to come, historians may well look back on the week earlier this year, when the US Treasury started mailing out physical helicopter money cheques to its citizens and the People's Bank of China commenced testing a digital fiat currency (CBDC) in four cities, as the moment when the US dollar reached its zenith and its slide from the pinnacle of the International Monetary and Financial System (IMFS) started an irrevocable decline.

In his latest book, David Birch paints a fascinating and challenging vision of the future world of digital payments and its possible fundamental impact on the broader global political and economic orders. As ever, he writes with real insight, fluency and a good deal of humour. This is a page turner of a book for anyone with even a passing interest in how the ways in which we pay for goods and services will influence the ways in which we live and govern ourselves. The author takes us on a journey from Wessex e-groats to Facebooks, via miscreant moolah and Byzantine fault tolerant protocols, and into a realm of biometrics, blockchain and bots, where digital identity is paramount and where money as we know it no longer has meaning. This book is erudite, contentious, sometimes obscure, occasionally infuriating, but always intriguing.

This is nothing less than a challenging narrative of the future of money drawing on eclectic sources ranging from 19th century futuristic novels to modern technical and academic papers to *Star Trek*. The starting hypothesis is that the IMFS – as we know it, the ‘Washington Consensus/Bretton Woods order’ – is staggering on its last legs and about to undergo revolutionary change. The drivers of this change will be economic and geopolitical seismic shifts not least associated with the great financial crisis, and the rise of China; the explosion of new technologies, including artificial intelligence (AI), distributed ledger technology (DLT), biometrics and nano technology; and the imminent demise of physical cash, hastened by the Covid-19 crisis. Cash will not be banned; it will simply become irrelevant because nobody will either accept it or wish to use it. Money, the author repeatedly reminds us, is not a fundamental law of nature: it is a convenience, a convention and something, which after a couple of millennia, is ripe for change. Many voices are now calling for the efficiency, effectiveness and transparency of the way we define and use money to be changed and advocating a shift from the physical to the digital.

By Philip Middleton, Chairman of the OMFIF Digital Monetary Institute

David Birch is an international thought leader on digital money and digital identity and understands the technologies, their complexities, their strengths and weaknesses down to his fingertips. The book is subtitled *Cash and Cryptography, Hash Rates and Hegemony* and those wishing to explore hierarchical double-permissioned shared ledgers and lattice

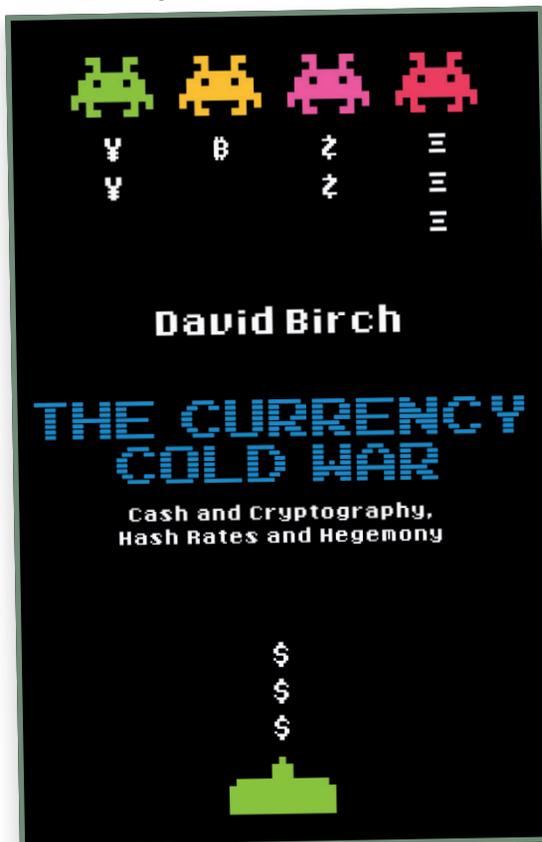
development. This is not the decentralised, opaque and unregulated utopia of the cryptocurrency zealots, still less the uncontrolled speculation of tulip mania.

But it is a world in which money, cash and currency are no longer the sole preserve of nation states and their central banks; it is a world of potentially millions of currencies which may be community-based and private, or global and fiat with much in between.

In this narrative, money is the handmaiden of a complex paradigm shift from an analogue and physical world to a digital one. The

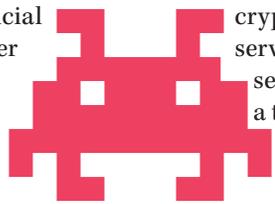
cornerstone of this world will be a universal digital identity for people, corporations and things. Relationships between these entities may increasingly be conducted by bots and algorithms operating as proxies for digital beings. Transactions will be settled in a variety of digital moneys including tokens, stable coins, CBDCs, crypto currencies and Bristol pounds. Money itself will evolve from being inert and ‘dumb’ to being ‘smart’, that is capable of interfacing with APIs to perform actions automatically. There will be an explosion of trading asset backed currencies in the form of digital tokens of all kinds. There will gradations of anonymity and privacy – transparent or ‘light’ digital cash will be free, anonymous cash will come at a premium. Audit and regulation of this world will be ‘ambient’, that is completely transparent and conducted in real time.

We stand on the threshold of a complex set of changes which may be smoothly progressive, or dangerous and disruptive. Changes to money will occur in the context of a continuous interstate cyberwar in which digital moneys, and the digital economies which they power, are important actors. Alongside the potential massive benefits that may be delivered by digital money, we are also about to embark on a period of intense global competition to define and control the future of money. This is a potential future which is both intriguing and terrifying. If the future arbiters of the global monetary and financial systems will be those who seize the commanding heights of digital money, then perhaps, as David Birch suggests, for the US government to encourage major US technology firms to develop and roll out dollar denominated digital currency on social media platforms might be extremely smart politics. **IFTI**



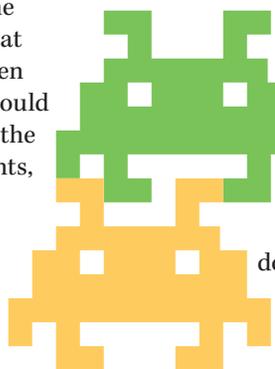
The Currency Cold War

by David Birch, published by London Publishing Partnership
Available: Kindle & Hardcover



cryptography are very well served. In the first of three major sections, the book provides a thorough introduction to digital money in all its forms and an excellent analysis of the technologies which

potentially underpin them. But the author is also at pains to argue that this revolution should not be driven by the technologists but rather should arise from a considered debate – ‘the future should be what society wants, not what technologists prescribe’. He is also insistent that currently trusted gatekeepers – central banks, regulators, policymakers – are not absent from the debate, but play full roles in guiding



5 BOOKS TO GET AHEAD IN FINTECH

FinTech, BigTech and Banks: Digitalisation and Its Impact on Banking Business Models
by Alessandra Tanda & Cristiana-Maria Schena

Available: Kindle & Hardcover



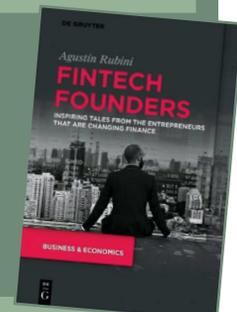
A Global Guide to FinTech and Future Payment Trends
by Peter Goldfinch

Available: Kindle, Paperback & Hardcover



Fintech Founders

by Agustín Rubini
Available: Kindle & Paperback



Investor Ready: The Guide For Start-ups On Getting Investors To Say YES.

by Julie Barber
Available: Kindle & Paperback



The LegalTech Book: The Legal Technology Handbook for Investors, Entrepreneurs and FinTech Visionaries

by Susanne Chishti, Sophia Adams Bhatti, Akber Dattoo and Drago Indjic
Available: Kindle & Paperback



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- ✓ Data enrichment
- ✓ Payment initiation services (PIS)

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