MAKING BLOCKCHAIN READY FOR BUSINESS
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As the discussions outlined in this paper show, a clearer picture of the true value of blockchain in the financial industry is starting to appear. From the hype of the past two to three years, a reality is emerging, with areas such as supply chain finance rising to the top of the list of applications for distributed ledger technology in financial services, as banks look for opportunities to increase efficiency, cut costs and improve customer service. There is also potential for banks to explore new business opportunities off the back of blockchain, perhaps most notably in the area of identity.

The roundtable discussion explored in this paper also shows however that banks have concerns about how to make blockchain a reality. In addition to the question of how the regulators view this innovation, the challenges of implementing blockchain in the real world – in an environment of multiple standards and widespread legacy – are starting to hit home. The notion that working out what to do with blockchain is the easy part, with the hard part being to make it happen, emerged from the discussion more than once.

In this context, it is worth highlighting how IBM is approaching blockchain, and how we might be able to help with this implementation challenge. Together with partners including Intel and Accenture we have created an open source, open governance blockchain for business. We are building features into this blockchain to boost its value for businesses and we are making it available to everyone who wants to use it. The platform is accessible via the cloud, and you can set up your own blockchain network within minutes, then move to the chargeable mode when you are ready to go into production.
Importantly, given the concerns expressed during the roundtable about integrating blockchain with existing infrastructures, we also offer functionality to help firms deal with the elements that need to be in place around the blockchain, which is, after all, just a database. You will need to get data in and out, provide a user interface and integrate a business process management tool, so we have created a platform which offers the building blocks and APIs to enable these integrations.

In short, this is a business-ready blockchain, which draws on IBM’s five years of blockchain heritage and our decades working on financial systems, and is there for you to use now, as you embark on the hard work of making DLT a reality.

I hope you find the discussion explored in this paper useful and relevant, and look forward to hearing from you with any questions you may have about making blockchain ready for business in the coming months.

“In addition to the question of how the regulators view this innovation, the challenges of implementing blockchain in the real world – in an environment of multiple standards and widespread legacy – are starting to hit home.”
After several years of hype, the real potential and benefits of blockchain (or distributed ledger technology (DLT)) in financial services are now becoming clear, but blockchain is no magic bullet. It can’t solve every problem, and even where it can be usefully applied, the implementation and integration challenges are no less than with any other technology innovation.

These were among the key findings of a recent roundtable discussion in London, hosted by Finextra and IBM, focused on how to make blockchain ready for business in 2017.

Bringing together a range of blockchain experts and practitioners from across the financial services industry and within IBM, the discussion took place under the Chatham House Rule, and ranged across a number of key topics.

These included how financial institutions can best engage with the blockchain debate and developments at an industry level, the most promising use cases that are emerging, and what needs to happen next for the blockchain potential to become a reality.

This paper distils the discussion, presenting the main outcomes of a wide-ranging and in-depth conversation in order to reflect the most salient views of the participants on this important but still-developing technology innovation.
While there are few financial institutions or financial market infrastructures that have not engaged with blockchain during the past several years, the roundtable discussion revealed that determining exactly how to engage requires consideration, despite the huge amount of hype and the high-profile consortia.

“We realised that we were not set up in the right way from an organisational perspective to face off with blockchain,” said one participant. “We decided to first look at the technology, so we created an R&D business-oriented team to understand how this new technology works. We had start-ups knocking on our door, asking what does it mean, a lot of them not knowing what they were pitching. So we started forming our own criteria to help us deal with this, and from 2016 onwards we realised that open source was the way forward, so we didn’t sign up to any start-up or proprietary solutions.”

From a business perspective, organisations must ask themselves what their role in a blockchain world will be, he added. “Are you a builder of blockchain? For the most part, we tend to procure a lot of systems externally and simply manage them internally. So are you going to be a provider of blockchain? It is important to determine what you are going to be in relation to blockchain. In many cases, the way in which we deal with our clients in a distributed environment is going to change. But at the same time, blockchain is not a standalone solution, and in any case, we don’t yet really know how to deploy it. So let’s think as a community about how the business model is changing.”

There is also regulation to be considered, added another participant, with the advent of blockchain coinciding with a number of changes in the regulatory landscape. “One problem we all face is looking at these things in silos,” he said. “I am increasingly referring to a ‘lethal triangle’ of PSD2, GDPR and the NIS Directive. Each of those regulations impacts each other, and all the silos, and when you consider DLT, you might say that the regulators don’t regulate technology, but they do look at where technology is going, and if they think DLT is going to impact data they will get involved. So we will need to think about regulatory standards for blockchain, around security and risk.”
There was consensus during the discussion that the financial industry will make use of blockchain – though there was also acknowledgement that DLT is not suitable for every application. “One of the most frequent conversations I have with customers is, you don’t need blockchain to do that,” said one participant. “They come with a solution and I say, great, that will do the job – but we have applications that do those things better.” A razor-sharp focus on the real killer apps for blockchain is essential, suggested another. “I know people say blockchain will eventually do it all, make our coffee and choose our life partner, but there is still a lot of panic here when what we need is cool, clear thinking. We need to play devil’s advocate and ask difficult questions to determine what problems blockchain will actually be able to solve.”

The size of the prize must also be factored in, added a third. “We need to get better at using new technologies and asking, is DLT something that can help, so that’s question number one. Then secondly, as a financial institution, we need to ask, do we want to take advantage of the new technology, because, for example, solving the problem we are talking about is an opportunity to commercialise an aspect of our business that is currently just a pure cost?”

The question of whether there is a role for blockchain in payments processing came up more than once during the discussion. “This is one area which really interests me,” said one attendee. “I am still exploring the value of DLT within immediate payments. People will say that we have very good electronic standards today and that payments are very fast, so do we need

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to improve this further? My response is, it depends on what you are trying to do. For domestic payments, by and large, DLT is not vital, but as you move cross-border and more players enter the chain, there could be more value. It’s also important to remember what we hear from blockchain initiatives already under way in payments, that the cost savings are not coming in the processing per se but in the back office operational costs, the reconciliations, the investigations et cetera.”

Looking at blockchain as a solution for payments in isolation may not be the right approach either, added a second participant. “If you look at payments and trade finance together, you have an opportunity to match the physical supply chain to the financial supply chain, bringing all the participants on to a single platform.”

The cross-border environment represents the biggest opportunity, especially cross-industry, agreed a third. “We’re moving pieces of paper around, moving information between banks and other players in the supply chain, and that is where we will see lots of efficiencies created as a result of blockchain.”

Supply chain finance is one area that has famously been the focus of a number of blockchain pilots already, and one attendee at the roundtable hailed the success of the experiment in which her bank had been involved. “Obviously global trade has lots of physical documents, and wet signatures being couriered around the world, and this generates many inefficiencies from fraud to documents being directed to the wrong place or taking a long time to get there. In our pilot we were able to reduce from 10 days to four hours the time it took to move all of the trade documentation from one customer to the other. That’s definitely a huge saving of time – and avoids many of the risk.”

The challenge, she added, is getting such a process live given the “sheer number of parties involved”. “This is why I think that a lot of the DLT services that will go live this year will involve a small network, rather than a huge network, of participants,” she continued.
In addition to the increasingly well-known use cases specific to existing financial services activities, the discussion also explored some of the use cases that are outside the financial industry, but which could create opportunities for financial institutions – specifically in the area of trust services. Examples raised included carbon offset management on the blockchain (to sidestep corruption in some markets, and ensure that power stations reap the rewards of their offsetting activities), a blockchain to manage the distribution of credits awarded to people who recycle plastic and digital identity and KYC. In all these areas, participants agreed, banks could leverage the customer trust they hold to play a central role. “Where we are seeing blockchain use cases, typically there is a need for a central trust authority. For various reasons people still trust their banks, and therefore there could be a potential role here for banking organisations to provide the trust in blockchain,” said one attendee. “For many of the use cases we are seeing, there has to be an organisation with a degree of trust that sets up the service and runs it. Often the people kicking off these initiatives do not trust their own governments and government administrations, so who are they going to trust? Banks have a reputation that has been built up over many years. Sometimes it takes a bit of a dip, of course, but, generally speaking, banks hold a lot of trust, and this is certainly an area financial institutions could explore.”

There were mixed feelings around the room about the potential of the identity business as a new revenue opportunity for banks. Certainly, participants agreed, banks have many of the necessary credentials. “Today we spend a lot of time and money establishing identity, but we have a limited
commercialisation of that. It’s a by-product of the other products we sell,” said one. “Could we build a revenue stream around selling the trust we have through a market utility? Could we say to other companies, we have identified and verified this party in this country and can guarantee that if you send money to them it won’t disappear into a black hole? I think there could be a blockchain use case for identity for banks, but the question is whether it can be scaled,” he continued. “Because if you think of the number of customers, and the complexity of the ever-increasing requirements that we have to facilitate to verify identity and then also the pressure of ensuring that, it’s very significant.”

On paper, identity is indeed a good fit for banks, agreed another participant. “We have to ask what we want to be. Do we think we can be the de facto providers, the custodians of digital identity, because we already sort of sit in that space, and we could just expand our role? From baby boomers all the way to generation Z we are hearing many people saying hold on, a lot of people are ripping my personal data off me and I don’t really know what’s happening nor where it’s going, and I want to have a little bit more control around that. So there could be a real market opportunity to say, we will maintain a set place where you can check what your identity is, and which other institutions will see as a trusted source of that data, rather than it having to reside in multiple places.”

In light of PSD2 and open banking a number of banks are already looking at identity as a business, said another. “I think what we will see is at a basic level, we will use social identity, and then as we need to step up authentication we will link up to our bank, in order to pay a utility bill for example, and finish that process with the bank. Over time, banks have earned a level of trust around their handling of data, and they can build on this.”

While “this is attractive on one side”, a third contributor continued, “if we get it wrong, the liability is unlimited”. “Banks positioning themselves as the custodians of identity” is fraught with risks, agreed another. “Who is the custodian of identity at the moment? Governments. Banks moving into the activities normally run by the state is a very tricky concept.”
Some attendees suggested that the identity opportunity for banks is stronger in the corporate banking than the retail banking context. “If you go into the retail, universal identity space it would get very messy,” said one. “For CEOs and CFOs in corporates, doing business with more than five banks, I dread to think how many pieces of paper they have to sign to prove identity. If we had a DLT-based identity service in this space, corporates could say once who they were, and for all other cases where identity needed to be proved, just point people to the DLT. When I am talking to CEOs at corporates and I bring out a form for them to fill in, they will often tell me that just to do business with other areas of my institution alone they have already completed the same form several times. With this solution, the corporate fills out one set of documents and is then set up.”

By contrast, others were much more strongly in favour of banks pursuing identity solutions for the mass market. “This challenge for CEOs and CFOs in corporates is a very first world problem,” commented one participant. “The real use case for digital identity is for people who don’t have an identity. While we live in ivory towers when it comes to payments, not everyone in the world has access – that’s the challenge.”

“A new currency code in the back office will require all kinds of process and system changes. Yes, digital currency solves one problem with DLT, but we really need to think about the operational implications. Are we talking about having a ledger for cash and one for securities, the same ledger? In any event, the back end of the banks would be fundamentally altered, so there is a lot of practical reasoning required.”
Indeed, the financial inclusion use case found favour among other attendees too. “Today there is a challenge in ensuring that benefits distributed by governments reach the right people and are spent on the right things,” said one. “Blockchain technology connected with utility companies offers nation states the opportunity to ensure that benefits are reaching the right beneficial owners. This also creates an opportunity for the beneficial owners themselves to start to demonstrate the types of criteria that will enable them to get further into the banking system. Through blockchain, they can create a history of financial activity, a credit history, that will enable them to leave the unbanked sector and come into broader society.”

“The idea of proving ownership and provenance of an asset – whether it’s a piece of land or a credit history – is a really good use case for blockchain,” agreed another. “It’s one of its strengths because of the immutability of the data. You can’t change the transactions once they are written. You can make further transactions, but you can always see whatever the asset is, whether it’s physical, whether it’s abstract: here is what it is and has been, and this is what’s been done to it. This is where some of the greatest impacts of blockchain technology have been.”

Financial inclusion is altruistic to a point, but of course does hold out new revenue opportunities for banks, by bringing more customers into the banking system, he added.
One challenge with blockchain-based financial inclusion solutions is – as one attendee pointed out – “you have to use cash at some point”. The topic of the role of digital currency on the blockchain in helping to reinforce the value of blockchain in financial services came up a number of times during the discussion. As well as making true delivery versus payment (DVP) on blockchain possible, it would also help to address that gap between assets on the blockchain and money to be spent by benefits recipients, as an example.

As another participant said, “the blockchain consortium R3 says digital currency will be hear in five years”. He added that the back office implications of this should not be underestimated. “A new currency code in the back office will require all kinds of process and system changes. Yes, digital currency solves one problem with DLT, but we really need to think about the operational implications. Are we talking about having a ledger for cash and one for securities, the same ledger? In any event, the back end of the banks would be fundamentally altered, so there is a lot of practical reasoning required.”

“Clearly the real life examples are working and show that we are on to something with blockchain, but then the next question is, will it scale? And then we will realise we haven’t thought about the back office implications, and the financial gains will start to be whittled away by the cost of making those changes.”
Whether it presents an opportunity for a new revenue stream or not, blockchain could help to alleviate some of the technology challenges banks face around identity, suggested one roundtable attendee. “We are talking here about innovative technology but old-fashioned identity,” he said. “The younger generation think about identity in the context of their social networks. By contrast we have our regulatory commitments and pull together our KYC data by traditional means. Going forward, there must be a way of tying in these new technologies and new identity management solutions that will enable us to reduce the huge costs we face in our KYC operations.”

Some of the technology-related concerns that peppered conversations about blockchain during 2016 and before did not come up so frequently during this discussion – though when asked directly participants confirmed that issues such as how to achieve consensus and scale are still a concern. “These worries are definitely still there,” said one attendee. “Interoperability, legacy, integration... We definitely haven’t achieved scale yet and that’s an issue, especially as we are all tied up on so many IT projects. There are also some legal questions around smart contracts and how far these will replace existing legal contracts.”

Banks are not “ignoring” these challenges, he added – “it’s just that the road is still out there, and we are remain at the early stages”.

Indeed, the fact that, for all the progress with use cases, the financial industry is barely off the starting blocks with DLT was endorsed by a number of participants. “We are still at the stage where people are saying, ok, you say this is the next big thing, so show me,” said one. “Clearly the real life examples are working and show that we are on to something with blockchain, but then the next question is, will it scale? And then we will realise we haven’t thought about the back office implications, and the financial gains will start to be whittled away by the cost of making those changes. For me, the most important use cases will be those that either enable us to do things more efficiently internally (big organisations have silos), or enable us to better
manage our balance sheets across multiple markets. Anything that will enable us to be more efficient in our management and deployment of capital will get people to listen.”

Technology wise, blockchain remains in its relative infancy as well, suggested another contributor. “At present there are a number of people experimenting with blockchain, there are several different guises of blockchain, there are hybrids, and it’s a bit like the railways 200 years ago. The railways seem to be a good thing, they move things faster, then a few people get knocked over and that causes a rethink, and then you realise you need standard gauges for the tracks before you can develop a fully integrated network. We are at the beginning of something similar in concept. It’s exciting at the moment, but we will have to go through the process of changing all the networks, getting everyone in line, working to the same standards, until we get to an agreed end point, and it’s probably still a long way off.”

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Certainly making DLT a reality will take effort, agreed a third. “Blockchain still has to be plugged into everything else. You still need to think about how you deploy it, and you still need to think about aspects like disaster recovery. Implementing blockchain is no different to building any other kind of large architecture – and the idea that it is magically different to any other technology is simply wrong,” he said.

One attendee at the event mentioned he had joined a roundtable hosted by Finextra and IBM on the same topic in early 2016. Asked whether he felt the debate had moved on, he confirmed that the thinking on use cases had matured and that there was more of a solution than an application focus – but he added a sentiment with which many other concurred, that “the hard work is yet to come”.

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