PHLOXII - FOTOLIA

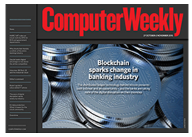
Why blockchain heralds a rethink of the entire banking industry

2

Bryan Glick
Editor in chief

15 Oct 2015 8:30

Blockchain, the distributed ledger technology behind bitcoin, is both a threat and an opportunity for financial services – and the banks are taking it very seriously



Download

This article can also be found in the Premium Editorial Download:

Computer Weekly: Blockchain sparks change in banking industry:

When more than 8,000 financial services professionals from around the globe gather together, you can get a pretty good feel for what's causing a buzz in the banking world. This year's Sibos event – one of the biggest in the industry's calendar – had one word more than any other reverberating throughout Singapore's Marina Bay conference centre: Blockchain.

Related Content

IBM open sources Blockchain to help developers build ...
– ComputerWeekly

Santander uses blockchain for international payments
– ComputerWeekly

IBM could create blockchain-based digital payments ...
– ComputerWeekly

Latest News

"Everybody wants to talk about blockchain," said Bipin Sahni, head of innovation and R&D at US bank Wells Fargo. "At last year's Sibos the conversation was all about risk and compliance – this year it's all innovation and blockchain."

Blockchain is best known as the distributed database technology behind the virtual currency bitcoin, but banks are starting to investigate its broader capability as a real-time, encrypted distributed ledger for transactions involving a variety of financial assets.

Royal Bank of Scotland is one of the institutions looking to take a lead on blockchain. The bank told Computer Weekly at Sibos that it intends to pilot a service based on the technology in 2016 with a view to releasing a product – likely to be some form of payments service – later in the year. If the plan is successful, RBS would be one of the first major banks to commercialise the use of blockchain.

Interest has grown quickly, and comes partly as a result of blockchain shedding its association with the volatile bitcoin currency.

"Forget about Bitcoin and cryptocurrencies," said Lawrence Wintermeyer, CEO of Innovate Finance, the UK fintech association. "The number one trending topic for the past three months has been blockchain."

Digital disruption on the doorstep

So, why the sudden and rapidly growing interest? Banks are realising that digital disruption is on their doorstep. In the early years of the 2000s, all their tech innovation was focused on exotic and ever-more complex financial instruments to squeeze extra margin out of the banking value chain. That led to the 2008 crash as the complexity created went beyond even the big institutions' ability to prevent disaster.

Since the crash, the focus has been on technology for risk and compliance.

But now the sector is feeling a degree of economic confidence again, new technologies such as blockchain are emerging that present both a threat and an opportunity.

Adam Ludwin, CEO of Chain.com, a blockchain software provider, said the technology promises to fundamentally change the way financial institutions operate.

"This is the voice over IP moment for financial services," he said. "You can go on Skype today, dial your grandmother, have a conversation, hang up, and you're doing nothing different than 20 years ago when you picked up the phone and there was an analogue dial tone and it was routed over switched networks.

"Similarly, blockchain doesn't do something fundamentally different for the user, but the voice over IP stack has been transformative and disruptive. We need to separate the user experience from the guts of the infrastructure and the consequent reduction in operating costs."

Guaranteeing the provenance of transactions

Blockchain is a peer-to-peer technology that uses its distributed ledger and advanced encryption to guarantee the provenance of every transaction. For banks, that provenance is currently provided by a cumbersome and bureaucratic set of back-office systems.

If you transfer a pound electronically to a friend – or spend a pound with a merchant – your bank takes a pound out of your account. Meanwhile, your friend's bank credits her with a pound. At the end of the day, those two banks need to reconcile those two transactions and match them up. That involves global transaction networks and complex processes, and it's why it can take days for certain payments to reach your bank account. Blockchain potentially eliminates all that back-end processing, and provides a secure, provable transaction in near real time.

For banks, that means a blockchain-based startup could offer services much cheaper and faster. But it also means that blockchain offers an opportunity for banks to take huge amounts of cost out of their back-end processing infrastructure.

"If I take a photo on my iPhone and send it to you, you don't get the photo I took, you get a copy of it. That's how databases work – they send copies, not the actual photo. But if I send you a dollar, it's super important that I don't have the dollar afterwards," said Ludwin.

"We can't actually achieve that with databases today because they're not designed like that – but blockchain is designed like that. It's designed to send the one true thing, the digitally native asset itself, to you. We need fewer intermediaries, less reconciliation, and that is truly transformative."

An architecture for blockchain in financial markets

Banks are starting to understand the potential of blockchain and to invest in learning more. RBS is one of nine founders of the R3 consortium, set up in September 2015 for members to work together on a framework and architecture for using blockchain in financial markets. Other members of the group include Barclays, Goldman Sachs, UBS and JP Morgan.

"A year ago people were scared," said UBS CIO Oliver Bussman. "Everybody agreed that the one topic we wanted to work together on is blockchain. The banks are getting ready to understand the impact and the use cases, and also to understand that collaboration and open standards, like the R3 consortium, is necessary. Regulators are actively involved in the discussion too. It's only possible if we have critical mass in the industry and agree upon standards."

Simon Taylor, vice-president of blockchain R&D at Barclays, said 10 people would still give 10 different definitions of blockchain, but it is high on everyone's agenda.

> **This technology has forced us to rethink our entire value chain in a way we have never done before**
>
> **Leda Glyptis**
> Head of Emea innovation centre, Bank of New York Mellon

"The question has gone from why blockchain, to how. We're not questioning why to do this any more, that argument has been won. The argument is how – which workflow, which form, with which standards?" he said.

"The jigsaw puzzle is still missing a lot of pieces, and having the right forums to put those together as a group is really important because this is market infrastructure we're talking about."

The difficulty for banks is that while they can see the potential and the threat, it's hard to justify investment in conventional ways.

"We have looked at one or two use cases for this technology, but it's not easy because use cases normally come along with a business case, and that is proving quite challenging. Use cases are one thing, and credible businesses cases are the next thing," said Stephan Müller, group CIO at Commerzbank.

"People are used to working in a hub-and-spoke system, where the hub is the central authority that has done all the security and the standardisation work. But with distributed ledgers, how do you gain the same trust as you have in a hub-and-spoke system? Moving money about is all about trust."

What does day zero look like?

The concept of blockchain is so fundamentally different from the way banks currently work that many are struggling to understand where to start.

“As institutions, we have accelerated our learning process from disbelief to cutting our teeth and using the technology to understand two fundamental questions,” said Leda Glyptis, head of the Europe, Middle East and Africa innovation centre at Bank of New York Mellon.

“What does day zero look like? All the conversations we’ve had are about this abstract future where everything is on a distributed ledger capability. But day one is very hard. A lot of old-world stuff will need to interface with new-world stuff, and that’s a hard conundrum to get your head around,” she said.

“Then there is the other piece – the one we are struggling with. If you think about how we make money as institutions, it is based on ways of doing things that are in some way completely changed by these capabilities. They will change the cost element of our business and create operational efficiencies, but they will also contract the value chain.

“That doesn’t just mean your operational division will get smaller, it means the products you package will be unbundled. We are unbundling what we have for centuries considered our business. It’s less about the technology and more about how do we start on the journey in a way that will not disrupt our customers and regulators. But we can conceptualise a world that will allow us to deliver value completely differently because of these new technologies.”

Read more about blockchain

- IBM has held informal talks with some central banks about building an infrastructure using blockchain that can provide them with bitcoin-like digital payment systems.
- Digital currencies such as bitcoin do not currently pose a material risk to UK financial stability, says a Bank of England report.
- IBM sets out proof of concept for its Adept platform, using bitcoin’s blockchain back end to distribute the internet of things.

UBS's Bussman is quick to stress that it is still very early days for blockchain.

"It's important to mention that we are in the experimentation phase. We are looking at use cases. The key learning for me is that we need to agree on a market infrastructure and a piece of software that can replicate your financial products. It's about how you model those products on the ledger and the workflow around that," he said.

"The effort to get there is mind-blowing, but the market entry cost will be much lower in future. We have to think about how we simplify those processes. If we have agreement on that market infrastructure it will drive trust, scalability and security. At that moment, people will see a tipping point."

Rethinking the banking industry

Barclays' Taylor said that an "industry grade" distributed ledger could be 10 years away. But the potential for blockchain to cause huge disruption in financial services means the big banks are taking it extremely seriously.

"What's interesting is that this technology has forced us to rethink our entire value chain in a way we have never done before," said Glyptis.

"Whether the new solutions to the new paradigm that will emerge will be on blockchain is not known yet, but we are thinking about what it is we are for as banks and financial institutions in a way we had never done before, as a result of the capabilities put on the table by this technology. It is a very interesting set of capabilities and technologies that has started a rethink of the entire industry."

Read more on IT for financial services

ALL | NEWS | IN DEPTH | OPINION | VIDEOS

Challenger bank Starling gets UK banking licence

Biometrics on payments devices safe, say three-quarters of consumers

UK retail banks could get Google-like legacy IT replacement

Was that it? Business as usual for fintechs after Brexit vote

Load More

2 comments

Oldest ▼

Share your comment

☑ Send me notifications when other members comment.

Register or Login

E-Mail

email@techtarget.com

Username / Password

Username

Password

Comment

By submitting you agree to receive email from TechTarget and its partners. If you reside outside of the United States, you consent to having your personal data transferred to and processed in the United States. Privacy

Repet01 – 16 Oct 2015 9:54 AM

There is no value to a permissioned ledger beyond shared Oracle databases they could already use. Permissioned ledgers aren't distributed or backed by an incorruptible proof-of-work system. They are an attempt to reintroduce points of control into a distributed system. This doesn't introduce value, it destroys it. Blockchains for banks doesn't solve any trust problems, because you have to trust the counterparts on it. "Private," "closed," permissioned ledgers are like the early walled gardens of the Internet; they take a new, revolutionary, decentralized technology and try to re-centralize it and control it. I can't believe the IT depts at banks are taking this idea seriously. Bitcoin has the largest network effect, the strongest hash rate, the largest market volume, and is growing very rapidly. Either get on Bitcoin or stop trying.

davidjbrowning – 23 Nov 2015 2:03 PM

Good points Repet01. I think what the banks can use first is a shared central ledger. This could replace SWIFT and all the branch and correspondent bank handoffs that take so long. Just have every branch of every bank thats a member be on the ledger (start with $). This way the Bank of Tokyo branch in Osaka could send $ for their customer directly to a branch of B of A in Portland, Oregon for their customer without going hop, reconcile, hop, reconcile, hop.....

Latest TechTarget resources

CIO

SECURITY

NETWORKING

DATA CENTER

DATA MANAGEMENT

SearchCIO

Blockchain market outlook: Hype vs. reality

There are predictions that the blockchain market will change the nature of business transactions. But how much of that is hype? ...

Google snaps up startup in push to master computer vision

The future of computer vision looks bright following a string of tech acquisitions in the field, most recently by Google. Also in...