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Banks find blockchain hard to put into practice

Kadhim Shubber

A Bitcoin (virtual currency) paper wallet with QR codes and a coin

Banks are rushing to adopt blockchain — the database technology that underpins bitcoin — in order to cut costs, but technologists and business people are having to make drastic changes to force the radical technology to adhere to the norms of the banking world.

The digital currency bitcoin was invented in 2009 an attempt to build an alternative system of money beyond the control of governments and central banks. Although bankers distrusted the bitcoin concept, the blockchain technology underpinning it was seen as having a number of useful features.

Blockchain is shared among a large number of users, which makes it difficult to shut down or hack; transactions can't be reversed; and it is transparent, allowing trades to be viewed and verified by anyone using the system.

These all initially had appeal for financial services companies — but they may prove difficult to put into practice. The unprecedented transparency of transactions sits uneasily with the privacy needs of secretive bankers, whose plans for blockchain diverge from the aims of bitcoin's advocates.

"The problem they were trying to solve is central bank money," says Simon Taylor, co-founder of fintech consultancy 11:FS and former blockchain lead at Barclays. "But if you're a bank or central bank that's not your ideology."

The prevailing "ideology" in banking today is efficiency. Tighter regulation, new competition from technology companies and the low central bank interest rates, which seem likely to persist, have forced the banking sector to look seriously at reducing costs wherever they can.

The hope is that using shared database technology like blockchain can help increase the speed and reduce the cost of activities such as settlement and clearing by automating back-office functions with systems that would be shared across the banking sector.

“Pre-2008 the industry would not have lifted a finger to do certain shared things, which may save a hundred million dollars, but now a hundred million dollars is a lot of money and people are now prepared to work together to cut costs,” says Richard Lumb, chief executive of the financial services group at Accenture.

There are a problems to overcome, however. A shared system for executing transactions, if built like bitcoin, could allow rival banks to spy on each other’s activities.

Additionally, making such a database immutable raises the possibility that fat-finger trades, where an additional zero is accidentally inserted into a transaction, for example, could not be reversed, resulting in the potential for unexpected losses.

There are also questions of scalability: if data are replicated across all the banks using a shared settlement system — the bitcoin model — it potentially becomes too cumbersome.

“You get something called bloat, and the more bloat you get the slower the system goes,” said Peter Randall, chief executive of Setl, a London-based company building a blockchain and distributed ledger system for financial services.

As a result, the discussions about implementing blockchain-like technologies in financial services involve diluting the pure bitcoin dream. The phrase “blockchain without bitcoin” is a commonly used buzzword, though it suggests a simplicity that belies the differences, according to Mr Taylor of 11:FS.

The proper analogy is not of replacing the engine in a car, he said, but of the differences between a car and a boat. “We might still use the idea that there is a driver, and that it moves and it has an engine, but we’d put it on water rather than on the roads,” he says.

Instead of sharing data with all participants, ideas being discussed involve ensuring that only counterparties, regulators and other appropriate parties can view the details of a trade.

Worries about immutability are perhaps overstated. The answer, says Mr Randall of Setl, is simply “do an equal and opposite transaction to set the record straight”.

Advocates say that the result has been a technology that seems, to the untrained eye, to be less radical than originally envisaged by bitcoin’s proponents.

“If you’re a business guy you could look at the current construct versus the new construct and say ‘aren’t you just building a big database?’,” says Charley Cooper, managing director at R3, a consortium of 60 financial services institutions working on blockchain.

Indeed, that is the view of some commentators, who have argued that rather than being an innovation, blockchain is just another database with the right amount of “cool” to persuade cost-conscious bankers to work together — an advance in marketing rather than technology.

But Mr Taylor disagrees: “We had distributed databases before, we didn’t have distributed databases where the maths proved tamper-resistant among a number of entities.”

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