

Blockchain: It's a solution; now what's the problem?

New technology has the potential to introduce a new paradigm to the financial services sector

What comes first, the problem or the solution? When Larry Page and Sergey Brin built a whole new algorithm to search, index and rank web pages, the idea was to create a solution to an existing problem: finding a needle in a haystack of more than 150 million websites. Technology: search algorithm. Application: unearthing relevant information.

In the case of the new technology buzz word blockchain, a person or persons using the pseudonym Satoshi Nakamoto published in 2009 a paper on how it works and created the cryptocurrency bitcoin to demonstrate it. Technology: secure, decentralised transaction database. Application: hey, we are still looking for ways to use the technology, apart from the cryptocurrency.

As a company that deals with millions of transactions in real-time, Network International is watching with interest the development of potential blockchain applications specific to the financial services sector. With Dubai Future Accelerators announcing a Dh1 billion fund in August 2016 to address seven global challenges, including digital solutions, such as blockchain, the UAE is set to be at the cutting edge of fintech, just as it may become the first country with a Hyperloop system.

Blockchain technology is tentatively searching for a myriad of applications in which it could prove useful. Examples include identity documents, property transactions, and of course the world's largest cryptocurrency, bitcoin.

SWIFT messaging

Future applications in the financial services space could disrupt the way we record credit card transactions, peer-to-peer payments and banking transactions. For instance, today almost every bank uses SWIFT messaging. Blockchain could make that obsolete.

The Economist goes a couple of steps further and describes potential uses of blockchain programming in writing more sophisticated smart contracts, thus creating invoices that pay themselves when a shipment arrives, or in share certificates that automatically send their owners dividends if profits reach a certain level.

Of course, neither of these applications of the technology is in use yet. But the possibilities are endless.

A chain of linked ledger entries

At its root, the blockchain technology allows you to announce and record a transaction you have performed. Then secure it forever from any change. If the time-stamped transaction changes, it is counted as a new transaction, but linked to the previous one. The linked transactions become a block and form a chain, with only one successor block allowed to link to a predecessor block.

The ensuing blockchain is stored as a matter of public record — a humongous ledger written in indelible ink, if you will — encrypted by strong security protocols, but available to be viewed by anyone within the ecosystem. Using distributed computing, the 'ledger' is stored across a network of computers. Each time a new transaction occurs, the blockchain is authenticated across the network before the transaction can be included as the next block on the chain.

If you read the previous sentence again, carefully, you will see why the traditional or legacy financial services sector has found it difficult to accept and integrate the blockchain phenomenon.

Today, a centralised entity like the Central Bank records and approves every financial transaction. In blockchain's distributed model, the information regarding each transaction is transparently held in a digitally shared database in the cloud, without a single central body acting as middleman. The absence of a central 'authority' is proving to be a disrupter that could be difficult to swallow.

Disrupters meet regulators

Research shows that blockchain technology has a number of advantages over current ways of doing the same thing. Verification is distributed, without a central authority. It is more real-time than any other method. It is immutable or unchangeable. It reduces not only complexity but the number of intermediaries in each transaction.

This gives us increased speed of transaction settlement, reduced possibility of duplication of records, improved monitoring and audit, and reduced costs. A study by the Spanish financial institution Santander in 2015 concluded that "distributed ledger technology could reduce banks' infrastructure costs attributable to cross-border payments, securities trading and regulatory compliance by between \$15 and \$20 billion (Dh55 and Dh73.4 billion) per annum by 2022."

The World Economic Forum (WEF), after year-long research that included interviews with financial sector movers and shakers, said in a report released in August 2016: "Distributed ledger technology has the potential to drive simplicity and efficiency by establishing new financial services infrastructure and processes ... The most impactful distributed ledger technology applications will require deep collaboration between incumbents, innovators and regulators."

Clearly, the role of the government and the central regulator of financial transactions will morph into that of the enabler and facilitator, rather than an authority. This can only happen after the ground rules of the new methodology are clear, transparent, free of loopholes and universally acceptable.

Tipping point

The World Economic Forum (WEF), which predicted in 2015 that blockchain would be one of 21 technologies that would transform the way the world does business, sees the tipping point for the adoption of distributed ledger technology coming in 2025. That's not a long time away.

In the meantime, intensive acquisition and dissemination of knowledge related to this disruptive force is essential to prepare a new generation of bankers. Sometimes, complex products tend to be really good, but if you don't understand them you kill them.

Blockchain today is just a cool word that you say to a large audience and everyone suddenly looks at you with new respect. There is a lot of curiosity about it and people think it's cool to talk about it.

In terms of application, however, it's one of the things where you say I've found the solution; now where is the problem I can help solve with it? It's still a solution looking for a problem.

Bhairav Trivedi, Group CEO of Network International