The rise and rise of blockchain

By Peter Alkema

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Anchored on the distributed ledger algorithm that enables peer-to-peer money transactions without a third party, such as a bank, blockchain is probably one of the most impactful breakthrough disruptions in recent years.

In fact, Germany's Fidor Bank, announced its plans to launch the first specialised bank for crypto-currencies along with currency exchange Kraken back in 2014.

Difference between bitcoin and blockchain

The distinction between blockchain and bitcoin is important: Bitcoin is just one of many crypto-currencies, which uses blockchain technology as its transaction conduit. Therefore the latter may be regarded as a threat to centralised banking systems. However, despite volatility in public perception, the blockchain concept has remained and is likely to continue in 2016 as adoption broadens.

Briefly, blockchain is a series of connected "blocks" of data containing records of transactions, the most common type in use at present being bitcoin. These interconnected blocks form a "chain" of data which is effectively a database that is decentralised, fully distributed and publicly visible, making it open for scrutiny and acting like a ledger.

In a traditional non-blockchain transaction, there is usually a trusted third party, such as a bank, that independently verifies the transaction. With blockchain, it is the network that verifies the transaction, effectively making the middle-man redundant. Protecting customer data privacy will be an important consideration for bitcoin. By the very nature of blockchain, it is physically impossible to remove data from the "chain of blocks" that comprise previously validated transactions. However, data in the blockchain can be encrypted and typically users would own bitcoin wallets with secure passwords that would protect their digital value and personal information.

Some innovative work is being done on blockchain in Johannesburg, where one of the start-ups at the Alphacode workspace in Sandton is investigating a blockchain solution for a virtual stock exchange in the Maldives.

Digital wallets – the forerunner of blockchain

This is the disruptive nature of blockchain - it disintermediates the trust equity that banks have in all their transactions. To some extent, this type of disruption has already started in payments with different ecommerce players such as PayPal and smaller point-of-sale (POS) solutions like SnapScan.

However, the banks still benefit: FNB partnered locally with PayPal in 2010, Standard Bank with SnapScan, the South African app of the year in 2013. The third largest payment network by value globally (after Visa and Mastercard) is UnionPay, which is also China's only domestic bank card organisation. UnionPay signed a deal in February 2016 with Barclays Africa, which gives the billions of UnionPay cardholder's access to the largest point of sale and ATM network in Africa.

Barclays will make a Chinese interface available, further improving convenience for its customers. UnionPay will also issue cards in African markets further driving financial inclusiveness on the continent. As with growth of fintech ecosystems and incubators, these partnerships indicate that banks are actively investing in future technologies and solutions.

Collaboration between banks

Although blockchain is potentially disruptive to the banks' current processes, setting it up in South Africa will require a high degree of collaboration among players in the financial services industry. Progress has already been made in this regard, with Absa indicating to the market that it would be hosting a forum for engagement. It is also the first African bank to join R3, an international consortium of 50 financial companies developing blockchain usage in the industry.

FNB envisages that the currency landscape in South Africa could be affected if bitcoin or one of the other non-sovereign, global digital currencies using blockchain becomes widely used. The South African Reserve Bank would regulate the introduction and usage of bitcoin as a legitimate form of exchange and it has huge potential to reduce costs in the traditional banking infrastructure.

New and different types of currency handling firms would also be introduced into the industry in addition to Bitcoin exchanges, such as bitx.co.za and ice3x.com. Bitcoin is already accepted at 30,000 online websites through PayFast, one of South Africa's payment providers that also enable money to be sent from other countries to an account holder in South Africa.

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This article is an excerpt from a white paper co-authored by Peter Alkema and Dr Jeff Yu-Chen from Gibs University.

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