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MARKET INSIGHT

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BLOCKCHAIN IN FINANCIAL SERVICES, HYPE OR REVOLUTION?

Within the world of investing in 2017, the buzz words hitting the wires constantly are machine learning, robo advisory and artificial intelligence among others. Although the potential use of this technology is promising, the technology itself is only a marginal iteration of what already exists. Artificial intelligence is nothing new, with the underlying theory being used to solve symbolic equations, while machine learning can be traced back to neural networks or decisions trees which have been used to generate investment decisions for more than a decade. The real revolution will come from the use of blockchain technology in the financial services. Currently blockchain is associated with bitcoin, the first cryptocurrency, and its well-known speculative behavior. However, blockchain has beneficial uses beyond bitcoin and holds the promise to bring a revolution to the financial services.

Blockchain is the technology of distributed or shared ledger as opposed to a centralised ledger. Contrary to any system using an intermediary, each participant in the blockchain has access to the database and its history with no party or person controlling the data. Each transaction takes place between the users without the need for third-party intervention and each transaction is stored and forwarded to all blocks in the system. The database, or the chain, is irreversible in nature, which means that once a transaction is written, all users can see the transaction but no user can alter it. A blockchain relies on so-called miners, a network of computers racing to validate transactions and create new blocks to be rewarded in the cryptocurrency of the specific blockchain they belong. Blockchain is about disintermediation ultimately. Most transactions in financial services or other segments of business are executed with the help of a third party, blockchain technology removes the need for an intermediary as transactions are validated, recorded and timestamped within the system itself.

In a typical financial transaction, the buyer and the seller agree on a specific price at a specific time for a particular asset. However, both must come into contact with a bank, a broker, their custodian and a clearing house. All these entities communicate, mostly in an old-fashioned manner, sometimes through fax, making the settlement time of any given transaction lengthy and inefficient. Blockchain technology has the potential to remove some of the bottlenecks, while also ensuring that all parties communicate through the same database that contains all the information.

The first ever created blockchain was the bitcoin, which only purpose was the creation of a virtual currency, outside of the control of a Central Bank. The negative publicity around bitcoin has stemmed from its use on the Silk Road, the infamous dark web market where one could buy weapons, drugs or even order hack exploits paid in bitcoins. However, the cryptocurrency has started to gain international recognition, as illustrated by a number of Japanese retail stores recently accepting it as well as Peach, a low cost Japanese airline accepting payments in bitcoin.

But bitcoin is not the only blockchain out there. Bitcoin has a number of embedded limitations due to its architecture. It is limited in amount by design, the validation of a transaction in the network takes up to ten minutes, and the size of the blocks is limited, which left the doors open to competition. Blythe Masters, the ex-JP Morgan Global Head of Commodities, coined as the first trader to have structured a credit-default swap, is now behind Digital Assets Holdings, a firm active in the distributed ledger technology with prominent clients such as, the Australian Stock Exchange. Digital Assets Holdings aims, by the end of 2017, to complete a project to apply blockchain technology to enhance the settlement processes of the exchange.

The system that is making the financial world's headlines recently is Ethereum, which has similar foundations to that of bitcoin, along with some significant differences. Without going into technical details, the speed of validation of new blocks is 12 seconds compared to 10 minutes with bitcoin, while its internal code is a Turing completeness language which means that anything can be coded. By comparison, bitcoin does not support "if" loops which is the foundation of any Turing system. Finally, bitcoins are binaries, they are either spent or bought, and there is no room for an alternative state which makes bitcoin extremely limited by design. Ethereum counters this limitation with the

implementation of smart contracts which are essentially multi-state.

It is therefore no surprise that Ethereum has attracted a lot of interest from financial and industrial firms ranging from JP Morgan, Cisco, Accenture as well as Spanish lender Santander. At this stage, banks are teaming up within a group called the Enterprise Ethereum Alliance in order to use the Ethereum technology to develop private blockchains relevant for their specific businesses. Bank of America is on the verge of launching its own private blockchain, designed at simplifying the process around letters of credit by translating this legal documentation into a smart contract between all the parties involved. JP Morgan is in the process of developing privacy protection protocols within the network through their Quorum platform, which uses Ethereum backbone and philosophy. Finally, Goldman Sachs has filed a patent for blockchain technology aimed at clearing OTC FX transactions. The enthusiasm for blockchain goes well beyond the sphere of financial services. Concepts such as Airbnb could quickly be replaced by a similar system using smart contracts, therefore removing the intermediary, Airbnb in this case, by connecting directly the offer and demand in a secure framework. Blockchain is also being considered by the United Nations to distribute funds in a simpler and more secure way.

Banks are facing significant pressure from the regulatory side, which ultimately translates into higher costs. The integration of blockchain technology within specific segments of a bank's business is likely to bring in a wave of efficiency while reducing the cost base. Banks should be bold and embrace blockchain technology, viewing it as a tremendous opportunity to transform their businesses. Wall Street giants are already spending time and dollars but smaller and more nimble banks should seize the moment to transform their processes and become banks 2.0.

NICOLAS ROTH
HEAD OF ALTERNATIVE ASSETS

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