Expert Analysis

On The Eve Of A Blockchain Revolution

By **Ross Nicholls**

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Blockchain technology is front and center of the fintech revolution enveloping financial services. Its flexibility, and potential to solve so many current transactional conundrums, is what makes it so exciting.

Information has traditionally been stored by individual organizations using secure servers only they can access. This has the effect of hiding transactions from other participants in a process, unless they are given access to that siloed information. This is true of all industries, whether that's a supply chain of goods being shipped around the world, the creation and sharing of patient records in a hospital network or financial transactions in a banking system.

Blockchain platforms are built using distributed ledger technology (DLT) which is able to facilitate and automate transactions transparently, while reducing operational inefficiencies and errors that often occur with siloed systems. This new decentralized way of storing and processing information, while making it accessible to all permissioned participants, is the essence of commercial blockchain technology. The way the information is stored in blocks and checked multiple times by different nodes (processors) in the chain, also makes it incorruptible and unhackable.

Transparency, incorruptibility and efficiency are three big reasons why blockchain is so sought after by financial services organisations. There are huge cost savings to be made in the realms of cybersecurity and transactional accuracy, as well as reputational and efficiency gains. Many of the largest banks, fund managers, clearing houses, payment providers and stock exchanges are already pouring large amounts of research and development money into leveraging the technology for their own use.

As an example, the London Stock Exchange Group (LSE) is partnering with IBM (a leader in blockchain technology) to digitize the issuance of securities for its small and medium-sized enterprise clients in Europe. A blockchain platform will simplify the tracking and management of shareholding information, creating a transparent distributed shared registry containing a record of all shareholder transactions. This should open up new opportunities for trading and investing, replacing the paper trading certificates that are commonly issued to private companies today.

Transparency and incorruptibility are also the motivations behind another IBM collaboration, this time with a group of large banks (including Deutsche Bank and HSBC). They are in the early stages of a proof of concept (PoC) know your customer (KYC) platform. It is essentially a secure, decentralized method for banks to collect, validate, store, share and update trusted KYC information. This replaces the current siloed system, where the same information is replicated many times throughout different institutions. The technology is scalable, meaning the platform could be expanded to

regulators and other financial institutions.

Elsewhere, Luxembourg, a European leader in the fintech space, has a not-for-profit foundation called the Luxembourg House of Financial Technology (LHoFT). It is a kind of incubator for start-up FinTech companies, designed to connect entrepreneurs with established financial services businesses. The aim is to use blockchain technology to develop viable real world solutions.

One initiative that has come out of LHoFT is FundsDLT, a blockchain-based digital fund distribution platform for asset managers launched by Fundsquare (the Luxembourg Stock Exchange's fund services subsidiary), InTech (a subsidiary of the Post Group) and KPMG Luxembourg. FundsDLT intends to streamline a range of fund administration and order-routing tasks by using blockchain to automate several processes in a secure manner. It uses DLT to connect transfer agents, payment systems and investors, dramatically improving efficiency.

The reviews of blockchain technology are not all positive however, as made clear by a recent statement from the Dutch Central Bank (DNB), following extensive testing of their own blockchain.

Rob Koopmans, an IR Global member and Dutch commercial lawyer, works with Rabobank in Amsterdam and is close to this development.

He commented: "The results of the study confirmed that the technology is not yet mature enough to play a central role in payment traffic, because it is currently unsustainable in terms of energy and too slow; allowing too few transactions per second. It is an exciting technology though that should become more efficient, just look at what happened to the mobile phone."

The pace of development in the fintech space is so significant though, that this required efficiency is likely to come soon. Blockchain technology is already beginning to stretch existing legislative and regulatory frameworks, through a range of new concepts such as smart contracts, initial coin offerings (ICOs), decentralized autonomous organizations (DAOs) and crypto wallets.

Smart contracts are essential for blockchain to operate, and are integral to all the examples given in this article. They are programs designed to automatically execute against the coded parameters (clauses) of a contract agreed between two parties. Many existing users of smart contracts operate under the "code is law" philosophy, meaning that if the code allows an act not originally contemplated by the parties, it is not a breach.

Marcus Van Bevern, an IR Global member and commercial lawyer with KZFK & Partners in Munich, Germany, believes this presents a serious problem that financial supervisory bodies must address before blockchain technology can become mainstream.

He commented: "A hacker recently used a gap in a smart contract issued by a DAO, and was able to transfer USD40-60 million in cryptocurrencies to his own e-wallet. In his opinion, he did not act illegally as he acted within the terms of the code. In our view, this attitude is typical of the position many individuals and corporates adopt in the FinTech sector, following the 'code is law' philosophy. This is not in compliance with German law and destroys people's trust in smart contracts."

As this ICO was not covered by any financial supervisory body, it was resolved internally within the blockchain community. The U.S. Securities and Exchange Commission has since ruled that the tokens

sold during ICO transactions qualify as securities and fall under their regulatory remit; something that hasn't happened in the U.K. or Europe yet, but could affect the fundraising capabilities of future blockchain developers.

The conclusion must be that blockchain technology holds great potential to revolutionize the financial services industry, although it is not there yet. More work needs to be done across development and regulation to win the full trust of the wider financial sector.

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