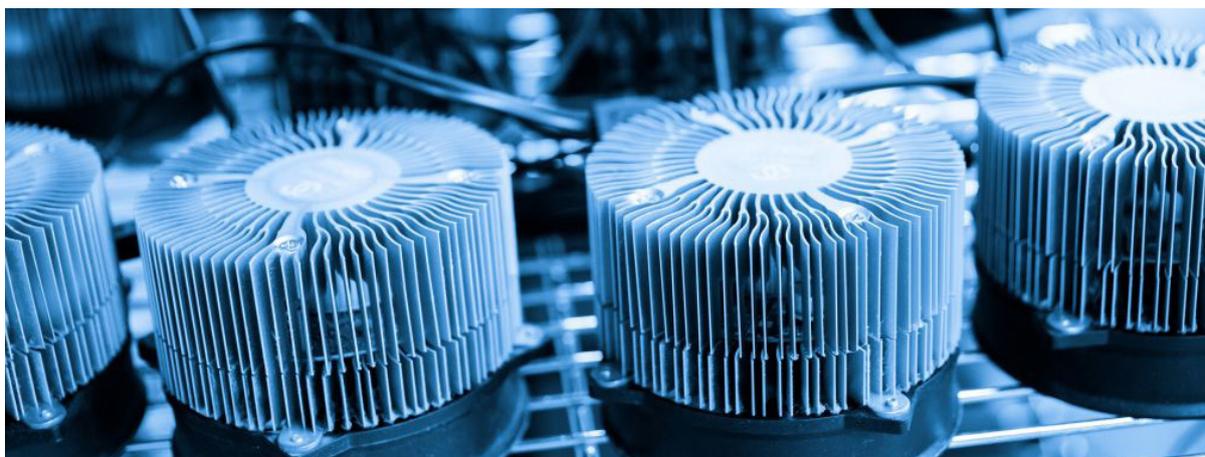


## Blockchain applications in banking



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“I don’t know what’s going to succeed. What I’m certain of is that we are going to see blockchain solutions, peer-to-peer solutions emerging in our industry and we want to be close to that development”

*“I don’t know what’s going to succeed. What I’m certain of is that we are going to see blockchain solutions, peer-to-peer solutions emerging in our industry and we want to be close to that development”*

Simon McNamara, Chief Administrative officer, RBS<sup>i</sup>

A recent article from Let’s Talk Payments lists 26 separate banks currently exploring the use of blockchain technology for payments processing.<sup>ii</sup> R3CEV, the New York start-up, says that it is working with 42 banks to explore a common set of standards and best practices with a view to creating commercial applications using a blockchain.<sup>iii</sup>

This doesn’t sound like an industry on the ropes. In fact, the race to develop applications highlights a sector-wide desire for change in traditional financial systems. In this fast-moving environment, no one wants to be left behind.

The thinking around blockchain concepts to facilitate the exchange of money is well-established. Indeed, this is the original use-case for digital currencies like Bitcoin. However, there are further opportunities for banks to use the blockchain technology to improve other services and compliance activities less likely to be subject to disintermediation.

### Example: Know Your Customer

#### What are the current bottlenecks or issues?

Global efforts to prevent money laundering and the financing of terrorism are incredibly expensive for financial firms to maintain. In 2014, it was estimated that global spending on Anti-Money Laundering (AML) compliance alone amounted to \$10 billion.<sup>v</sup> The banks are coming under pressure from investors and analysts to reduce costs, but many expect the budgets for their compliance teams to increase in the coming years rather than decrease.<sup>v,vi</sup>

In addition to the financial burden, Know Your Customer (KYC) requests can also delay transactions, taking 30 to 50 days to complete to a satisfactory level.<sup>vii</sup> Current KYC processes also entail substantial duplication of effort between firms.

While annual compliance costs are high, there are also large penalties for failing to follow KYC guidelines properly. Since 2009, regulatory fines, particularly in the US, have followed an upward trend, with record-breaking fines levied during 2015.<sup>viii</sup>

#### How the blockchain could help

The sharing of customer information is already starting to take place. For example, SWIFT recently established its KYC Registry, with 1,125 member banks sharing KYC documentation, but this amounts to only 16 per cent of the 7,000 banks in their network.<sup>ix</sup>

The use of a distributed ledger system, such as a blockchain, however, could unlock advantages by automating processes and thus reducing compliance errors. A blockchain-based registry would not only remove the duplication of effort in carrying out KYC checks, but the ledger would also enable encrypted updates to client details to be distributed to all banks in near realtime. In addition, the ledger would provide a historical record of all documents shared and compliance activities undertaken for each client. This record could be used to provide evidence that a bank has acted in accordance with the requirements placed upon it should regulators ask for clarification. It would also be of particular use in identifying entities attempting to create fraudulent histories.

Subject to the provisions of data protection regulation, the data within it could even be analysed by the banks to spot irregularities or foul play - directly targeting criminal activity.

Although many people perceive applications on the blockchain to offer anonymity, the technology can actually be used to cement real-world identities to cryptographic identities in the database. Companies like 1/0 Digital, Sho Card, Uniquid, Onename, Ascribe GmbH and Trustatom all offer businesses, including banks, the ability to scan customer documents and identity information and then generate private and public keys to seal them before the data is encrypted and sent to the blockchain.<sup>x</sup> The FinTech startups Chainalysis and IdentifyMind Global help banks comply with KYC and AML regulations as they consider whether to provide banking services to Bitcoin-related businesses.<sup>xi</sup>

Given the expectation that banks will increase their use of blockchain applications in areas such as transaction settlement and payment systems, the use of a common distributed ledger for KYC checks might also offer the opportunity to link many banks to enforce compliance.

In the Netherlands, for example, Dutch banks are partnering with Innopay in an attempt to enrol a number of other banks in a common digital identity service.<sup>xii</sup> This interoperability, combined with the application of smart contracts could be used to automate some aspects of the compliance process. For instance, transactions could only be permitted to occur with parties for whom adequate KYC evidence exists on the blockchain.

#### Implications

The burden of KYC compliance could be significantly reduced through the use of a shared database of client background documentation. In some respects, use of a blockchain for settlements and payments creates an even stronger case for tighter controls around KYC.

Under the strain of regulation, creating legacy IT systems and a tight market for technical talent, asking banks to make wholesale changes to their business models is difficult. Pilot programmes and proof-of-concept activities could allow banks to explore faster, cheaper, better ways of facilitating

payments and improving KYC compliance. They could also help regulators stay on top of changes in process and technology.

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