

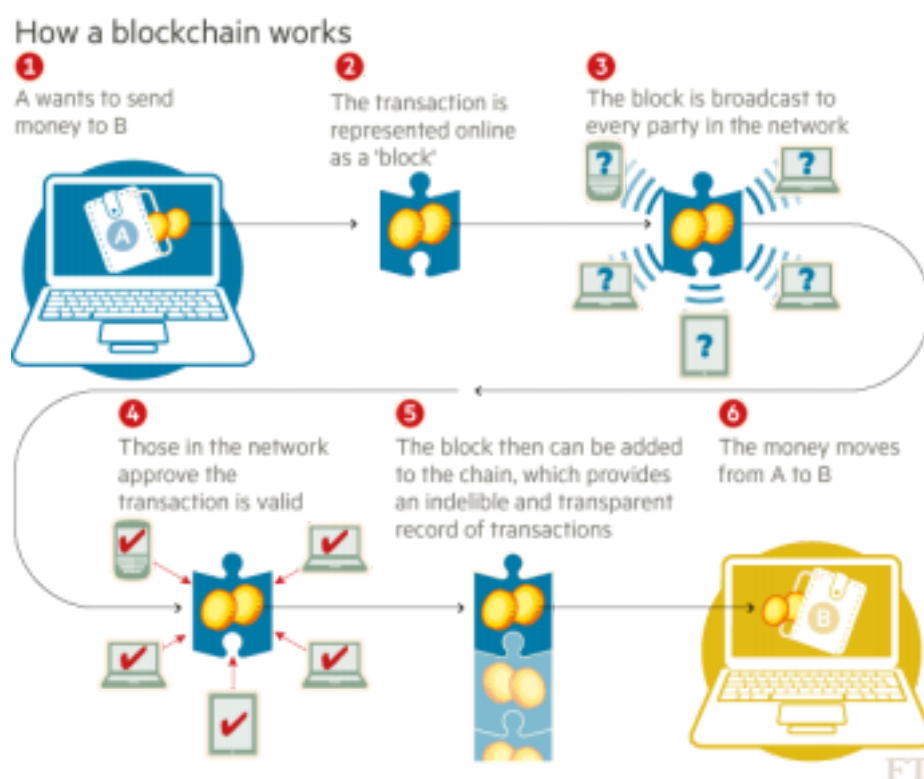
The Trend:

# Blockchain revolutionizing the Financial Industry

## What is Blockchain technology?

Originally set up as the backbone of Bitcoin, Blockchain is the digital ledger that records all transactions in a publicly accessible manner. Blockchain Technology upholds both anonymity and transparency as two of its key-stones.

All transactions are secured through private keys and complex digital algorithms that also allow them to be recorded, verified and stored as multiple identical copies across a distributed network of nodes/computers. Meaning that anyone can review previous entries and record new ones but they cannot delete or tamper with previous ones. Transactions are grouped in blocks, recorded one after the other in a chain of blocks. Blockchain, therefore, provides a secure and trusted ledger without the need for a central authority.



## Recent innovations and benefits

There are several recent innovations in Blockchain technology that have impacted the financial industry. Which include increased mainstream adoption, blockchain being utilised to benefit traditional assets and helping to reduce financial costs.

### Mainstream adoption

In June 2017, a group of seven of Europe's largest banks (Deutsche Bank, HSBC, KBC, Natixis, Rabobank, Societe Generale and Unicredit) formed the Digital Trade Chain Consortium.

This is an initial step to allowing these banks to go paperless and completely change the way they operate. The consortium was set up to help make payment simpler, so that they could provide faster and cheaper transactions for their clients, and it has also been highly beneficial to small and medium enterprises (SMEs) across national borders.

In 2018, the consortium has indicated more European banks will be allowed and are interested



to join.

### Using blockchain to benefit traditional assets

In Latin-America, Latoex has disrupted the traditional financial practice by using blockchain technology - using smart contracts to streamline back-office processes and shortened exchange fees. Latoex also provides ready-to-use tools such as Andes, Latoex's trading platform built on the Ethereum blockchain, which allows companies to run Initial Coin Offerings (ICOs), create and trade digital assets.



#### Reduced costs

A recent Accenture report estimates that by using blockchain “the eight banks analyzed could reduce infrastructure costs by an average of 30%”, and that “costs associated with compliance, business operations such as trade support and centralized operations such as know-your-customer checks, could fall by up to 50%.”



Accenture analysts estimate that the world banking sector will save up to US\$20 billion by 2022 through implementing blockchain.

Technology company Calastone estimated that blockchain ‘could save asset managers US\$2.7bn a year’ based on daily trade volumes of funds in the UK, Ireland, Luxembourg, Hong Kong, Singapore, Taiwan and Australia.

## Risks and challenges

In this paper we have identified three main areas that pose potential challenges: Security, Performance and Regulation:

### Security

Based on complex cryptography and the distributed nature of the ledger security is one of the main selling points of blockchain. Compared to traditional centralized financial systems which still have many weaknesses, blockchain technology is incredibly secure. Although in contrast much of the news surrounding blockchain and cryptocurrencies are focused on cyber-attacks. In 2017, nearly US\$490 million was stolen in such attacks. The real story is that vulnerabilities are introduced to systems when additional coding is added on top of the existing technologies. So we would suggest financial institutes hold back on adding unnecessary bespoke features and work with a cybersecurity partner to better understand the security risks if they intend to do so.

#### Untested at Full Scale

A subplot of blockchain security is that the technology is still yet to be tested at full scale. The Financial Stability Oversight Council (FSOC), a US government organization aware that there are at least two risks of scaling blockchains:

1. Given the limited experience in this technology, users have limited experience identifying and responding to problems.
2. Blockchains could be susceptible to fraud if a substantial number of users colluded against the rest of the users. Known as a majority attack, or as the 51% problem, the FSOC main concern would appear to be that the majority of mining farms are outside the USA.

However, there has still yet to be a significant security issue arising from the organic expansion of blockchains.

### Performance

Blockchain is intrinsically scalable, as each transaction added to the size of the databases. However, with the rapid growth, there are concerns performance will be impeded by the size of the database required and the computing power needed to maintain the speed of access. This is an area that financial institutions would need to pay special attention to and monitor as the size increases if they wish to use this technology to fulfil trading obligations, customer interactions or regulatory requirements. As mentioned above, this has yet to pose any serious issues however should be monitored.

### Cost

While savings through the use of blockchain are attractive, set-up and infrastructure would require large investments by financial institutes to implement blockchain. Due diligence and detailed planning, with clear KPIs to

optimize the outcome of an investment, would be a necessity.

## Regulation

Blockchain was originally set up with an almost utopian vision and as such created without taking into account the constraints of regulation. Now as financial institutes (and many other industries) want to take advantage of the potentials of blockchain regulation comes to the foreground to make it a viable option. However, regulatory agencies are still playing catch up, and not only is the question of how to implement regulations and audit blockchains an issue but also who's regulations to use. Many have contrasting views and there is still yet to be an agreement on how blockchain will operate in the future of the international commercial.

## Decentralized Autonomous Organizations (DAOs)

DAOs are online, digital entities that run through rules encoded on smart contracts. Effectively there is a new type of organization that is based on hard-coded rules that define which actions they will take. As their legal status is unclear it is also unclear how they could be regulated, though to some they are seen as the business model of the future.

# Strategy for change & recommendation

While Blockchain is a revolutionary technology for the finance industry, it is still a relatively new concept for the industry. According to a research company Markets and Markets, Blockchain technology is on the rise and is estimated to be worth US\$2.3 billion by 2021. Therefore, financial institutions have the ability to pioneer, to adopt and offer to their customers at an earlier stage can definitely build a competitive edge over their competitors. For example, HSBC had performed the world's first commercially viable trade finance transaction with U.S food and agriculture firm Cargill by Blockchain technology. The exchange was performed in 24 hours, compared to the five-to-ten days it normally takes to complete such exchanges through a paper-based system.

Below we outline seven areas that we recommend financial institutes integrate into their blockchain strategy:



## Smart contracts

Smart contracts can execute commercial transactions and agreements automatically, while also enforcing the obligations of all parties in a contract reducing expenses by removing the facilitator. Smart contracts are highly efficient and do not require multiple levels of sign off to be approved and put into action.

## Financial automation

Blockchain has the ability to streamline back-office processes, compliance and business operations such as trade support and centralized operations as well as shorten exchange fees, all of which would lead to great efficiencies and cost savings across the industry.

## Client ID

Using the blockchain's shared ledger client information could be set up securely, one time and used as identification across multiple applications and systems. Not only saving time but also reducing the risk of fraud.

## Bank-to-bank and international transfers

Traditionally the transfer of payments has been a slow and costly process especially when it involves crossing borders. However, blockchain technology is able to speed up and simplify this process - and also significantly reduce the costs. Deloitte estimate that blockchain reduces the costs of remittance to 2-3%, from 5-20% of the total amount while providing "guaranteed, real-time transactions across borders".

## Improve Security

While, in the Risks and challenges, we have discussed security already, it would be highly advisable for financial institutes to pay special attention to security and maintain the highest levels possible.

## Loyalty and rewards

Banks will be able to provide more appealing loyalty and rewards, based on blockchains transparency and the traceability

of transactions, improving customer satisfaction and trust in the institute.

### Share trading

Once stock exchanges implement blockchain technology they will be able to provide greater trade accuracy and shorter settlement times. Allowing customers greater control and building trust in their trades.

## In closing...

From relatively humble beginnings blockchain technology has grown to global prominence. The potential to revolutionize the way systems work is immense, and this is no different for financial institutes.

While no one is expecting wholesale changes overnight, the rate at which blockchain technology is establishing itself as the way forward is continually gaining speed. Before we had even made it halfway through 2018 there had already been more invested in blockchain companies (nearly US\$1.3 billion) that the whole of 2017.

As we have discussed above the decentralized nature of blockchain technology worries some people (how will it be regulated on a global scale?) but also provides increased stability and reliability if implemented correctly. Allowing banks to reduce costs across many of their process while being able to increase efficiencies, speed and security.

Financial institutes have a lot to gain by embracing blockchain technology and so do their customers. Not only does it have the ability to disrupt and transform the whole industry but have the ability to transform an ageing system of processes into a modern and efficient industry that would be beneficial for all involved.

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