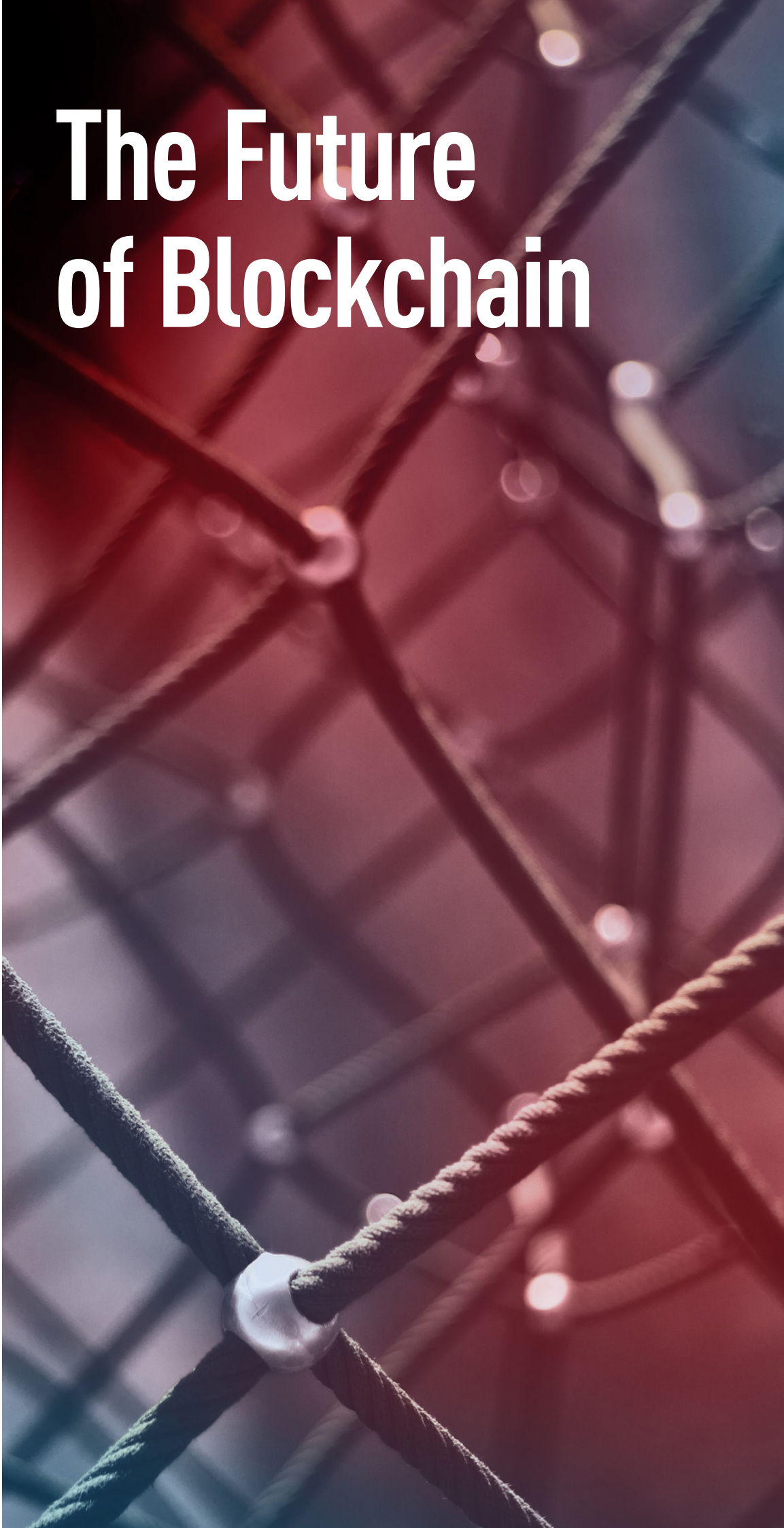
2020

Finextra

The Future of Blockchain



The Future of Blockchain

Where DLT is taking effect in financial services and what the future holds

00 | Introduction

Recent years have seen explosions in interest around blockchain technology, from Bitcoin's price peaking at nearly $20,000 in December 2017, to the proliferation of initial coin offerings (ICOs) in 2018. In general, interest has been propelled more through hype than expectation.

Distributed ledger technology (DLT) has presented many compelling use cases that would make financial services processes easier, quicker, cheaper and more transparent.

This has been demonstrated already by numerous major banks who have launched projects in areas such as identity, settlement and foreign exchange.

Added to this, the last 18 months has seen giants from the technology industry launching blockchain-based services, which is encouraging for those hoping to see more consolidation, owing to the problems of scalability that a fragmented market may bring.

2019 also saw Facebook's announcement that it was launching its own digital currency. The Libra project received widespread criticism from governments and regulators concerned about the social media company fulfilling its founder's mantra of 'moving fast and breaking things' in the world's financial system.

Whether or not the Libra project ever comes to fruition, Facebook's plans have brought about a flurry of activity around digital currencies, with several central banks looking into the possibilities of developing their own.

In this report, Finextra Research explores this and other use cases for DLT in conjunction with experts from the financial services industry, and examines what needs to happen for the technology's potentials to be fulfilled.

01 |

Blockchain and the future of identity

One of the areas that financial services businesses are most enthused by the potential effect of blockchain technology is identity.

There is a strong belief that the industry could save billions of dollars through DLT removing the need for so many people and systems to mitigate risk associated with know your customer (KYC) and anti-money laundering (AML) requirements.

Richard Walker, head of blockchain for financial services at Deloitte, says: "We're encouraging our clients to explore it, and we think there are manifold benefits to it.

"We don't think anything should hold back the advancement of blockchain solutions because there is such a compelling case with such a strong return."

Much of the discussion is around self-sovereign identity solutions and how these could help solve data compromises that can be the blight of businesses in all industries. What this promises is the ability to provide a consistent verified identity that can be stored and managed in a form of user-controlled digital vault, which could prove to be a critical enabler in financial services.

Many KYC and AML-related solutions have been developed in recent years to combat the mounting fines and reputational damage that lies thereafter, but generally do not live up to their promise.

This is because regulators expect banks to run their own KYC/AML processes on customers and are required to have evidence and auditability that the information that they collect and store is only being used for identification purposes. This creates further administrative and technical burdens.

"However, if a party with a self-sovereign identity solution could create a something that provides a 'digital passport', which could be used by banks, we believe it could be a great breakthrough," Walker says.

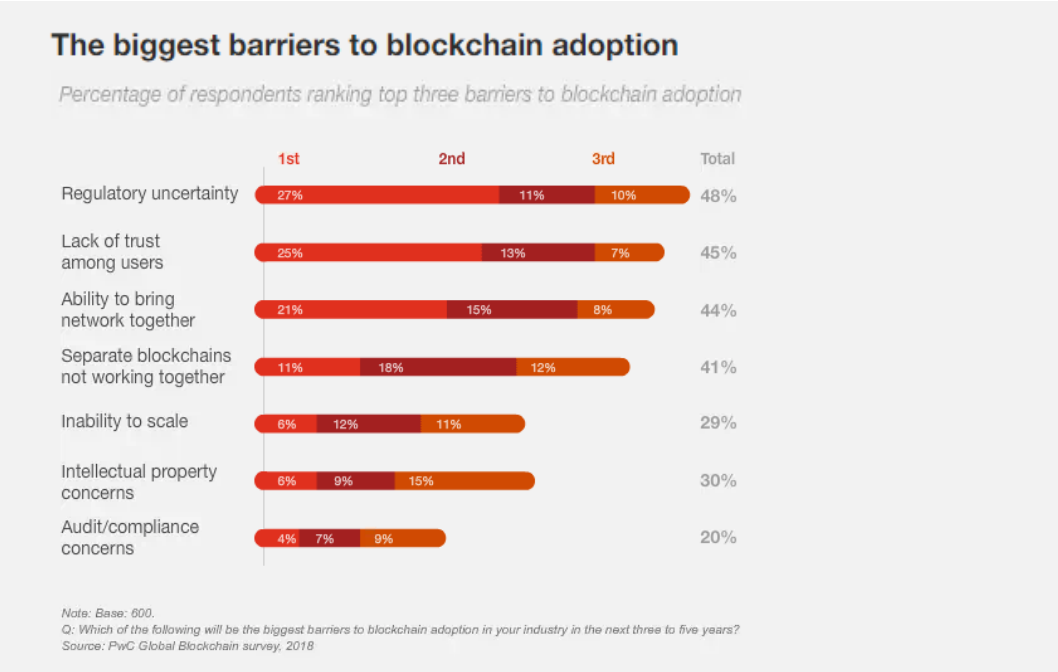
Self-sovereign identities could give individuals greater ownership of their personal data and enable them to store it on a distributed ledger and mitigate much of the risk associated with identify theft.

Development of solutions of this nature is possibly being held back at present by a lack of standards. The fragmented market contains a large number of startups all offering technology that businesses fear is unlikely to be scalable or find regulatory approval.

"This creates the Paradox of Choice," Walker says, "that the more choices you have, the fewer choices you make."

However, these choices would become fewer and fewer if Big Tech continues to make advancement in their harnessing of blockchain technology. Microsoft and IBM have both launched or announced Blockchain as a Service platforms, providing clients with the infrastructure on which to build blockchain-based projects.

With Big Tech involving itself in blockchain technology more and more, the number of choices that organisations can make are going to increase because there are fewer to choose from, and they can move with greater confidence because they are working with trusted parties.



02 |

Blockchain's impact in the crowded cross-border payments space

There is great demand for solutions that can reduce costs and friction on payments across borders. Globalisation has driven a huge amount of revenue in this area. In its 2019 Global Payments Report, McKinsey estimated this to stand at $230 billion in 2018.

Cross-border payments is one of the areas of financial services that are still burdened by high friction and high costs, be it in trade finance, customs remittance or standard payments by consumers and businesses. Removing the friction of fiat currency crossing borders is one of the biggest areas that blockchain technology will reveal benefits.

"Blockchain technology can provide singularity, transparency and immutability," says Mark Williamson, COO of FX cash trading and risk management at HSBC.

"Blockchain initiatives will have to compete with other fintechs and the traditional financial system."

"So, you have a single source of truth between multiple entities. Transactions are immutable and are backed by a legal rule book which describes settlement finality."

This provides visibility and certainty around when funds are going to be paid, backed up by some form of smart contract. This not only makes cross-border payments more transparent and secure, but quicker and cheaper.

This would be of great benefit to banks, businesses and individuals, in providing working capital around the world, removing the costs and time constraints that have been an affliction of cross-border payments historically.

However, Francisco Maroto, blockchain discipline leader at BBVA, believes some caution should be heeded around cross-border payments because of the busyness of the market.

"We are seeing that revenue streams are shrinking, because there is a lot of competition in this space," he says.

"There are a lot of fintechs and new entrants who are taking a part of the pie."

Many of these are doing so without using blockchain and are still able to provide fast and cost-effective payment systems. The challenge for blockchain-based providers will be to create solutions that have the same global reachability with liquidity in different currencies and access to different payment systems around the world.

"There is space for improvement, but this space is diminishing all the time," Maroto sums up.

"Blockchain initiatives will have to compete with other fintechs and the traditional financial system."

Again, there is a need for standardisation across networks to allow blockchain-based solutions to compete.

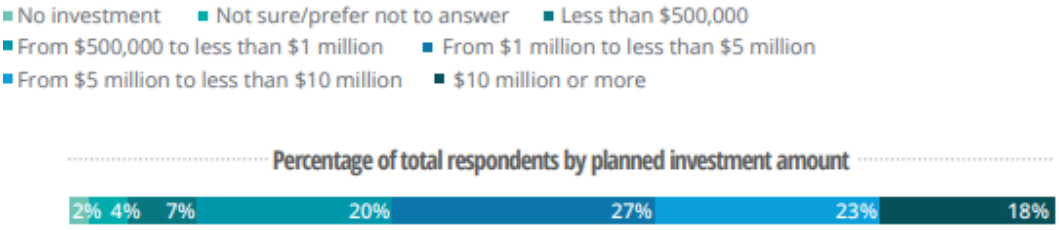
"What will be key is having interoperability between different blockchains," Williamson says.

"There are challenges around that, although not insurmountable. Interoperability can be attained on a basic level through APIs, or by having a universal blockchain that connects different ones.

"We see that there will be multiple blockchains provided by different financial market infrastructure providers, so interoperability will be key."

Approximate blockchain investment that organizations will make in the next 12 months

Blockchain investment plans are strong, with more than 40 percent planning at least $5 million in spending over the next 12 months



Source: Deloitte's 2019 Global Blockchain Survey

03 |

The holy grail of T+0 in settlement cycles

Running through multiple areas of trade finance, investment banking and asset management are inefficiencies in matters relating to issuance, settlement and custody, which blockchain technology can help to address.

The big challenge in buying and selling stocks, bonds or funds lies in expediting the settlement cycle. Historically, the settlement of a stock trade could take as much as five business days. With advances in technology, this can now be completed after two, but blockchain technology could effectively offer instantaneous settlement.

Affecting instantaneous settlement means there is no risk in the timeframe between the trade date and the settlement date if the two are one and the same.

Ciaran Roddy, director at global banking and markets for HSBC, says: "If you look at how settlement cycles have been reduced from T+5 (five days after the day of the trade) down to T+2 (two days after), there is an opportunity to get this down to T+0. This would significantly reduce the level of counterparty risk in the ecosystem."

Roddy describes same-day settlement, or T+0, as the "holy grail" for financial services concerned with the trading and settlement of assets. Affecting instantaneous settlement, both on the security leg and the cash leg, means there is no risk in the timeframe between the trade date and the settlement date if the two are one and the same.

"So, if you think about speed of settlement and the level of transparency that DLT offers, I think there's an interesting opportunity here," Roddy adds.

The challenge in attaining this level of efficiency and transparency is the need for standardisation of the technology and infrastructure in order to facilitate different blockchains to interact with one another.

"Right now, there are a number of different DLT providers who are working with clients, custodians and anyone else involved in the ecosystem, but can they all connect and can they all speak the same language without there being universal standards?" Roddy asks.

"Common standards in the infrastructure facilitating different blockchains connecting with each other is going to be a significant challenge."

Standardisation of legal and regulatory frameworks would also be vital to the digitisation and tokenisation of securities and other assets. Where some markets may recognise digital assets as legally enforceable and transferrable assets, other will not.

This will require certain jurisdictions with far-reaching influence to lead the way in setting a standard that others can follow. The UK may prove to be the country that does so thanks to its commonwealth ties.

The majority of the 54 commonwealth nations use a common law legal system based on English law. Common standards across this extensive network of countries, that includes Canada, India, Singapore and Hong Kong, would establish a framework that regulators in other places such as the US or countries in the EU would feel comfortable in copying.

This would provide greater international clarity on the status of digital assets, and further drive the adoption and integration of blockchain technology in trading and investments.

Level of security offered by blockchain solutions in comparison to conventional IT solutions

Overwhelmingly, respondents feel that blockchain-based solutions provide greater security than traditional approaches

Survey question: Do you believe that a blockchain-based solution is currently more secure, less secure, or at the same level of security as systems built from more conventional information technologies?

Source: Deloitte's 2019 Global Blockchain Survey

04 |

Blockchain's role in digital currency

The next few years are expected to see exciting developments in the creation of central bank digital currencies (CBDCs), with a growing number of central banks and governments making their plans to launch a digital version of their national currency known.

Impetus for CBDCs was provided in 2019 in the form of Facebook's announcing its intention to launch a digital coin on a permissioned blockchain.

Added to this, China appears to be leading the way in the development of a CBDC, having been working towards issuing a digital yuan for as long as the last five years, with indications that the project is approaching completion.

It remains to be seen the extent of the contribution that blockchain will play in digital currencies, given the varying models that central banks may adopt

As developments around CBDCs and other digital coins continue, it is natural that interest around blockchain technology will increase. However, it remains to be seen the extent of the contribution that blockchain will play in digital currencies, given the varying models that central banks may adopt.

Should a 'retail' model be adopted, whereby consumers and companies hold accounts with the central bank or hold it on pre-paid cards or mobile wallets, there may be less need for the use of blockchain technology if the central bank is the sole party validating transactions.

However, this would burden the central bank with many of the administrative overheads that commercial banks have to deal with in managing accounts, such as onboarding customers, investigating fraud and so on.

For this reason, central banks may prefer a 'wholesale' model in which the digital currency is issued to commercial banks or other financial institutions who in turn circulate it to consumers. A third option is a 'hybrid' model which combines elements of the two.

This is an example of the trade-offs that financial institutions are required to make between centralisation and decentralisation. While decentralisation facilitated by blockchain technology may carry many benefits in the way of reducing operational strain and improving scalability, this may come at the cost of ceding control of the digital currency's flow.

Therefore, it seems likely that central banks will favour the hybrid model. Indeed, the countries which seem to be the closest to rolling out a digital currency have taken this approach. China, for example, is tasking Tencent and Alibaba with circulating the digital yuan to the country's 1.3 billion citizens.

Elsewhere, Sweden has been singled out as a bank making notable progress to unveiling a digital currency, with the Riksbank also following the hybrid model.

"They've been working on a pilot test for an e-krona and have probably done more work in this space than anybody else," says Carlos Cocuzzo, economist at ING.

"The Riksbank will issue the currency, with a distribution model underneath with different entities entering into the distributed ledger that they are building with blockchain platform Corda."

Wholesale CBDC

- **CBDC is a claim on an intermediary**
- **Intermediaries onboard (KYC) and handle retail payments**
- **Central bank handles wholesale payments**

Retail CBDC

- **CBDC is a claim on central bank**
- **Intermediaries or central bank onboard (KYC)**
- **Central bank handles retail payments**

Hybrid CBDC

CBDC is a claim on central bank

- **Intermediaries onboard (KYC) and handle retail payments**
- **Central bank periodically records retail balances**

05 |
The future of finance

The race to establish the world's dominant digital currency, whether it comes from a central bank or a private company, will be of significance to the world's economic outlook because of its implications for financial inclusion.

Federal Reserve chairman, Jerome Powell, said in February 2020 that Facebook's Libra project really "lit a fire" under the US's view of digital currencies.

In response to this, Carlos Cocuzzo says: "The US definitely has the most to lose in a war of digital currencies."

Ninety per cent of the world's foreign exchange turnover runs on dollars, meaning it pervades into almost every country's economy.

"Ukraine is a highly 'dollarised' economy," Cocuzzo adds. "People use dollars to make purchases as well as hryvnia, the local currency."

Any globally digital currency, irrespective of who it is issued by, could have a huge effect on the estimated 1.7 billion adults in the world without a bank account. They therefore do not have access to credit, savings products or electronic payments.

Transacting digitally however requires only a mobile device and an internet connection. Therefore, whichever central bank or private company creates the digital currency that is most scalable and universally available would find itself in the same unique position of influence that the US has enjoyed while the dollar has been the world's de facto currency.

Facebook CEO, Mark Zuckerberg, essentially warned Congress as such when defending the Libra project on Capitol Hill in October 2019.

Blockchain does then have the ability to drive sustainable goals in finance by bringing the world's poorest into the global economic system

Ecopolitical tensions aside, blockchain does then have the ability to drive sustainable goals in finance by bringing the world's poorest into the global economic system, to help stimulate economic growth and alleviate the poverty that afflicts the unbanked population.

Not only this, blockchain solutions can also offer banks and investors access to data around a company's environmental and societal impact and improve transparency levels.

This may prove to be one of the most popular use cases for blockchain technology, as companies seek the transparency and provenance of data to demonstrate the sustainability of their business practices.

With long and complex supply chains and a multitude of different partners, demonstrating and determining the environmental and societal effect of a business will be a challenge, and therefore the ability to record and share data on a decentralised ledger may prove invaluable. This though will demand collaboration among all parties concerned, which would be difficult to attain.

"Building these ecosystems is not easy," says Francisco Maroto. "This is why we will see companies go at a slow pace in development and use of these techniques.

"But, I think in the next few years we will see more movement and collaboration in this space."

06 | Conclusion

Despite the seemingly infinite possibilities that blockchain technology offers, it remains relatively new technology and there are a great deal of questions to be answered.

To take the use cases described in this report forward, there will need to be a collaborative approach across the industry to allow interoperability between different blockchains used by different banks and other companies. There will also need to be international approach in establishing a legal and regulatory framework that can set a global standard.

To this end, the participation of giants from the technology industry, like IBM, Microsoft and Facebook, is encouraging. This suggests the market will become far more consolidated, much as has happened with cloud. Platforms that are built by trusted parties will enable companies to proceed with confidence when developing solutions on top of this infrastructure. This will create more use cases with wider global reach and greater chance of finding regulatory approval, which will in turn advance the technology further.

There is an ongoing search in the blockchain space for the "'killer app', the use case that proves too valuable to ignore and moves the technology to the core of the way finance operates.

Much discussion around the search for this tends to revolve around matters of scalability and security. However, just as the internet found its killer app in the web browser and the possibilities that came with it through e-mail and e-commerce, the key to this for blockchain will be user experience, rather than the underlying technology.

Once blockchain technology can facilitate interacting or transacting in a way that is affordable and easy to use, mass adoption will be inevitable and many of the barriers described above will seem infinitely more surmountable.

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Finextra

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