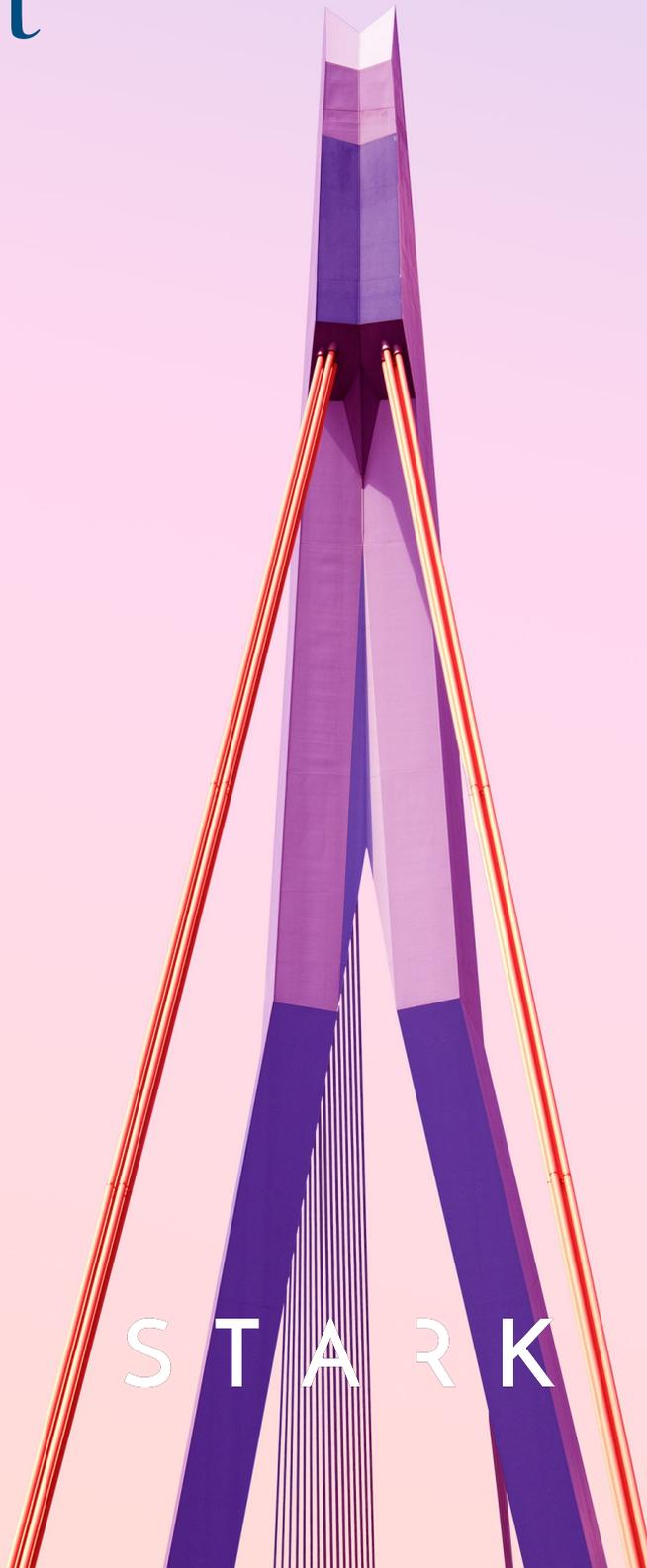


2019

The blockchain payments report



STARK

Executive summary

blockchain

/ˈblɒkʃeɪn/

noun: blockchain;

plural noun: blockchains;

noun: block-chain;

plural noun: block-chains a system in which a record of transactions made in bitcoin or another cryptocurrency are maintained across several computers that are linked in a peer-to-peer network.

cryptocurrency

/ˈkrɪptəʊ,kʌr(ə)nsi/

noun: cryptocurrency;

plural noun: cryptocurrencies;

noun: crypto-currency;

plural noun: crypto-currencies a digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds,

Cryptocurrencies have captured the curiosity of the world in recent years. The first cryptocurrency to make a recognisable appearance was Bitcoin in 2009. The value, since conception, has certainly fluctuated but its first notable high was celebrated and widely publicised in 2013 when it hit a value of \$266. From that pivotal point onwards, cryptocurrencies have continued to dominate the interest of investors, high profile businesses and tech-savvy individuals; all keen to keep fully abreast with the happenings in the digital currency world. In December 2017, Bitcoin reached an all-time high of \$19,783.

Digital currencies used to be viewed as an obscure payment type and even bordering on fear-provoking for some. Interestingly, the tables are turning and in the future it is anticipated that it will indeed be payment types commonly in existence today, like cash and credit cards, that will fade into obscurity as crypto payments become more and more conventional as a form of payment.

If you think back to a couple of decades ago, people were apprehensive even then of new advances in payment technology. In the 1980s most individuals paid for goods or services in cash. Only a minority carried out transactions using a debit or credit card. For those

who did choose to pay by card, they would find the transaction was perhaps not the speediest. As time progressed, card payments became more and more routine and faster. As a result the popularity of this payment type continued to increase. Long gone were the days of a raised eyebrow when wishing to pay by credit card as credit card payments became widely acknowledged, accepted and commonplace.

Similarly, when platforms like PayPal were introduced, consumers greeted it with a similar level of initial dubiousness. Was it really possible to transfer money from one entity to another so seamlessly? Worries soon subsided and PayPal is now one of the leading online payment systems in the world.

For many, cryptocurrencies are currently viewed as being in that uncertain stage; comparable to how PayPal and credit card payments were perceived years ago. As time progresses, acceptance and adoption is naturally taking place.

To explain cryptocurrencies further, they are decentralised currencies that use peer-to-peer technology and thereby enable all necessary functions to be processed via this network. These functions include issuing currency, processing transactions and the act of transaction verification. These, highly intelligent digital currencies require no involvement from a specific country's bank or organisation; instead running flawlessly itself with no need for outsider invention.

To put things into perspective, there was a recent much-publicised Bitcoin transaction which took place. It was a \$1b Bitcoin transaction which took less than half an hour to process and cost just \$700 to complete. It is vitally important to note that if this transaction had taken place in the traditional manner, i.e. bank to bank, let's say from the US to Germany, it would have taken between two and three weeks to process from start to finish and would have cost an astounding \$27m due to all of the intermediaries and associated fees involved. These staggering facts alone have been enough to turn the most sceptical into digital currency advocates.

Digital currencies on the blockchain

A blockchain keeps a record of blocks of information, such as payment transactions and these are stored across a network of computers. The data is stored chronologically and can be observed by a user group but does not require management from an establishment like a bank or a government. The way in which the blockchain was developed was key to ensure utmost security for its users; the technology is essentially tamper-proof. Any attempt to hack would become instantaneously evident. The promises of the blockchain have been a huge enticement to many. The combination of a secure blockchain with the added facility of cryptocurrencies has seen the creation of ever-popular blockchain-based cryptocurrencies.

Digital currencies, like Bitcoin, require highly-advanced computer operations to solve complex algorithms in order to be created. At this time, about 25 Bitcoins can be created every 10 minutes. Analysts are expecting an impressive number of 21 million Bitcoins to be generated in the coming years and they estimate that this goal should be reached by 2140; a year in time that seems almost incomprehensible at the moment. However digital currencies will be the way the world is

run for our future generation and it is important to pave the way now for what is coming imminently.

Yet it's not just Bitcoin that has made a name for itself. In fact, there are many other competitors out there already; all zealous to be significant contenders in the crypto market. Those au fait with cryptocurrencies will already recognise the names Ethereum, Litecoin, BitcoinCash and XRP. All claim to have their unique selling points. Plus, even with these existing digital currencies already on the market, further developments are continually taking place on new digital currencies. In fact, it is thought there are now over 2,000 types of cryptocurrencies in the world today and they are worth the equivalent of over \$300 billion. Experts cannot argue the fact that crypto is big – and influential – business.

Stark has been following the progress of cryptocurrencies; the rise, the fall, the continuance and the future.



Adoption



Although cryptocurrencies have been prevalent for some time now, it has previously been difficult for owners of crypto to actually spend their currency. Nevertheless due to the substantial growth in the cryptocurrency market, it has opened the captivated eyes of companies contemplating accepting it as a form of payment in exchange for their goods or services. The last couple of years have seen a steep increase in retailers keen to address crypto acceptance.

However digital currencies are crying out for wider acceptance in order to reach both consumers and suppliers alike. E-payment companies have been assisting greatly with offering a solution to this issue as they strive to make transacting with crypto an easy and straightforward activity. The more e-payments that are driven towards crypto, the more reduced transaction costs will be in the future and, over time, will lessen and eventually eradicate expensive fraudulent chargeback claims for merchants.

With e-payments now easier than ever to make using smartphone digital technology, transactions really can be made at the touch of a button. Consumers love the ease of making seamless and secure payments with the effort of simply a finger on a screen. A sharp increase has been seen in e-wallet payments over recent years and it is estimated that such payments will overtake all other payment types by 2021. Long gone will be the days of bank transfers, debit or credit payments when e-wallet payments confidently take over. And notably, e-wallets can transact in standard currencies or cryptocurrencies. There really are no barriers.

Crypto.com, who launched in 2016, has already launched a clever 'Pay Your Friends' app in order to boost cryptocurrency adoption. As the name suggests, it's in-app payment system permits payment from person to person using crypto. Furthermore, they have been offering clever incentive payments to those referring their friends, contacts and colleagues to sign up too. In fact the key brain behind Crypto.com has realised the full potential of the cryptocurrency:

“What we want to achieve with 'Pay Your Friends' is to give our users a reason to bring all their friends into cryptocurrency. The user experience is instantaneous and free – the more users get a chance to experience it, the closer we get to global adoption.”

Technology entrepreneur, Elon Musk, stated some time ago that Tesla would not be adopting cryptocurrencies, however the comment he made was how he perceived the situation at that particular point in time. He has since embraced cryptocurrencies and blockchain technologies. More recently he admitted that paper money will become a thing of the past and that digital currencies offer a much better way to transfer payments than traditional and outdated methods. And statistics do speak for themselves; take Bitcoin and its daily transactions. On a specific day in 2018, there were over 196,000 Bitcoin transactions. On the same day in 2019, this number had increased to over 282,000 – a huge leap!

Businesses accepting cryptocurrency as a payment

“To be truly forward-thinking as an organisation, to keep up with trends and to maintain momentum, blockchain powered payments has to now be considered as a vital step forward in today’s connected world - the internet was only the first step.”

**Mann Matharu - CEO
Stark Payments Ltd**

Cryptocurrencies have sparked much interest amongst businesses and consumers alike – especially the most technologically advanced and adept. The early trailblazers to join the world crypto excitement include T-Mobile, AXA, Virgin Galactic, Shopify, Microsoft and Subway. There are currently over 250,000 businesses in Japan accepting crypto, about 50,000 across Europe and an estimated 80,000 in the US with even more expected to be accepting blockchain powered digital payments by the end of 2019.

There is huge growth opportunities alongside innovation and a trend that is set to continue over future years and decades.

We take a look below at just some companies that are getting ahead of the game:

Microsoft

Microsoft owns Xbox, one of the leading gaming platforms in the world today. Back in 2014, they made a decision to add Bitcoin as a form of payment for their Xbox consumers. The cryptocurrency can be used to make purchases of games, apps, music and videos on both their Xbox consoles and Windows systems.

Subway

The food giant, Subway, has also started accepting digital payments in some of their stores. In fact some excitable customers have even posted videos on YouTube recording the monumental moments of paying for their lunch via cryptocurrency.



KFC

On a light-hearted note and, wanting to keep up with trends, KFC in Canada has also trialled a Bitcoin Bucket – a crypto menu choice with the facility to purchase via Bitcoin.

Starbucks

The coffee giant has recently announced that they plan to accept Bakkt payments in their stores. Bakkt, in their words, ‘enables institutional, merchant and consumer access to digital assets in a secure, trusted ecosystem’. Bakkt pride themselves on working with a number of other merchants who also recognise the true potential of digital assets.

Expedia

The travel giant, Expedia, also accepts Bitcoin payments via a third-party provider. There are various terms and conditions associated with the digital transactions but it is all laid out very clearly and concisely on their Terms and Conditions page on their website.

Financial institutions embracing the new technology

It's not just retailers who have shown an interest in cryptocurrency. Some of the biggest banks also want a piece of the action in order to ensure they are not left behind.

JP Morgan

In an ever-evolving high-tech world, JP Morgan, one of the leading US investment banks, has made a bold move. They have in fact created their very own digital currency – the JPMCoin. Their Chief Executive had previously disparaged Bitcoin for a number of reasons. However they had always had strong feelings that there was a powerful unlocked potential within blockchain technology. JP Morgan have openly advertised the difference that their digital coins will make to their business – this includes reducing risk on a number of levels and permitting transactions at lightning-speed. At present the JPM Coin is being used internally to perform fast transactions between accounts. Their coins have been created to be of an equivalent monetary value to other recognised currencies. So one JPM Coin is worth \$1. Once transactions have been completed, the JPM Coins can then be redeemed for the corresponding US Dollar value.

Some would argue that the investment bank giant did not need to create their own digital currency but in reality the benefits they have seen have been impressive. They have sped up payments and they have reduced clients' counter-party and settlement risks plus they have also decreased capital requirements. They have been impressed with both the speed and the security that the technology offers and because of the privacy dynamic, they see an even more innovative future ahead with visions of their large clients being able to transfer large numbers of coins privately between themselves without JP Morgan themselves having to intervene or needing visibility of these activities. They have underlined the importance of only allowing clients who have been approved by necessary regulators and passed stringent checks to be able to use the blockchain network.

Wells Fargo

Banking is a competitive market. Banks do not just contend with other banks but they compete against other new recruits to the sector. Transactions used to be just cash-based. Now things need to improve. Processes need to be absolute seamless and as swift as possible as clients demand more and more when it comes to satisfaction levels and accelerating the payment process.

Seemingly not want to miss out on all the untapped potential, Wells Fargo has also had a change of heart regarding cryptocurrencies. The third largest US bank made it clear a while ago that digital assets were not of interest to them. However they have now announced their decision to enter into the crypto world by releasing news of their own planned digital currency.

MoneyGram

MoneyGram is a well-known organisation who has been moving money around the world for decades. Customers can send money for cash pick-up or into a bank account. Events took a positive dramatic turn for them when it was announced earlier this year that Ripple would be partnering with MoneyGram.

MoneyGram to enable a key partner strategic relationship for payments using digital assets. They will utilise XRP as a real-time bridge between sending and receiving currencies and then clever technology will allow transactions to take place in seconds as opposed to minutes and hours – and at a fraction of the cost of other providers.

The companies listed above and in the previous section are just a handful of examples of those accepting digital payments but every day the list is amassing and expanding, as retailers, financial institutions and other organisations including well established non-profits and charities begin to realise the benefits that are simply an arm's reach away.

Blockchain payments in the news

What remains an interesting fact is that many well known big businesses have had quite a publicised about-turn in outlook towards crypto assets. Turning from crypto sceptic to believer has been the path that many have followed, however there have been good reasons behind their ways of thinking.

Many have now come to the realisation that crypto is simply the way the world is headed. The big banks and investment firms' very survival is based on their willingness and acceptance to move with the times; to embrace a new way of working and to offer a service that their clients would genuinely welcome.

Cryptocurrencies offer a wide range of benefits that most banks and other payment service providers simply cannot contend with at the present time; transactions which are fast, borderless and permissionless.

Facebook also announced in June its intention to launch its own cryptocurrency, Libra. Mark Zuckerberg has vocalised his aspiration to change the world of finance for everyone. Many are excited about the prospect, despite being questioned by the US Congress. A huge proportion of Facebook users are based in Africa; a continent renowned for problematic banking and money transfer fees. A recent report showed that sending cash in some parts of Africa costs over 20% more than in other parts of the world. A cheaper and fairer method will definitely be welcomed with open arms.

China's central bank, the People's Bank of China, has also been working on its own cryptocurrency with a hint dropped that it is almost ready. The aim is for the currency to be used across the whole of China with customers having the ability to use it for a multitude of payments on mobile platforms. It

will even be able to be used without an internet connection. In October, the Chinese Government has also announced that it will be rolling out blockchain technology across all of its economic IT infrastructure.

And Perth Mint, Australia's biggest precious metals refinery, has announced that it has joined forces with blockchain company, InfiGold, to create a cryptocurrency underpinned by a government-guaranteed gold reserve. The collaboration was overseen by professional services giant, Ernst & Young. The currency is being referred to as the PMGT – the Perth Mint Gold Token.

One of the most recent organisations to embrace cryptocurrencies is UNICEF, The United Nations Children Fund. UNICEF works in more than 190 countries and territories to protect the rights of every single child. They help more children get protected and educated than any other organisation in the world. They, more than anyone, understand border limitation issues so their recent leap into the crypto domain demonstrates their confident acceptance. Their Executive Director commented;

“This is a new and exciting venture for UNICEF. If digital economies and currencies have the potential to shape the lives of coming generations, it is important that we explore the opportunities they offer. That’s why the creation of our Cryptocurrency Fund is a significant and welcome step forward in humanitarian and development work”

International payment transfers

THE BENEFITS OF USING BLOCKCHAIN TECHNOLOGY



First and foremost, clear and transparent transaction records are amongst the biggest benefit for international payment transfers. All network users have access to the same documentation; with no separate copies. Any amendments at all to the ledger must be carried out only with the agreement of all parties.

Blockchain data is much more accurate and consistent and leaves nothing but certainty. The security of the blockchain is second-to-none. Transactions are agreed upon prior to being recorded. It is then encrypted and linked to the previous transaction. Data is stored across a network, not on a single server. It is therefore virtually impossible for hackers to break in to the system and, if they did, it would become obvious very quickly.

Transaction traceability is like nothing seen before. To maintain a clear audit trail can be problematic for

organisations, especially those with complicated supply chains. However with blockchain payments, the transaction process from start to finish is easy to detect.

Efficiency is another key but vital element of the blockchain. There is no room for human error, everything takes place speedily and accurately. Streamlining transactions means they can happen much quicker. All parties have access to the same ledger containing the same information so interpreting data leaves nothing to the imagination. It's already evident with the automation and efficiency that less headcount is required than when using traditional methods thus significantly reducing costs for businesses too.

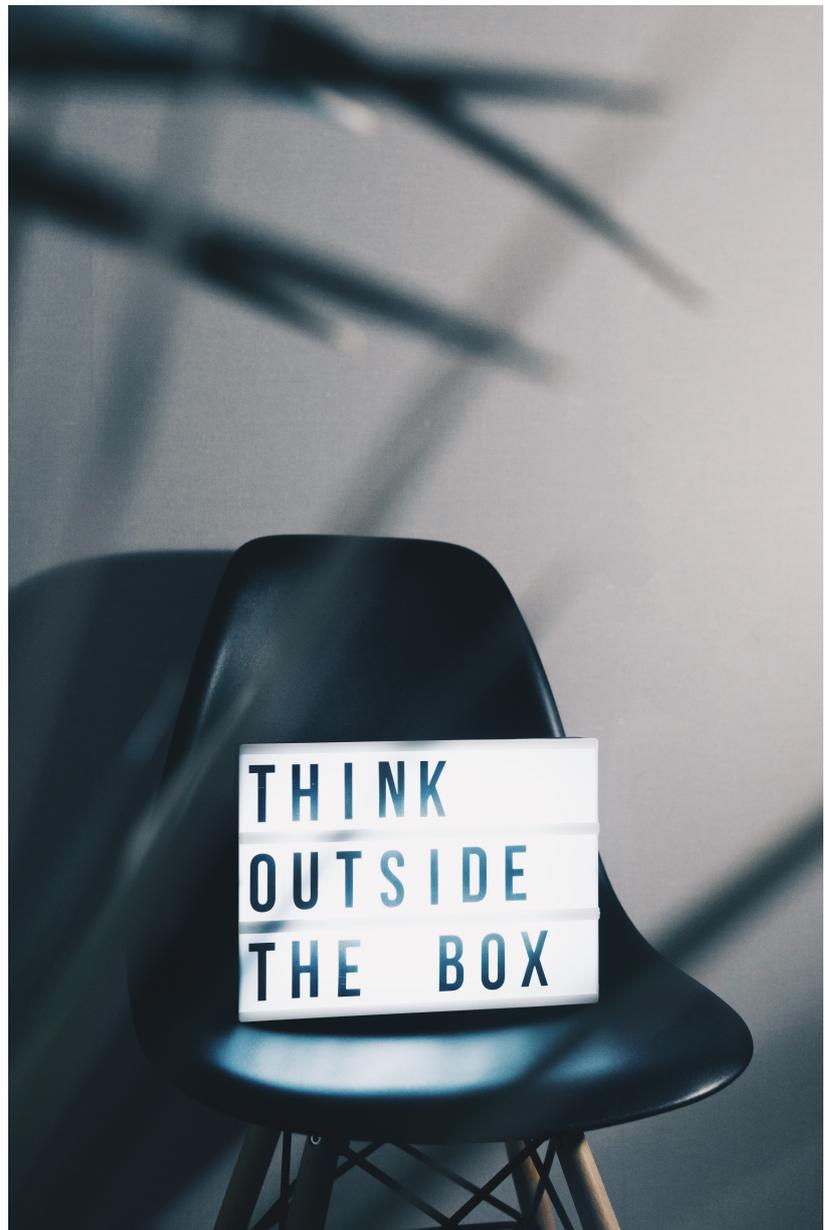
Governmental acceptance of blockchain powered currencies

Due to the ubiquity of cryptocurrencies, countries around the world have been forced to seriously look at cryptocurrencies and applicable regulation within their countries. Governments are familiar with understanding and dealing the legally recognised tender for the country in question, be that US dollars, pounds sterling, euros to name but a few. Where things get a little more complex and unusual for local governments is when trading could potentially commence on a digital currency that is not tangible; something cannot be visualised or held.

Some countries have taken an early and uninformed decision not to welcome cryptocurrencies. On the other side of the (virtual) coin, many countries have indeed welcomed the new addition to the technology field, realising the benefits that cryptocurrencies could offer to the country and its people.

Where governments are bound by cryptocurrencies then then become unable to change monetary policy as they would have been able to under their previous, standard, tangible currency. As a result, with the introduction of digital currencies, governments will need to be more accountable to their citizens.

The list of countries welcoming digital currencies is long but some of the most keen include Malta, Switzerland, Gibraltar, Slovenia, Singapore, Hong Kong, Japan and Germany. In fact, Malta is so keen that they are hoping to become known as 'The Blockchain Island'. The Prime Minister



there has perceptively noted that the rise of cryptocurrencies cannot be stopped and he is already putting legislation in place to ensure that Malta can interact positively with the predictable shift in acceptance.

Our conclusion

When everything is so straightforward and so safe, it is becoming clear that industry leaders simply need to keep up with the trend if they want to succeed in this fast-paced arena. People want to get their money from one point to another with the minimum effort and at the least cost. Blockchain powered currencies do this – and more – allowing such transactions to take place in a seamless and most secure way.

Millennials will certainly play a huge role in the utilisation of such currencies and that is a fact not to be underestimated. They have grown up with technology and they will be the next generation of advanced technologists and computer scientists who will contribute to the evolution of the internet. Already they are utilising it to transact on a daily basis and they are setting out to prove to non-millennials the simplicity and effectiveness of carrying out such transactions.

The benefits of using crypto on a blockchain platform are more than worth getting excited about.

Almost every country in the world is talking about Blockchain technology. China has only just announced that is going to deploy Blockchain technology across its whole economic IT infrastructure.

It is highly recommended that 'conventional' payment companies and FinTech service providers should quickly adopt this technology and offer new payment options to their existing and new merchant clients as blockchain-powered digital currencies are very much part of our current day and is certainly the future. Many organisations and individuals have already seen the light and as time goes on, others will begin to follow suit.

