

> **Blockchain:**

New Way of Doing Business in a Changing World

Blockchain is little understood, but it will simplify transactions, improve reliability and reduce costs.

Focusing on blockchain technology today will ensure being relevant tomorrow.

To better understand the potential of blockchain, it is necessary to follow the current, future and practical applications of its technology. In an increasingly interconnected world, and as we move into the era of big data, mobile communications and online services, we need assurance that our personal information is secure. Businesses are expected to know who their clients are, and must be able to verify that transactions are legitimate.

There was a time that, when buying a book, you went to the bookshop, picked the book from a shelf, paid in cash, and left. Today you need only make a verbal command to Alexa, Amazon's voice service, and ask it to send the book directly to your home. To complete the transaction, add information about who you are, your voice profile, your financial details and address.

Various parts of that information will be used for practical reasons, to inform suppliers, dispatchers, accounts teams, and couriers. More importantly, however, your personal information is now a valuable commodity which — in a worst-case scenario — could be misused for fraud, or used to generate information on your behaviours. This, in turn, can be processed to sell you more services in the future.

Data protection laws such as GDPR, anti-money laundering regulations and the general requirement to Know Your Client (KYC) have put great pressure on businesses to alter their practices to protect customers. All of this must be underpinned by a technology that provides absolute security and transparency that, when required, reduces rather than increases the transaction costs. In a world where customer journeys are no longer linear events, businesses will require the technology that can deliver a digital experience whereby customer value is derived in more meaningful ways.

THE INTERNET OF VALUE

Businesses today operate using disparate sources and versions of data with inefficiencies, waste, poor customer experiences and, often, fraud. Blockchain is transforming the world by providing businesses with an opportunity to

restructure their data into a single database that can be shared across their entire supply chain. It can provide companies with the opportunity to achieve meaningful digital transformation that has been termed Decentralised Digital Business Transformation. Using blockchain, businesses will be able to take what are typically seen as “back-office” processes and move them front and centre as a means of creating a more meaningful digital experience for the internal and external customers across all industries and sectors.

We still find ourselves living in a digital world with analogue features, a world where you can e-mail your bank, but due to the complex nature of old banking architectures we must wait three to five working days for disparate ledgers to confirm that the payment has been received. Meanwhile, although the payment has been made, suppliers will not provide goods or services until it has cleared.

In a digital era, you can “send value”, with blockchain ensuring that business transactions are secure, with necessary records attached, and can work where information needs to be simultaneously distributed between transacting parties. Blockchain offers a single, distributed ledger shared through the network, with every single transaction captured via a series of blocks that are cryptographically hashed and stored, preventing double-spending and instantly settling transfers of value in a matter of minutes, or even seconds.

BITCOIN IS NOT BLOCKCHAIN...

The popular press has ensured that Bitcoin is high in the public consciousness. It could be said that Bitcoin is an application of blockchain technology in the same way that Facebook, Google and Amazon are applications of the Internet. Blockchain provides an underlying mechanism for the data that flows through these applications; decentralised and distributed, rather than using the centralised architecture of the internet today.

Many believe that Bitcoin and blockchain are no different to one another. Many businesses leaders are thought to base their blockchain strategies on the perceived limitations of Bitcoin. Forward-thinking competitors have, however, recognised the transformative impact that blockchain

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technology can have across multiple areas of their businesses, such as to their supply chain and how they manage international payments. Certain CEOs of the world's biggest brands believe the hype around Bitcoin — to the extent they have not pursued a meaningful blockchain strategy. The links to financial crime, or other referencing to Bitcoin over the last decade, have had a negative impact on the speed of adoption of blockchain. This is unhelpful misinterpretation.

THE POTENTIAL OF BLOCKCHAIN TECHNOLOGY

Thanks to another application of blockchain, Ethereum, business leaders recognised that this technology can transform more than just payments. Ethereum allows for the transfer of value once pre-defined rules have been met. This has opened-up a world of possibilities for blockchain, and over the past three years there has been a myriad of applications being built for businesses across multiple industries and sectors.

Examples of blockchain are already making real difference to the way the business and management of information is conducted.

RECORD-KEEPING — LAND REGISTRY

Registering property titles is well suited to using blockchain technology. Accurate, tamper-proof records underpin the smooth working of real-estate markets. Transfers of ownership of the asset should be indisputable, and reductions in transaction time and cost would be welcomed by all involved. Many countries, including the UK and Brazil, are progressing with projects to put records of land title into the blockchain.

PROVENANCE OF RAW MATERIALS, FOOD, AND GOODS

It can be challenging for businesses to demonstrate that their products are ethically sourced, authentic and safe, due to the complexity of global supply chains and disparate sources of data. Blockchain makes this manageable at low cost. Manufacturers in the food industry, for example, are now able to verify the country of origin of raw food products and confidently certify that produce is organic.

Blockchain-enabled technology is being developed to allow the tracking of oil, ensuring

that customers do not inadvertently purchase embargoed or substandard produce. Materials can now be tracked to source. The aerospace and automotive industries can now guard also against the use of fake components. Increasingly, manufacturers need to know that metals and rare earth products are coming from environmentally sound and ethical sources.

HEALTHCARE RECORDS

There is a huge potential to find operating efficiencies in the management of healthcare information. Public health in the developed world is suffering from resourcing constraints. The complexity of managing data that multiple users can have access to, and the sensitivity of health data, has led to continued dependence on paper-based systems. There are even examples of the continued use of fax machines to transfer information in a supposedly secure manner. Blockchain based record management is perfectly suited to management of records, particularly those needing to comply with onerous data protection rules.

FINANCIAL SERVICES

The financial services sector is experimenting, using multiple blockchain technologies across multiple areas of business and financial instruments. One of the first is "tokenised security" being initiated for a large conglomerate in Asia (SGH Global) using the EOSIO blockchain built by Smarter Contracts. The token will be issued using a London-based, FCA-licensed platform: London Derivatives Exchange (LDX). LDX recognised blockchain could be applied to streamline middle- and back-office processes and procedures, reducing costs, friction and risks associated with the industry.

Banks are also able to transform the way they run KYC and AML processes and procedures, with investors able to track their investments in real-time and with ease. They can ensure payments on the achievement of milestones, or triggers.

Cross-border settlements are also particularly suited to blockchain-enabled solutions. Less mature markets in emerging economies can now benefit from the speed and security of

blockchain-enabled transaction-management based in the main financial centres. This will reduce the cost of finance in places where money has previously been hard to reach.

DISTRIBUTION OF AID

Governments, NGOs and development banks have often struggled to ensure that money reaches its target, with the constant fear that the funds may be misappropriated. The World Food Programme, for example, has been using blockchain to deliver money directly to Syrian refugees so that they can buy food. No cash, no intermediaries.

MAJOR PROJECTS

Major construction and infrastructure projects have multiple contracting parties, complex staged payments, and are sensitive to delay. Contracts subject to dispute and delayed payment can spiral into delay and cost over-run. Blockchain will simplify the process, ensure that contractors are paid what is due on-time, and reduce project overheads. Many large infrastructure projects sponsored with aid, or via development banks, will also benefit from the removal of intermediaries and ensure that payment reaches its target. This lessens the likelihood of financial leakage, and improves the prospect of contracts being completed to-time and on-budget.

CREDIT PASSPORTS

Despite the vast amounts of financial information available, the emergence of digital banking and the globalisation of work, many of us find it hard to prove that we are financially sound. Even when having a good credit score with one of the agencies it is hard to verify its basis, and unlikely that it would be of practical use in another country. Blockchain will ensure that your credit score will be an open book, enabling you to travel with your "credit passport".

A CHANCE TO LEAD

The development of blockchain may be in its infancy, but the technology is here to stay. The numbers speak for themselves. Forecasting a mere \$38bn valuation by 2021, the global research group Gartner is predicting an explosion of market growth beyond that date: \$360bn by 2026, and \$3,16tn by 2030.

Conclusion: become a leader in this space before forward-thinking competitors force you to follow their lead. ❖

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