Key Benefits of Integrating Blockchain Into the Supply Chain

By David Rogers

Blockchain technology became popular with the introduction of Bitcoin, a currency that could move freely between people and businesses without having to get banks and trust organisations involved. Essentially, Bitcoin is a decentralised electronic cash system that has very specific and unique technologies behind it – technologies that were soon found to be beneficial to many other sectors of business.

According to IBM, Blockchain is, "a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved."

This is the long way of saying that Blockchain is a way of tracking vital information. There are many reasons why businesses would (and should) integrate Blockchain into their supply chains, and those reasons will be discussed below.

First, let's briefly touch on how Blockchain works:

- "Blocks" store specific pieces of information as it relates to a transaction (date, time, amount, etc.)
- The "blocks" store information about who participates in which transaction, and where. The blocks do not store actual identity data – they create a code for each individual that's involved so no actual names are used.
- "Blocks" store information in a way that make them distinguishable from one another, even if they are technically identical. For example, let's say two consecutive but identical transactions were made. Blockchains encrypt each transaction with a different code so that, even though they are the exact same to a person who looks at them, they can be tracked and analysed separately by key players in the supply chain.

Although Blockchain is known to be the software behind Bitcoin, it has certainly grown since 2008. Today, Blockchain can be seen in a number of industries including:

- Banking & Finance
    - International Payments
    - Capital Markets
    - Trade Finance
    - Regulatory Compliance and Audit
    - Money Laundering Protection
    - Insurance
    - Peer-to-peer Transactions
    - Financial Management and Accounting

- Business
    - Supply Chain Management
    - Healthcare
    - Real Estate
    - Media
    - Energy
- Government
    - Record Management
    - Identity Management
    - Voting
    - Taxes
    - Non-profit Agencies
    - Compliance/Regulatory Oversight
    - Cybersecurity

No matter what industry your organisation is in, you will be able to take advantage of the following benefits of Blockchain:

1. Transparency

One of the best features of Blockchain is the fact that it makes each process throughout the supply chain visible to the producing organisation, the consumer, and everyone in-between. In financial institutions and all types of businesses, this allows for a layer of accountability that has never been seen before. With Blockchain integration, each member of the supply chain must act with integrity in a way that upholds the company's standards and commitment to the community.

2. Efficiency

Blockchain is more efficient because it removes many players from the game, so to speak. For example, it streamlines processes that are necessary for payment processing and product transportation. Blockchain makes financial services transactions faster by making P2P cross-border transfers possible. As far as product transportation goes, Blockchain allows all parties involved (supplier, distributer, transporter, consumer) to easily access a record of a products' movement. This record makes it simple for an organisation to retrace their steps in the event of a product issue or total recall.

3. Security

Another great benefit of Blockchain is that it is one of the best ways to keep information secure in the digital world. Each and every transaction that is made in a supply chain that uses Blockchain is encrypted and then link to the transaction before it. Once a transaction is made, Blockchain forms a string of numbers that cannot be changed or corrupted. This feature makes information that is created and stored in a Blockchain completely safe from fraudulent information and hackers. Additionally, the fact that Blockchain is decentralised and has no stake

in a single organisation makes it trustworthy and loyal to the organisation that it's being used by.

4. Traceability

When a Blockchain is used in a supply chain, every exchange of goods is recorded in the ledger, automatically. Not only does this aspect make the supply chain more secure, but it can also help to verify the validity of everything that is traded. For example, in the pharmaceutical industry, Blockchains can trace a medicine from the manufacturer to distributer, and then to the hospital and finally to patient that it was administered to. This makes it easy to pinpoint if and where mistakes happen and correct them right away so the consumer can get the best possibly product and the organisation does not incur losses.

5. Hasten transactions

Because Blockchain is so efficient and cuts out many of the "middlemen," it enables organisations to make transactions quickly. Without utilising this benefit of Blockchain, transactions can sometimes take days to weeks.

6. Open your business to new markets

With all of these benefits of Blockchain, you make your organisation's supply chain the best that it can be. New markets will recognise your platform and be more apt to sign a contract with you because they know that your supply chain is efficient, transparent, and secure.

Integrating Blockchain

The one downside to Blockchain is that it's a bit difficult to integrate and it won't happen overnight. Because Blockchain itself is decentralised, it does not offer a team of experts to come into your organisation and implement the service. This is where BaaS (Blockchain-as-a-Service) companies come into play.

BaaS companies help their customers quickly and easily implement Blockchain into their supply chains with no disruption of their day-to-day operations.

As time goes on, we are likely going to see Blockchain and BaaS companies working in every industry across the world. As it stands, Blockchain is considered to be a "disruptive" technology because it is revolutionising the way that the world conducts business. However, as the technology becomes more and more popular, we can expect to see it become the norm in supply chains.

The world seems to be moving faster than ever these days, especially when it comes to technology and business. It's important for organizations of all kinds to keep up with the trends and the ever-changing geo-political landscape so that they do not fall behind their competitors. Implementing forward-thinking technologies like Blockchain and supply chain optimisation will help organisations avoid disruption and put a strong focus on customer satisfaction.

Blockchain technologies help to increase visibility through every step of the supply chain. When organisations and their customers are able to see exactly what they want to see, they are able to be reassured that things are working properly – and they can adjust when they are not. In the end, the visibility that Blockchain creates results in fewer errors, a better customer experience, increased on-time deliveries, and less waste when it comes to cost and resources. If you want your organisation to run smoothly and sustainably, Blockchain technology is the factor that will get you there.