

Blockchain and Your Supply Chain

As technology is evolving, so is the way that businesses are monitoring the creation and delivery of goods. A new supply chain process, called blockchain, is helping businesses effectively track products from start to finish.

Each year, businesses lose an estimated £17.7 billion due to cargo theft, according to the British Standards Institute. To help combat such losses, 42 per cent of executives in the consumer products and manufacturing industry plan to invest at least £5 million in blockchain technology over the next 12 months, according to research from professional services firm, Deloitte.

What is Blockchain?

A blockchain stores information across a network of computers. For supply chain purposes, a blockchain holds information such as product cost, geographic location and entities involved in production and transport. Faking documents, transactions and other information in a blockchain is difficult due to cryptography, which is a method of storing blockchain data privately and securely.

Each user in a blockchain holds a multitude of records, known as blocks, submitted by other users. When a user attempts to add information to the blockchain, the members in the network run algorithms to evaluate and verify the proposed addition. The new record, or block, is only added to the chain after a majority of the members agree with the transaction.

Each block holds a permanent, timestamped link to a previous block, which is the previous step in the supply chain. Whilst blocks can be viewed and added to, the information already entered cannot be changed. Plus,

because millions of people use blockchain, it's difficult to take down or corrupt the blockchain system.

The Problem Blockchain Hopes to Solve

An unknown or undocumented product origin is one of the many problems facing supply chains. In today's business model, supply chains can stretch across multiple borders and involve hundreds of stages.

Forty-two per cent of executives in the consumer products and manufacturing industry plan to invest at least £5 million in blockchain technology next year.

When a sourcing scandal hits, it can be difficult to track a product from UK shelves to its origin in another country or continent. For example, take the 2013 horse meat scandal, in which beef products in a number of UK supermarkets were found to contain undeclared horse meat from a Romanian-based slaughterhouse. Fallout from this scandal prompted investigations and resulted in lost profits and tarnished reputations.

Businesses are exposed to significant reputational risk if they are found to be sourcing products from areas with lax regulations or forced labour. For example, in the 2016 Rana Plaza disaster in Bangladesh, 1,200 people were killed when a clothing factory collapsed, prompting many global fashion brands to scrutinise their supply chains. This catastrophe pushed consumers to demand more transparency about how the goods they purchase are made.

Provided by **Crendon Insurance Brokers Ltd**

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Blockchain may help improve supply chain transparency—especially when considering the Modern Slavery Act 2015—which requires certain companies to draft yearly reports showing that they monitor their supply chains for slavery. Investigating slavery is still important today, especially when considering the 2014 Primark scandal. In this scandal, a customer found a note in trousers alleging that Primark was using slave labour from a Chinese prison to make clothing. Primark consequently suffered diminished profits, widespread boycotts and a tarnished reputation from this scandal.

By using blockchain to inspect a supply chain record, consumers can be sure that the goods they are purchasing are created fairly and honestly.

Blockchain Benefits

As described above, one of the biggest benefits of blockchain is the transparency of the system. Blockchain allows users access to more in-depth information, including product origin, tracking services and supplier data. Blockchain guarantees that the supply chain information has not been tampered with, and that the information logged is permanent. Plus, it ensures that the information is completely accurate and unbiased for any party. This provides a solid audit trail to investigate sourcing problems, and makes it easier to pinpoint when and where cargo theft happened.

Blockchain also cuts out the intervention of middlemen, such as banks. This means that many complex, technical transactions no longer need to be computed by humans. Instead, the computer system behind blockchain performs these transactions. Blockchain requires all parties to confirm transactions and verify their authenticity, rendering certain third-party services unnecessary.

Finally, blockchain technology, and its worldwide accessibility, has the capacity to be expanded on demand. Not only can blockchain be used to identify future trends, but it can also help companies plan future business strategies. These advantages make it

easier for companies to adopt blockchain technology on demand.

Blockchain Drawbacks

There have been other supply chain solutions—such as radio-frequency identification—that have been integrated in some supply chains but not widely accepted. Businesses considering blockchain technology must remember that it takes years to precisely develop and refine a supply chain.

Throwing new technology into an existing process may severely disrupt the supply chain in place. Blockchain technology also currently lacks a commonly accepted technical standard for blockchain development, as the technology is too young to ensure users are adhering to universally accepted standards. Existing companies and start-ups, however, are hoping to fix this problem in the coming years.

Another obstacle that blockchain faces is the reluctance of corporate entities to use the technology. Since businesses are devoted to keeping trade secrets, they may be hesitant to work with unseen partners. Businesses must understand the transparency benefits that blockchain presents and agree on a list of commonly accepted blockchain usage and regulation standards in order for the system to be successful.

Finally, businesses utilising blockchain must understand that laws and regulations are different across borders. Businesses should weigh the pros and cons of blockchain, and evaluate the uncertain financial risk of dealing with a multitude of members in the blockchain.

Adopting Blockchain Technology

Whilst many companies may be quick to implement a blockchain to stay relevant with competitors, they must understand that every supply chain is different. Therefore, it is imperative to understand how a blockchain can benefit or harm your company's supply chain before making any decisions.

For more information on improving and protecting your business' bottom line, contact **Crendon Insurance Brokers Ltd** today.



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