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White
Paper
Compact

Blockchain for the supply chain

What it is and what applications it has in logistics

If adopted globally, today's technology will have great potential to revolutionize the way businesses operate. In order to analyze the different solutions and digitalizations that exist throughout the supply chain, it is necessary to know some concepts that will serve as a basis to understand what blockchain is and what the current trends are.

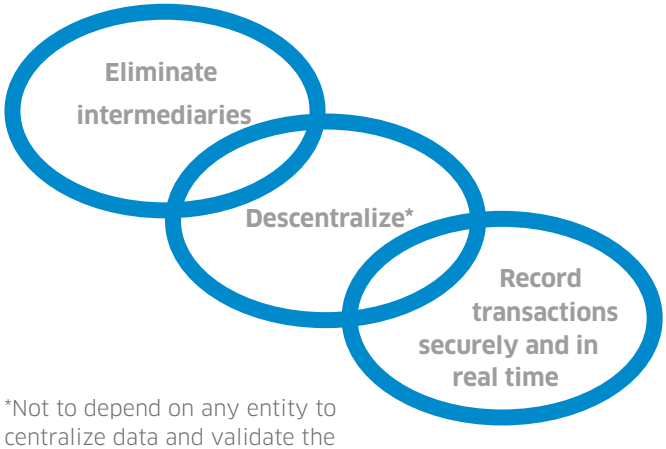
The supply chain is a fundamental process in which all the functions, processes and activities are managed globally so that they work in an integral way in the flow of goods and services during the lifecycle of the products. In this way, it is possible to manage and streamline customer demands at the required time.

New trends indicate that the supply chain is undergoing a transformation and digitalization in all areas, including process automation, IoT (Internet of things), artificial intelligence and blockchain. Many operations are already being simplified and automated and there is no doubt that technology is positively changing the supply chain.

The concept of blockchain has been around for a long time and is closely related to that of Bitcoin, an electronic payment protocol to record data and exchange it. This is a virtual currency or encrypted digital currency that is not found or governed by the supervision of a central authority.

The blockchain technology could be defined as an electronic book that allows us to make bitcoin transactions without intermediaries, storing information and data or event records that are not modifiable or manipulatable, so the information is much more reliable. The transactions are grouped in coded blocks that store details such as sender, recipient or amount of the operation, for example.

Main objectives of the blockchain:



*Not to depend on any entity to centralize data and validate the legitimacy of operations.

The blockchain technology

Blockchain technology can help us ensure that different companies and stakeholders throughout the supply chain are confident and have full visibility of the processes, as well as being responsible for the information shared, ensuring that it cannot be modified or corrupted. The supply chain is one of the main fields for the adoption of the blockchain, as it facilitates the delivery process and makes the supply chain more profitable, productive, efficient and, above all, traceable.

Being able to track orders and each of the specific steps within the supply chain is a plus because of the high visibility it provides. This of course enables the resolution of certain problems.

The main competitive advantage that the blockchain gives to the supply chain is the greater transparency in the tracking of shipments and deliveries between suppliers and customers. In these processes, there is often a lack of trust between the participants, and the blockchain structure allows for tracking and visibility, giving more confidence to the parties involved.

Some examples of the use of these technologies

Consumer goods companies can use such technology to observe and track the manufacturing process, as well as to ensure that products meet all quality standards. In the retail industry, blockchain technology can detect potential tampering and theft, as well as track returns. In the pharmaceutical industry, according to DHL's 2018 „blockchain in Logistics" study, it could be a key tool to ensure the integrity of your products, their legitimacy, and their authenticity.

What other benefits can be obtained by using blockchain technology?

Another area would be the automation of contracts and payments. In some cases, the purchase process of any supply can be problematic and/or delayed. And the adoption of blockchain through intelligent contracts would allow for cost and time reduction, eliminating disputes over discrepancies that may arise throughout the supply chain and reducing the time spent on all payment systems.

What are the main barriers to its implementation?

There are many factors that can affect the decision to implement these technologies, but the main obstacle is that many companies consider the return on investment (ROI) to be too small. Any technological change is accompanied by this barrier in the early stages, which is then qualified, so it can be assumed that in a few years the outlook will be more positive.

Conclusions

The advancement of the supply chain is linked to the incorporation of new technologies, and the implementation of blockchain in this area can be the solution to many current problems, as it gives visibility and innovation to business processes.

If you work together with all the agents within the supply chain, it is possible to start seeing the great benefits, impact and opportunities that the implementation of blockchain can have.

Miebach Consultants has been providing supply chain consulting and engineering services for almost 50 years. Please do not hesitate to contact us if you would like us to discuss your current challenges with us.

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