



EXPLAINER

UNDERSTANDING SUPPLY CHAIN TRACEABILITY ON THE BLOCKCHAIN

A GUIDE FOR CIVIL SOCIETY



WHAT IS SUPPLY CHAIN TRACEABILITY?

The primary objective of supply chain traceability is to enhance transparency, accountability, and sustainability within the supply chain. This is accomplished by implementing a process that involves recording and monitoring every step of a product's journey, from the raw materials or components used in manufacturing to the distribution and delivery of the final product.

THE ROLE OF BLOCKCHAINS IN SUPPLY CHAIN TRACEABILITY

When supply chain systems are built using blockchain-based traceability, they allow civil society organizations to track products from their source to the end consumer. A blockchain's decentralized ledger makes this tracking secure, tamper-proof, and transparent.

The process starts with participants in the supply chain — such as suppliers, manufacturers, and logistics companies — recording information about products and then adding it as a transaction to the blockchain. Each transaction is validated and linked to the previous record, and at any time, any participant can access the blockchain to see the data in real time.

Blockchains can also facilitate the use of smart contracts, which are self-executing actions with predefined rules and conditions. This method can facilitate automations, such as triggering payments to suppliers upon successful delivery of goods.

BENEFITS

TRANSPARENCY AND ACCOUNTABILITY

Two factors make blockchain technology an appropriate solution to increase transparency and accountability. First, blockchains are immutable, which means the information stored on them can't be edited or deleted. Second, they are completely transparent and visible to all parties. This combination ensures everyone has access to the information and that it hasn't been tampered with. With this, CSOs can further guarantee ethical practices are

EFFICIENCY AND COST SAVINGS

Blockchains can facilitate real-time updates and visibility into the movement of goods. This can help in quickly identifying issues or delays in the supply chain and responding proactively. In addition, by using smart contracts and automating certain processes, blockchains can reduce the need for intermediaries, such as banks, in supply

ETHICAL AND SUSTAINABLE PRACTICES

CSOs can use blockchain-based traceability to encourage ethical and sustainable supply chain practices to protect human rights and the environment. This affords consumers the ability to make informed choices and support

DATA SECURITY

The decentralized nature of blockchains enhances data security, safeguarding sensitive information from breaches and cyberattacks, ensuring the integrity of supply chain data. This will prove valuable for the resilience

ENSURING PRODUCT AUTHENTICITY

CSOs can source material and products from organizations that use blockchain-based traceability to verify that products are genuine and adhere to stated claims. Further, using the traceability system themselves will ensure a complete record from raw materials to the end consumer. This helps prevent counterfeiting, ensuring that

IDENTIFYING HUMAN SLAVERY AND EXPLOITATION

CSOs can combat human rights violations by monitoring supply chains for indicators of labor exploitation and slavery. They can establish traceability systems that track labor conditions at every stage, allowing them to identify and rectify unethical practices. This aligns with the human-centered values of CSOs and also helps build

MITIGATING RISK AND MANAGING REPUTATION

Supply chain traceability assists CSOs in assessing and mitigating risks associated with their supply chains. They can identify potential vulnerabilities, such as regions with a high risk of human rights violations, environmental damage, or other unethical practices. This proactive approach enables CSOs to implement safeguards, protect

SOURCING DATA FOR ADVOCACY AND POLICY CHANGE

CSOs can use the data and transparency provided by blockchain-based traceability to advocate for policy changes,

REAL-WORLD

WWF

WWF, in collaboration with seafood industry leaders, deployed blockchain technology to trace the journey of tuna from ocean to consumer. This initiative aimed to ensure sustainable and ethical fishing practices while eliminating the risk of human trafficking within the supply chain. By using the blockchain, WWF created a transparent and tamper-proof record, empowering consumers to make ethical choices and contributing to the fight against illegal fishing and associated human rights violations in the seafood industry.

DE BEERS

De Beers implemented blockchain technology to trace the origin of diamonds in their supply chain. This initiative sought to prevent the trade of conflict or “blood” diamonds, which fund armed conflicts and human rights abuses. By leveraging the blockchain, De Beers established a transparent and immutable record of diamond provenance, enabling consumers to verify the ethical sourcing of their diamonds. This innovation underscored De Beers’ commitment to responsible and ethical practices in the diamond industry.

GRAIN DISCOVERY

Grain Discovery, an agricultural technology company, utilized blockchain to revolutionize the grain supply chain. Their solution provides end-to-end traceability, ensuring the authenticity of grain products and safeguarding against fraud. By implementing blockchain technology, Grain Discovery empowers consumers to verify the origin and quality of grain, particularly important in industries like food and animal feed. This innovation enhances trust, promotes ethical sourcing, and contributes to the sustainability and safety of grain supply chains.

REFERENCES

[Building a Transparent Supply Chain](#)

Harvard Business Review

[Responsible sourcing and supply chain traceability](#)

Science Direct