

Binance Academy : blockchain for business sustainability

course 1 : Blockchain Role in sustainable business practices

Module : Supply Chain Transparency and Traceability

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“ Transparansi ini memungkinkan bisnis untuk memantau dan memverifikasi praktik etika dan lingkungan dari pemasok dan mitra mereka”

“This transparency allows businesses to monitor and verify the ethical and environment practices of their suppliers and partners”

one of the main benefits of blockchain technology in the supply chain is its ability to promote responsible sourcing

- By providing a secure and transparent record of transactions, blockchain can help companies track the origin and production of goods, ensuring that they are sourced sustainably and ethically
- For example, blockchain can be used to track the production and distribution of products that are certified as organic, fair trade, or sustainably sourced.
- This helps to ensure that companies are only sourcing goods that are produced in a responsible manner, and that they are not contributing to environmental degradation or exploitation of workers

Blockchain technology offers a transformative advantage in supply chain management by promoting responsible sourcing through enhanced transparency and security. By maintaining an immutable and verifiable record of transactions, blockchain enables companies to trace the origin, production, and distribution of goods with unparalleled accuracy.

For instance, businesses can utilize blockchain to authenticate the sourcing of organic, fair trade, or sustainably produced products. This ensures that suppliers adhere to ethical and environmental standards, preventing practices that contribute to ecological harm or labor exploitation. Additionally, blockchain's decentralized nature reduces the risk of fraud and misinformation, fostering greater consumer trust and regulatory compliance.

By integrating blockchain into supply chain operations, companies not only enhance accountability but also reinforce their commitment to sustainability and ethical business practices, ultimately benefiting both consumers and the global economy.

Product Authenticity

Another important aspect of blockchain technology in the supply chain is its ability to promote product authenticity

- By providing a secure and immutable record of transactions, blockchain can help companies track the flow of goods and ensure that they are not being mixed with counterfeit or fraudulent product.
- This help reduce the risk of fraud and counterfeiting and ensures that consumers get what they pay for.
- Additionally, blockchain can also be used to verify the authenticity of products that are certified as organic, fair trade, or sustainably sourced, helping to ensures that these products are not being mixed with non-certified products.

Product Authenticity in Supply Chain with Blockchain

Another crucial advantage of blockchain technology in supply chain management is its ability to enhance product authenticity. By leveraging a secure and immutable ledger, blockchain enables companies to track the movement of goods throughout the supply chain, ensuring that products remain genuine and untainted by counterfeit or fraudulent items.

This significantly reduces the risk of fraud and counterfeiting, providing consumers with the assurance that they are receiving authentic products of the quality they expect. Moreover, blockchain can be instrumental in verifying certifications such as organic, fair trade, or sustainably sourced labels. By ensuring that certified products are not mixed with non-certified ones, blockchain strengthens the integrity of ethical and sustainable supply chains.

By integrating blockchain for product authentication, businesses not only safeguard their brand reputation but also foster consumer trust while complying with industry regulations and standards.

Fair labor practices

blockchain technology can also play a role in promoting fair labor practices in the supply chain

- By providing a secure and transparent record of transactions, blockchain can help companies track the production and distribution of goods and ensure that the workers are treated fairly and paid a living wage.
- For example, blockchain can be used to track the production and distribution of products that are certified as fair trade, ensuring that workers are being paid fair wage and are not being subjected to exploitative working conditions.
- Additionally, blockchain can also be used to track the use of forced labor, ensuring that companies are not sourcing goods from suppliers who use forced labor.

Promoting Fair Labor Practices with Blockchain

Blockchain technology plays a significant role in promoting fair labor practices within the supply chain. By offering a secure, transparent, and immutable ledger of transactions, blockchain enables companies to monitor the production and distribution of goods, ensuring that workers receive fair treatment and a living wage.

For example, blockchain can be integrated with fair trade certification systems to verify that products are sourced from suppliers who uphold ethical labor standards. This ensures that workers are paid fairly and not subjected to exploitative conditions. Furthermore, blockchain can be used to track labor practices across supply chains, helping to identify and prevent the use of forced labor. By providing verifiable data on worker conditions, blockchain enables businesses to take proactive measures against unethical labor practices and comply with international labor standards.

By leveraging blockchain for fair labor tracking, companies can demonstrate their commitment to social responsibility, protect worker rights, and build stronger trust with consumers and stakeholders.

Challenges and limitations

1. Scalability

Blockchain networks can face issues related to scalability, as transaction processing times and energy consumption may increase with the growth of the network. This can limit the practicality of large-scale supply chain applications.

2. Data Accuracy

Blockchain technology ensures the security and immutability of data, but it does not guarantee the accuracy of the data entered. If incorrect or fraudulent information is added to the ledger, it becomes difficult to rectify.

3. Traceability

Theoretically, blockchain is used for traceability. Unfortunately, in the real world, it is nearly impossible to track the origin of a processed product, such as processed food, as well as products that are arranged in a big batch production. Most likely, traceability will be applied mainly to tailor-made luxury products.

4. Adoption

Widespread adoption is necessary to achieve comprehensive supply chain transparency. Additionally, integrating different blockchain platforms and ensuring interoperability with legacy system can be challenging