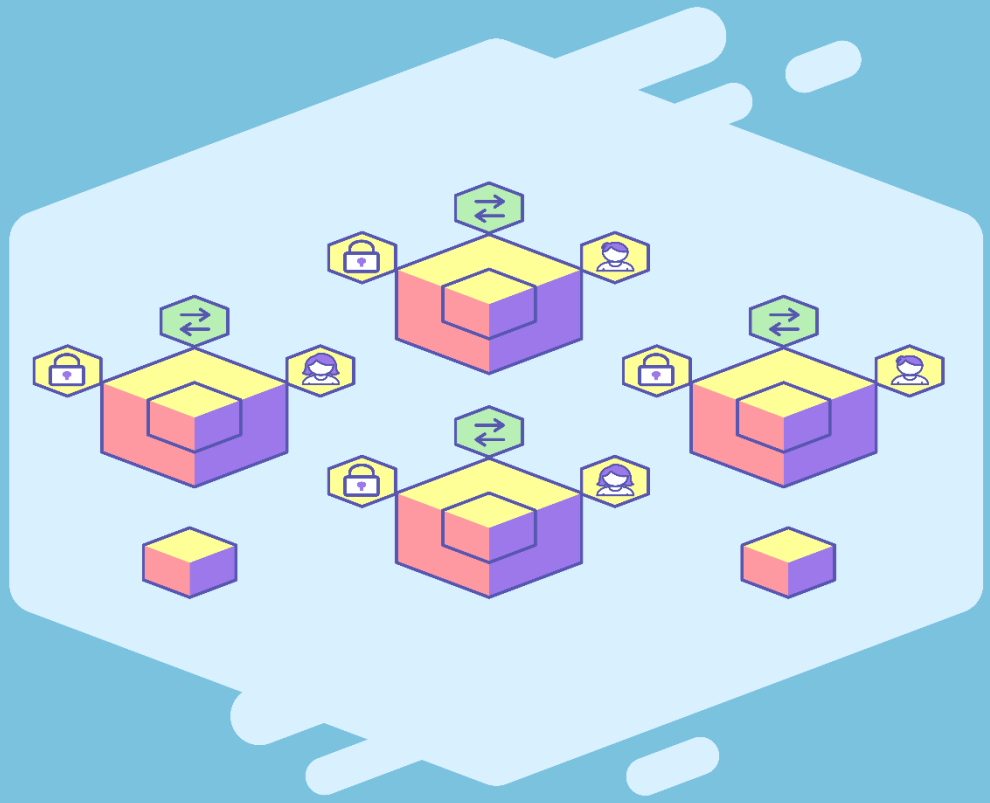
Kale Logistics
Technology that Transforms



Locking in security and unlocking value in logistics with Blockchain

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The logistics industry, as per industry estimates, has been projected to be worth $15.5 trillion by 2023, with growth prospects to sustain thereafter. A typical supply chain in this industry has various stages, spans across several geographies and generates mountains of payments and invoices. Moreover, the end-to-end process involves multiple entities, with varying levels of trustworthiness and dependability. This business, hinging on trust, is all set to be disrupted and transformed to the next level with the advent of blockchain technology.

Blockchain technology takes the form of a distributed ledger that records transactions between entities, securely and permanently. By virtue of 'sharing' databases between multiple entities, blockchain effectively cuts out the middleman such as a trusted third-party intermediary who would have been required to verify, record and coordinate transactions in the past. This move from a centralized to a decentralized and distributed system, as facilitated by blockchain, without a doubt liberates data from the safeguarded silos of the legacy systems.

The potential of Blockchain for logistics

For an industry - such as logistics - whose growth potential lies locked in paper-based legacy systems and siloed IT infrastructure, Blockchain technology will likely prove to be a game changer. The transformative power of blockchain stems from its unique features, namely - data transparency, security, asset management and smart contracts. And, the transformation is under way even as you read this. Blockchain could possibly streamline the efficiency and transparency of supply chains, eradicate errors, avert frauds, and minimise expenses and so on. Thus, Blockchain technology provides the very foundation for the integrity, reliability and transparency in a supply chain.

The logistics industry has many stakeholders such as manufacturers, customers, suppliers, auditors, and many more. Blockchain technology can potentially benefit everyone in this value chain. It enables the tracking of products by customers and traces the end-to-end value chain of product manufacturing. Blockchain empowers auditors to easily verify and crosscheck any transaction. No piece of information stored in a blockchain can ever be altered or changed by a third party, which enhances the security of this technology beyond that of any existing solution.

Unlocking value in logistics

Today, there exists a substantial amount of trapped value in logistics, mostly originating from the disjointed and competitive landscape of the global logistics industry. With a huge number of stakeholders across the supply chain, the logistics industry is riddled with low transparency, unstandardized processes, data silos and disparate levels of technology adoption. Moreover, several sections of the end-to-end logistics value chain are engulfed in manual processes as mandated by regional or global regulatory authorities. As a result, it becomes challenging to track the origin of goods and the status of shipments throughout their journey along the supply chain, leading to friction in global trade. Blockchain possesses the potential to help overcome these challenges in logistics, streamline operational efficiencies and optimize costs.

Blockchain in action for logistics

The adoption of Blockchain technology is already underway in the global logistics industry. Here are a few examples –

- Maersk and IBM, through a blockchain joint venture, are to manage and track container shipping via a trade digitization platform constructed on open standards and created for use across the global shipping system.
- Lynx International, a subsidiary of Alibaba has effectively integrated blockchain technology into its cross-border logistics network. This blockchain-based system monitors all pertinent information on an imports shipment, such as details on production, transport method, customs, inspection and third-party verification.
- Port of Rotterdam has launched its own blockchain lab known as 'BlockLab.' Energy transition, cargo flow, and port logistic stock financing are some of the areas the lab aims to improve on with this transformative new technology.
- Mumbai Airport, India and Schipol Airport, Netherlands along with their partners for Cargo Community systems, Kale Logistics Solutions and Cargonaut have pioneered an initiative towards creating a Digital Air Corridor, powered by Blockchain technology, between India and the Netherlands.

With regards to specific applications in Customs, Blockchain would favour revenue compliance and cooperation between Tax and Customs. Blockchain makes fraud and errors far easier to detect because the system provides clear and transparent information about transactions and items in the network. Blockchain would help to combat financial crimes at Customs. Blockchain-based applications could be developed to help tackle emerging issues such as money laundering, terrorist financing and illicit financial flows with enriched red flag indicators. These are just a few of the applications of this technology in the arena of Customs.

Blockchain applications and benefits at ports and airports

Blockchain can be used by both airlines and airports to streamline the passenger identification process. It can also be used in identity management, security, check-ins and customs. Passports, travel records, customs paperwork, employment passes and more can be digitised and stored on the blockchain to minimise wait times and automate aspects of departures and arrivals. The other applications of blockchain in the aviation industry is - Identity Management. By validating identities with the help of biometrics, ticketing through tokenization and e-contracts and loyalty points and schemes when tokenized through Blockchain can provide immediate value to the users.

Ports and terminals will benefit from pre-built connections to shipping lines and other stakeholders, end-to-end visibility across shipping corridors and real-time access to more information to enrich port collaboration and terminal planning. Customs authorities to benefit from more informed risk assessment, better information sharing, less paperwork, and easier connections to national single window platforms.

In conclusion, Blockchain has the potential to facilitate optimal efficiencies and novel business models including swifter and leaner global trade logistics, higher transparency and traceability in the supply chain, and augmented automation of commercial procedures in logistics. Yet, gaining industry adoption is the most crucial challenge, one which will likely determine the success of blockchain technology in logistics.