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How much do we know about the products we use each day? Do we know where they come from, or how many hands have touched them on their journey to us between manufacturers, distributors and retailers? Who makes sure our products are safe, authentic and secure?

Consumers are always concerned with the origination of products, the authenticity of goods and the transparency of their transactions. Amid a debate about GMOs and food labeling, consumers want to know that the food they buy comes from reputable sources, such as whether the fish they purchase was sustainably caught or "organically" farm-raised.

Enter blockchain technology. This distributed, public ledger platform is gaining traction in the financial world as well as emerging sectors like healthcare, energy and retail. As described in Fortune, blockchain "is a way to structure data, and the foundation of cryptocurrencies like Bitcoin. This coding breakthrough—which consists of concatenated blocks of transactions—allows competitors to share a digital ledger across a network of computers without need for a central authority. No single party has the power to tamper with the records: the math keeps everyone honest."

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Take the example of buying fish: blockchain would ensure transparency via a digital record about how a fish was caught or raised, its freshness, compliant environmental handling, and its journey through the supply chain. With this level of transparency and accountability, consumer confidence would grow in direct proportion to their brand loyalty.

Blockchain could significantly change the way retailers and consumer packaged goods (CPG) manufacturers operate their supply chains to sell goods and services. Consumers' behavior and their appetite for information, the universal need for secure transactions, and the demand for transparency are already guiding the buyer's relationship to brands. Blockchain can help answer these demands by guaranteeing the origin of goods as well as the security of the transaction.

Evolving Supply Chain Technology

The traditional supply chain is woefully outdated. It has evolved (or devolved) into an inefficient system of delivery that siloes manufacturers and consumers, preventing each from understanding the needs of the other. Blockchain, on the other hand, introduces an infrastructure to the supply chain based on shared value networks of guaranteed transparency, community, immutability, authenticity, ethics and security.

The value of transparency with consumers cannot be underestimated. For example, John West, a global producer of canned fish, views it as a competitive advantage to make its supply chain transparent. As part of the company's promise to its customers, John West prints codes on their tuna cans to allow consumers to trace the tuna all the way back to the fisherman who caught it. This innovation netted the company over $22 million in increased sales.

This is an example of how blockchain could be leveraged by retailers and supply chain solution providers. For retail and CPG companies today, sourcing and transparency come in the form of an image file or printed label on packaging, the actual meaning of which is difficult to understand and maybe futile to try to verify. With blockchain, companies like John West can leverage a public, permanent, immutable digital ledger that guarantees product origin, security and traceability across the entire product journey—verified and certified by all transacting parties—which can help boost consumer confidence in brands.

Increasing Consumer Demand for Transparency and Security

Blockchain has the potential to change the global trade model to drive security of personal data, transactions and the journey through the supply chain. The digital transformation of the supply chain is being driven by the following factors:

- the increased need for improved, decentralized and immutable systems as access to online information grows;
- consumer expectations of transparency from brands in the new digital paradigm;
- a greater need for inherent security, transparency and authenticity in the supply chain and purchase process;

- a proliferation of software firms designed to help brands justify the cost of ethically sourced goods;
- the introduction of blockchain within the financial and insurance sectors.

A New Supply Chain Operating System

Due to its decentralized architecture, blockchain has the potential to create a new paradigm for how supply chain applications are created, implemented and utilized. It has the potential to become a new operating system for supply chain networks.

In addition to the verification of product origin, retailers are beginning to utilize blockchain's distributed ledger technology to address other retail and supply chain challenges. These include:

Counterfeit prevention: Since blockchain is a transparent, public, distributed ledger, it is an ideal solution to counterfeiting. All products and transactions are tracked from their origin through all transactions so, if a duplicate product or unauthorized transaction should appear, it will immediately be flagged as counterfeit.

Stolen merchandise recovery: When a consumer completes a transaction, the authenticity of the product purchased can be automatically verified and activated in the system. So if an item were to be stolen, it can be traced via any subsequent transaction, which is automatically recorded in the blockchain.

Fraudulent transactions: Since blockchain requires that all parties must confirm transactions, it acts like an escrow account, protecting buyers and sellers by holding funds until all parties can verify, which can be executed via smart contracts, eliminating the need for third parties.

Blockchain for the Retail Sector

Some suppliers in the retail sector are already utilizing blockchain to record transactions and drive accountability in a variety of ways. Here are a few additional business interests in consumer goods and services that can be strengthened by blockchain technology:

Insurance protection: Insurance fraud accounts for $60 billion in losses each year in the U.S. and Europe; approximately $133 million is paid out to cover jewelry theft alone. Blockchain solutions can provide insurance companies and claimants with a permanent registry and secure verification, which assigns individual assets with unique identifiers that are nearly impossible to destroy or copy.

IP and rights management: Blockchain-enabled platforms, specifically for artists and/or content creators, can protect their work and IP with permanent, immutable links between artist and their art. Content can be registered in the blockchain as well as all of its metadata including the number of editions, if applicable (i.e. limited edition, signed lithographs), ownership transferal, rights management, agent permissions to sell the work, limited time loans, and file type (e.g., .jpg). All recorded data in the blockchain can also be available publicly and utilized by libraries, museums, archives to create a comprehensive digital history across the Internet of Things.

Theft protection: Blockchain-based platforms can solve the counterfeiting issue around goods that are notoriously difficult to trace, such as pharmaceuticals, luxury goods, electronics and diamonds. Consumers can ensure the products they receive are authentic by verifying and certifying them

directly with manufacturers. This level of verification and certification in the digital ledger also allows stolen merchandise to be more easily located, and the technology overall reduces any likelihood of fraudulent and counterfeit products making their way to market.

Read More (http://mhlnews.com/global-supply-chain/blockchain-next-evolution-supply-chains)

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