**How blockchain is transforming into a major gamechanger for the retail industry**

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Blockchain [technology](https://www.financialexpress.com/life/technology/) has been extensively tested and implemented by organizations moving on the trajectory to become digital-first, yet still, many brick-and-mortar retailers lag in recognizing its potential. According to a Deloitte study, internet interactions influence more than half of every dollar spent in retail locations, generating price transparency, convenience, and relevance expectations. The technology allows tracking supplies in real-time through all supply chain stages and records all the data on a decentralized ledger for greater traceability.

Following the pandemic, retailers had to struggle through substantial challenges of provenance and keeping track of the [supply chain](https://www.financialexpress.com/express-mobility/how-to-create-a-supply-chain-that-is-sustainable-and-ethical-with-new-battery-technologies-and-energy-storage-solutions/2978148/). To address such challenges, the broader adoption of technology by the sector in its legacy systems can provide the ultimate digitization it requires. The dependability, sustainability, and quality of tracking and assisting in management procedures of blockchain can provide retail sectors with the ultimate digitization they require. Thus, retail industries now focus on the blockchain more seriously and have started integrating it into their legacy systems.

Blockchain has the potential to alter data ownership. It assists in restoring data control to the user by allowing them to control the accessibility of their information online. It represents a fundamental shift in handling data and giving users much-needed authority over their information. This change is required for various security and privacy concerns.

**Maintaining product quality and improving traceability**

Blockchain has clear implications for tracking where the items come from, if they are legitimate, and how well their condition is. For example, temperature data from perishable commodities can be recorded on a secure digital ledger using Internet of Things-enabled sensors. Suppose a product is proven to be defective. In that case, a blockchain history allows a company to trace it back through the supply chain, identifying suppliers, manufacturers, and batches that may have been tainted. Blockchain technology allows retailers to recall products and address supply chain issues. Smart tags make a perfect example that tracks a product’s location in near real-time and create an effective blockchain-based tracking system.

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**Managing consumer data**

[Blockchain](https://www.financialexpress.com/blockchain/blockchain-is-on-rbis-priority-list-as-innovative-technologies-says-mos-finance/2975517/)technology has transformed the ownership of data. It empowers the users to know who has access to their data online. As organizations become digitally evolved, it becomes imperative for them to handle consumer data more responsibly. Consumers will not even realize when they permit these organizations to use theirs across applications. As more organizations become digitally evolved, it opens more data collection points. Websites and applications are the first-hand collectors of users’ data. To address such repercussions, retailers are not integrating blockchain that works by using a decentralized ledger system. Unlike traditional systems, the collected data is stored in decentralized ledgers that remove intermediaries. This offers full control to users and empowers them to decide who can access their data, transactions, and behavioral patterns. As a result, it drives transparency and authenticity and enhances the consumer experience.

**Enhancing loyalty programs**

Retail organizations can use blockchain to build a decentralized system where loyalty points can be used across numerous brands and retail categories. With blockchain in retail, all loyalty network members, including companies, loyalty program administrators, and customers, may communicate securely while maintaining their anonymity.

A fundamental driver of loyalty programs is the collection of customer data, which creates security risks. Loyalty program operators, in turn, establish their own digital rewards currency to facilitate point accumulation and redemption among partner organizations. In this sense, increasing flexibility and removing standard loyalty program constraints can lead to increased client involvement. In today’s highly competitive and increasingly customer-centric [industry](https://www.financialexpress.com/business/industry/), more businesses are investing in developing or strengthening loyalty programs, and blockchain assists in various ways.

**Combating fraud and counterfeiting**

Counterfeiting has a particularly devastating impact in the retail sector, resulting in product recalls, harm to brand reputation, a decline in customer trust, and, ultimately, considerable monetary losses. Significantly, counterfeiting can mean a [life](https://www.financialexpress.com/life/) and death situation for present-day organizations. Retailers can ensure product authenticity for blockchain-tracked products because counterfeit goods lack this verification history. Of course, for blockchain to serve this purpose, the integrity of the information entered in the ledger must be ensured. Companies can put invoices on the blockchain to ensure they don’t change hands between supplier and buyer to prevent procurement fraud. The fact that all parties must verify transactions also helps to reduce fraud. Regulatory organizations are now recognizing the ability of blockchain to authenticate product provenance.

**More efficient payment systems**

Retailers who do not take cryptocurrencies would profit from changing their [payment](https://www.financialexpress.com/money/how-payments-as-a-service-paas-is-transforming-online-transactions/2978431/)methods now that the mainstream has officially adopted them. However, blockchain has payment implications that extend beyond cryptocurrencies. Because it eliminates the requirement for authentication overheads, it can potentially reduce the financial services infrastructure cost. Moreover, blockchain technology can benefit from various possible applications in payment systems, such as the transfer of digital and physical assets, the protection of intellectual property, and automated contracts.

**Final thoughts**

Blockchain’s uses in the retail industry are numerous: to increase customer trust and loyalty or to eliminate labor-intensive administration. Because of blockchain’s ability to track, trace, and authenticate products, it can be used across the entire value chain, with the benefits being passed on to the consumer in the form of efficiency, increased trust and transparency, and safer quality of products. In an industry where these processes are critical, blockchain is finally making it easy to retain correct records and track inventory. Businesses of all sizes can benefit from the trust, transparency, and transaction efficiency that blockchain brings to the retail industry as the technology evolves.