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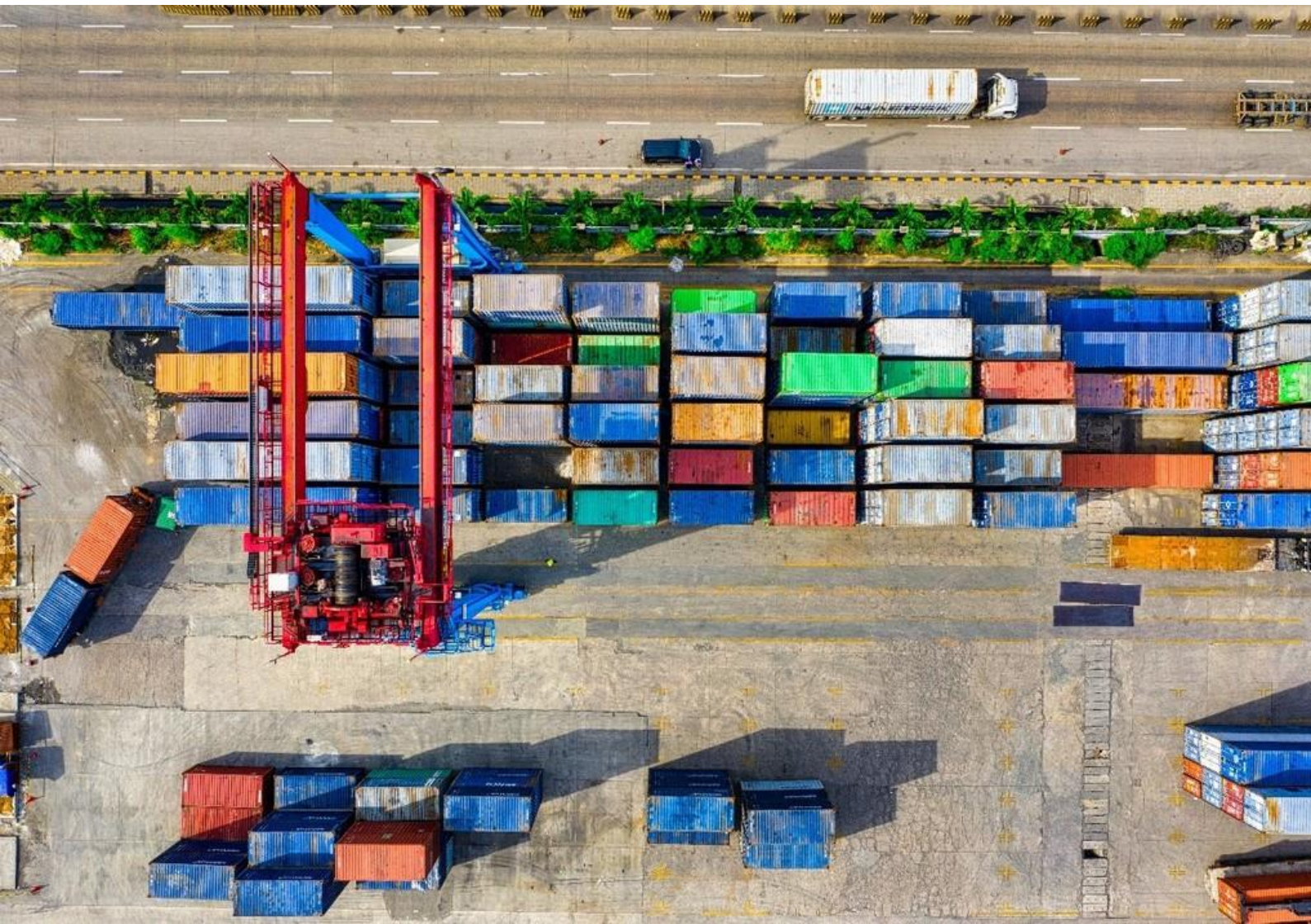
How can we leverage Blockchain Technology by integrating it into our Supply Chains to make it more agile and flexible?



BLOCKCHAIN TECHNOLOGY

The main aim is to understand how blockchain technology can be integrated into the existing supply chains of a Consumer Packaged Goods (CPG) industry, focusing on products like fruit juices and fruit pulp drinks. I have highlighted significant trends of the futuristic supply chains and insights about the blockchain-enabled supply chain.

“Blockchain Technology” has been a buzzword around us for quite some time now. Tracing its emergence from the introduction of Bitcoin, it has come a long way.

The technology has potentially set higher benchmarks in the financial sector already; however, its application isn't just limited to the financial world, but it also holds a great promise to the world of supply chain management. Enabling faster and more cost-effective product delivery, improving product traceability, improving partner coordination, and facilitating access to financing, blockchain can significantly improve supply chains.

According to Gartner's report, 23% of the supply chain leaders expect to have a digital ecosystem by 2025, up from 1%today.

The increase in digitalization will result in a more resilient and agile supply chain powered by the Internet of Things (IoT) and blockchain.

FACTORS AFFECTING EVOLVING SUPPLY CHAIN

The management of global supply chains has never been more challenging. Technological advancements almost every other day, globalization, shifting geographic locations due to climate change, political partnerships, consumer demands, dynamic business environment due to changing regulatory norms, customized consumer demand for products from the other end of the planet, and other factors all add to the overall complexity of an established supply chain network.

The concept of having sustainable operations while achieving the profitability targets has given rise to the need for robust supply chains which adhere to sophisticated standards. Consumers today no longer bear with the traditional delivery methods, which take a longer time for a product to be delivered. Instead, they expect you to deliver in no time. It's more of granting their wishes as soon as they ask for one.

BLOCKCHAIN – THE ONE-STOP SOLUTION

Consumer-packaged goods (CPG) firms continue to play a critical role by producing essential products that ensure good health and well-being. The recent coronavirus pandemic has created an alarming situation, which has made it difficult for the CPG industry to continue functioning with ease. People being forced to stay at their homes has left an enormous impact on businesses, especially the supply chain.

The pandemic has made us realize that there's no other alternative to having a digitized and end-to-end connected chain that provides better visibility, data availability while ensuring confidentiality and integrity. Technological advancements like Blockchain Technology can digitally interconnect the supply chain ecosystem and improve the existing chain. According to a report by Gartner, 79% of supply chain leaders think that an internet-/platform – based approach is the most critical new business model to support post-pandemic recovery.

Today's consumer has become health-conscious than ever before. They make watchful decisions to ensure that they have a good diet that helps them remain fit and healthy. Fruit and pulp juices are a dominant part of the consumption diet for those making efforts to stay healthy and even for those who find various beverages to consume. Therefore, for the companies involved in producing fruit-based drinks, it becomes vital to keep the supply of their products at par with its demand, which is possible when they have an end-to-end connected supply chain.

Integrating blockchain technology with their existing supply chain can help companies tap into areas of the chain that otherwise wouldn't have been possible. For example, when fruits are plucked from the plants until they reach the production facility, they go through many processes, and accounting for every small detail becomes extremely difficult. Clearly, with the help of blockchain, the companies can involve all the relevant suppliers of the chain on one platform. Furthermore, having such a platform ensures that all the stakeholders are on the same page and have access to real-time data/information like where their fruits have reach, the number of fruits plucked daily, the people involved in the process, and various trivial yet essential details.

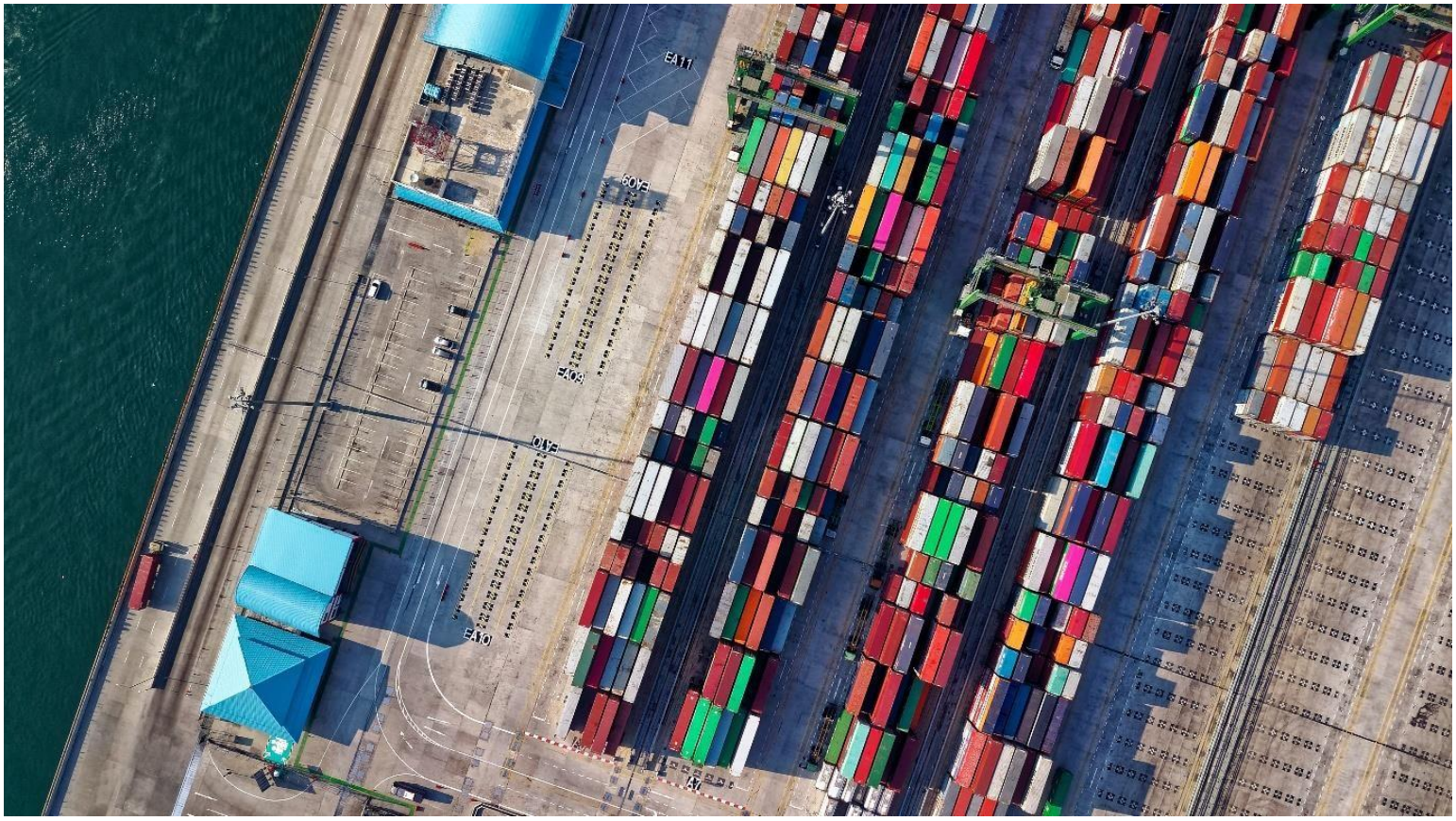
The very first step includes the required fruits to be plucked and gathered at one place. There's no standard way to pluck the fruits. Different fruits have to be plucked in different ways to ensure they are not damaged. Generating a QR code that contains all the details about the date and time when the fruits were plucked, the place where they were plucked from, the farmer's name, & the people involved in the plucking process will help the manufacturer with a better idea about the fruits. Each batch of the fruit is assigned such a QR code, which will be updated on the blockchain platform for further reference.

Similarly, all the suppliers of different fruits will follow the same procedure. This will give a fair idea about the number of various fruits being plucked daily. The manufacturer can plan the production process accordingly, which will help them reduce the overall time required to manufacture. The assigned QR code, which contains the required details, will make it easier to trace back a particular lot of fruits whenever required and satisfy the consumer's curiosity about the product. Today's consumers are curious to know every tiny detail about the product they consume, for instance, the origin of raw materials, the ingredients used, the calories gained by consuming a product, etc.

Once the fruits are plucked, they are ready to proceed further in the chain. Generally, the farmers send the fruits in a basket or a box to a local dealer responsible for collecting fruits in large quantities from multiple suppliers. Both the farmers and the dealer have to ensure that the fruits are kept safe from various factors like changing temperatures, pest attacks, climatic conditions, the packaging material & design, and many other such factors that might damage the fruits. Furthermore, the fruit farms are usually situated far away from the city area where the road infrastructure is not at its best; hence, proper transportation of those fruits becomes necessary to maintain the fruits' quality.

The local dealer should assess the quantity and quality of fruits received from various farmers to remove the degraded fruits from the lot. Then the dealer has to sort different fruits and pack them properly to send them to the manufacturing facility. Different fruits succumb to various factors around them; hence, the dealer must pack the fruits accordingly so that the fruits are not to be affected while they are transported. When there is a robust process of assessing the fruits at every stage of the chain and updating that information on the platform, it becomes effortless for the people to identify the source of error, causing significant issues in the overall process. Identifying the problem is as good as solving half the problem. Such a system will enable the companies to rectify the errors rapidly and become immune to them.

Once the fruits arrive at the manufacturing facility, the producer should assess the quantity and quality of the fruits to ensure that all the fruits are in good condition and fit for further consumption. The fruits should then be stored in a proper facility until they can be further used to produce the juices. Since the manufacturer already has a fair idea about when and how much of the fruits will come, they can prepare beforehand. The fruits then don't have to be stored for a long time, increasing the chances of being degraded. And how can we forget the benefits of smart contracts at every stage of the chain, reducing the delays in the payments made to the respective stakeholders?



A blockchain-enabled supply chain is the new future but are the firms ready to integrate such technology into their operations? According to the SAP Digital Readiness Assessment report, 42% of organizations are prepared to use blockchain technology to document transactions securely. The future of the supply chain is set to revolutionize businesses by enabling them to make crucial decisions by eliminating some of the risks. This change would require a significant commitment of resources and efforts, but it's always worth the climb when the view is mesmerizing from the top.

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