

Blockchain seen as tool in food safety

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Wal-Mart Stores is testing blockchain, the underlying technology behind virtual currency bitcoin, on mangos

The food industry is turning to the same technology used by virtual currencies to strengthen food safety and inventory management by tracking meats and crops from farm to table.

Working with IBM, retail giant Wal-Mart Stores is testing the technology system on mangos in the United States and pork in China.

Blockchain, the underlying technology behind virtual currency bitcoin, is a digital system that allows counter parties to transact using individual codes for goods.

"I see a lot of potential to create what I call a digital and transparent food system," said Wal-Mart food safety vice president Frank Yiannas.

The technology enables different parties in the supply chain to share details such as the date an animal was slaughtered or the weather conditions at harvest time.

Data can be stored through a photograph on a smartphone that is transmitted onto a dedicated platform.

The system also can counter fraud and mistaken deliveries, champions of the technology say.

"The advantage of blockchain is that the ledger is immediately updated and all the parties have access to the latest information," said Bill Fearnley, Jr. an expert at market intelligence firm IDC.

Supporters of blockchain are especially keen to address salmonella and other food safety problems that can cause health scares that weigh on corporate reputation and damage sales.

The technology allows a more efficient response if there is a problem, enabling companies to locate the source of an incident more quickly, Yiannas said.

He pointed to a 2006 case where it took hundreds of investigators and two weeks to identify the source of bad spinach under a paper-based system.

But blockchain "reduces tracing from days to seconds," Yiannas said. "The more accurately you can track food, the better."

Demand for transparency

The other great virtue of blockchain is enhanced transparency by letting consumers look up key information on where food comes from, an asset amid growing concerns about genetically-modified crops and artificial ingredients.

That additional transparency also can help promote more desirable practices.

British online startup Provenance used blockchain technology to test tuna caught in Indonesia to help corroborate claims the fish were responsibly caught.

The technology also has been embraced by companies in the jewelry business to fight the sale of so-called "conflict diamonds," which come from war-torn regions.

"Our goal is to provide transparency at every step of a diamond's journey and ultimately re-shape the way we trade diamonds globally," said Leanne Kemp chief executive of Everledger, a British company that tracks diamonds from the mines to jewelry stores.

But to completely function as a system, all the parties need to participate, Fearnley said.

Danish shipping giant Maersk estimates the technology could save billions of dollars by eliminating fraud and incorrect deliveries. It is testing the technology with container ships between Kenya and the Netherlands.

But the transition will require investment. A refrigerated product raised in Africa and shipped to Europe requires at least 30 people with some 200 interactions among parties, including customs, taxes, and food safety oversight.

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