

# Is blockchain the next killer app?

Perspectives  
29 October 2018

**Welcome to the exciting, strange and imperfectly understood world of blockchain.**

Don't let the hype deter you, this technology has the potential to transform supply chains.

Revolutions seldom run smoothly – as one US retailer recently discovered to its cost. After mooting a proposal to place sensors in its boots and clothing, the company was surprised by a consumer backlash. The idea was not to snoop on the customer, but to track the performance of the products. Even so, the media dubbed the scheme “creepy” and invasive and the retailer abandoned the plan.

Welcome to the exciting, strange and imperfectly understood world of blockchain. There has been more than a whiff of the dotcom bubble about blockchain lately with the technology being hyped as a panacea.

All this is enough to make businesses wary of all claims for the technology, yet blockchain and distributed ledger technology could truly have profound implications for retailers and brands, not least in its potential uses to transform supply chains.

## *New business models*

How so? By offering the means to tackle the inefficiencies resulting from the information silos that trap data inside discrete parts of individual enterprises. Sharing disparate data on the blockchain enables them to be synthesized inside and beyond the enterprise in ways that create new value.

In this way, blockchain can offer broad new business capabilities, particularly, when combined with technologies such as the Internet of Things and artificial intelligence (AI), says Sam Ganga, Partner, Digital Strategy & Transformation, KPMG in the US. “One of the key elements it brings to the table is improving the visibility of information across enterprises. In this sense it can transcend what we would consider to be the traditional boundaries of the company and so could completely redefine how you conduct business. It potentially requires you to reconsider your workforce model, your operating model and how you are interacting with suppliers. It could open up space for new business models.”

Operating a blockchain that gives instant access to the information in it down to the tiniest details, creates opportunities to drive new efficiencies, create new relationships and compress some of the delays that bedevil existing supply chains.

“It is solving business problems that have been tough to crack before, such as showing the entire chain of custody and provenance to predict freshness and reduce spoilage,” says Ganga. “What would it mean to retailers if they could reduce spoilage by 100 basis points inbound or on the shelf?”

“The blockchain is not just a repository of data, it can be used to drive valuable analysis,” says Ganga. “It can tell you not to take delivery of this particular consignment of fresh produce or take it at a discount and sell it quickly because based on the chain of custody information in the blockchain, it shows it was sitting in the dock beyond its freshness window.”

The implications for reducing the frequency and cost of recalls is obvious. Being able to quickly identify a bad batch of eggs, for example, might in turn enable individual consumers to find out if their purchases were among a bad batch, assuming PoS systems become linked into the blockchain.

As supply chains are currently configured, it can take a week or more to track the food in a supply chain that has been affected by a disease outbreak. In April 2018, over 172 people in 32 US states became ill with E.coli from eating contaminated lettuce. It took several weeks to find where the lettuce was grown. With blockchain, it would theoretically take a couple of minutes. Some trials along these lines are already underway, including a major US food retailer partnering with Nestlé and some other manufacturers to track the origin of fresh produce.

“Because of the nature of blockchain’s distributed shared ledger you can improve the visibility of information in a way you can’t with any other technology. The fact that the data is immutable significantly improves trust in data, particularly among consumers. We are going to compress some of the intra-company and inter-company relationships that have been the slowest part of supply chain processes,” says Ganga.

It is the open, networked nature of blockchain, which enables the linking of many hundreds or thousands of parties in a given supply chain in highly secure ways, that makes its potential value so great. Using conventional shared databases to do this is not only much costlier, but also is more vulnerable to single point failures or cyber attacks, says Jan Reinmueller, Partner and Head of Digital Village at KPMG in Singapore.

“It means you can do away with reconciliation problems as there is one trusted repository of all the relevant information rather than different systems trying to align with one another. You can track where a problem happens to specific routes, logistics companies and times so you can quickly identify the root cause and so improve the overall quality of the supply chain.”

What is currently a static and sequential process of sourcing could even in future be responsive to demand signals and trends from the market, helping suppliers and retailers anticipate seasonal demand.

The operational savings could be vast, says Peter Fedchenkov, the co-founder and CEO of INS, which is building a decentralized grocery shopping ecosystem based on blockchain technology. “It will increase the velocity of the supply chain, decrease the number of errors, lower processing, database and reconciliation costs.”

At the moment every party in a transaction has to reconcile its own databases and devote considerable back office time and expense on this and, in particular, to dealing with errors. Blockchain promises instead a single immutable set of data shared across parties, showing clearly what happened in a transaction and whether a consignment was paid for or not.

Greater supply chain visibility might enable brands and retailers to build trust with consumers about the provenance of products, offering proof that extra virgin olive oil is really unadulterated or that salmon is not caught by slave-labor fishing boats.

Multiple trials are showing how this can be done where suppliers are required to provide proofs via photographs and QR codes that are then uploaded via smartphone and embedded in the blockchain ledger.

“If you want to minimize counterfeit products or eliminate other sources of fraud in the supply chain or ensure trust in the ingredients of your products, blockchain can be at the center as a key enabler,” says Ganga.

*The excerpt was taken from the publication entitled Consumer Currents.*

*© 2018 R.G. Manabat & Co., a Philippine partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. All rights reserved. Printed in the Philippines*