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Why the shipping industry's stakeholders should use blockchain to fight disruption

Henrik Hvid Jensen | Aug 04, 2018 2:38PM EDT

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Digital platforms are a growing feature of digital competition and are the typical operating model of most of the largest internet companies that show a strong payoff in revenue and growth. Digital platforms piggyback on the incumbents' huge investment in assets and are creating new revenue sources and disrupting the existing business models.

This is exemplified by Havas Media's senior vice president, strategy and innovation, Tom Goodwin's observations that the world's largest taxi firm, Uber, (https://www.joc.com/trucking-logistics/trucking-freight-brokers/uber-freight-expands-reach-small-us-truck-fleets_20180604.html) owns no cars. The world's most popular social media company, Facebook, creates no content. The world's most valuable retailer, Alibaba, carries no stock. And the world's largest accommodation provider, Airbnb, owns no property.

In asset-heavy industries, such as transportation and shipping, the question is obvious: who will be the world's largest drayage provider that does not own any trucks, the most valuable ocean carrier that does not own any vessels, or the largest container repair shop that does not do any repairs?

It is unlikely to come as a surprise to anyone. Many other industries have been disrupted, and in shipping freight forwarders have, to some extent, played the role of the asset-light intermediary for decades. However, the threat posed by digital platforms is different, not least due to their immediate scalability, creating a winner-takes-all market — at least if other industries are anything to go by.

It is easy to overlook the warning signs for now. There is no apparent platform that has emerged in ocean transport, despite several attempts, and the relatively successful trucking platforms, such as OnTruck and Next Trucking, still have a local focus, so they are unlikely to concern any of the global players.

However, the “creative destruction,” to cite the process first articulated by scholar Joseph Schumpeter in 1942, of an established economic order is not something new, and there is no reason why the shipping industry should be immune. It may take longer due to the multinational complexity, but it isn't unsolvable — and it definitely isn't unsolvable for parts of the market, and that is usually enough to disrupt the existing business model and force everyone to rethink their role and focus on how they fit into “an ecosystem” rather than just “an industry”.

Ironically, there is already another technology being developed that has the potential to disintermediate the digital platform, in the shape of “the blockchain (https://www.joc.com/technology/joc-blockchain-explainer-demystifying-buzz-shipping-industry_20180709.html).”

Blockchain solutions are based on distributed trust, shared ledger, and autonomous intelligent software agents (AISAs) and will enable the direct interaction with customers to the incumbent product and service providers in the shipping industry with the same level of transparency created by a platform. The difference being that the only parties benefitting from a transaction are the producer and the customer. No middlemen are required!

1) The blockchain characteristics that will change the battleground

Blockchain has three main characteristics that will change the momentum in favor of the incumbents:

Distributed trust — No one owns the trust building between consumers and producers and therefore there is no need for a profit-seeking trusted third party.

The programmable economy — Goodwin's primary point is that companies that control the interface between the consumer and the provider of the goods or services are in an incredibly valuable position. They carry none of the costs of providing the service but take a cut from the millions of customers that buy from them. The interface is where the profit is. This is also true with blockchain; however, in this case, the actual interactions will not happen via a third party's interface but by AISAs, which run on the blockchain and are authorized, controlled, and instructed by each party to autonomously negotiate on their behalf. The AISAs are what will change the shipping industry to a decentralized business model without a need for centralized digital platforms and represent the future of business. (See example below.)

Shared ledger — This gives a shared version of the truth among all actors in an ecosystem; the ownership of the data is not moved to an independent party but remains under control of the ecosystem and the owner of the data.

Example: Container rental negotiation — An ocean carrier (<https://www.joc.com/maritime-news/container-lines>) needs an empty container for a transport of wine from Durban in South Africa to Algeciras in Spain and asks its container rental AISA to rent a container. The AISA identifies the three best-located containers and contacts the AISA representing each container owner. The owner's AISA first autonomously scans the internet to understand potential mismatches in demand for delivery and supply (drivers, vehicles, etc.) and returns a quote to the shipping line's AISA. The AISAs continue contract negotiations based on the instructions they have been given, and after settlement, they also handle insurance and manage delivery logistics and other activities. They persist until they reach agreement on a smart contract on the blockchain.

2) Blockchain will disrupt digital platforms in four ways

Blockchain undercuts many of digital platforms' competitive advantages by reducing the need for intermediaries or brokers, who can exert control over the shape and operations of the shipping market.

Digital platforms will lose their revenue — Transactions on blockchain occur without an intermediary, therefore, there are no associated fees to the digital platform provider.

Digital platforms will lose their exclusive insight into customers' behavior — Customers store and control private data on the blockchain platform, wherefore they can participate in economic transactions or interactions without giving data away.

Digital platforms will lose their negotiation muscles — Digital platforms typically match suppliers and customers and use their big customer base to get good prices from suppliers. AISAs will be able to efficiently filter and match rates directly among each other.

Digital platforms will lose the control of the merchant's reputation — Similar to consumers' control of their data, merchants also have better control of their reputation and pricing strategies as they can directly transact with customers, suppliers, and partners, without the need for a digital platforms network.

3) The shipping industry should not be surprised — it should be prepared

Blockchain technology provides a base-level foundation — not a complete business solution. It is at the 'concrete foundation'-stage of a 30-story building, so a lot of work still has to be done.

Despite this, the shipping industry cannot sit on the sideline for three to five years waiting for the technology to mature. It has to engage now.

Blockchain-based collaboration in the shipping industry cannot come from a single company. Incumbent participants within the industry's ecosystem need to agree to collaborate using blockchain orchestrated by the incumbent members, many of which are fierce competitors. Before blockchain can reach its potential, business processes and standards must be resolved.

Industry collaboration must proactively drive disruption, innovation, and transformation by identifying and modeling areas where distributed AISAs can transact on behalf of people, businesses, and things.

The incumbent companies in the shipping industry cannot sit still; they have the technologies in their hands that can disrupt the digital platforms that are the biggest outside threat to their existence. It is important that the shipping industry collaborate and thereby regain control of the interactions with the customers of their product and services, all of which will result in lower costs, reduced transaction settlement times, and revenue growth.

Henrik Hvid Jensen is the innovator and architect of the Maersk Line/IBM blockchain initiative (https://www.joc.com/maritime-news/container-lines/ibm-maersk-blockchain-gains-steam-while-trying-allay-forwarder-fears_20180321.html) to digitalize global trade. Contact Jensen at henrikhvid@yahoo.dk (<mailto:henrikhvid@yahoo.dk%20>).

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