

Fixing the COVID-19 Crisis Response Supply Chain with Blockchain

by Shanzhai City, May 1, 2020

Executive Summary: Virtual “Procurement Deal Room”

The Covid19 global pandemic has caused an unprecedented breakdown in supply chain around the world – most critically impeding medical supplies to reach those in need. And worse, demand for a limited supply of covid19-related medical commodities have skyrocketed, providing high incentive for actors to exploit information asymmetry between supply and demand, depleting trust and effectively paralyzing the market. Infected patients are desperately waiting for ventilators to save their lives – not knowing that they’re actually waiting for trust barriers to be overcome between buyers and sellers. This lack of trust brings the market to a grinding halt.

Transactions of medical supplies can range in the hundreds-of-millions to billions of US Dollars, precariously raising the stakes in both financial and humanitarian terms. This results in the *Catch-22* market failure: sellers will not provide any information without solid proof of funds from the buyer (several governments have already defaulted their payments on massive shipments – creating lawsuits with governments that are now in threat of bankruptcy), and buyers will not provide any proof of funds until they can be guaranteed that they are not dealing with fraudulent suppliers.

Seemingly, the solution should be simple: both the buyer and seller show their cards at precisely the same time – everyone gets what they want. But the reality is that there are negative-incentives for both parties to not share before the other does. There needs to be a mechanism that allows both sides to share their respective information at the same time, releasing the bottleneck, so that the deal can actually move forward.

To solve this, we turn to blockchain’s ability to create conditional information disclosure, where sellers gain access to information from buyers, and likewise, buyers gain information from sellers, only when the proprietary information of both parties are submitted and verified by mutually appointed third parties. Technically, each party’s information will be encrypted and stored on the blockchain, and will only be decrypted when information from both sides are verified.

We do this by creating a virtual “**Procurement Deal Room**” where a buyer, a seller, or an intermediary may start their own private deal room to which they may invite discreet parties with whom they would like to accomplish a deal. Parties are able to set deal expectations (product types, volume, and price, shipping, etc); sellers provide **Proof of Inventory** (which may include certificates, sku, visual evidence, etc) and buyers provide **Proof of Funds** (bank statement, escrow, letters of credit, etc). The platform provides tools for both parties to validate authenticity of the evidence to agree upon, e.g. a certified fraud examiner can verify the authenticity of a letter of credit issued by a bank; a 3rd party field agent can send a photograph of inventories next to a piece of paper showing a secret code created by the buyer, verifying inventories in stocks. When the conditions of Proof of Inventory and Proof of Funds are met, a mutually agreeable deal can be reached. Overall, this solution will enhance intermediaries’ work in bringing information on the same table and building trust between sellers and buyers.

To build this potentially life saving tool, [Shanzhai City \(SZC\)](#) is joining with [ixo.world \(ixo\)](#) and [Good Karma Ventures \(gk\)](#) to build the Deal Room as part of our Covid19 crisis response initiative – a very basic but crucial trust solution to complete the supply chain that will allow Covid19 patients to receive the care they need to survive. Together, we will be developing the open source product on ixo’s *Internet of Impact*, to build the **Procurement Deal Room** and all the information verification tools required to support the claims made by both parties. But we cannot do this alone, and we invite you to join in our effort to quickly build this tool in whatever capacity you can commit, whether in funds (donations or grants) or in expertise (crisis response, supply chain, or coding) to support the project. We need your help! If you are interested to help bring this into reality, please contact us at g@shanzhai.city so that we can help overcome this pandemic as quickly as possible, and to build a more resilient crisis response supply chain for the world. [Click here to make a donation to support this project!](#)