Can Blockchain Technology Stem Government Corruption?

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OPINION

Marc Prosser is a freelance journalist who has been involved in many businesses as an executive, advisor and investor. In this article, he explores why blockchain technology could become the backbone of a new generation of government systems.

Blockchain technology is frequently touted as the answer to inefficiencies in the financial sector, but it also has the potential to make a wider societal impact if implemented by governments.

In May, it was revealed title software firm Epigraph and decentralized record keeping startup Factom were working with the Honduran government on a pilot project.

Blockchain technology is to be used to run the country's public land registry ledger, making it safer, nigh-on incorruptible and more transparent.

If successful, similar solutions can quickly be implemented in many other, similar, government ledgers and databases.

Abhi Dobhal, Factom's VP of business development, said blockchain has three "distinct advantages" in a government setting: "It has a distributed architecture, is immutable and transparent."

"These qualities allow blockchain-based apps and systems to combat fraud and corruption. At the same time, they are more efficient," he added.

The promise of blockchain

Current public land registry ledgers are, like many other public ledgers and databases, relatively easy to manipulate. It can be extremely hard to identify who makes specific changes to them and they are expensive and inefficient.

This applies not only to Honduras, which has a budget transparency described by Transparency International as 'scant to none', but to governmental systems all around the world.

Blockchain technology seems almost tailor-made to tackle such issues. The biggest advantage of blockchain in government settings is the simple fact it can lead to massive efficiencies.

Factom stays within the distributed network

Several companies and startups are working on solutions that can meet this potential demand.

Factom's system includes native time stamping and provides a distributed mechanism to lock in data, making data

verifiable and independently auditable.

Through employing the technology, Factom enables people and businesses to use a mathematically provable, third-party “notarization” service, which is immune to manipulation.

Factom uses the bitcoin blockchain to anchor entries so they are timestamped and proven. However, Factom has its own blockchain and network of federated servers where companies can create Factom chains to insert as many records as they want.

The advantage of this is that a land title registry, for example, can insert millions of records in one or more Factom chains at very low cost. When they are ready, they can then anchor all these records with one hash on the bitcoin blockchain.

The system utilises the strength and immutability of the blockchain to create a system that secures ledger data and renders it almost unhackable.

Dobhal said the bitcoin blockchain is secured by more computational power than all of Google's servers combined, stating that the decentralized hashing power of the network makes it "impossible to hack and change data". He added:

> *"Any data or transactions secured on this network are 'piggy backing' off the security of the bitcoin network. No amount of money or threats can undo what’s been done without leaving an auditable trail."*

Many uses on the horizon

Factom’s solution can be used to monitor document versions and prove data lineage.

Government transparency can be increased through the use of publishing cryptographic hashes during each step of a mission-critical business process. This provides an irrefutable “proof of existence” and establishes a standard of care.

“In large organizations and within governments, data transactions between disparate systems can contain incorrect or inappropriate data. Thus, initiating a reconciliation process and, subsequently, an audit review. As the number of systems multiplies that each have sway over some set of data, settlement becomes increasingly difficult. A shared ledger – or source of truth, if you will – could ensure that transactions and data shared with the core systems are consistent and error free,” Dobhal said.

Other uses of the system could include message authentication mechanisms to fight against message spoofing, anti-phishing for internal and external audiences, and controlling or monitoring document version of various documents or templates used internally and externally by large organizations.

The backbone of governments

Dobhal believes blockchain technology will evolve into a commonly used protocol to secure both data and transactions throughout society.

The strengths of the technology mean it will become the de facto standard for audit and compliance.

“I imagine a 'blockchain backbone' will be deployed across a lot of public and private systems to record and prove data as well as financial transactions," Dobhal said.

He added that the financial, supply chain, manufacturing and retail sectors could all benefit from the use of blockchain technology.

"Pretty much everywhere data sharing takes place, blockchain has the potential to make it more efficient, create faster settlements and thereby higher economic activity with less corruption and fraud. Apart from that, it will lead to us living in more honest and transparent societies,” he concluded.

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