

Blockchain Technology: The Promise and the Perils

Blockchain and the Law reviewed by Robert S. Want, Esq.

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Blockchain technology is commonly associated with Bitcoin and other cryptocurrencies, but blockchain is a new and rapidly developing technology that has the potential to bring dramatic change across the industrial spectrum. Further, it is creating new outlooks for the world's financial systems, eliminating the need for a central bank or human intermediaries, and using code to facilitate automated transactions.

Blockchain is a digital record of transactions that is stored on thousands or even millions of computers around the internet. Because blockchain's distributed ledger network involves no centralized control over data, it can't easily be tampered with; and once a record is posted, it can't readily be changed. Thus, the technology has important cybersecurity and data privacy implications.

Blockchain as a Disruptive Technology

An important new book (*Blockchain and the Law: The Rule of Code*, Cambridge: Harvard Univ. Press, April 2018) describes blockchain as the most disruptive technology since the internet, and raises essential questions as to whether and how courts and governments might deal with it. Should regulatory agencies, for example, seek to impose "net neutrality" style rules to promote fairness on blockchain networks? Should treasury departments run mining operations to influence cryptocurrencies?

These are some of the topics raised in *Blockchain and the Law* by its authors, Primavera de Filippi and Aaron Wright of Harvard and Cardozo School of Law, respectively. The authors explain how, in their view, this new technology will upend the current legal and social order.

Lex Cryptographica

Blockchain is still in its early days and *Blockchain and the Law* contains little in the way of discussion of statutory or case law, because there is a paucity of such legislation on the books thus far (though state legislators are starting to adopt blockchain-friendly laws) and blockchain disputes are only now just beginning to come before the courts.

The authors spend considerable time explaining just how blockchains work. Namely, they emphasize how blockchain software creates permanent ledgers that are distributed across multiple computers and are mostly beyond the reach of central authorities. This is what the authors call "*lex cryptographica*" or a system of rules where autonomous, decentralized code — rather than legislators or judges — determine the outcome of given interactions and disputes. (*continued on next page*)

Major Changes to the Law

This characteristic of blockchain – distributed ledgers -- has the potential to bring major changes to fields like corporate and insurance law, and many others as well. For instance, a blockchain can distribute dividends to shareholders according to pre-coded smart contracts. Or, following a natural disaster such as an earthquake, an insurer's blockchain can consult a third-party server to obtain seismic information and arrange payouts.

Similarly, the combination of smart contracts and internet-connected objects could let manufacturers lock down our everyday possessions with "Property Rights Management" code that can't be modified or overridden.

Downside of Blockchain

While *Blockchain and the Law* focuses on the enormous contributions blockchain technology can make across industries, the authors discuss the possibility of serious problems as well. The authors warn that the new technology could undermine governments and freedom of expression. For instance, the ability to raise money by selling tokens on a blockchain — so-called Initial Coin Offerings — has already let firms do end-runs around the Securities & Exchange Commission. As the authors note, blockchain could do to securities law what the internet has done to copyright law.

Further, in terms of freedom of expression, the authors point out that blockchain systems, because of the absence of central control, could be designed to operate in ways that do not account for existing laws and regulations, leading to an online environment where individuals engage in unrestricted communications, regardless of the societal costs.

And, the authors believe, the semi-anonymous nature of blockchains could facilitate all sorts of criminal behavior: A smart contract could promise a reward to hitmen, and pay out when news of the target's death appeared in the *New York Times*.

Government Oversight Is Necessary

Blockchain and the Law raises some frightening scenarios, but the authors reject the idea that blockchain technology is beyond the control of governments. Even though blockchain ledgers like Bitcoin are decentralized and run by many computers across many countries, the authors argue that state authorities can still target chokepoints in the technology's infrastructure to exert control. In the same way governments have targeted intermediaries like search engines and ISPs to tame unruly aspects of the internet, they could do the same to put pressure on blockchain networks.

While the decentralized nature of blockchains runs the risk of undermining the ability of governmental officials to supervise activities in banking, commerce, law, and other vital areas, the authors are optimistic that the new possibilities inherent in blockchains can be harnessed for the public good, but first must come new rules and new approaches to legal thinking. In other words, the law must catch up with the technology.