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Blockchain and Financial Services: Hype or Herald?

*Eric Sibbitt, Bimal Patel, and Jake Leraul**

Blockchain, the underlying technology of Bitcoin, is the subject of widespread, if not fully understood, hype as the next disruptive technology. The authors of this article discuss blockchain and the legal implications.

As 2016 closes, blockchain technology is moving out of whitepapers, the conference circuit, and the blogosphere and into the real-world economy. The coming months will see if this technology is mere hype or the herald of a new order.

Overstock.com, with its affiliate t0, announced on October 25 that their blockchain-based stock issuance and trading platform was to go live in December 2016. Having obtained SEC approval last December to sell stock via t0, Overstock.com will offer the opportunity to purchase Blockchain Series A Preferred stock that will be traded exclusively on the t0 platform. t0 (T zero) references the ability of blockchain technology to eliminate settlement periods represented by T +3 and T +2, where, according to the t0 splash page, "the trade is the settlement."

Visa announced on October 21, 2016, that it will pilot one of the first major B2B commercial products based on the technology—a challenge to the SWIFT messaging network for cross border payments. The product, developed in collaboration with San Francisco-based Chain, Inc., will allow for real-time high-value international transfers, minimizing risk, complexity, and intermediary cost.

On November 14, 2016, the U.S. Securities and Exchange Commission held a day-long public forum exploring the impact of innovation, including blockchain technology, on securities trading.

BACKGROUND

Blockchain, the underlying technology of Bitcoin, is the subject of widespread, if not fully understood, hype as the next disruptive technology. Bitcoin

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is a cryptocurrency that is based on a public ledger recording every transaction back to the origin of the ledger, and operating on a decentralized peer-to-peer network. Bitcoin is a digital currency, while blockchain is a method of structuring data that advances the way information is stored, transferred, and verified.

The excitement around blockchain technology centers on its transparency, security, immutability, speed, and potential cost savings.

- *Transparent*—The information stored on a blockchain can record and time-stamp every link in a chain-of-custody system, such as the collection and spending of a tax dollar or a food supply chain from grower to restaurant. By recording each step in a process, this technology could help root out corruption or secure a food supply.
- *Secure*—Information on the distributed ledger of a blockchain can be public and visible to all members on a network, who could determine by consensus if a newly recorded transaction is valid. Today, cyber-attacks target centralized data repositories leveraging human error. Some applications of blockchain can eliminate both weaknesses by storing information on a distributed network replicated on all member computers and authenticating by consensus of the network, as opposed to a trusted, but fallible central authority. Fraud becomes extraordinarily expensive when every transaction back to origination is publicly visible and agreed upon by a network.
- *Immutable*—Because the information on a blockchain can be simultaneously held on every computer in a network, only the elimination of every computer in that network would result in the loss of that information. Blockchain is the receipt that cannot be lost, stolen, or destroyed. However, there is some question as to how error correction would occur under such circumstances.
- *Fast*—Essential information is embedded in the blockchain. The lag between payment and settlement, be it a stock purchase or a credit card transaction, can be eliminated because a blockchain contains all necessary information for the transaction and is already validated. This is how ATB Financial and ReiseBank were able to reduce a days-long international payment transaction to less than a minute in June 2016.
- *Cheap*—By streamlining the flow and validation of information, blockchain can also eliminate layers of costly intermediaries.

It is too early to determine what impact this technology will have in coming years, but a recent report asserts that in 2017, financial institutions will spend over $1 billion on blockchain projects. The enthusiasm is not confined to financial services. Industry leaders in education, energy, entertainment, healthcare, hospitality, manufacturing, retail, real estate, and transportation—to name a few—are investing in research to understand how blockchain can improve their processes or disrupt their business models. Some investors think blockchain is being oversold and that the glut of research initiatives is driven by lack of understanding and fear of being left behind—even if no one knows where they are going. Bitcoin and other digital currencies are not investment-grade assets, they are nascent currencies with uncertain futures. As such, they do not attract the open attention and investment of industry leaders. Blockchain, on the other hand, is a method of storing, transferring, and verifying information and so corporate and academic research into blockchain has proliferated.

BLOCKCHAIN AND THE LAW

Part of this research involves understanding how blockchain will interact with the law. There is no global regulatory consensus around this emerging technology. Each of the industries listed above is subject to a unique regulatory regime, each of which can be highly complex. Up to now regulation has focused on digital currencies, such as Bitcoin, given that is where blockchain technology originated and is most established. Regulatory philosophies regarding Bitcoin and its analogs run the spectrum. The Secretary for Financial Services and the Treasury in Hong Kong determined that there is no need for regulation of digital currencies using blockchain. Meanwhile, the UK Treasury announced that it will apply anti-money laundering rules to digital currency exchanges, but with less rigorous standards. New York and North Carolina have recently passed statutes directed at regulating digital currencies.

Research into applications of blockchain raise more questions than they answer. For example, what are the legal hurdles to a blockchain medical record that follows the patient through their life, across medical providers, and across state or international borders? What are the legal ramifications of a political or shareholder voting system powered by blockchain? What will the law do if an individual's online reputation, and maybe their identity, is permanently and publicly recorded on a blockchain? While the applications are myriad, the regulators are finite and the experience of a trusted counselor will be invaluable to traversing this emerging regulatory topography.

- Google searches of "blockchain" increased 245 percent from October 2015 to October 2016.
- The SEC approved Overstock.com's plan to issue up to $500 million in shares using blockchain technology in December 2015.
- Also in December 2015, Nasdaq launched Nasdaq Linq, facilitating the first private securities placement using blockchain.

- The HEAL Alliance is collaborating with UBS, Microsoft, and Intel, to bring up to $10 billion in blockchain "smart bonds" to the market to fight HIV/AIDS.

THE REGULATION OF BLOCKCHAIN

Most regulation of blockchain technology has been focused on the currency applications of the technology. The anonymity of Bitcoin and other blockchain applications has raised issues with anti-money laundering and know-your-customer regulations. In May 2015, Ripple, a leading blockchain developer, was fined $700,000 by the Financial Crimes Enforcement Network ("FinCEN") for failing to implement adequate anti-money laundering protections. Regulatory attention has been sharpened by recent allegations that anonymous cryptocurrencies may be linked to terrorist and drug trafficking activities. Recently, however, there has been increasing interest from central banks, stock exchanges, and financial service providers in applications of the technology. A member of the Board of Governors of the Federal Reserve System, Lael Brainard, recently declared the technology as "the most significant development in many years," but added, "the industry may still be several years away from an application that is ready to be fully implemented." Meanwhile, others are forging ahead. The Russian central bank has begun testing distributed ledger transactions, while the People's Bank of China and the European Central Bank are tracking blockchain developments. Trial applications of the technology are occurring around the globe—from South Africa, Abu Dhabi to Estonia.

As the applications of blockchain continue to unfold, so will regulatory responses. However, companies investing in or developing blockchain technology can assume that the future regulatory landscape will be fragmented and complex.

Here are a few examples:

- On July 6, 2016, North Carolina updated its money transmission statute with the "North Carolina Money Transmitters Act" to provide for virtual currency.
- The SEC stated in an enforcement action that some Bitcoin mining contracts can be securities in *SEC v. Homero Joshua Garza, et al.*
- In August 2015, New York State began regulating virtual currency companies by requiring them to register for a BitLicense.
- FinCEN began "Bank Secrecy Act" audits in May 2015, on companies registered as digital currency money transmitters.
- The U.S. Commodities Futures Trading Commission asserted that Bitcoin is a commodity in September 2015.

- New Jersey introduced the "New Jersey Digital Currency Jobs Creation Act" that would require digital currency businesses to register with the state, but also provide tax breaks and other incentives.

These regulatory developments are all focused on blockchain currencies, but as the technology is implemented in other industries, expect regulatory reactions to follow.

THE NEXT EPISODE

Blockchain technology, implementation, and regulation are evolving on a daily basis. Stay tuned.