"Blockchain" Technology – What is it and How Can it Affect Your Business?

March 15, 2019

In every industry, business owners are searching for more efficient ways to run their business from both a cost and/or time perspective. Often, companies look to technology to cut out unnecessary waste in their value chain. Blockchain technology, an increasingly popular technology, has become an avenue for many businesses that are looking for a competitive edge. Like any emerging area of technology, a business should tread carefully until it understands its complexities and accompanying law and regulations.

There are numerous aspects of this technology that have legal implications. These will be explored in future posts, but some of these areas include:

- Jurisdiction—where can I bring a blockchain-related claim?
- Entity and Formation issues—decentralized autonomous organizations (DAOs)—potential new type of legal entity?
- Security and Confidentiality issues—will my business be liable for breach?
- Intellectual Property—can my business commercialize the underlying data set?
- Other Data Issues—how can I alter the underlying data set?

To fully understand the importance of this technology and its potential applicability to your industry, you may want to first consider a brief history of online technology. At the start, the internet was a place to store information in static form—meaning a user could maintain a website to share with others, but the website had little ability to accept data input from the user, let alone respond in real time to data. As our computer skills and internet speed have increased, the internet moved to a more dynamic state with the creation of web applications. Web applications allow for much more interactivity due to the web application's ability to receive and respond to inputs in real time. Think of social media platforms as a good example. Though this type of interactivity quickly allowed for a much more dynamic experience, humans are beginning to expect to do even more with data and eliminate intermediaries altogether. In came "blockchain," and the emerging prominence of digital asset ownership.

Blockchain is a term for a shared digital ledger. A medical chart is an example of a ledger. In other words, blockchain is simply a list of transactions stored in a decentralized place. How does one access a ledger that isn't stored in a central location? To access the ledger, blockchain technology relies on cryptography—a series of special keys and signatures—used for accessing the database, but also to create and govern the rules of the ledger. Each 'block' is essentially a

contribution of data, housing: (1) information essentially pointing to the previous 'block'; (2) a summary of the included transaction; (3) a time stamp; and (4) proof of the algorithmic work that went into creating the secure block. This system is what creates the most popular and useful aspect of blockchain technology: decentralization.

To emphasize the value of this attribute, particularly when asked about Bitcoin, the most popular application of blockchain technology, a useful and fun comparison is the Moirai in Greek mythology. The Moirai in Greek mythology are a famous group of three quasi-deities charged with spinning the immutable thread of destiny. Regardless of what happened in the outside world, whether attempted influence came from a human or immortal, the Moirai could not change fate. One can only imagine the reliability, fairness, and insulation from fraud/deceit that came with such an attribute. Like the Moirai, a shared digital ledger cannot be altered by one individual or entity—regardless of the power it holds. Instead, each user has a unique digital key to the ledger and subscribes to whatever rules govern the ledger. Here, lies blockchain's potential to eliminate intermediaries.

A blockchain can be either private or public depending on who is allowed to contribute data. Private and public blockchain technologies offer new opportunities for your business to both grow and save money. To take advantage of blockchain technology though, your business needs to be aware of and, more importantly, needs to understand its equally novel legal issues. These new legal challenges will be discussed more in depth in future posts.

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(1) Of course, this is subject to our current computing power limitations on planet Earth. As many physicists have warned, a breakthrough in quantum computing could alter this statement, but that is outside the scope of this article.