



BLOCKCHAIN TECHNOLOGY AND THE ACCELERATION OF CHANGE

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Digital currencies such as bitcoin and ethereum dominate the headlines of web pages and financial news reporting. While the jury is still out regarding whether these “currencies” are simply a new form of speculation or a contemporary form of legal tender, what remains increasingly evident is the fact that the technology underlying these cryptocurrencies – blockchain – has the potential to fundamentally transform how transactions are negotiated, completed, and recorded. Depending upon your point of

view, the term “blockchain” can be either misunderstood or overhyped. What is clear, however, is that blockchain could change the way business is conducted across a wide spectrum of industries. As a result, traditional legal protocols will also undoubtedly evolve to keep pace. Whether you are technologically savvy or still relying on a flip phone or land line, you should expect that blockchain will accelerate change.

In simple terms, a blockchain is a digital ledger distributed across a network of inde-

pendent computers in which each participant computer in the network electronically records the same information relating to a particular transaction. Since records included in a blockchain are updated by each computer in the network and protected by cryptography, they are insulated from unwanted editing and deletion. The combination of record-keeping capabilities with technology that protects the integrity of the information sets blockchain technology apart from the current system of documenting transactions.

Perhaps the most innovative aspect of blockchain technology is its inherent durability and robustness. Because blockchains can store blocks of information that are identical across the network, the blockchain cannot be controlled by any single person or entity and has no single point of failure. Most importantly, blockchain eliminates the need for a vested party to facilitate and verify individual transactions.

Blockchain technology is a combination of well-established applications integrated in a new way. Specifically, it relies on the internet, private key cryptography, and a protocol governing incentivization. The aggregation of these three technologies has the potential to revolutionize the way in which individuals conduct business. For example, blockchain technology enables an individual to transfer a unique piece of digital property to another user in a manner guaranteed to be safe and secure. The end result of such a transfer is that all parties can be confident in the legitimacy of the transaction.

While seemingly simple and straightforward, the ramifications of this new mode of transactions are significant. Instead of merely transferring information in an organized, although seemingly ad hoc fashion, blockchain technology provides a transactional layer with an identifiable value component to the internet and all of the related commercial applications that can be transacted. Blockchain effectively eliminates “intermediaries” in commercial transactions by facilitating the direct transfer of assets in a secure, traceable, and recordable manner. This technology has the potential to reduce the expense and increase the speed of commercial transactions across a variety of industries. In a world that is increasingly dependent on speed and efficiency, blockchain technology will serve to enhance and accelerate these criteria.

Blockchain also presents unique advantages for both public users, such as governmental instrumentalities, and private users, such as financial institutions, in that blockchain technology allows for an integrated system of record keeping. Blockchain technology provides a secure platform for users to concentrate on managing a system of records. The fundamental building blocks to the system of records are the digital nature of the records permitted by cryptographic keys, and the opportunity for authentication through digital tokens. In serving as the bridge between the physical and digital worlds, tokens used in blockchain technology have applications in supply chain management, financial services, intellectual property, anti-counterfeiting, and fraud detection. Experts believe

that this technology will be transformative in the area of regulatory compliance. The building blocks of blockchain technology – a digital identity, a system of records, a secure record – can be implemented to serve as a platform across industries including governments, banks and insurance companies, supply chain firms, logistics and transportation, and global shipping.

In a world where data breaches and hacking are seemingly an everyday occurrence, blockchain technology offers the potential to establish and maintain an automatic and service record of information, as well as control points to access and review such information. Once perfected and commercially implemented, blockchain technology could substantially improve data security. For this reason, financial institutions, including banks and brokerage firms, as well as the medical industry, are working to develop and implement blockchain technologies to protect sensitive client data and information.

Financial services firms are also collaborating on blockchain applications that will undoubtedly modernize the methodologies for cross-border payments, insurance, trade finance, and security clearance procedures. Blockchain is also being incorporated into the shipping and logistics industry to allow for seamless and secure tracking of intermodal transportation of goods resulting in increased efficiency and lower costs.

Blockchain technology promises to have direct implications in the legal profession as well, specifically in the areas of “smart” contracting and record keeping. In addition, organizations are increasingly experimenting with purchase orders that, to some degree, are “self-executing.” Blockchain technology has the potential to streamline the process for negotiation and implementation of so-called “smart” contracts, especially where escrowed funds need to be transferred as part of the underlying contractual commitment between the parties. The fundamental precepts of contract law – offer, acceptance, and consideration – can be effectuated just as easily through a blockchain application. Moreover, because of the advantages of blockchain technology, data can be disclosed, secured, and recorded in a robust manner.

Similarly, in the realm of real estate law, analysts and experts are increasingly looking at the potential of blockchain technology to update and revolutionize the land registry system. Each parcel of property could have a unique digital code and be linked to a smart key that only the owner of the property would know, thereby reducing

property fraud and streamlining conveyances. The use of a blockchain to track the transfer and ownership of real property is a natural evolution of the common law/conveyancing ceremony used to convey title to real estate, i.e., livery of seisen – or quite literally, the physical exchange of a piece of dirt – to confirm and record a real property title transfer. Blockchain technology also has implications for record keeping in the areas of stock ledgers and the transfer of securities.

Against this backdrop, state legislatures in the United States are looking at adopting statutes to govern the use and enforceability of blockchain technology. For example, Delaware recently authorized corporations to maintain corporate shareholder lists on a blockchain. In addition, both Arizona and Nevada have passed laws clarifying the use and status of smart contracts and blockchain under state law. This is a trend that will likely continue to evolve and expand as the commercial applications of blockchain continue to be implemented across industries.

The commercial application of blockchain technology has the potential to reinvent how commercial transactions are negotiated, completed, and recorded. The law and legal profession will be critical stakeholders in this process as required changes to federal and state law are evaluated and implemented.



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