

## Smart Contracts

**Blockchain and smart contracts: Hype or opportunity?**

By Omar Ha-Redeye and Dan McAran



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(May 29, 2019, 8:03 AM EDT) -- With all the current volatility in cryptocurrencies, it's easy to dismiss them as a passing fad. However, the technology used does have some long-term utility and will likely change many aspects of modern commerce and potentially the practice of law.

Despite structural issues that limit the scalability of cryptocurrencies, and therefore their use as a form of exchange, the use of smart contracts based on blockchain technology offers greater possibilities.

Nick Szabo, a computer scientist and lawyer, coined the term "smart contract" over 20 years ago. He described it as the use of contractual clauses embedded in hardware and software in such a way that it would make a breach prohibitively expensive. Following the 2014 SCC case in *Bhasin v. Hrynew*, [2014] SCC 71, there is a renewed interest in ensuring good faith performance of contracts, and blockchain technology may be able to facilitate these goals.

"Blockchain had its beginnings in the world of technologists but has quickly expanded to include applications in a wide variety of industries," said Addison Cameron Huff, a blockchain lawyer in Toronto. "Securities services firms like Broadridge have invested millions in the space, and Grain Discovery is applying this technology to agriculture."

Blockchain allows for the independent verification of preset contractual conditions that allow for a specific occurrence, such as payment to occur. One popular cryptocurrency, Ethereum, specifically allows for the inclusion of these conditions into the protocol. In this way, digital securitization of an instrument can be achieved through tokenization, the substitution of a sensitive data element with a non-sensitive equivalent.

The co-ordination of various actions by different parties in a real estate transaction could be facilitated by blockchain technology. As an example, a title insurer could make available the title insurance policy number through a smart contact, providing this information to all required parties, triggering additional contractual processes. A similar process could be integrated in a smart contract in regards to the mortgage approval

process.

Much of the conveyancing process could be constructed through blockchain between the purchaser's lawyer, the seller's lawyer, the title insurer, the mortgagor, and the bank, increasing transparency, trust, and efficiency in the transaction.

A smart home powered by the Internet of Things (IoT) could potentially provide a new homeowner with access through a digital security system, potentially denying access in the possibility of a mortgage default and certain conditions being met. Similar technology might allow for enforcement of a finance contract for a vehicle, where a borrower defaulting on digital payment could be locked out through IoT. The litigation costs saved by blockchain could increase potential capital available to the public by creditors who have greater security and confidence in repayment.



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Restructuring litigation processes through automatic time stamping of digital documents could one day allow for the automation of court processes. The time and expense spent on service of documents and affidavits of service could be substituted through digital security. The technology provides greater assurances of conditions being met than any sworn statement made by far more fallible human beings.

"There are applications and opportunities far beyond the original applications to the payment space," said Huff, who is the former president of a leading blockchain company in Canada. "The legal industry is not a trailblazer in tech, and isn't in blockchain either, but as it catches on with clients there's a growing appreciation for the opportunities to improve legal service delivery. And in the short term, there's significant demand for lawyers who understand the technical side of this rapidly growing area."

Several companies are already providing offerings for the legal industry. OpenLaw provides a free legal agreement repository of smart contract template legal agreements, which lawyers can execute through blockchain. Integra Ledger offers an enterprise blockchain using open source technology to confirm contract authenticity, status, security, privacy, and data flows. The goals of many of these companies is to provide greater contractual confidence to business parties, with far more efficient use of legal fees.

"As more smart contract platforms come online and become used by business, lawyers will be expected to understand what's happening," said Huff.

Although cryptocurrencies such as Bitcoin have structural limits that may never allow it to become a broadly based method of economic exchange and settlement, smart contracts derived from the blockchain protocol may allow for better digital contracts. Because Szabo always envisioned smart contracts as being independent of any legal jurisdiction, it's possible that principles of contract law will be developed outside of legislative bodies and the courts.

The greatest challenge with the development of blockchain technology is the lack of standardization in the industry, which has necessitated incremental development to minimize risk. The most successful models are based on architecture and systems of successful companies such as Amazon and Netflix.

This modest pace of development is an opportunity for interested lawyers to study and learn about the technology as it grows. Otherwise, a new chapter of international commercial law will eventually be created and sustained entirely by the technology that created it, unless domestic legal systems grapple with how to deal with the equitable issues that may emerge from this type of automatic enforcement.

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