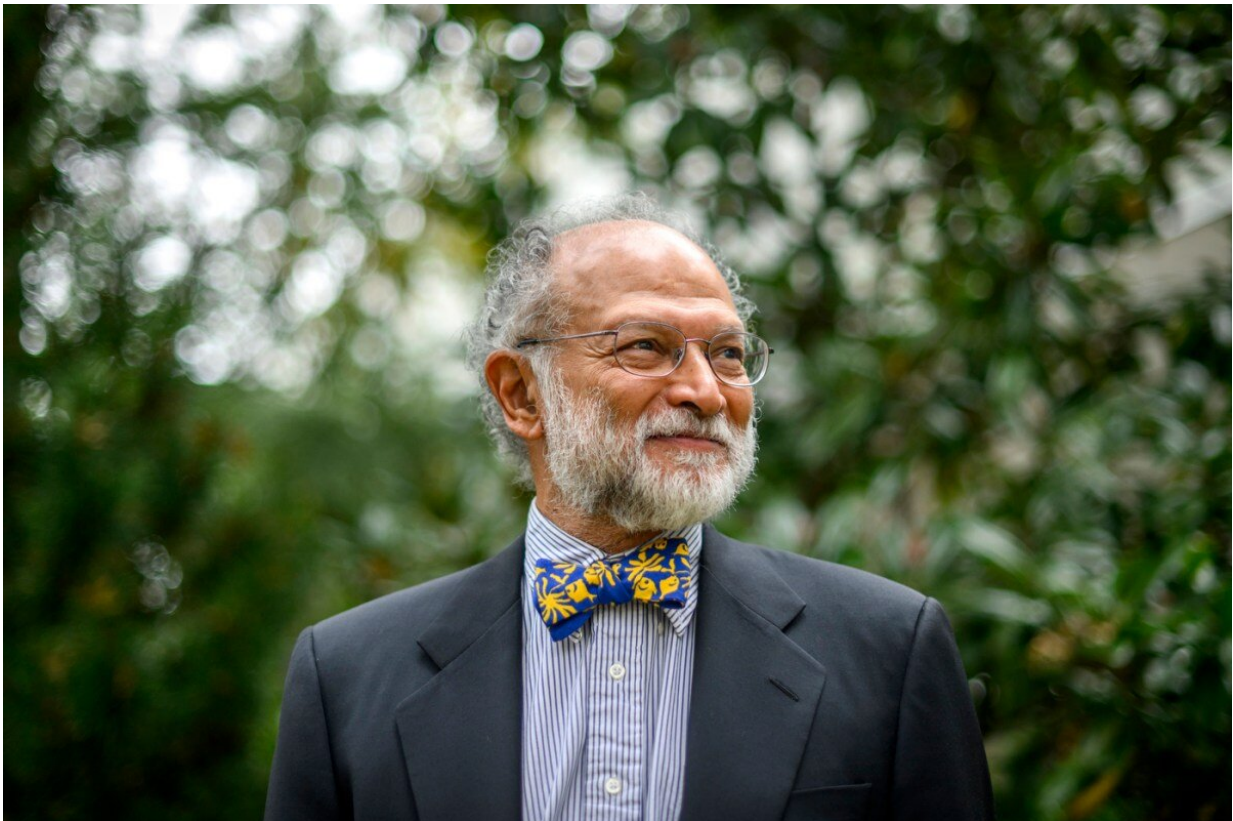


Professor explains how blockchain can be a creative disruptor of business

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Northeastern professor of international business and strategy Ravi Sarathy.
Credit: Matthew MODOONO/Northeastern University.

Blockchain—a highly encrypted method of transmitting data across a network—first came to public consciousness with the rise of

cryptocurrencies like Bitcoin and Ethereum, but major businesses have been slow to adopt the technology.

Now, a new book by Northeastern professor of international business and strategy Ravi Sarathy, "Enterprise Strategy for Blockchain: Lessons in Disruption from Fintech, Supply Chains, and Consumer Industries," explores the whys behind this reticence and offers solutions to the problems blockchain still presents.

Blockchain relies on a distributed network of computers to provide "a very high standard of encryption," Sarathy says, in which member computers within the network collectively validate [transactions](#).

When a transaction is certified, it gets added to a "block," each of which contains information about transactions in the previous blocks. As these blocks stack up, they form a chain, an "immutable" digital record, or ledger, of every transaction that's ever occurred along that blockchain, Sarathy says. "You can go all the way back to 2009, when the very first Bitcoin transaction happened, and literally trace... every transaction in every Bitcoin that's ever been created."

Thanks to these collective validations, he says, blockchains are very secure. "The Bitcoin network itself has never been hacked. Wallets have been hacked, where people store Bitcoin, [and] exchanges have been hacked, which store Bitcoin on behalf of the client," but the Bitcoin blockchain itself has remained secure.

According to Sarathy, these secure, distributed digital records represent the next great disruptor to traditional business. Disruption is important in all kinds of industry, Sarathy says, because it represents a force of "creative destruction."

Describing what creative destruction looks like, Sarathy cites the rise of

digital photography over the past 20 to 30 years. On one hand, [digital photography](#) all but exterminated the big business of chemical-film photography; on the other hand, the disruption of that industry allowed for the proliferation of photography into the hands of anyone who owns a smartphone, and a whole new marketplace for both digital photographs and new camera equipment.

So how might blockchain unseat heretofore standard ways of doing business?

Essentially, Sarathy says, blockchain promises to simplify some of businesses' most common day-to-day activities, from validating the authenticity of complex exchanges to removing "middlemen" from web-based transactions.

Traditionally, intermediaries like banks provide assurance between two parties who exchange one thing for another. After providing a product, a seller might wonder, "How am I going to make sure I get paid? The bank stands for that kind of counterparty trust." Sarathy says, "but the bank charges a fee."

With a blockchain solution, "a decentralized network, users can directly transact with one another without the need for an intermediary."

Take supply chains, a field thrown into sharp relief by the COVID-19 pandemic. Traditional supply chains relied on "bills of lading," Sarathy notes, to provide "both proof that the goods were on the ship, but also title to those goods. And you can trade [bills of lading] between parties."

But, Sarathy is quick to note, these are all paper documents, subject to damage, loss, theft, forgery and simple mistakes.

Blockchain technology, however, provides a means of instantaneous

exchange, not just of data, but of value itself.

"Enterprise Strategy for Blockchain" also addresses the factors that have made companies hesitant to adopt the technology. For one, because blockchain relies on a large network of computers, the validation process can take time.

Further, because blockchain is so computing intensive, it requires high levels of electrical power, a fact often raised by climate change activists. But Sarathy notes that Ethereum—a cryptocurrency similar to Bitcoin—has recently adopted new protocols that both make the blockchain more energy efficient and faster.

The idea of [disruption](#) itself can come across as a negative, and one of the hurdles companies will have to overcome is an organizational reluctance to change, Sarathy says. Large businesses are hierarchical, and incorporating decentralized processes can seem too large an ask.

But, Sarathy says, the promises of [blockchain](#) technology, like "financial inclusion," more secure voting technologies and instantaneous transfer of value, outweigh the obstacles to its adoption.

Businesses are "part of an ecosystem." Sarathy says. "Good strategy sometimes requires companies to collaborate across ecosystems."

More information: ["Enterprise Strategy for Blockchain"](#) was published by MIT Press on Oct. 11.

Provided by Northeastern University

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