

# Blockchains can change the way we collaborate

Blockchains are disrupting the business world, and their impact on the global economy will only continue to grow over the next decade, according to [a recent study by PwC](#). While blockchains have previously been used mainly in the financial sector, they are becoming more and more widespread across all kinds of industries. But what changes do they bring to the table? What is it about blockchains that is new and different? In [our recent research article](#), we argue that blockchains may help address key challenges inherent in interpersonal and interorganisational collaborations.

Successful collaborations often do not come naturally. Partners may lack commitment, or they may even lie, steal, or cheat. For example, people may deliberately provide twisted information to gain an advantage, and it can be costly for their counterpart to corroborate the truth. Moreover, even if partners are completely honest, it is still often challenging to communicate and share information in a clear way to coordinate actions with one another.

Traditionally, people use legal contracts with their collaborating parties to address these challenges of cooperation and coordination. When disputes occur, they rely on the court to settle the dispute and enforce the agreement. They also rely on the contract as a mutual reference point to guide their actions. An alternative to legal contracts are social mechanisms. Business actors are involved in longer-term social relations, allowing them to develop expectations about their partners' trustworthiness on the basis of their past interactions. They can also use social sanctions, such as the threat of terminating the collaboration and all future interactions, to steer their partners' behaviours.

Adding to these traditional contractual and social collaboration mechanisms, we contend that blockchains provide a different approach. Rather than invoking the legal system or social relations, they work through codes and algorithms to enforce agreements and facilitate coordination.

Blockchains can be simply understood as digital ledgers where several entities have joint control over the shared information. The technical design of blockchains makes it virtually impossible for any single party to unilaterally change what has been recorded. In this way, blockchains greatly enhance the security, credibility, and auditability for every piece of information that has been verified and recorded. Blockchains also enable self-enforcement of the agreement through a set of programmed codes that can automatically run under pre-defined conditions.

Consider the example of [MediLedger](#), a blockchain in the pharmaceutical industry. MediLedger is a platform aiming to provide reassurance that prescription medicine meets the regulations laid out in the Drug Supply Chain Security Act. It keeps immutable transaction records and provides certification of the authenticity of raw materials and drugs to fight against counterfeits.

In addition to ensuring security, blockchains also enhance the speed and lower the costs of information sharing and communication. Blockchains maintain a single version of data nearly in real time, which eliminates the need to reconcile the recording systems from different entities. In this sense, transparency and traceability of information is greatly increased. For example, with [the Food Trust blockchain](#), people can now trace the origin of the produce in a supply chain in seconds, which previously may have taken days or even weeks. Apart from business actors, [governmental agencies](#) are also actively seeking blockchain-based solutions to maintain transparency and build trustworthiness. For instance, [the U.S. General Services Administration](#) launched a blockchain to manage federal procurements with its vendors.

Although blockchains offer many advantages, they are not without limitations. Like any other solution, blockchains are appropriate only for certain types of collaborations. In our research, we propose that blockchains are particularly effective for organising collaborations whose conditions can be formalised and made explicit. In other words, for blockchains to be useful, the agreement should be amenable to be written in clear computer language and the performance outcomes should be verifiable. In contrast, when collaborations have a strong tacit components, with many aspects of the collaboration escaping clear specification, and outcomes are difficult to verify, blockchains can likely only make limited contributions.

Given the various pros and cons of blockchains, managers should consider the joint use of several tools to manage their collaborations. Indeed, a combination of different approaches can oftentimes generate substantial complementary advantages. For instance, while blockchains may be used to facilitate certain processes (such as payment), legal contracts allow for the richness of natural language to be interpreted by humans.

Overall, we see blockchains as an important new approach to organise collaborations, and their importance will only continue to grow over the years to come. Overlooking the disruptive effect of blockchains on the way collaborations are structured and implemented, managers may run the risk of falling behind others in today's competitive economic environment.



Notes:

- This blog post is based on [Blockchain Governance—A New Way of Organizing Collaborations?](#) forthcoming in *Organization Science*, and the working paper [Organizational Trust in the Age of the Fourth Industrial Revolution](#).
- The post expresses the views of its author(s), not the position of LSE Business Review or the London School of Economics.
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