Wenqian Wang, Fabrice Lumineau, and Oliver Schilke. Blockchains: Strategic Implications for Contracting, Trust, and Organizational Design. Cambridge, UK: Cambridge University Press, 2022.

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The history of capitalism indicates that new technologies take time to spread and create value. For example, Great Britain's historical time series show that steam power started to influence productivity growth only in 1830, which was 30 years after the expiration of Watt's first steam engine patent (Crafts 2004). Moreover, decades of organizational and sociological research show that to create impact, new technologies need not only to mature but also to integrate with organizations, institutions, and society. These considerations are crucial for examining the digital technologies that have emerged over the past 15 years, as their remarkable potential has attracted the attention of businesses and raised new, unresolved governance, legal, and moral issues (Economist 2023). Blockchains is a necessary book to help us better understand blockchain, which, as one of the most discussed digital technologies, is known for its potential to innovate financial services and sustain illegal online marketplaces. In fact, blockchain is a flexible technology with a broad range of applications—a technology that can also become a valuable collaborative tool, Wang and his co-authors point out.

The book's subtitle, Strategic Implications for Contracting, Trust, and Organizational Design, delimits the scope of the work and suggests its various theoretical perspectives. The first part of the book introduces its objectives (Chapter 1), clarifies the semantic space regarding the concept of blockchain (Chapter 2), and offers a comprehensive review of current managerial research on the subject (Chapter 3). The second part has a more generative imprint. At its heart is an ambitious attempt to articulate the role of blockchains concerning three macro-issues: the organizational economic analysis of contracts, the sociological approach to the study of trust, and the organizational design of collaboration (Chapter 4). Then, the book summarizes critical factors that could limit the spread of blockchains (Chapter 5) and concludes by emphasizing blockchains' practical and theoretical relevance (Chapter 6).

One of the book's main merits is to clarify the concept of blockchain. The authors present multiple definitions in the literature and propose their own: "blockchains are cryptography-based, decentralized and distributed systems, consisting of an ongoing list of digital records that are shared within a peer-to-peer network" (p. 4). Although some readers may find the definition excessively technical, it stresses that while all blockchains share the same technological nucleus, the association between the term "blockchain" and specific application domains (e.g., financial transactions, logistics, intellectual property management) is vacuous. Second, the authors identify important attributes underlying the concept of blockchain, such as the "voting rule among nodes and [omitted] how the decisions to verify and add information to the blockchain are made" (p. 8), and they argue that these attributes can vary between concrete cases of blockchains. This point invites further analysis and research about the types or classes of blockchains and the categorization processes of blockchains that occur in markets and fields.

A second merit of the book is its creation of a multidisciplinary analytical framework, which allows readers to appreciate the phenomenon of blockchains from different but complementary vantage points. The usefulness of the proposed framework is evident in Chapter 6, in which the authors present three sets of research questions, concerning blockchain-enabled governance of collaboration, trust aspects, and organizational design, that constitute an integrative strategic research agenda.

The book's discussion of blockchains' benefits, limitations, and risks is also useful. This approach emphasizes identifying possible tensions of theoretical interest and practical relevance that affect blockchains. The authors cite two examples. The first concerns demands emanating from different stakeholder groups: blockchain users may want to continue to benefit from a system that operates their transactions transparently and quasi-anonymously; at the same time, policymakers and regulators aim to prevent blockchains from supporting the organization of illicit businesses. The most extreme case is darknet markets, whose massive expansion has been made possible by adopting blockchains as payment systems to conduct transactions involving products that would otherwise be subject to regulation or illegal (Duxbury and Haynie 2018). Another example concerns advances in computational capacity. New processing units like tensor and language processing units and quantum computers may attenuate the environmental impact of blockchains, which rely on energy-hungry computation tasks to register and verify information in the system. However, these technological advances may break the algorithms used for digital signature and information encryption, thus threatening the security of blockchains if not their very existence (Allende et al. 2023).

This book is not only informative but offers much food for thought. The chapters present many questions about the impact of blockchains on the organization and functioning of collaborative processes. The authors' intention to create a "thought-provoking examination of contemporary discussions about blockchains" (p. 58) manifests in questions such as, "How can we theoretically depict and empirically measure the degree of control and coordination in blockchain governance?"; "What types of transactions can be more efficiently governed through blockchains?"; "How does blockchain governance interact with other forms of governance?";

"What performance indicators should be used to measure the efficiency and effectiveness of blockchain governance?" (p. 51). In this sense, the book suggests taking a step back from the imminent question of whether to adopt blockchains in order to consider in broader terms where, how, and to what extent to include blockchain-powered tools within existing organizational structures and procedures.

Given that the book addresses many theoretical issues, researchers and lecturers may find it more valuable than entrepreneurs and technologists might. As Wang and colleagues write in the introduction, they aim to "highlight how blockchains can address a range of organizational issues related to both cooperation and coordination" (p. 2). Although Chapter 6 provides some managerial elements, the book offers little for practitioners to understand when to use blockchain exclusively or combine it with other collaborative tools or how to implement blockchain-based organizational initiatives.

Emphasizing the tension between the urgencies of analyzing blockchains and of creating a robust body of knowledge that informs research and practice, the authors ask, what are the priority issues regarding blockchains as a collaborative tool? This book synthesizes the extant research on blockchains, proposes an analytical framework, identifies a future research agenda, and calls for further empirical research to support organizational design and strategic decisions regarding blockchains.

Blockchains fills a gap in the literature by providing a comprehensive treatment of blockchains as collaborative tools. Wang, Lumineau, and Schilke have helped to grant intellectual territory to blockchains. The book can be an authoritative resource for future research, particularly for social scientists who are interested in studying new digital technologies but who may be intimidated by their complexity.

References

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