

EDITORIAL

Charting the Future of Blockchain in Operations and Supply Chain Management: Opportunities and Challenges

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Blockchain technology, underpinned by distributed ledger systems, has evolved from a novel innovation into a transformative and integral component of enterprise digitization across industries. Since its inception with Bitcoin in 2008, blockchain has expanded beyond cryptocurrencies, with applications in operations management (OM) growing rapidly across industries. Despite its promise, however, the integration of blockchain into OM is not without challenges. Scholars have identified significant barriers to successful implementation, ranging from technological and organizational hurdles to regulatory complexities (Chod et al. 2020; Hanisch et al. 2025; Lin et al. 2022; Lumineau et al. 2021; Sodhi et al. 2022; Zhan et al. 2025).

This Special Issue on *Operational Perspectives on Blockchain Applications* presents cutting-edge research that explores blockchain's opportunities, challenges, and implications for OM. The articles in this issue provide a diverse and empirically grounded examination of blockchain applications across industries and operational contexts. We will discuss each contribution in turn. However, prior to that, it is useful to dig into the operational

nuances, opportunities, and challenges presented by the focal context. Our editorial discussion opens accordingly, outlining the technological, organizational, and regulatory challenges while identifying the conditions under which blockchain can deliver value. We also touch on the broader societal implications of blockchain, addressing its political, economic, social, environmental, and legal dimensions before describing how each of the papers in the special issue contributes to understanding, critical to operations management. Finally, our editorial discussion concludes by charting a research agenda, highlighting key questions and interdisciplinary approaches needed to advance both theoretical and practical understanding of blockchain in OM.

1 | Value and Challenges in Blockchain

To understand how permissionless blockchains work from an OM perspective, one needs to take a process-centric view (Bendoly and Oliva 2024). This is especially important for an emerging technology that is technically complex and whose

process average consumers (and thus researchers outside the blockchain domain) rarely engage with. As Browning (2020, 496) states:

Working processes need to be discovered, described, and understood before they can be improved, controlled, and prescribed. Quite a bit of work is needed merely to describe some of the important activities, practices, processes, and operating systems utilized in diverse organizations. Only then can we begin to sink our teeth into developing better theories about how best to manage them.

For this purpose, Ilk et al. (2021) conceptualize the Bitcoin blockchain (and other mainstream permissionless blockchains) as a two-side dataspace market, where users demand a certain amount of dataspace in a future block to store their transactions, and miners compete to produce such dataspace by creating new blocks. To facilitate this market in a decentralized manner—that is, with no centralized party absorbing demand and controlling supply—users attach a transaction fee (which is higher for users with a higher waiting cost) that becomes one of the miners' sources of revenue. With the increasing popularity¹ of Bitcoin and Ethereum, demand frequently exceeds supply, creating contemporaneous system congestions. The congested service pricing literature, which dates back to the management of highway tolls (Naor 1969) and electric power supply (Viswanathan and Edison 1989) and extends in modern days to subscription pricing of cloud services (Cachon and Feldman 2011) and surge pricing of gig economy platforms (Cachon et al. 2017), yields a generalized conclusion. Specifically, “offering multiple service grades that each render a different delay distribution at a different price” improves both perceived customer satisfaction and service provider profit (Van Mieghem 2000, 1249). Permissionless blockchains, as congested service systems, are no exception to this rule. Although no centralized party (i.e., firm or platform) sets the priority price menu, users bid transaction fees to differentiate the service grades (i.e., transaction confirmation speeds) they desire. More details on the process view of permissionless blockchain transactions can be found in Shang et al. (2023, 106–108).

Although early Ethereum-based smart contract applications were rarely associated with OM or any other real-world assets, their ingenuity inspired a whole class of permissioned blockchains (also referred to as private or consortium chains), in which only an authorized group of users can participate, setting the stage for enterprise applications (Fan et al. 2024; Pun et al. 2021). While blockchain offers considerable potential, its successful implementation is hindered by technological, organizational, and regulatory barriers. Below, we highlight seven of the most critical challenges to blockchain implementation discussed in the press and in the literature.

Low throughput and high transaction fees. The primary reason that mainstream cryptocurrency systems cannot be used for day-to-day payment is their throughput limits: 3 per second for Bitcoin and 13 per second for Ethereum.² This limitation is in sharp contrast with the processing capacity of established

financial systems like Visa, which is capable of handling approximately 5000 transactions per second (Malik et al. 2022). Such scalability limits are largely inevitable for permissionless blockchains that aim to ensure decentralization and security, widely known as the “blockchain trilemma” in the industry.³

The throughput limit results in a frequently congested service system with transaction fee spikes (Ilk et al. 2021; Shang et al. 2023), which has been 2.87 USD per transaction for Bitcoin in 2020. This hinders the economic viability of small value transactions even in situations where network latency is less of a concern (e.g., users with high waiting tolerance). Meanwhile, permissioned blockchains typically do not face throughput limits, as dataspace suppliers are usually the blockchain owners and hence do not have to be incentivized via instruments such as transaction fees. However, due to the lack of public visibility and the corporate ownership of these blockchains, this solution is unlikely to be suitable for all applications.

Algorithm fairness. Advocates of permissionless blockchains often highlight their morally significant goal of improving access to money transfer services for unbanked and underbanked populations (Andreasson 2022). Importantly, much of the wealth on permissionless blockchains is created through mining/staking revenue—that is, through participation on the supply side—and small users typically cannot meet the entrance threshold for this revenue stream. Further, while large senders can develop sophisticated algorithms to estimate the desired transaction fee more accurately, small senders typically rely on the free-to-use fee recommendation tools crypto wallets provide. Encouragingly, this disparity is somewhat alleviated by new transaction fee mechanism designs (Zhao, Wu, et al. 2025).

Decentralization–efficiency tradeoff. The management of a cryptocurrency system is typically maintained by a decentralized autonomous organization (DAO). A DAO's daily operational tasks include the development of, voting on, and execution of crowdsourced proposals (Zhao et al. 2022). Yet, not all project decisions are strategic enough to warrant crowdsourcing of ideas from stakeholders, and the inefficiency of doing so affects operational agility and the quality of service provided by the DAO. Further, while decentralization can improve service levels for users and providers, it reduces profits for founders, reflecting a broader tension between decentralization and efficiency (Gan et al. 2023). Governance frictions are compounded by token-weighted voting, where those holding more tokens have greater influence, creating a mismatch between token ownership and subject expertise (Benhaim et al. 2023, 2025; Tsoukalas and Falk 2020).

Cross-chain interoperability. A successful blockchain application often requires coordination of activities across multiple chains. This is especially true for enterprise applications, where material flow needs to be traced on a permissioned blockchain (for obvious business confidentiality reasons) and payment of goods should preferably happen on a permissionless blockchain. In general, the lack of universal standards creates a fragmented landscape in which disparate blockchain platforms are developed in isolation. This technical challenge of interoperability

is further complicated by the need to integrate blockchain with legacy systems, which typically lack the flexibility to accommodate cryptographic protocols and distributed data synchronization (Babich and Hilary 2019).

Standardization of input data. Many of the cargo tracking and supply chain traceability blockchain applications assume the existence of a data on-ramp that is accessible to and standardized across participants. This is far from reality. As Fan et al. (2024, 3) put it, “a small supplier, say, in India or China, is unlikely to have the resources or expertise to set up an arrangement to access blockchain.” Even if such access is set up by a large participant of the permissioned blockchain, such as a superstore retailer, the input data from thousands of small suppliers across the world might not be properly digitized and standardized. Both the invasive and non-invasive approaches to bridging the physical–digital interface in blockchain applications have merits and drawbacks (Klößner et al. 2023).

Buy-in from partner organizations. Lin et al. (2022) highlight buy-in from partners along with information complexity as two important drivers that determine the success of blockchain pilots in real life. They stress the importance of reducing information complexity as well as increasing buy-in among supply chain partners. Critically, the cost and hassle of implementation are borne by all organizations that the cargo passes through, including port authorities, customs agencies, shipment forwarders, trucking companies, and so on. Some of these organizations lack the basic incentive to even digitize their paperwork, let alone upload information onto a blockchain owned by another company.

Regulatory uncertainty. Regulatory challenges present another significant barrier to blockchain adoption in OM. The regulatory framework for blockchain is still in a nascent stage, with many jurisdictions lacking clear guidelines regarding its use, especially in non-financial contexts such as OM (Wagner et al. 2025). The cross-border nature of many supply chains makes it even more challenging to reconcile diverse regulatory environments;

thereby complicating large-scale implementations (Wamba and Queiroz 2020).

2 | Toward New Theoretical Perspectives

In summary, blockchain presents a range of unique characteristics, implementation challenges, and potential transformative impacts. Figure 1 captures many of these, as well as presenting new opportunities to apply common theoretical lenses used by researchers to understand this new technology, including Transaction Cost Economics (TCE), Principal Agent Theory (PAT), and Resource-Based View (RBV). These features are pushing the OM community to consider additional theoretical arguments regarding blockchain-related operational dynamics so as to more comprehensively understand, anticipate, and ultimately contribute to practice and scholarship in this domain.

More specifically, traditional theoretical frameworks commonly applied in OM, such as transaction cost economics, principal-agent theory, and the resource-based view, have proven effective for analyzing centralized systems where information is controlled and trust is built through well-established interorganizational relationships. However, blockchain disrupts these conventional relationships by enabling peer-to-peer interactions governed not by a central authority but by cryptographic mechanisms and consensus protocols. For instance, the immutability of recorded transactions and the inherent decentralization of blockchain networks modify the traditional calculus of trust and coordination costs. These features create “trustless” environments where the need for intermediaries is significantly reduced. This shift calls into question the applicability of many preexisting theoretical models that assume reliance on centralized control and interpersonal trust (Lumineau et al. 2023).

Given these fundamental differences, one promising direction for future research is to expand network theory and social capital theory in OM by integrating the notion of distributed trust.

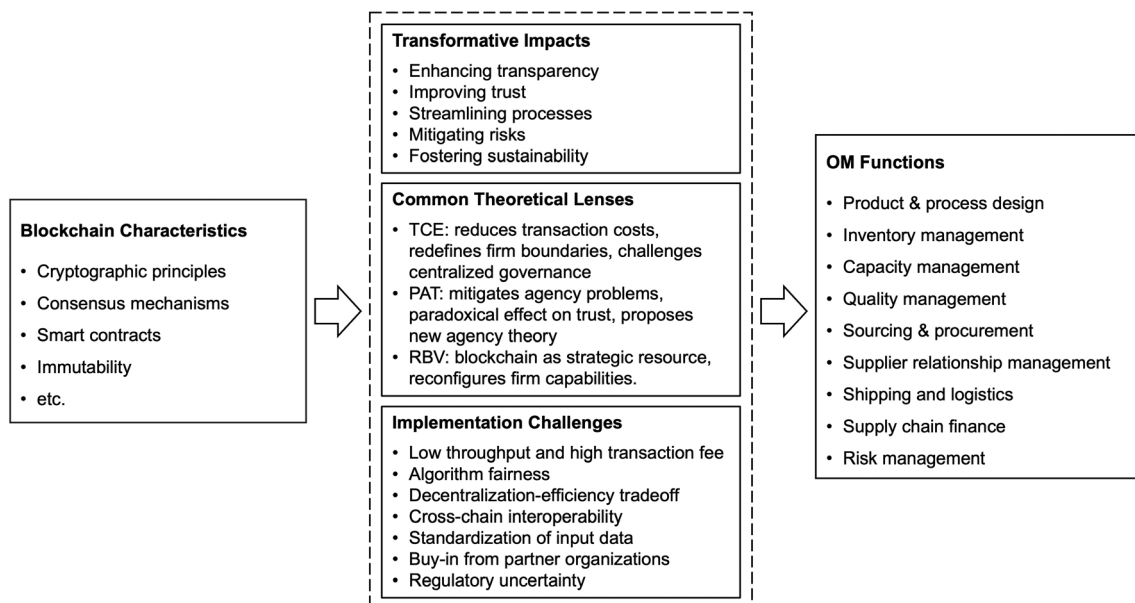


FIGURE 1 | How blockchain affects businesses from an operations management perspective.

Whereas social capital theory has been used to explain performance improvements arising from strengthened interorganizational relationships (Saber et al. 2019), blockchain technology challenges these premises by redistributing trust across the network without necessarily relying on strong personal or organizational ties (Lumineau et al. 2023). Similarly, although transaction cost theory provides insight into how blockchain can lower the costs of verification and contracting by obviating the need for costly intermediaries, the theory does not fully account for the dynamic interplays that arise when trust is engineered digitally and contractual obligations are embedded in smart contracts (Halaburda et al. 2024). As Babich and Hilary (2019) note, new theoretical models need to capture not only the cost-saving benefits of disintermediation but also the potential trade-offs in terms of data insecurity and operational inflexibility. There is also a growing recognition that hybrid frameworks, which merge elements of institutional theory and network governance with emerging blockchain paradigms, may be necessary to understand new organizational forms like DAOs (Zhao et al. 2022).

The need for novel theoretical frameworks is particularly critical when considering the impact of blockchain on various stakeholders within the OM ecosystem. Traditional models generally emphasize dyadic relationships between buyers and suppliers, but blockchain enables multi-stakeholder environments in which data transparency, provenance, and auditability permeate complex, global supply networks. For example, Chod et al. (2020) show how blockchain can improve financing in agricultural supply chains by enabling farmers to use harvest inventory as loan collateral. Using multi-signature setups tied to an immutable blockchain, transactions require confirmation from both humans (e.g., lenders or warehouse operators) and automated systems (e.g., IoT sensors). This approach allows for real-time verification of collateral, reduces information asymmetry, and unlocks capital, particularly in settings prone to fraud.

3 | Novel Empirical Evidence

Together, the articles in this Special Issue make a multifaceted contribution to OM, demonstrating the impact of blockchain technology in various operational forms on strategic decision-making, worker participation, competitive and network dynamics, and intellectual property protection across different sectors. These studies use robust empirical methods and diverse theoretical frameworks to offer novel insights into the role of blockchain in OM.

Some of the studies use qualitative methods for developing theory concerning conditions for successful and failed blockchain adoption. Zhan et al. (2025) develop theory through an inductive, multi-case research design revealing the influence of founder power on blockchain adoption. Meanwhile, Hanisch et al. (2025) use an in-depth, longitudinal case study to explore the centralization–decentralization paradox of a blockchain-based logistics platform.

Another group of studies uses experimental or quasi-experimental designs at the level of firms or platforms. Through a quasi-natural experiment and firm-level regression analyses,

Xiong et al. (2025) shed light on firms' adoption of smart contracts and their operational impact. Several studies use data from network or blockchain platforms (specifically Ethereum, Steemit, OpenSea, SushiSwap and Uniswap). For example, Yang (2025) applies natural experiments and difference-in-differences approaches to quantify the operational impact of different consensus protocols on task assignment and worker participation.

Chen et al. (2025) establish a quasi-experiment by integrating psychological ownership theory, propensity score matching, and difference-in-differences approaches to explore how decentralized ownership in DAOs drives user engagement. Fang et al. (2025) further develop the discussion by analyzing the transformative effects of blockchain on the protection of digital assets in two-sided markets. In a quasi-experimental study, Zhao, Li, et al. (2025) investigate the impact of a “vampire attack” on the incumbent platform's operational performance. At the platform level (Steemit and Pokec), Malgonde et al. (2025) use an agent-based simulation model to compare the spread of misinformation on a decentralized and a centralized blockchain-based social media platform.

These articles adopt complementary theoretical and empirical approaches to analyze blockchain in OM, offering a holistic perspective on its strategic and operational implications. Methodologically, most of the articles draw on experimental or quasi-experimental methods using relevant data from blockchain platforms, while a few articles conduct firm-level analysis using case studies and interviews. This may be due to the lack of large-scale data on OM projects. Below, we will delve deeper into the findings of each study.

Zhan et al. (2025) explore how founders' power—conceptualized in dimensions of expert, prestige, and ownership power—influences the trajectory and outcomes of blockchain adoption in technology provider startups. Their analysis reveals that high-performing firms harness a centralized decision-making process and engage in “beyond-blockchain” exploration by integrating insights from traditional industries, whereas lower-performing firms tend to use decentralized approaches and rely heavily on within-blockchain replication. This work contributes substantially to bridging leadership and blockchain literature in OM, offering strategic implications for how managerial behaviors underpin the successful deployment of blockchain-enabled supply chain solutions.

Hanisch et al. (2025) study governance challenges in blockchain ecosystems, specifically the centralization–decentralization paradox in a logistics-oriented blockchain application. Drawing on paradox theory, they show that conflicts between platform participants might arise over time when platform ownership, trust, and growth conditions are not aligned. These conflicts and the “semirigid limits” that limit the space for the blockchain platform adaptation explain why platforms degrade over time and eventually dissolve.

Based on a quasi-experimental study of firms' smart contract adoption and transaction cost economics, Xiong et al. (2025) conclude that smart contract adoption improves firms' operational efficiency with regard to production, sales, inventory, and

labor costs. They also find that firms with high horizontal supply chain complexity benefit more from smart contract adoption than those with a spatially distributed supply base.

Yang (2025) investigates the critical role of task assignment mechanisms in blockchain infrastructure. By comparing two dominant consensus protocols—proof-of-work (PoW) and proof-of-stake (PoS)—the study capitalizes on the natural experiment occasioned by Ethereum’s “Merge” event. The authors argue that the design of task assignment rules inherently shapes worker participation and thus influences the degree of decentralization necessary for operational efficiency. Their empirical findings suggest that PoS, which leverages blockchain native assets as staking commitments, mitigates transaction costs and reduces hyper-competition relative to PoW. This study advances the understanding of blockchain as a distinct organizational form and provides OM scholars with a novel perspective on how automated governance mechanisms derived from consensus protocols can enhance infrastructure performance.

Chen et al. (2025) contribute to this emerging discourse by addressing blockchain’s implications in intellectual property protection and tokenization, particularly in the context of NFT markets. Their work offers a conceptual framework through which blockchain-enabled mechanisms can facilitate continuous feedback and value creation in creative industries. The study highlights how tokenized assets serve as a medium of both ownership and incentive, thus providing an innovative linkage between digital asset management and operational decision-making within OM.

Fang et al. (2025) examine the potential of blockchain to safeguard intellectual property, focusing on the protection of artistic style signatures in NFT markets. By extending transaction cost economics (TCE) to the digital creative domain, the authors present a comprehensive analysis of how smart contracts and tokenization can protect digital art while reducing market inefficiencies. Their findings offer valuable insights into the operational transformation necessary to support decentralized IP protection systems, further underscoring the disruptive potential of blockchain in reconfiguring traditional OM paradigms.

Zhao, Li, et al. (2025) extend the discussion to the competitive arena of blockchain-based platforms by analyzing the “vampire attack” strategy, which involves cloning an incumbent platform while leveraging tokenized incentives to attract liquidity and participants. The authors examine this strategy’s impact on the incumbent’s operational performance. By integrating insights on DAOs with platform competition theory, the authors uncover how tokenized incentives foster a unique form of competition that disrupts traditional centralized models. The article’s empirical evidence helps to elucidate the mechanisms by which blockchain technologies can recalibrate market dynamics, demonstrating the broader strategic cost implications for OM.

Finally, Malgonde et al. (2025) investigate how to reduce misinformation on blockchain-based decentralized social networks, which lack central authority and rely on community governance. Using an agent-based simulation with data from Steemit (decentralized) and Pokec (centralized), the authors evaluate three mitigation mechanisms: user flagging, article rating, and

reputation rating. Results show these methods effectively reduce misinformation spread in decentralized systems. Compared to centralized platforms, misinformation on decentralized networks spreads faster and reaches more users, but in a shallower pattern. The research contributes to operations management by modeling decentralized platforms as complex adaptive systems and providing practical insights for platform governance and misinformation control.

4 | Future Research Opportunities

Given the findings from the most recent research on the topic, it appears clear that several research questions and interrelated avenues exist that might deepen our understanding of blockchain’s application opportunities and transformation potential for OM.

One open research question of particular interest in this framework is as follows: “How do different blockchain governance structures impact operational efficiency and stakeholder trust in OM?” An investigation on this topic should consider the differences between permissioned and permissionless blockchain networks, examining how degrees of decentralization and the role of smart contracts influence both procedural transparency and decision-making processes. A study adopting mixed methods might combine quantitative performance data from firms piloting blockchain with qualitative interviews to unpack how governance models foster trust among supply chain partners—a critical factor for effective inter-organizational collaborations.

Another potential area of study encourages inquiry into how blockchain can be embedded within existing enterprise resource planning (ERP) and supply chain information systems to enable just-in-time production, reduce the bullwhip effect, and allow for more agile reordering policies. Underlying blockchain technology could enable new models for inventory management of perishable items that account for customer valuation of freshness (Keskin et al. 2025). Empirical investigations might compare traditional inventory models with blockchain-enabled systems, using case studies or controlled experiments that measure improvements in order accuracy and lead times. Of course, in line with the mission of operations management research, such studies should focus on process details (Bendoly and Oliva 2024), rather than merely the co-occurrence of technology and final high-level outcomes such as inventory turns.

A further intriguing area worth further inquiry relates to resilience. That is, “How can blockchain technologies be leveraged to enhance resilience in supply chains facing disruptions?” This line of research could examine whether blockchain-enabled tracking and smart contracts reduce the time required for damage assessment and recovery, as well as how this technology can play a preventative role by exposing vulnerabilities in multi-tier supply networks. Longitudinal studies that monitor supply chain performance across disruption events, as well as simulation studies designed to test blockchain’s impact under various crisis scenarios, would be particularly informative. Related question might include, “How can blockchain technologies be

leveraged to enhance cybersecurity in supply chains?”, or “How should advanced supply chain technologies be bundled with blockchain technology to reduce cybersecurity risks or data breaches?”. However, these specific questions might also easily reside more in the domain of information systems research, particularly if their inquiry is not clearly tethered to operational process discussions.

In sum, future research in this domain will benefit from systematic inquiry into the multifaceted implications of blockchain technology for OM. Key research questions—probing the impact of blockchain governance structures on operational efficiency and stakeholder trust, the transformative potential of blockchain for inventory management and supply chain responsiveness, and the technology’s capacity to enhance resilience in the face of disruptions—are central to advancing both theoretical and practical insights. By adopting an interdisciplinary approach that leverages perspectives from public policy, information technology, and organizational theory, future research can develop robust, integrative frameworks that address the real-world challenges of deploying blockchain in complex supply networks.

5 | Conclusion

The implications of blockchain in OM are multifaceted and transformative (Klößner et al. 2022). Politically, blockchain challenges centralized power structures, promoting decentralization and inclusivity. Economically, it reduces costs and barriers to market entry, fostering financial inclusion; it also disrupts traditional systems and introduces new risks. Socially, blockchain enhances ethical practices and empowers marginalized communities, though its benefits depend on addressing the digital divide. Environmentally, blockchain offers tools to support sustainability but poses challenges related to energy consumption. Legally, it redefines regulatory frameworks while raising complex questions about data privacy, liability, and cross-border governance.

Blockchain represents not just a technological innovation but a catalyst for societal change. To fully realize its potential, interdisciplinary collaboration among policymakers, businesses, and academics is essential. By addressing its challenges and promoting its benefits, blockchain can contribute meaningfully to sustainable development, ethical practices, and social inclusion. The future of blockchain in OM will depend on our collective ability to harness its transformative potential while navigating the complexities of its implementation.

Endnotes

¹ Fan et al. (2024) provide a more granular longitudinal depiction of public attention to mainstream permission blockchains, including four stages: trigger, inflated expectation, disillusionment, and enlightenment.

² Based on data accessed March 1, 2023, from <https://statoshi.info/> and <https://etherscan.io/>.

³ See <https://coinmarketcap.com/academy/glossary/blockchain-trilemma> for more details.

References

- Andreasson, K. 2022. “Digimentality 2022—Fear and Favouring of Digital Currency.” <https://impact.economist.com/projects/digimentality-2022/>.
- Babich, V., and G. Hilary. 2019. “OM Forum—Distributed Ledgers and Operations: What Operations Management Researchers Should Know About Blockchain Technology.” *Manufacturing & Service Operations Management* 22, no. 2: 223–240.
- Bendoly, E., and R. Oliva. 2024. “Holding North: Recognizing Identity and Advancing Contribution in Operations Management.” *Journal of Operations Management* 70, no. 4: 518–522.
- Benham, A., B. H. Falk, and G. Tsoukalas. 2023. “Scaling Blockchains: Can Committee-Based Consensus Help?” *Management Science* 69, no. 11: 6525–6539.
- Benham, A., B. Hemenway Falk, and G. Tsoukalas. 2025. “Balancing Power in Decentralized Governance: Quadratic Voting and Information Aggregation.” *Management Science*.
- Browning, T. R. 2020. “Operations Management Writ Large.” *Journal of Operations Management* 66, no. 5: 494–500.
- Cachon, G. P., K. M. Daniels, and R. Lobel. 2017. “The Role of Surge Pricing on a Service Platform With Self-Scheduling Capacity.” *Manufacturing & Service Operations Management* 19, no. 3: 368–384.
- Cachon, G. P., and P. Feldman. 2011. “Pricing Services Subject to Congestion: Charge per-Use Fees or Sell Subscriptions?” *Manufacturing & Service Operations Management* 13, no. 2: 244–260.
- Chen, K., Y. Fan, Y. Fang, and X. Luo. 2025. “Beyond Money: Incentive Effects of Tokenized Ownership on User Contribution in DAOs.” *Journal of Operations Management* 71, no. 7: 988–1016.
- Chod, J., N. Trichakis, G. Tsoukalas, H. Aspegren, and M. Weber. 2020. “On the Financing Benefits of Supply Chain Transparency and Blockchain Adoption.” *Management Science* 66, no. 10: 4378–4396.
- Fan, S., N. Ilk, A. Kumar, R. Xu, and J. L. Zhao. 2024. “Blockchain as a Trust Machine: From Disillusionment to Enlightenment in the Era of Generative AI.” *Decision Support Systems* 182: 114251.
- Fang, M., Y. Fang, C. Gao, A. C. M. Leung, and Q. Ye. 2025. “The Impact of “Lazy Minting” on Seller Performance in NFT Marketplaces—A Transaction Cost Economics Perspective.” *Journal of Operations Management* 71, no. 7: 1017–1035.
- Gan, J., G. Tsoukalas, and S. Netessine. 2023. “Decentralized Platforms: Governance, Tokenomics, and ICO Design.” *Management Science* 69, no. 11: 6667–6683.
- Halaburda, H., N. Levina, and S. Min. 2024. “Digitization of Transaction Terms Within TCE: Strong Smart Contract as a New Mode of Transaction Governance.” *MIS Quarterly* 48, no. 2: 825–846.
- Hanisch, M., C. Goldsby, M. Fortin, and M. Rogerson. 2025. “Governing Within Semirigid Limits: Navigating the Centralization–Decentralization Paradox in Blockchain-Based Platforms.” *Journal of Operations Management* 71, no. 7: 917–938.
- Ilk, N., G. Shang, S. Fan, and J. L. Zhao. 2021. “Stability of Transaction Fees in Bitcoin: A Supply and Demand Perspective.” *MIS Quarterly* 45, no. 2: 563–592.
- Keskin, N. B., C. Li, and J.-S. Song. 2025. “The Blockchain Newsvendor: Value of Freshness, Transparency, and Smart Contracts.” *Management Science* 71, no. 8: 6666–6682.
- Klößner, M., C. G. Schmidt, A. Fink, L. Flückiger, and S. M. Wagner. 2023. “Exploring the Physical–Digital Interface in Blockchain Applications: Insights From the Luxury Watch Industry.” *Transportation Research Part E: Logistics and Transportation Review* 179: 103300.
- Klößner, M., C. G. Schmidt, and S. M. Wagner. 2022. “When Blockchain Creates Shareholder Value: Empirical Evidence From International

- Firm Announcements." *Production and Operations Management* 31, no. 1: 46–64.
- Lin, Y. T., D. F. Pyke, and J. M. Swaminathan. 2022. "Identifying and Overcoming Barriers to Implementing Blockchain in Supply Chains." *Management and Business Review* 2, no. 4: 56–63.
- Lumineau, F., O. Schilke, and W. Wang. 2023. "Organizational Trust in the Age of the Fourth Industrial Revolution: Shifts in the Form, Production, and Targets of Trust." *Journal of Management Inquiry* 32, no. 1: 21–34.
- Lumineau, F., W. Wang, and O. Schilke. 2021. "Blockchain Governance—A New Way of Organizing Collaborations?" *Organization Science* 32, no. 2: 500–521.
- Malgonde, O. S., B. Padmanabhan, and S. Mithas. 2025. "How to Mitigate Misinformation Diffusion on Blockchain-Based Decentralized Social Network Platforms? Insights From an Agent-Based Simulation Model." *Journal of Operations Management* 71, no. 7: 1068–1084.
- Malik, N., M. Aseri, P. V. Singh, and K. Srinivasan. 2022. "Why Bitcoin Will Fail to Scale?" *Management Science* 68, no. 10: 7323–7349.
- Naor, P. 1969. "The Regulation of Queue Size by Levying Tolls." *Econometrica* 37, no. 1: 15–24.
- Pun, H., J. M. Swaminathan, and P. Hou. 2021. "Blockchain Adoption for Combating Deceptive Counterfeits." *Production and Operations Management* 30, no. 4: 864–882.
- Saberi, S., M. Kouhizadeh, J. Sarkis, and L. Shen. 2019. "Blockchain Technology and Its Relationships to Sustainable Supply Chain Management." *International Journal of Production Research* 57, no. 7: 2117–2135.
- Shang, G., N. Ilk, and S. Fan. 2023. "Need for Speed, but How Much Does It Cost? Unpacking the Fee-Speed Relationship in Bitcoin Transactions." *Journal of Operations Management* 69, no. 1: 102–126.
- Sodhi, M. S., Z. Seyedghorban, H. Tahernejad, and D. Samson. 2022. "Why Emerging Supply Chain Technologies Initially Disappoint: Blockchain, IoT, and AI." *Production and Operations Management* 31, no. 6: 2517–2537.
- Tsoukalas, G., and B. H. Falk. 2020. "Token-Weighted Crowdsourcing." *Management Science* 66, no. 9: 3843–3859.
- Van Mieghem, J. A. 2000. "Price and Service Discrimination in Queuing Systems: Incentive Compatibility of Gcμ Scheduling." *Management Science* 46, no. 9: 1249–1267.
- Viswanathan, N., and T. S. T. Edison. 1989. "Monopolistic Provision of Congested Service With Incentive-Based Allocation of Priorities." *International Economic Review* 30, no. 1: 153–174.
- Wagner, S. M., A. A. Fink, J. F. Ehrnsperger, and P. Düpre. 2025. "Supporting Intellectual Property Protection: Blockchain Technology as a Catalyst for Open Innovation." *California Management Review* 67, no. 3: 164–185.
- Wamba, S. F., and M. M. Queiroz. 2020. "Blockchain in the Operations and Supply Chain Management: Benefits, Challenges and Future Research Opportunities." *International Journal of Information Management* 52: 102064.
- Xiong, Y., L. Ding, S. Guo, T.-M. Choi, and H. K. Lam. 2025. "The Impact of Blockchain-Enabled Smart Contracts on Firms' Operational Efficiency." *Journal of Operations Management* 71, no. 7: 939–963.
- Yang, W. 2025. "Incentivizing Blockchain Participation Through Task Assignment Mechanisms: Evidence From a Natural Experiment of Consensus Protocols on Ethereum." *Journal of Operations Management* 71, no. 7: 964–987.
- Zhan, Y., A. C. L. Yeung, K. H. Tan, Y. Xiong, X. Xing, and F. Ye. 2025. "Success and Failure of Blockchain Technology Providers: Founders' Power, Beyond-Blockchain Exploration and Centralized Decision-Making." *Journal of Operations Management* 71, no. 7: 893–916.
- Zhao, X., P. Ai, F. Lai, X. Luo, and J. Benitez. 2022. "Task Management in Decentralized Autonomous Organization." *Journal of Operations Management* 68, no. 6–7: 649–674.
- Zhao, X., J. Li, X. Wan, X. Zang, and H. K. Cheng. 2025. "What Doesn't Kill You Makes You Stronger? Evidence From Vampire Attacks on Decentralized Exchange and Non-Fungible Token Marketplace." *Journal of Operations Management* 71, no. 7: 1036–1067.
- Zhao, X., Z. Wu, G. Shang, and P. Ai. 2025. "Transaction Fee Mechanisms and User Welfare in Permissionless Blockchains." *Production and Operations Management*. <https://doi.org/10.1177/10591478251360474>.