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BLOCKCHAIN BEYOND CRYPTO: THE NEW FACE OF BUSINESS OPERATIONS

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INTRODUCTION

If you ask people what blockchain means, most of them will say "Bitcoin." That answer made sense a decade ago, but things have changed today. At its core, Blockchain is a shared, tamper-proof digital ledger that many computers hold copies of at once, instead of one company guarding the only copy. When managers understood this, they stopped questioning the trade of crypto and started discussing better processing for their businesses. Harvard Business School researchers Marco Iansiti and Karim Lakhani called blockchain a "foundational technology";¹ it can change the very way businesses operate, like how the internet reshaped commerce and communication. Additionally, the World Economic Forum estimates that by 2027, up to 10 percent of global GDP could be stored on blockchain-related systems.² This blog looks at blockchain from a management lens — as a tool that changes how organisations coordinate, trust, and compete.

UNDERSTANDING BLOCKCHAIN BEYOND CRYPTO

Blockchain is a shared digital ledger that allows different participants to securely log and verify data. Often, it is best known for cryptocurrencies, but its reach goes well beyond and extends to business operations. Companies can use blockchain to track products, verify transactions, automate routine steps, and make sure everyone in a supply chain sees the same accurate

¹ Marco Iansiti and Karim R. Lakhani, "The Truth About Blockchain," Harvard Business Review, January–February 2017, Vol. 95, No. 1, pp. 118–127. [https://hbr.org/2017/01/the-truth-about-blockchain?utm_.com]

² World Economic Forum, cited in "Blockchain: Separating Hype from Reality," Asia House briefing, and in WEF's white paper "Trade Tech – A New Age for Trade and Supply Chain Finance." [https://www3.weforum.org/docs/White_Paper_Trade_Tech_report_2018.pdf]

information. From a management perspective, blockchain can improve transparency, fewer blind spots, and smoother coordination between businesses.

At its core, a blockchain lets multiple parties trust a single version of truth without a middleman verifying it every time. Every entry is time-stamped, linked to the one before it, and visible to everyone permitted on the network, making it extremely hard to alter records quietly. Researchers studying its use in supply chains describe this as a "shared trust base and a common standard" that lets partners swap information that they'd hesitate to share.³ This is useful for money, but equally useful for anything needing a verified history: where food comes from, where diamonds originate, or a compliance record. Once managers separate "blockchain" from "cryptocurrency," a much bigger toolbox opens up — one built for trust and coordination rather than speculation.

BUSINESS APPLICATION

Blockchain isn't just tech jargon, but it is increasingly explored as a business tool to improve efficiency, transparency, and coordination. Its applications range from supply-chain management and product tracking to automating payments, verifying identities, and handling financial transactions. One of the clearest examples is from Walmart's food-safety team. In 2016, it took nearly seven days of phone calls and paperwork to trace a packet of sliced mangoes back to its source. Then Walmart partnered with IBM's Hyperledger Fabric and built a blockchain-based tracking system, and the same trace takes 2.2 seconds.⁴ The retailer now traces more than two dozen products this way and requires leafy-green suppliers to use the system. A similar concept drives De Beers' Tracr platform, built with Accenture, which gives every diamond a digital identity.⁵ This ID records carat, cuts, and exactly where it came from—so buyers can be confident and know their gems are ethically sourced. In Banking, J.P. Morgan's Onyx unit built a blockchain system that can settle intraday repurchase-agreement

³ Michael Lustenberger, Florian Spychiger, and Sasa Malesevic, "Towards a Better Understanding of the Value of Blockchains in Supply Chain Management," in *Information Systems: 16th European, Mediterranean, and Middle Eastern Conference Proceedings, Lecture Notes in Business Information Processing*, Vol. 381 (Cham: Springer, 2020), pp. 101–112. [<https://digitalcollection.zhaw.ch/server/api/core/bitstreams/d46b62d0-629b-4c97-a1e4-572e5630e11f/content>]

⁴ Linux Foundation Decentralized Trust, "How Walmart Brought Unprecedented Transparency to the Food Supply Chain with Hyperledger Fabric," case study [https://www.lfdecentralizedtrust.org/case-studies/walmart-case-study?utm_.com]; corroborated by Lucas Mearian, "IBM Launches Blockchain-Based Global Food Tracking Network," *Computerworld*. [<https://www.computerworld.com/article/1703939/ibm-launches-blockchain-based-global-food-tracking-network.html>]

⁵ Accenture, "Tracr: Diamond Traceability," case study, developed with De Beers Group [https://www.accenture.com/en/case-studies/natural-resources/tracr-diamond-traceability?utm_.com]; see also Gareth Jenkinson, "Blockchain Technology to Power De Beers' Diamond Production," *Cointelegraph*. [https://cointelegraph.com/news/blockchain-technology-to-power-de-beers-diamond-production?utm_.com]

trades in hours using its own JPM Coin to move both cash and collateral simultaneously.⁶ Beyond this, Companies use blockchain to log supplier certificates, manage digital identities, and execute agreements automatically with self-executing "smart contracts." Deloitte's 2020 Global Blockchain Survey of around 1,500 senior executives found that 83 percent believed their company would lose competitive ground without a blockchain system, and almost 40 percent already had a blockchain system in production.⁷

CHALLENGES

Blockchain has the potential to improve business operations, but its adoption comes with certain challenges that organisations must clearly evaluate. The first challenge is cost and the complexity of implementation. Integrating blockchain with business systems may require investment in technology, infrastructure, and skilled professionals. Another concern is Scalability because blockchain networks may face limitations when handling large volumes of transactions. It is most useful when more than one organisation participates and shares information. Accuracy is another issue; an accurate record of incorrect data will still produce an incorrect outcome.

Not every attempt succeeds, and failures often teach as much as successes. Maersk and IBM shut down their blockchain-based shipping platform, TradeLens, in the year 2022 after four years of operation because the venture never achieved wide industry and "full global industry collaboration." Rival shipping companies weren't reluctant to share data on a platform led and controlled by competitors.⁸ Back in 2018, Gartner's well-known Hype Cycle placed blockchain in the "Trough of Disillusionment."⁹ They warned that most enterprise blockchain projects were stuck in experimentation and that projects wouldn't reach full scalability and interoperability for years. A recent executive survey in 2024 found that scalability remains the

⁶ "J.P. Morgan Executes Intraday Repo Transaction Using Blockchain," BusinessWire / MarketsMedia, December 2020. [https://www.marketsmedia.com/j-p-morgan-uses-blockchain-for-intraday-repo-transaction/?utm_.com]

⁷ Deloitte, Global Blockchain Survey 2020 (approximately 1,500 senior executives surveyed across 14 countries), as reported by The Block, June 2020. [https://www.theblock.co/news/ecosystems/2020-06-17-deloitte-nearly-40-of-surveyed-firms-have-implemented-blockchain-but-barriers-remain-for-greater-adoption-68610?utm_.com]

⁸ "Maersk, IBM Shutting Down Blockchain-Enabled Supply Chain Project," The Block, November 2022 [https://www.theblock.co/news/business/2022-11-29-maersk-ibm-shutting-down-blockchain-enabled-supply-chain-project-190782?utm_.com]; see also SiliconANGLE, "IBM, Maersk Pull the Plug on Blockchain-Based TradeLens Shipping Platform," November 2022. [https://siliconangle.com/2022/11/30/ibm-maersk-pull-plug-blockchain-based-tradelens-shipping-platform/?utm_.com]

⁹ Gartner, Inc., "2019 Hype Cycle for Blockchain Technologies," press release, October 2019; commentary by Avivah Litan, Gartner Research VP, on the "Trough of Disillusionment." [https://www.technologyforyou.org/gartner-2019-hype-cycle-for-blockchain-technologies/?utm_.com]

main concern for more than half of the respondents, and Gartner has also separately projected that most large blockchain projects will need deep integration with existing legacy systems, which is often the slowest and most expensive part of any rollout.¹⁰ Independent researchers reviewing blockchain's use in supply chains call it "a high-cost, high-overhead" tool, only worth it once its benefits are carefully weighed against these running costs.¹¹ On top of the technology itself, a PwC survey found that nearly half of executives saw a lack of trust in the technology and regulatory uncertainty, citing these as reasons for slow adoption.¹²

Finally, businesses must consider whether blockchain is necessary for a particular problem. A traditional database may sometimes provide a simpler and more cost-effective solution. Therefore, managers should approach blockchain adoption as a strategic business decision rather than adopting the technology simply because it is innovative.

CONCLUSION

Blockchain's story beyond cryptocurrency is really about trust, coordination, and patience. It will not replace smart management, and it also comes with a cost or risk. Still, companies and organisations willing to experiment and run small pilots must rethink the process of information sharing with business partners. Blockchain can speed up supply chains, make records more reliable, and make business relationships more transparent. The mango took seven days to trace once; now it takes two seconds. That is not a crypto story — it is a management story.

¹⁰ Deloitte's 2024 blockchain executive survey and Gartner enterprise-integration projections, as cited in Ian Khan, "Blockchain in 2035: My Predictions as a Technology Futurist."
[https://www.gartner.com/en/doc/3855708-digital-disruption-profile-blockchains-radical-promise-spans-business-and-society?utm_.com]

¹¹ Akhil Kumar, Rong Liu, and Zhe Shan, "Is Blockchain a Silver Bullet for Supply Chain Management? Technical Challenges and Research Opportunities," peer-reviewed journal article (Miami University / Stevens Institute of Technology research repository).
[https://onlinelibrary.wiley.com/doi/abs/10.1111/deci.12396?utm_.com]

¹² PwC survey of executives across 15 territories, as reported in TechCentral, "Enterprises Well on the Way to Blockchain Adoption." [https://www.techcentral.ie/enterprises-well-way-blockchain-adoption/?utm_.com]