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   Soggetti        Statistics
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                   Data protection
                   Electronic commerce
                   Statistics in Business, Management, Economics, Finance, Insurance
                   Financial Technology and Innovation
                   Data and Information Security
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   Nota di contenuto   Introduction to Blockchain -- Consensus in Blockchain and Distributed
                   Ledger Systems -- Digital Assets in Blockchains -- Cryptoeconomics --
                   Blockchain Analytics -- Blockchains and Finance -- Modern
                   Applications -- The Blockchain Ecosystem.

   Sommario/riassunto   This handbook delves into the multifaceted domain of blockchain
                   technology and its applications, offering insights across technological,
                   economic, and practical dimensions. It is divided into several parts,
                   reflecting analysis techniques specific to different fields of application,
                   including digital finance, security and supply chains, among others. The
                   book begins with a foundational exploration of blockchain technology,
                   providing a comprehensive understanding of its core mechanisms. The
                   analysis extends to cutting-edge topics such as Non-Fungible Tokens
                   (NFTs) and visualization technologies, which reveal the dynamic
                   interplay between digital assets and technological innovation.

Cryptocurrency liquidity and market dynamics are also examined, employing principles like Metcalfe's Law and Log-Periodic Power Laws to unravel complex market behaviors. Empirical studies shed light on volatility forecasting and the impact of sudden market jumps, enriching the predictive frameworks for cryptocurrency trading. In the realm of blockchain analytics, advanced methodologies like process mining are applied to uncover patterns in blockchain applications, while network analytics provide tools for fraud detection and heuristic evaluation. Decision-making in blockchain transactions is explored through the lens of mempool dynamics, providing practical insights for optimizing blockchain operations. The narrative extends to business applications, highlighting strategies for blockchain-driven development and the legal and financial implications of Distributed Ledger Technology (DLT). Blockchain's transformative potential in healthcare is showcased, alongside a survey of federated learning frameworks that leverage blockchain for secure and decentralized machine learning. Security remains a pivotal theme, with a focus on the role of blockchain in cybersecurity and compliance functions. The investigation addresses decentralized finance (DeFi) vulnerabilities through case studies on attacks, offering lessons to enhance system robustness. Finally, the text envisions a future where decentralized models democratize foundational technologies, and blockchain facilitates innovations in maritime supply chains, driving efficiency and transparency in global logistics. This compilation serves as a gateway to understanding the theoretical and practical dimensions of blockchain, emphasizing its evolving role in reshaping industries and economic systems.