Can Blockchain Be the Key to Compete in Today's Digital Economy?

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Blockchain is the decentralized database introduced in 2008 to transact and store bitcoins without relying on the bank system, in a time where banks were facing one of the worst crises ever. The logic behind blockchain is to bypass intermediaries by creating a network made up by the same blockchain users where each blockchain participants can see and verify everything stored in this decentralized database. In other words, rather than a centralized database/server, transactions or any data can be stored in a decentralized database composed by a vast number of computers on the Internet. Anyone can potentially participate in open and public blockchains, such as the Bitcoin or Ethereum[1] blockchains.

Blockchain can protect privacy better than existing regulations,[2] in addition to increasing transparency among blockchain users, and potentially making any services and goods cheaper. Security is also improved because hacking a blockchain means hacking simultaneously all of the computers, which are part of the blockchain networks. In the case of Bitcoin blockchain, this means that over ten thousands of computers would need to be hacked.[3]

The adoption of blockchain has been successfully implemented in a variety of industries and situations from supply chain to consumer goods. Walmart, for example, adopted blockchain in its supply chain to track goods. Blockchain enabled Walmart to do what usually was performed in seven days in 2.2 seconds.[4] Today, investments in blockchain technologies are growing constantly. These technologies will likely impact every business and profession, as the Internet did twenty years ago.

Blockchain can effectively hold the key to compete with large tech-companies—the so-called *Big Tech*—that now are basically controlling most of digital goods and services. Any business can leverage the power of such decentralized technologies, which include not only blockchain, but also multiple decentralized applications and services that have been developed over the last ten years. These decentralized services and goods can successfully compete with today's centralized goods and services by offering products that are potentially both cheaper and safer.

Government agencies and regulators, such as antitrust enforcers, can also exploit blockchain technologies to do much of their regular work more efficiently. As I argue in my book "Antitrust Settlements-How a Simple Agreement Can Drive the Economy" (Wolters Kluwer, 2019),[5] antitrust agencies can adopt blockchain to enforce antitrust principles and automatize the enforcement of antitrust decisions by means of smart contracts. Smart contracts are orders built into a code and enforced by a program. [6] Most of the remedies enshrined in antitrust decisions can be easily translated into a code self-executed by a program. This would enable antitrust agencies to save the significant costs and time related to monitoring companies' compliance with antitrust remedies.[7]

Blockchain technologies can certainly increase transparency and better protect privacy than existing regulation.[8] As a consequence, any regulators can adopt blockchain technologies to ensure a transparent system that better preserves privacy and security not only of companies, but also of any consumer affected by the concerning industry and regulation.

In summary, today's digital economy is likely to change dramatically by means of decentralized technologies, such as blockhain and smart contracts. The magnitude of these technologies cannot be overlooked anymore as they have reached maturity and have multiple applications in any industry and situations. This will chance significantly the functioning of government agencies and professions.

Will blockchain and other decentralized technologies, such as smart contracts, be the key to compete in today's digital economy? A deeper inquiry is required, but we cannot downplay the potential of these frontier technologies if we want keep playing—the *competition game*.

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[1] Ethereum, https://ethereum.org/ (last visited, May 19th 2020).

[2] EU Regulation 2016/679, of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), 2016 O.J. (L 119) 1. *See also*, Giovanna Massarotto, *Antitrust in the Blockchain Era*, 2 Notre Dame J. Emerging Tech. 252 (2020).

[3] Hard Fork, *All you need to know about Bitcoin network nodes*, https://thenextweb.com/hardfork/2019/03/01/bitcoin-blockchain-nodes-network/.

[4] Matt Smith, In Wake of Romaine E. coli Scare, Walmart Deploys Blockchain to Track Leafy Greens, WALMART : NEWSROOM, https://corporate.walmart.com/newsroom/2018/09/24/in-wake-of-romaine-e-coli-scare-walmart-deploys-blockchain-totrack-leafy-greens (last visited Mar. 17, 2020).

[5] Massarotto, Antitrust Settlements—How a Simple Agreement Can Drive the Economy 202, 206-07 (Wolters Kluwer, 2019).

[6] *See* Massimo Bartoletti & Livio Pompianu, *An Empirical Analysis of Smart Contracts: Platforms, Applications, and Design Patterns* (Mar. 18, 2017), https://www.researchgate.net/publication/315454656_An_Empirical_Analysis_of_Smart_Contracts_Platforms_Applications_and_Design_Patterns.

[7] Giovanna Massarotto, *Grasping the Meaning of Big-Tech Antitrust Consent, Competition* Competition Policy International (CPI) (Feb. 24, 2020) https://www.competitionpolicyinternational.com/grasping-the-meaning-of-big-tech-antitrust-consent/

[8] *Id*. Giovanna Massarotto, *Antitrust in the Blockchain Era*, *supra* note 9 at 254.