TREO
Technology, Research, Education, Opinion

How Does Blockchain Help and Hurt Small and Medium Size Enterprises?

Rohit Nishant (rohit.nishant@fsa.ulaval.ca)
Jacqueline Corbett (Jacqueline.Corbett@fsa.ulaval.ca)

Known primarily for enabling cryptocurrencies such as Bitcoin, distributed ledger technology, commonly known as blockchain, is a disruptive innovation increasingly being adopted in sectors such as retail, entertainment, and supply chain (Marr, 2018). Technologically, blockchain offers many advantages in terms of transparency, reduced information asymmetry, and security of transactions, but research has yet to investigate its social, ethical, and environmental dimensions. Because small and medium size enterprises (SMEs) have lower access to resources than their larger counterparts, they are likely to be more adversely affected and constrained in their ability to leverage this new technological innovation. Firm's characteristics and positions in a supply chain can lead to tensions between the technology implementation and firm-specific objectives, leading to suboptimal economic, social and environmental outcomes. Blockchain presents a unique setting for "outcome-interdependence" as postulated in the theory of resource dependencies (Pfeffer & Salancik 2003). Although past studies using this perspective focus on positive outcomes resulting from collaboration, we hypothesize the potential for both positive and negative outcomes: technical characteristics may provide shared performance benefits, but power dynamics can motivate firms to act otherwise.

With the aim of contributing to the effective, responsible, and sustainable use of blockchain, we ask two questions: to what extent do firm and network characteristics lead to the adoption of blockchain within the supply chain, and what are the positive and negative consequences of blockchain adoption on SMEs in supply-chain dyads? In addressing these questions, the research will develop our understanding of how blockchain influences real-world practice and extend our comprehension of the interactions between technological and non-technological factors related to emerging technologies. This research is original in two main respects. First, blockchain will be explored from a sociotechnical perspective that has received limited research attention (Huumo et al. 2016). Second, our research will bring to light potential boundary conditions imposed on the effectiveness of blockchain technology, due to tensions between the different objectives, power, and resources of firms in a supply-chain dyad.

References

Bernard, Marr." 30+ Real Examples of Blockchain Technology in Practice", https://www.forbes.com/sites/bernardmarr/2018/05/14/30-real-examples-of-blockchain-technology-in-practice/#5a66ca4740de, 2018, accessed January 4, 2019.

Pfeffer, Jeffrey, and Gerald R. Salancik. The external control of organizations: A resource dependence perspective. Stanford University Press, 2003.

Yli-Huumo, Jesse, Deokyoon Ko, Sujin Choi, Sooyong Park, and Kari Smolander. "Where is current research on blockchain technology?—a systematic review." PloS one 11, no. 10 (2016): e0163477.