

Shades of change with and through Blockchain

Introduction

It is difficult to ignore the disruptive effect caused by the digital revolution (Caldarelli *et al.*, 2017). Firms' information and communication technologies (ICT) represent a constantly evolving field striving to outdo itself, fostering paradigm-shifting innovations (Ferri *et al.*, 2020) challenging organizations, practitioners and managers to re-think the way they go about their jobs (Büyükoçkan and Göçer, 2018).

The boundaries of technology development are continuously pushed further by IT developers, scientists, entrepreneurs as well as governments. Blockchain technology (BT) stands out among these developments. BT represents a digital system in which transaction records are stored in blocks and maintained across several computers linked to each other using a peer-to-peer network. This network employs algorithms to cryptate data and verify transactions (Coyne and McMickle, 2017; Dai and Vasarhelyi, 2017; Kokina *et al.*, 2017).

Academics, accounting professionals, managers and practitioners are increasingly engaging with issues of blockchain technology, especially as concerns firms activities (that's too general), benefits, risks (what risks) and open issues (?). Due to its characteristics, this technology is transforming accounting and auditing practices and effecting firms more generally in profound ways (Ferri *et al.*, 2020; Schmitz and Leoni, 2019; Kshetri, 2018; Viryasitavat *et al.*, 2018; EY, 2017; Aste *et al.*, 2017; Deloitte, 2016).

The extant literature has demonstrated the disruptive impact of BT in various geographies and settings (Schmitz and Leoni, 2019; Kshetri, 2018; Viryasitavat *et al.*, 2018; Aste *et al.*, 2017) and a number of authors have recently argued that this technology has the potential to entirely change firms' practices (e.g. Schmitz and Leoni, 2019; Francisco and Swanson, 2018; Coyne and McMickle, 2017; Dai and Vasarhelyi 2017; Kokina *et al.*, 2017; Ruckshausser, 2017; Yermack, 2017).

The discourse on blockchain revolves around its intuitive applications being empowered through a network architecture, progressively shedding light on the manifold implications of this innovative technology for the daily activities of firms, teams and roles (Queiroz *et al.*, 2020; Casey and Vigna 2018; Deloitte, 2016). However, like any new technology, BT inherently harbors some risks and raises questions that call for debate, analysis and demonstrated best practice (Deloitte, 2016).

Notwithstanding the attention that BT has gained in the media, research still seems to be lagging behind, leaving several crucial questions as yet unanswered, with contributions largely limited to theoretical propositions. The empirical and practical implications of this disruptive technology remain under-researched, with the few exceptions of papers that focus on crypto currencies (i.e. Viryasitavat *et al.*, 2018; Aste *et al.*, 2017; Tapscott and Tapscott, 2016; Tan and Low, 2017).

Thus, it is necessary to explore what is beyond the tool and to better understand how the manifold impacts of blockchain take place. How, why and to what extent blockchain is likely to steer the full spectrum of firms' daily activities and practices are the core questions that this special issue aims to answer. Another key issue this special issue aims to unfold concerns the



nature of change affected by BT: changes necessary to implement blockchain, changes arising with blockchain and changes achievable through blockchain. More specifically, this special issue is conceived to deal with both *what* and *how* issues and to encompass a multitude of foci at the institutional, organizational and individual levels of analysis, as well as how these are intertwined. Change is implicitly at the core of these issues. This special issue has been open to both theoretical and empirical research contributions that explore BT and its effect on firms at all levels of analysis.

As guest editors, we had the good fortune to receive a considerable number of high-quality submissions and, after several rounds of revision, we selected the six manuscripts presented below.

Contributions

The six contributions to this special issue stand out for their notable and relevant add-on to our knowledge and understanding. Authors reviewed the extant literature and open up new streams of research providing deeper knowledge about blockchain adoption and blockchain contribution to firms' activities. The selected papers include both theoretical and practical contributions.

In the first contribution of this special issue, Varriale, Cammarano, Michelino and Caputo propose a systematic literature review (SLR) in order to show benefits, challenges and future research opportunities of blockchain technology for the supply chain. The authors focus their analysis on blockchain papers published in management journals (according to Scopus' definition) identifying 31 blockchain variables and classifying them into benefits (13), problems (8) and future directions of blockchain technology usage (10) for the supply chain. By providing a view on the future of BT research, the authors also suggest how the features of BT can change the organizational aspects of the supply chain.

The paper by Tiron-Tudor, Deliu, Farcane and Dontu aims to facilitate blockchain innovation immersion in accountancy organizations by providing tools that allow organizations to manage the change. More specifically, the paper approaches blockchain technology through the lens of organizational change management. To this aim, authors provide a hybrid systematic literature review of the relevant literature based on recent research papers published in highly ranked scientific journals. Authors considered papers that capture how accounting organizations might manage the changes induced by BT. The findings of the review indicate that implementing BT requires some new *modus operandi*. This paper has the merit to be one of the first that approach blockchain technology by using the lens of organizational change management with a specific focus on accounting and audit organizations. Authors focus on the strengths, weaknesses, opportunities and threats of this technology, explaining how this tool could support organizations and how to verify if organizations are ready for its adoption. Finally, they propose solutions to coping with the arising technological challenges in implementing successfully this technology.

Following on, Maffei, Casciello and Meucci analyze the effects of blockchain adoption in accounting and auditing practices, outlining its benefits and threats and uncovering new and upcoming risks and issues. Focusing on the extant literature, authors adopt a critical perspective to investigate how the implementation of BT could affect accounting and auditing practices, providing a reflection on the role of accountants and auditors during such a technological revolution. This paper has the merit of offering accountants and auditors a clear view on blockchain effects on their daily activities by focusing, especially on the threats and risks caused by its implementation.

The article by Caldarelli, Zardini and Rossignoli is a case study that aims to examine the main barriers to blockchain adoption (introducing a novel concept of sustainability) in the fashion supply chain. The authors analyzed barriers, problems and benefits that arise from

blockchain implementation in a fashion firm operating in the Veneto region (Italy). Findings support the idea that blockchain solutions could be a valuable add-on in sustainable supply chains. However, a deep understanding of the technology and extensive communication with customers are critical factors for a successful implementation. This paper is the first that contextualizes and addresses the blockchain adoption barriers in the fashion supply chain and offers an overview of how blockchain affects sustainable production.

The paper by Mishra and Venkatesan aims to explain the BT adoption from the employees' point of view. More specifically, authors aims to understand the views of both HR and non-HR employees of how they assess the current scenario of HRM in their organizations, their awareness about the blockchain technology and their opinion about the scope of application of blockchain in HRM. To this aim, authors employed a chi-square test of homogeneity and a log-linear analysis on a sample of 158 employees (working in both HR and non-HR profiles) working in different firms. They found no difference between the viewpoints of HR and non-HR employees across all contexts related to blockchain in HRM. Also, authors analyzed the opinion of employees regarding advantages, organizational barriers and probable usages of blockchain in HRM. This study will be a novel attempt to understand the scope of application of blockchain technology in HRM.

Finally, the study of Jain, Sharma and Shrivastava analyze the technological skills required by the human resources function in order to use blockchain technology in firms. The study represents an effort to understand the potential of blockchain technology and to create better training evaluation for employees. Using the electronic-Delphi method (e-Delphi), the authors formulated four major themes and 11 subthemes for the smooth functioning of blockchain in an organization, proposing a balanced training strategy for blockchain implementation.

Conclusions

The contributions presented in this special issue offer important insights, raise new research questions, contribute to theory development, provide empirical evidence and outline recommendations about different topics related to blockchain adoption in firms. Necessarily for a new domain such as BT, this special issue, among others, is only making the first steps in reaching a fuller knowledge about blockchain adoption in firms. We hope that readers will agree that this special issue progresses our understanding in this exciting and promising area.

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