

Chapter 85

Perspective and Challenges of Blockchain Technology in the Accountability of Financial Information

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ABSTRACT

The accounting information system could be improved by blockchain technology, but some potential risk could arise. Thus, it is worth considering such risks. The accounting research and academic literature regarding the impact of this technology on the accounting system are in an initial stage of this emergent field. The purpose of this chapter is to go a step further on this topic and to spur additional research regarding accounting and blockchain technology. The contribution of this study is twofold. On the one hand, it shows the main technologies comprising blockchain and their main consequences understood as sources of improvement. On the other hand, it assesses said effects applied to different processes of the accounting information system. Not only does this work show implications for the accounting profession, but the effects on the primary stakeholders are also brought to light.

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INTRODUCTION

The development of new technologies has involved a drastic change in the way of conceiving the firm. Specifically, digital technology based on the Internet has entailed a great revolution both in the way that firms are managed and in the way in which they relate with other firms (Woodside et al., 2017). These digital technologies have provided new approaches to achieve higher productivity, higher quality, and lower production costs (Nowinski and Kozma, 2017). Moreover, the amount of information and data generated have supported inter-organizational relationships (Parry et al., 2016).

The maintenance of the abovementioned characteristics lies in a good decision-making process, for which it is imperative to have the highest, possible and available information quality. The information quality, in this context, is determined by its ability to represent a faithful image of transactions, being transparent and truthful, easily accessible and relevant for the purposes to which it is intended. Besides, delays cannot be a concern since information exchange is made in real time (Kavassalis et al., 2018; Lemieux, 2016; Nowinski and Kozma, 2017). Consequently, information poses an extra value that has to be managed.

Digital technologies such as blockchain have generated new opportunities in information treatment, offering several possibilities to solve specific problems. For instance, intangible assets were considered a source of problems since they might have been acknowledged as a double spent (Lemieux, 2016). Nonetheless, blockchain technology has overcome this problem through distributed ledger technology (Woodside et al., 2017). Thus, all transactions are recorded and stored across multiple copies over many computers in a decentralized distribution.

Because of its nature, blockchain technology can provide public and free, albeit anonymous information. Accordingly, blockchain technology has been positioned as the perfect candidate to test transactions publicly between two agents without the need for a third party to intervene (Lemieux, 2016; Swan, 2017). Moreover, due to its hash function, no transaction is modified, that is to say, a different operation is generated to complete the information the previous one describes (Nowinski and Kozma, 2017). This procedure eventually gives the sense of integrated information as all the transactions remain immutable, and anyone can monitor the whole process.

In this way, blockchain technology presents different challenges in the development of accounting process and tasks, and therefore, in the exchange of information and its use for decision-making process. For example, through this technology, there would be no firm with a valid excuse not to be responsible for the integrity of their accounting information. The point here is that everybody could have access to it, knowing that it embodies the faithful image of its activity. Nevertheless, this process needs a time of adaptation where the firm and the users of the information should balance their needs to act accordingly.

This book chapter tries to explore the challenges that blockchain poses into the accounting information system to delimitate and classify their actions and opportunities. This chapter attempts to create a new pathway throughout which provides those configurations that best suit the current situation.

The main contribution of this chapter is twofold. First, the impact of blockchain technology in the accounting circuit is discussed, as well as its potential influence on different stakeholders. Second, this chapter provides an analysis regarding the benefits that blockchain applications have in the accounting information system.

The remainder of the study is structured as follows. In the next session, the chapter briefs a background regarding blockchain technology. After the background, the conceptual framework of the blockchain technology, its technical requirements and its main benefits for businesses are highlighted. Subsequently,

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