Blockchains for Business Process Management - Challenges and Opportunities (Extended Abstract)[1]

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Abstract: Blockchain technology offers a sizable promise to rethink the way inter-organizational business processes are managed because of its potential to realize execution without a central party serving as a single point of trust (and failure). To stimulate research on this promise and the limits thereof, in this paper we outline the challenges and opportunities of blockchain for Business Process Management (BPM). We structure our commentary alongside two established frameworks, namely the six BPM core capabilities and the BPM lifecycle, and detail seven research directions for investigating the application of blockchain technology to BPM.

Keywords: Blockchain, Business Process Management, Research Challenges.

1 Paper Synopsis

This extended abstract summarizes the key challenges identified in a recent research commentary on blockchains and business process management. Altogether, seven major research directions are identified at the intersection of both topic areas. These challenges relate to the BPM lifecycle and BPM-related different capability areas. The challenges include the following.

1. Understanding the impact of blockchain on strategy and governance, in particular regarding new business and governance models enabled by revolutionary innovation based on blockchain.
2. Devising new methods for analysis and engineering business processes based on blockchain technology.
3. Investigating the culture shift towards openness in the management and execution of business processes, and on hiring as well as upskilling people as needed.
4. Developing techniques for identifying, discovering, and analyzing relevant processes for their adoption of blockchain technology.

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5. Redesigning processes to leverage the opportunities granted by blockchain. Just like the move from paper files to digital files allowed streamlining processes, blockchain may allow re-imagining how processes can be done in collaboration with external stakeholders. The whole area of choreographies may be re-vitalized by this technology.
6. Developing a diverse set of execution and monitoring frameworks on blockchain.
7. Defining appropriate methods for evolution and adaptation.

The BPM community has a unique opportunity to help shape this fundamental shift towards a distributed, trustworthy infrastructure to promote inter-organizational processes. With this paper we aim to provide clarity, focus, and impetus for the research challenges that are upon us.