

# Understanding the Benefits of Blockchain Technology for Patent Management

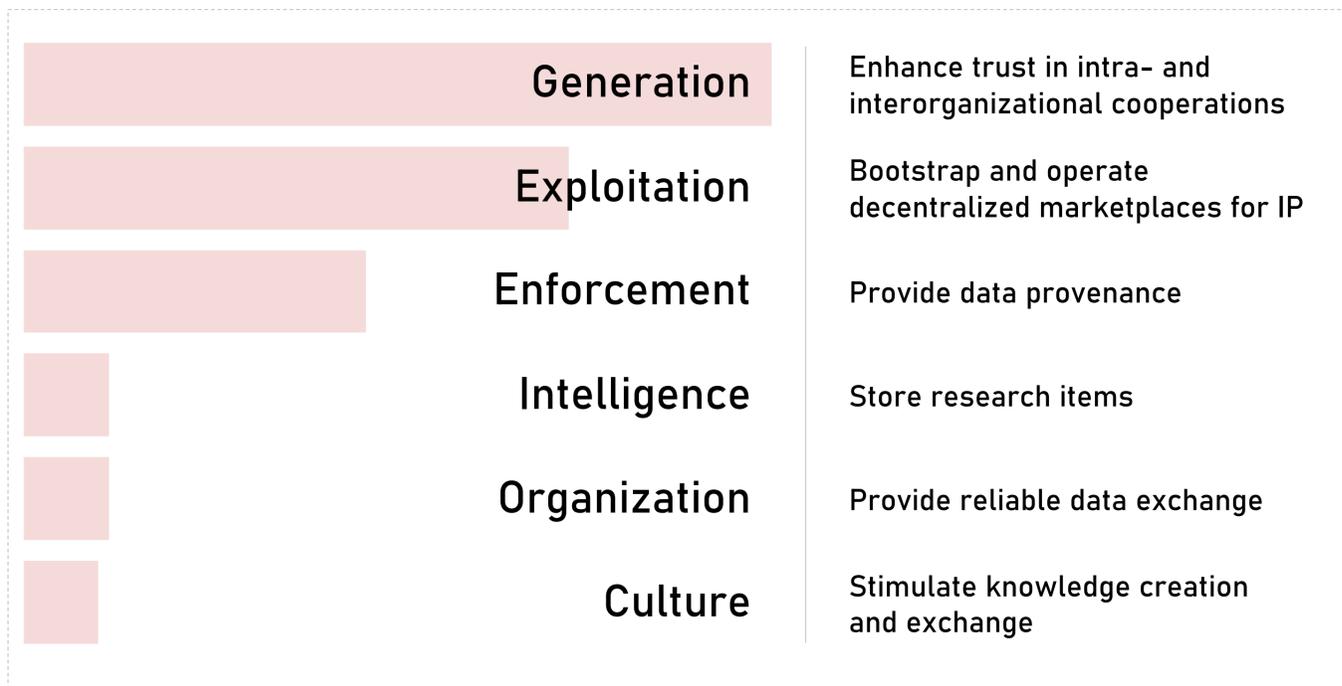


Fig. 1: Bibliographic and textual results from systematic literature review (1)

The three main foci that emerge are: Blockchain technology for the generation, exploitation and enforcement of patents. In terms of generation, Blockchain technology often acts as an immutable database across organizational boundaries. As concerns exploitation, Blockchain technology is mainly utilized by means of smart contracts to facilitate the establishment of a market for technology without intermediaries. Regarding enforcement, Blockchain technology enables a tamper-resistant proof of ownership to provide data provenance.

## Research Gap and Question

- Trust and contract processing in adverse environments are day-to-day business in patent management (2)
- Blockchain technology offers new answers to reshape these intra- and interorganizational business processes (3)
- Thus, we ask how patent management may benefit from Blockchain technology?

## Data and Method

- Records from Google Scholar, Scopus, Web of Science and IEEE Xplore
- Systematic literature review in the form of an organizing review (to describe the current literature state) and of a textual narrative synthesis (to follow the review protocol with rigor) (4, 5)

## Results

- Most prominent applications are found in generation, exploitation and enforcement (see Fig. 1)
- Holistic approaches of Blockchain technology for patent management are missing
- There is no dominant design established in Blockchain architecture use

## Implications

- Blockchain technology offers a vital opportunity for an improved patent management
- Multiple use cases are possible, but so far no comprehensive concept for the use of Blockchain technology in patent management has been developed

### References

- (1) N. M. Denter, F. Seeger, M. G. Moehrle, How can blockchain technology support patent management? A systematic literature review (2021). Under Review.
- (2) H. Ernst, Intellectual Property as a Management Discipline. *Technology and Innovation*. 19, 481–492 (2017), doi:10.21300/19.2.2017.481.
- (3) J. Mendling *et al.*, Blockchains for Business Process Management - Challenges and Opportunities. *ACM Transactions on Management Information Systems*. 9, 1–16 (2018), doi:10.1145/3183367.
- (4) D. E. Leidner, Review and Theory Symbiosis: An Introspective Retrospective. *Journal of the Association for Information Systems*. 19, 552–567 (2018), doi:10.17705/1jais.00501.
- (5) P. J. Lucas, J. Baird, L. Arai, C. Law, H. M. Roberts, Worked examples of alternative methods for the synthesis of qualitative and quantitative research in systematic reviews. *BMC Med Res Methodol*. 7, 1–7 (2007), doi:10.1186/1471-2288-7-4.



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