

Applying blockchain technology in multi-sided platforms to enable business model innovation: An explorative case study on decentralized sharing platforms

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Why did we select this research?

The competitiveness between businesses is continuously increasing and multi-sided platforms seek to reduce cost, increase efficiency and improve the quality of products and services. A multi-sided platform is a technology solution that solves coordination problems in market exchange by facilitating direct interactions between two or more distinct groups of individuals, where each group is affiliated with the platform. Blockchain technology improves the value proposition of multi-sided platforms. The transactions between individuals in the sharing economy involve access to a good or service in exchange for money. Interacting individuals always required a trusted third party that intermediates in the exchanges of value. A multi-sided platform needs to be decentralized to benefit from the technical capabilities of blockchain technology. We selected this research because it contributes to the future of multi-sided platforms within the sharing economy.

Key findings

The research objective of this thesis are:

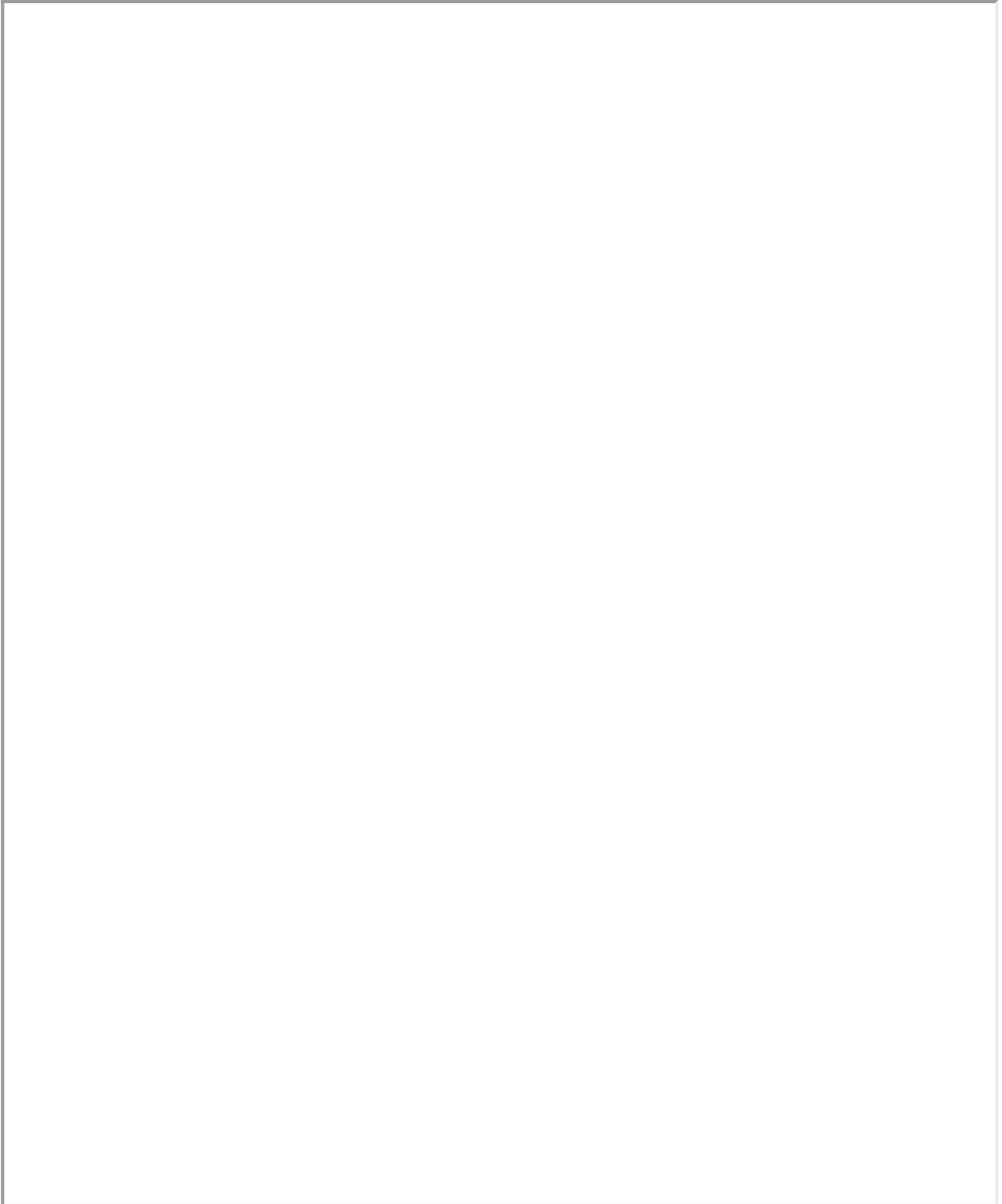
- to explore the impact of blockchain technology on peer-to-peer multi-sided platforms by designing a decentralized business model that allows users to share goods with each other

- to evaluate the viability and feasibility of the decentralized business model that is designed by using blockchain technology as a driver for innovation of peer-to-peer multi-sided platforms.

The specific recommendations are meant for executives of the Dutch company Peerby. The recommendations describe how blockchain technology could be used to innovate its current business model. The main findings can be summarized in the following points:

- Blockchain technology is only valuable for decentralized sharing platforms, which is why blockchain technology is not suitable for centralized peer-to-peer multi-sided platforms. Blockchain technology can be used to change the value proposition of peer-to-peer multi-sided platforms, by decentralizing the business model. The value proposition of a decentralized business model brings more value to users than centralized business models.
- Blockchain technology can be used to change the technical architecture and business functions of peer-to-peer multi-sided platforms, by means of a token system and smart contracts. Smart contracts allow automation of business processes via programmable logic that is stored on a blockchain. It is possible to automate processes without using blockchain technology, however, this does not offer the technical capabilities of blockchain technology.
- Users need to engage in value activities that contribute to the expansion of the value network. These activities are related to the business functions. Users offer the main resources and capabilities that a decentralized platform needs. Three value activities are identified that are impacted by blockchain technology. Users must engage in value activities in order to create positive network effects. Therefore, multi-sided platforms focus on managing the resources and capabilities of users.
- The core value activity involves normal transactions between individuals. Furthermore, decentralized sharing platforms need to be open for external relationships. Collaborating with third parties is important for the offering of complementary services. This is known as horizontal differentiation, which is a strategy that is relevant for both centralized and decentralized sharing platforms.
- Decentralizing business processes of multi-sided platforms result in the elimination of transaction costs. The transaction costs are eliminated, because there is no longer a third party that is involved in the process. This cost reduction could be used to decrease the transaction fees that users pay to use the service. The revenue model for peer-to-peer multi-sided platforms

is usually based on such transaction fees. There is some inconsistency whether transaction fees should be completely eliminated, because then the core revenues of the business model disappear. In this scenario, the decentralized business model should find new ways to earn income.



Reference: Ribbens F.C. (2018). Applying blockchain technology in multi-sided platforms to enable business model innovation: An explorative case study on decentralized sharing platforms. Pp 1-134, Delft University of Technology.
