SHARING ECONOMY 2.0: DESIGN OF A BLOCKCHAIN SOLUTION FOR CAR SHARING WITHOUT UBER

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ABSTRACT

In this study, we will explore the design and feasibility of using a Blockchain as a solution to replace the intermediaries such as Uber, to further reduce the transaction cost of sharing economy. Blockchain is implemented on an overlay and distributed network. The Blockchain database is globally distributed and stored on multiple servers that are synchronized constantly. Because of this nature of being distributed, the Blockchain technology is resilient. It is available all of the time and it is reliable to access from anywhere. All of these characteristics of Blockchain technology has made it have the potential to become a neutral technology to replace Uber or other intermediaries to allow the sharing economy to move to version 2.0 - a Blockchain based sharing economy with no or a much lower transaction cost.

Keywords: Blockchain, sharing economy

EXTENDED ABSTRACT

The sharing economy, also called pairing economy, is based on the principle that what's mine could be yours, and everything is for hire or can be shared with a reasonable cost. The ubiquitous mobile Internet access with a smartphone has made the sharing or paring quick and convenient. Examples of sharing economy companies include Airbnb, Uber (private car driver), and Lyft & Zipcar (car sharing and car club service). Among them, Uber has become a symbol of sharing economy.

However, in the current sharing economy (maybe we can call it Version 1.0), there must be a third party involved as the middle man to pair a service provider with a service recipient. Use the Uber example. Uber is not a taxi company or car rental company. It provides a technology platform that matches taxi service providers with riders. Uber is the intermediate layer that makes the ride sharing or paring possible. As a result, Uber has a fair share of the profit in each ride sharing transaction. For each ride, there is a rider fee (about $1-$2), and a 25% commission charged by Uber.

While the current sharing economy (v.1.0) has shown that a sizable market can be quickly created and the market scalability is efficient, we also see that the transaction cost can be high even though that the Internet and mobile technology have made sharing assets cheaper and easier than ever. The primary reason is, of course, the use of third party service providers such as Uber.

In this study, we will explore the design and feasibility of using a Blockchain as a solution to replace the intermediaries such as Uber, to further reduce the transaction cost of sharing economy.

Blockchain is an application of modern digital data encryption technology, which has made data contained in a Blockchain secure and no repudiation in the context where authentication and uniqueness is required. Blockchain is a trust communication protocol to carry and transport data from one entity to another. It is a protocol that is trusted by the parties that are using the protocol. Blockchain is implemented on an overlay and distributed network. The Blockchain database is globally distributed and stored on multiple servers that are synchronized constantly. Because of this nature of being distributed, the Blockchain technology is resilient. It is available all of the time and it is reliable to access from anywhere. All of these characteristics of Blockchain technology has made it have the potential to become a neutral technology to replace Uber or other intermediaries to allow the sharing economy to move to version 2.0 - a Blockchain based sharing economy with no or a much lower transaction cost.

REFERENCES

References available upon request from the authors.