Security of blockchain in cryptocurrencies and its use in cybersecurity

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Abstract

Purpose of the article The purpose of this article is to introduce a relatively new technology, the blockchain, that first appeared when the cryptocurrency Bitcoin was introduced. The article also aims to highlight the main advantages of this technology when used in cyber security and provides a background into the field of crypto-currencies with a focus on their security, which is closely related to the security of the blockchain.

Methodology/methods This article is based primarily on secondary research. To fulfill the aim of this article, a critical analysis of the available literature dealing with the topic of cyber security using blockchain technology and the basics in the field of cryptocurrencies was used. When analyzing the literature, we proceeded first by identifying keywords, searching for literature, analysis and synthesis of the found literature. At the same time, a basic study of the most well-known cryptocurrencies and their position on the current market was performed for better orientation in the issue.

Scientific aim The scientific benefit is the creation of a literature search dealing mainly with blockchain technology and its use in cyber security. This research will further serve as a basis for further research and scientific work.

Findings The article introduced blockchain technology, which has great potential in the field of cyber security. We mentioned the main advantages of this technology for its use in this industry and at the same time we mentioned several limitations, on the example of the two most famous cryptocurrencies Bitcoin and Ethereum. These circumstances still prevent this technology from becoming more widespread. However, based on the information found, it is possible to say that this technology has many advantages, which are primarily based on its decentralization, which ensures a very high security of stored data and is therefore very suitable in cyber security.

Conclusions Although blockchain technology is still relatively young, it is used in various industries, not only in cryptocurrencies, which is probably the most well-know use. One of the examples of use is the area of cyber security, where it finds its use mainly due to its decentralized nature and very low possibilities of hackers successfully attacking this system. Nevertheless, there are still some problem areas of this technology, which, thanks to great attention and interest in this technology, are increasingly being eliminated. Due to the relentless development, we are likely to encounter blockchain to an increasing extent and in more areas in upcoming years.

Keywords: Blockchain, Cryptocurrencies, Cybersecurity, Proof-of-Work, Proof-of-Stake, Bitcoin, Ethereum

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