

BLOCKCHAIN TECHNOLOGY AND CRYPTOCURRENCIES.**G.B. Khudoyberdieva***Navoi State Pedagogical institute,**Student of the Faculty of mathematics and information technology,*

Annotation. *This article will analyze in detail the general concepts of blockchain technology and cryptocurrencies, the principles of their operation and their relationship. Blockchain technology is a decentralized, encrypted and unchanging data storage system that can be applied in different areas. Cryptocurrencies, on the other hand, use blockchain technology to create digital currencies independent of the central authority and consider their economic, financial and technological significance.*

Keywords. *Blockchain technology, cryptocurrencies, digital currency, smart contracts, decentralized system Consensus mechanisms, cryptocurrency, encryption, digital economy, regulation, financial technology, agriculture and e-government.*

The role and development of blockchain technology and cryptocurrencies in Uzbekistan is now a very interesting and important topic and shows what changes can lead to in the country's economy and financial system. A blockchain is a digital register made up of decentralized, interconnected "blocks". Each block contains operations carried out at a certain time interval, and the blocks are connected together in a chain style. Main features: Decentralized: data is stored in multiple copies and managed by multiple participants (node). This limits central authority and increases the stability of the system. Invariance: data stored in the blockchain is difficult to change or delete. Since each new block is associated with the previous blocks, it becomes necessary to change all blocks to edit the information, which is very difficult. Encryption: the data is encrypted and they can only be read by individuals who are allowed to view the necessary information. Consensus mechanisms: come to consensus among participants in a blockchain network to validate data and add new blocks. Examples include mechanisms such as Proof of Work (PoW) or Proof of Stake (PoS). Cryptocurrencies are digital currencies that work using blockchain technology. They are not managed by central banks or governments, but by a P2P (peer-to-peer) network. The most popular cryptocurrencies: Bitcoin (BTC): the first and most popular cryptocurrency created in 2009. Bitcoin provides a decentralized currency system using blockchain technology. Ethereum (ETH): is the most popular cryptocurrency after Bitcoin, which allows you to create not only financial transactions, but also smart contracts (automatically executed

contracts) and DApps (decentralized applications). Ripple (XRP): designed primarily for banks and financial institutions to make quick and cheap transfers. Litecoin (LTC): seen as a "lightweight" version of Bitcoin, characterized by faster transactions and lower commission fees. Through the use of cryptocurrencies and blockchain technology in Uzbekistan. The government of Uzbekistan is studying the use of blockchain technology in digital identity and e-government systems. For example, blockchain technology can help to digitize certain public services and make processes transparent. Agriculture: blockchain technology can be used to transparent the supply chain of agricultural products, track the origin of products, and optimize production processes. Financial sector: banks and financial institutions may be interested in using blockchain technology for safe and fast transactions. This can increase the efficiency of financial services. Regulation: the Government of Uzbekistan is taking steps to establish regulations related to cryptocurrencies and control their development. For example, in 2020, special legislation was adopted to regulate cryptocurrency and blockchain technology. Cryptocurrency Mining: Uzbekistan remains an interesting place for cryptocurrency mining activities due to its low cost of Natural Resources and electricity. The development of the Mining sector, but at the same time, there are also issues related to energy consumption and environmental impact. Cryptocurrency trading: markets and platforms for trading and exchanging cryptocurrencies are emerging in Uzbekistan. Opportunities to participate in the cryptocurrency market are increasing, but the government is maintaining caution to prevent security and fraud in this area. Education and innovation: education and research on blockchain technology and cryptocurrencies is developing in Uzbekistan. Universities and research centers are implementing programs to introduce education and innovation in the field. Digital economy: through the use of blockchain technology, it is possible to develop the digital economy in Uzbekistan, improve financial services and create new business models. Characteristics to this area:

- Easy and quick transactions: the possibility of easy money transfer globally.
- Low commission fees: low commission fees compared to traditional financial systems.
- * Privacy of personal data: the possibility of protecting personal data.
- Volatility: cryptocurrency values often change, which increases investment risks.
- * Regulation: cryptocurrencies and blockchain technology need to enter or change legal and financial regulations in many countries.
- * Security concerns: cyberattacks and scams, in particular, on cryptocurrency exchange platforms.

Blockchain technology and cryptocurrencies can play a big role in the future of the economy, but it is important to understand and correctly manage the risks associated with them.

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