Journal of Management and Economics (ISSN: 2751-1707)

Received: 30 November 2025 | Accepted: 22 December 2025 | Published: 26 January 2026

DOI: 10.55640/jme-06-01-04

RESEARCH ARTICLE

Blockchain Technology In The Theoretical And Methodological Basis Of The Development Of The Digital Economy

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VOLUME: Vol.06 Issue01 2026

PAGE: 28-30

Abstract

This article analyzes the essence of blockchain technology, its principles of operation, and its role in the digital economy. It covers the formation of cryptocurrencies, their advantages and role in the economy, the potential of blockchain technology in finance and other areas, as well as its positive and negative aspects. . Also, the economic efficiency and future development prospects of blockchain are assessed based on analytical data and tables.

KEYWORDS

Digital economy, cryptocurrency, blockchain technology, emergence of cryptocurrencies.

INTRODUCTION

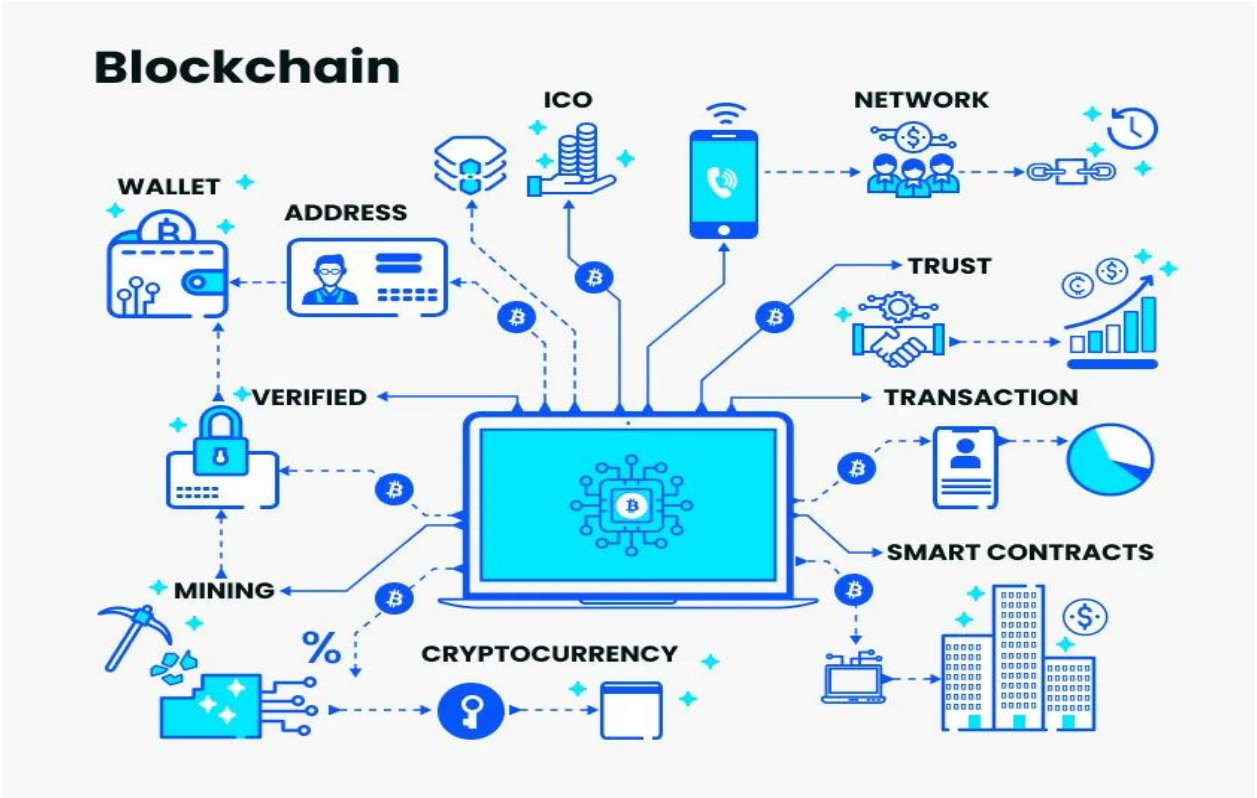
In recent years, the role of cryptocurrencies in the global economy has been growing dramatically. At the heart of these processes is the importance of digitalization and information technologies. Traditional economic models are increasingly giving way to the concept of the digital economy. The digital economy refers not only to online services or electronic payment systems, but also to new financial instruments - cryptocurrencies and the blockchain technology that supports them. As a result of the rapid development of information technologies, the digital economy is becoming an integral part of the global economic system. One of the main aspects of the digital economy is the creation of reliable and secure transaction systems, and blockchain technology plays an important role in achieving this goal. Blockchain is a decentralized, transparent and secure database that allows you to store transaction data in the form of an immutable chain of blocks. Although this technology was initially associated with cryptocurrencies, especially Bitcoin, today it is widely used in financial services, government, healthcare, supply chains, and other industries.

Cryptocurrencies and their role in the economy

The concept and historical formation of cryptocurrencies: Cryptocurrencies are monetary units created in digital form and protected by special cryptographic algorithms, which operate on the basis of a decentralized system. Unlike traditional national currencies, cryptocurrencies are not controlled by a central bank or government agencies. This makes them an "independent financial instrument".

The first cryptocurrency, Bitcoin, was introduced in 2009 by a person (or group) under the pseudonym "Satoshi Nakamoto". It was formed as a payment system that did not go through traditional banks, but was carried out directly between users. Soon after, other cryptocurrencies appeared - Ethereum, Ripple, Litecoin, Dogecoin and hundreds of new tokens.

The main types of cryptocurrencies: Today, there are thousands of types of cryptocurrencies, which are used for various purposes:



Bitcoin (BTC) is the most popular and widely used cryptocurrency. It is mainly used as a store of value.

Ethereum (ETH) is not only a cryptocurrency, but also a platform that allows you to create smart contracts and Apps (decentralized applications).

Ripple (XRP) is designed to make fast and cheap transactions in international payment systems.

Litecoin (LTC) is a cryptocurrency based on Bitcoin, but with a higher transaction speed.

Stable coins (USDT, USDC, BUSD) are cryptocurrencies that are tied to stable assets such as the US dollar, and their value remains relatively unchanged.

Advantages of cryptocurrencies: To better understand the impact of cryptocurrencies on the economy, let's look at their main advantages:

Decentralization - they work without bank or government control.

Transparency - all transactions are recorded on the blockchain system.

Speed and convenience - international transfers are made in seconds.

Security – cryptographic algorithms prevent transactions from being forged.

Limited emission - the total number of many cryptocurrencies is predetermined (for example, Bitcoin - 21 million units). This ensures that they have a deflationary nature.

Impact of cryptocurrencies on the economy: Cryptocurrencies play an important role in the modern economy in the following areas:

Financial inclusion - allows the unbanked to access the global financial system. For example, in developing countries, people can make transactions using cryptocurrencies without a bank card.

Simplification of international trade - with the help of cryptocurrencies, quick settlements are made without customs and bank fees. This facilitates export-import operations.

Investment and capital markets – cryptocurrencies are attracting interest as a new investment vehicle. Startups are raising capital through ICOs (Initial Coin Offerings).

Money transfers – sending funds from abroad is cheaper and faster than through the traditional banking system.

New jobs and markets – new economic directions are emerging through cryptocurrency exchanges, mining

companies, blockchain startups.

The role of cryptocurrencies in world experience: Today, some countries are legalizing the use of cryptocurrencies as a means of payment. For example:

El Salvador is the first country to adopt Bitcoin as an official national currency.

Japan and South Korea have legally regulated the cryptocurrency market.

The United States and the European Union consider crypto assets as investment vehicles and tax them.

China – although it has imposed some restrictions, is introducing its own national digital currency – the Digital Yuan.

Blockchain technology and its economic potential

The essence of blockchain technology: Blockchain is a distributed ledger technology that allows you to store and manage data in a decentralized manner. Simply put, in this system, all transactions are recorded in the form of "blocks" and they are connected to each other in the form of a chain.

That is why it is called a blockchain. Each new block is linked to the previous one and is protected by cryptographic algorithms. This method makes it almost impossible to change or forge information. Therefore, blockchain is used not only for financial transactions, but also as a reliable tool in various economic processes.

Application in the field of finance: Although blockchain was originally created for cryptocurrencies, today it has wide possibilities in the financial system:

Banking services - international payments are made cheaper and faster with the help of blockchain.

Smart contracts - digital algorithms that automatically fulfill the terms of the contract. They help to make reliable transactions without intermediaries.

DeFi (Decentralized Finance) – decentralized financial systems allow users to obtain loans, transfer money, and trade assets.

Opportunities in business and government: Blockchain technology is finding its place not only in finance, but also in business and government:

Supply chain (logistics) – tracking the path of a product from manufacturer to consumer, preventing counterfeit goods.

Public procurement – conducting government tenders via blockchain increases transparency and reduces corruption.

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