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## **Cryptocurrencies**

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### ***Анотація***

*У даній роботі особлива увага приділяється криптовалютам, зокрема Біткойну, впливу на сучасний трейдинг, на валюти та на інформаційні технології.*

**Ключові слова:** нейронні мережі, нейрон, штучний інтелект, машинне навчання

### ***Abstract***

*This paper focuses specifically on currencies, including Bitcoin, influence on modern trading, on currencies and on information technologies.*

**Keywords:** trading, information technologies, bitcoin, cryptocurrency, computers

### **About cryptocurrency**

A cryptocurrency is a digital asset designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. Cryptocurrencies are a type of digital currencies, alternative currencies and virtual currencies. Cryptocurrencies use decentralized control as opposed to centralized electronic money and central banking systems. The decentralized control of each cryptocurrency works through a blockchain, which is a public transaction database, functioning as a distributed ledger. Bitcoin, created in 2009, was the first decentralized cryptocurrency. Since then, numerous other cryptocurrencies have been created. These are frequently called altcoins, as a blend of alternative coin.

### **Bitcoin**

Bitcoin is a decentralized currency that uses peer-to-peer technology, which enables all functions such as currency issuance, transaction processing and verification to be carried out collectively by the network. While this decentralization renders Bitcoin free from government manipulation or interference, the flipside is that there is no central authority to ensure that things run smoothly or to back the value of a Bitcoin. Bitcoins are created digitally through a “mining” process that requires powerful computers to solve complex algorithms and crunch numbers. They are currently created at the rate of 25 Bitcoins every 10 minutes and will be capped at 21 million, a level that is expected to be reached in 2140.

### **The future**

Some of the limitations that cryptocurrencies presently face – such as the fact that one’s digital fortune can be erased by a computer crash, or that a virtual vault may be ransacked by a hacker – may be overcome in time through technological advances. What will be harder to surmount is the basic paradox that bedevils cryptocurrencies – the more popular they become, the more regulation and government scrutiny they are likely to attract, which erodes the fundamental premise for their existence.

While the number of merchants who accept cryptocurrencies has steadily increased, they are still very much in the minority. For cryptocurrencies to become more widely used, they have to first gain

widespread acceptance among consumers. However, their relative complexity compared to conventional currencies will likely deter most people, except for the technologically adept.

A cryptocurrency that aspires to become part of the mainstream financial system may have to satisfy widely divergent criteria. It would need to be mathematically complex (to avoid fraud and hacker attacks) but easy for consumers to understand; decentralized but with adequate consumer safeguards and protection; and preserve user anonymity without being a conduit for tax evasion, money laundering and other nefarious activities. Since these are formidable criteria to satisfy, is it possible that the most popular cryptocurrency in a few years' time could have attributes that fall in between heavily-regulated fiat currencies and today's cryptocurrencies? While that possibility looks remote, there is little doubt that as the leading cryptocurrency at present, Bitcoin's success (or lack thereof) in dealing with the challenges it faces may determine the fortunes of other cryptocurrencies in the years ahead.

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