A reliable cryptocurrency needs good governance, say researchers

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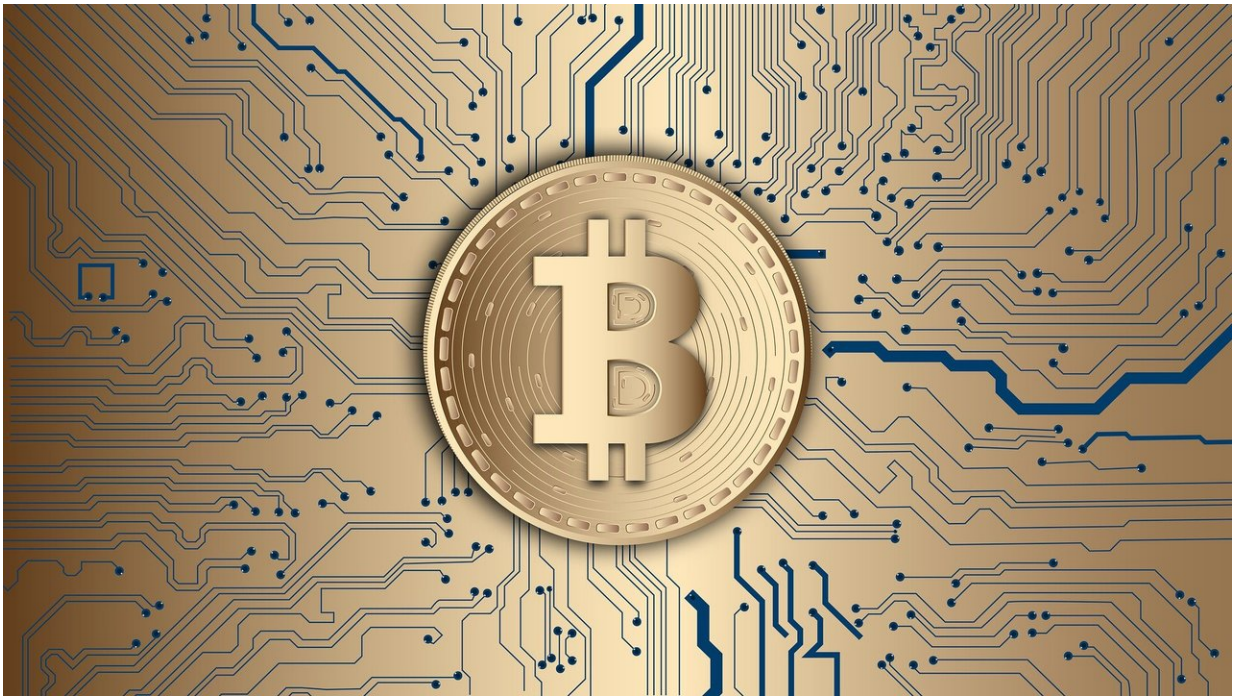

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Participants in cryptocurrency networks like Bitcoin need to be better at preempting beneficial software changes. This will ensure the security and privacy of addresses and transactions, and help retain the value of cryptocurrencies, says Benjamin Trump (ORISE Fellow, United States Army Corps of Engineers). He is the lead author of a study in Springer's journal *Environment Systems and Decisions*, which analyzes the

governance challenges of many cryptocurrencies and explains why such challenges threaten the long-term usefulness of such cryptocurrencies.

Bitcoin and other cryptocurrencies could potentially revolutionize commerce and information exchange worldwide through their use of blockchain and distributed ledger technologies. However, cryptocurrencies are still highly volatile, and users lack longstanding trust in them as a reliable form of financial exchange.

Although the underlying technologies driving cryptocurrencies are promising, Trump believes that the stability of cryptocurrencies is threatened by the current processes which enable software updates. These threats are known as "hard forks" or splits in the blockchain of a cryptocurrency. Disruption of a cryptocurrency's blockchain in this way might cause people to lose trust in it and its capacity to survive as a reliable vehicle of exchange, says Trump.

In this study, Trump and his team reviewed the state of cryptocurrency "forks" by looking at more than 800 publicly acknowledged occurrences of so-called soft forks, source code forks or altcoins, as well as hard forks from Bitcoin. The researchers used sources such as the Map of Coins and the Bitcoin Exchange Guide.

Their analysis showed a substantial growth in the number of separate blockchains stemming from initial Bitcoin software. Many of these Bitcoin forks and altcoins did not survive beyond a few months, while others such as Litecoin, Dogecoin and Vertcoin have lasted for years. Two hard forks executed in late-2017 to early-2018 opened the door to many other future forks. Experts predict that hard forks are expected to become more common, with some sources arguing that up to 50 are possible in 2018 alone.

"Hard forks are a threat to maintaining a stable and predictable operating

platform that is essential if cryptocurrencies are to be adopted for daily financial transactions," says Trump, who sees such increases in hard forks as a hurdle to mainstream adoption of selected cryptocurrencies.

Trump says that if Bitcoin, in particular, is to become a more globally recognized, reliable, and a predictable medium of exchange on an international scale, cryptocurrency miners, wallet developers, exchange operators and other stakeholders within the Bitcoin network need to generate more stability through good governance.

Suitable measures could include establishing metrics for key variables that can pre-emptively identify whether software changes are needed well before inflection points arise.

More information: Benjamin D. Trump et al, Cryptocurrency: governance for what was meant to be ungovernable, *Environment Systems and Decisions* (2018). DOI: 10.1007/s10669-018-9703-8

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