

Cryptocurrency vs. Digital Rupee

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Abstract:

Cryptocurrency is a digital currency designed to be used as a medium of exchange through a computer network, without relying on a central authority (such as a government or bank). It takes place digitally and uses encryption technology to protect transactions. It's a peer-to-peer system that allows everyone who is willing to take part from anywhere to send and receive payments. Cryptocurrency payments are not physical currencies that are carried and exchanged in the real world; reside in digital assets in online repositories that describe specific transactions. When you transfer cryptocurrency, the transaction is recorded on a public distributed ledger (a decentralized ledger is a data structure distributed across different devices). Blockchain technology a distributed and encrypted ledger acts as the backbone of cryptocurrency. Bitcoin and Ethereum are the two biggest cryptocurrencies. The Digital Rupee is the RBI's accepted interpretation of cryptocurrencies, which the central bank has dismissed constantly and called a serious challenge to the stability of the fiscal system of the country. The Reserve Bank of India is set to launch the airman of its central bank digital currency (CBDC), which it categorizes as legal tender in a digital form. Commonly known as the digital rupee, it'll be interchangeable at par with currencies and will be considered respectable for payments and a safe store of value.

Keywords: *Cryptocurrency, Digital Rupee, ₹, India's digital currency.*

1. Introduction:

A digital currency is any currency that is exclusively available electronically. Financial systems in several nations already significantly rely on electronic forms of money. Digital currency, on the other hand, is only ever exchanged virtually and stays within a computer network. The three primary categories of digital money are cryptocurrencies, central bank digital currencies (CBDCs), and stablecoins.

A digital payment system known as cryptocurrency doesn't rely on banks to validate transactions. Peer-to-peer technology makes it possible to allow everyone who is willing to take part from anywhere to send and receive payments. Blockchain technology, the most common type of distributed ledger utilized by digital currencies, provides the basis for cryptocurrencies. Payments made with cryptocurrencies only exist as digital entries to an online database that list specific transactions, not as genuine physical coins that can be carried and swapped. The first cryptocurrency was created in 2009 and is still the most well-known today: Bitcoin. All Bitcoin transactions that involve money transfers are recorded in a public ledger in an encrypted form. Just like the physical wallet, cryptocurrency is kept in a digital wallet. Due to the fact that transactions are verified using encryption, cryptocurrency has earned its moniker. This means that complex encryption code (Merkley tree) is required for the storage, transport, and recording of Bitcoin data to public ledgers so that no one can modify it and make data secure and protected. A large portion of cryptocurrency interest is in trading for financial gain, with speculators occasionally sending prices stratospheric. The cryptocurrency's value depends on how it is collateralized.

A distributed public ledger known as blockchain, which is updated and maintained by currency holders, is the foundation of cryptocurrencies. A blockchain is a constantly growing ledger consisting of permanent transactions that have taken place in sequence, in a secure and immutable way. Blockchain uses advanced cryptography to make sure that information is locked inside the blockchain. Every transaction happens after the previous one and no one can change them. Without the need for a third-party middleman like a bank or

the government, it can be utilized for the secure transfer of cash, assets, contracts, etc. Blockchain is a software protocol, but it requires the Internet to function (like SMTP is for email).

Through a process known as mining, which employs computer power to solve challenging mathematical problems, units of Bitcoin are created. Additionally, users have the option of purchasing the currencies from brokers, and then storing and spending them in digital wallets.

When you hold cryptocurrencies, you don't actually own anything. You have the key to transferring data or units of measurement between people without the need of a trustworthy intermediary. Despite the fact that Bitcoin has been around since 2009, blockchain technology and its financial uses are constantly evolving, and more are expected in the future. Many Cryptocurrencies are available all over the world, some of the best-known include:

Bitcoin: Founded in 2009, Bitcoin was the decentralized digital currency introduced by Satoshi Nakamoto and is still the most commonly traded.

Ethereum: Developed in 2015, Ethereum is a blockchain platform with its own cryptocurrency, called Ether (ETH) or Ethereum. It is the most popular cryptocurrency after Bitcoin.

Litecoin: Despite moving more quickly to develop new ideas, such as speedier payments and processes to allow more transactions, this money is most comparable to bitcoin.

2. Digital Rupee:

The Reserve Bank of India is getting ready to start using its central bank digital currency (CBDC), which it classifies as money in the digital form of legal tender. It will be exchangeable at par with current currencies, accepted for payments, and regarded as a secure store of value. It is sometimes referred to as the "digital rupee." The RBI's CBDC, also known as the e or the digital rupee, is a new way to utilize money that isn't much different from the banknotes that are now in circulation. The only difference is that the digital rupee is anticipated to be used more frequently and be traded digitally. The Cryptocurrencies accepted by the Reserve Bank, which is routinely dismissed as disruptive to the stability of the monetary system in India, are called Digital Rupee.

Here are some of the advantages of digital currency:

Faster Mode of Payment: Digital currency can make your payments much faster than current means like automated clearing houses or wire transfers that take days for financial institutions to confirm a transaction.

Cheaper Global Transfers: At times global transactions can get very expensive. Individuals are charged high fees to move funds from one nation to another, especially when it includes currency conversions. Digital assets could interrupt this market by making the transaction cost-effective and quick.

24/7 Availability: Digital currency transactions work at the same speed i.e. 24 hours a day and seven days a week. On the other hand, existing money transfers frequently take more time during weekends and outside normal working hours because banks are shut and cannot confirm transactions.

No Manufacturing Required: Physical currencies have many requirements such as the establishment of physical manufacturing facilities. Whereas, in digital currencies, no such expense is involved. Also, digital currencies are immune to soiling or physical defects that are present in physical currency.

Well-organized Government Payments: If the government developed a central bank of digital currency, it could send payments like child benefits and food stamps, and tax refunds to people instantly, rather than trying to figure out prepaid debit cards or mail them a check.

Here's a list of some drawbacks of digital rupee:

Options: The crypto popularity is a downside. According to the head of Sidley's FinTech and Blockchain group Lilya Tessler, across different blockchains, there are several digital currencies being created with their own limitations. It will take a certain amount of time to decide which digital currencies in certain cases might be appropriate to use. It also includes whether a few are designed to scale for mass adoption.

Costly Transaction: Crypto uses blockchain technology where computers must resolve complex equations to validate and record transactions. This in turn takes a significant amount of electricity, the more the transaction the more the expense. However, this would probably not exist for the central bank of digital currencies as complex consensus processes are not required and CBDC would likely oversee it.

Steep Learning Curve: On the part of the user, digital currencies require work to learn fundamental tasks like how to open a digital wallet and securely store digital assets. For the wide adoption of digital currencies, the system needs to be simplified.

Issues of Cybersecurity: The digital currency has made people constantly worry about cybersecurity and facing many threats due to less secure methods to store this money. Cyberattacks are probably increasing and can also threaten digital currency users with virtual theft.

3. Cryptocurrency vs. Digital rupee

According to the RBI, "a CBDC or digital currency is a legal tender issued by a central bank or govt. in a digital form. It is the same as a physical or fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different."

There is no direct comparison between a CBDC and cryptocurrencies.

"Unlike cryptocurrencies, a CBDC isn't a commodity or claims on commodities or digital assets. There is the absence of an issuer in the case of cryptocurrencies. They are not money (certainly not currency) as the word has come to be understood historically," as said in the announcement made by RBI.

The CBDC is the digital form of paper currency issued by central banks like RBI and should be exchangeable with cash. The commonly-known digital rupee is a form of digital currency that the RBI issues and the digital rupee will have the same function as other CBDC, but it won't be a decentralized asset like cryptocurrencies. The digital rupee will be a currency issued by central banks responsible for governing and managing the asset.

The biggest difference between the digital rupee and cryptocurrency is that the cryptocurrency always exists on a blockchain, whereas the digital rupee does not. When it comes to inherent value, both digital currency and cryptocurrency are in the same boat, for the most part. Typical cryptos like Bitcoin, and Ethereum have no collateral, as is the case for digital and traditional currencies. In terms of accessibility and utility, digital money in the form of legal tender is by far the winner. You can use digital dollars, pounds, rupees, and other forms of currency in a myriad of ways. In contrast, cryptocurrency is currently limited in its use outside of trading, staking, and investing. For example, in most countries, you can't head to a restaurant and pay for your order with crypto, but you're likely able to pull out your card or smartphone to pay in a digital tender.

The digital rupee will be a legal tender, which means you can use it to buy what you want. For example, digital wallets, NEFT and IMPS are examples of digital rupees. The Reserve Bank will soon commence pilot launches of e₹ for specific use cases. As the extent and scope of such pilot launches expand, RBI will continue to communicate about the specific features and benefits of e₹, from time to time.

4. Conclusion:

Digital currency is a type of money that only exists in digital form; nevertheless, cryptocurrency is also a type of digital currency, although one that is decentralized. It uses cryptography and has decentralized ledger and balance management. Blockchain technology is currently the most popular type of ledger system in the cryptocurrency industry. The RBI's decision to launch a digital rupee is primarily intended to advance India in the race for virtual money and go ahead in the race for digital currency. And, of course, since cryptocurrencies are becoming more important and trending, the digital rupee will become more efficient and transparent thanks to blockchain technology and backbone networks. Additionally, blockchain will make ledger upkeep with accurate real-time tracking possible. The payment system will be available to wholesale and retail customers 24/7 with lower transaction costs and real-time account settlements. No physical bank account is needed to transact with a digital rupee. There is no risk of volatility, as RBI serves as the backbone of the system. As compared to physical currency notes, the digital rupee will be mobile forever.

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