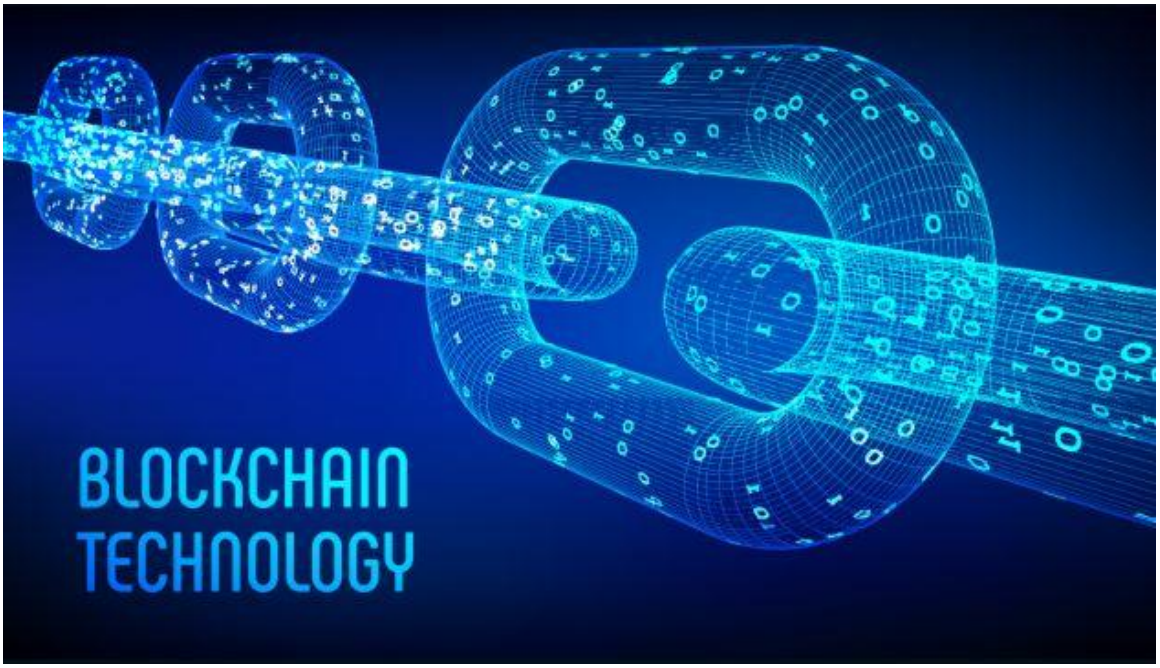
About The Blockchain Industry



The Topics That Will Be Discussed In This Article Are:

1. Bitcoin Mining and Bitcoin Reward
2. History of Bitcoin
3. Why Set Bitcoin's Supply Limit to 21 Million?
4. What Happens Once 21 million Bitcoins are Rewarded?
5. Liquidity
6. Nodes
7. CeFi Vs DeFi
8. Ethereum
9. Tokenization
10. How is Bitcoin Price Determined?

2. Bitcoin Mining and Bitcoin Reward

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The abundant history of Bitcoin has caused many people to begin taking an interest in cryptocurrency. This led to a new stage in the era of cryptocurrency, known as Cryptocurrency Mining. Cryptocurrency Mining is a very important and basic concept in the cryptocurrency industry.

It is the process in which transactions between users are verified and added to the Blockchain public ledger. It allows cryptocurrencies to work as a peer-to-peer decentralized network, without the need for a third-party centralized authority.

Crypto mining provides many advantages such as the inability to counterfeit, lower fees, high accessibility and Immediate settlement. Crypto mining is also the means to an end for crimes such as identity theft. With the use of cryptocurrency, you'll never have to worry about someone stealing the RFID information in your credit or debit card at the checkout counter, thereby completely putting an end to identity theft. Bitcoin also can't be counterfeited as it is a type of digital currency. These advantages will ultimately help lower the cost of goods and services globally.

Even though Crypto mining is readily accessible by anyone in the world, there are still some preparations to be met and skills that need to acquire before you can mine cryptocurrency.

To start off, users will need to know how fast the GPU can hash. Besides that, users will also need to provide the massive power requirements for the computer consumption as well as pay for the total cost of electricity for it to run for long periods of time. Additionally, users will also need to have a high-end GPU such as ASIO, FPGA, and ATI to mine the digital token.

In the Bitcoin network, a miner's goal is to add individual blocks to the Blockchain by solving sophisticated mathematical problems. This requires enormous computational and electrical power. The miner who solves the problem will add the block to the Blockchain and be rewarded with 6.25 Bitcoins. The reward is dynamic and will change as time goes on. The reward rate is also cut in half for every 210,000 blocks, or every four years.

This process is called "halving," and helps ensure a predictable, unalterable rate of introducing new Bitcoins into the existing supply, thereby eliminating concerns of inflation. However, the mining of these tokens are not infinite as there is only a finite supply of tokens in existence. For example: Bitcoin only has a limited supply of 21 million tokens. Many people have wondered as to why that is the case. Why is it finite and why restrict it to 21 million Bitcoins instead of 22 million Bitcoins?

2. History of Bitcoin

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Hello everyone, I am your Mars Scholar and welcome to Mars Academy. We will discuss more in this video to learn about blockchain. In this issue, we will cover intermediate level topics on Blockchain to further improve your understanding on the industry.

Today, we will talk about the history of Bitcoin. Bitcoin is the most common form of cryptocurrency till date. It is the most widely known and valued digital currency in the world. Bitcoin was created over 12 years ago, back in January 2009 by a Japanese citizen named Satoshi Nakamoto. There are many mysteries surrounding the creator of Bitcoin as the name Satoshi Nakamoto was merely an alias. Mr. Satoshi created Bitcoin to serve as a solution to the double-spending problem for a decentralized digital currency.

To this end, Mr. Nakamoto wrote and published a whitepaper named "Bitcoin: A Peer to Peer Electronic Cash System." This whitepaper described the use of a peer-to-peer network for the double spending problem. The initial version source code, ver 0.1 was subsequently released in January 2009. Its release launched the cryptocurrency mining by genesis block as well. Mr. Nakamoto continued to work on the project for another year and a half before mysteriously disappearing from the web.

Nevertheless, his creation lived on, and later became the hottest cryptocurrency in the industry, expanding ever outwards and leading to the creation and innovation of many other projects such as Ethereum and DeFi. However, this was not an easy journey as Bitcoin has no value to its name for the first few years of its release. It wasn't until July 2010 that Bitcoin started showing some signs of increase, with its value rising from 0.0008 US Dollars to 0.08 US Dollars for a single coin.

In May 2009, the first real Bitcoin transaction between real world goods was carried out. A programmer by the name of Laszlo Hanyecz used 10,000 Bitcoins to buy two

pizzas, thus making it the most expensive pizza ever bought based on the current value of Bitcoin.

In 2011, other cryptocurrencies started appearing thanks to Bitcoin's open-source code. Multiple organizations also began accepting Bitcoin for donations. In September 2012, the Bitcoin Foundation was launched to "accelerate the global growth of Bitcoin through standardization, protection, and promotion of the open-source protocol". The founders were Gavin Andresen, Jon Matonis, Patrick Murck, Charlie Shrem, and Peter Vessenes.

In October 2012, BitPay also reported having over 1,000 merchants accepting Bitcoin under its payment processing service. Over the years that followed, Bitcoin began gaining worldwide recognition, as more merchants and countries began accepting Bitcoin and digital currency in general. In 2017, the price of Bitcoin underwent an explosive growth, growing 20 times from 1000 US Dollars on January 1st to roughly 20,000 US Dollars by mid-December.

3. Why Set Bitcoin's Supply Limit to 21 Million?

The answer to this is likely simpler than what you may expect. When Satoshi created Bitcoin, the global M1 money supply stood at approximately 21 trillion US Dollars. From an economic perspective, this is the global money supply that includes all physical currency, demand deposits, travelers' checks, checkable deposits and negotiable order of withdrawal accounts.

Every dollar can be divided into 100 cents. This totals up the number of cash to around 2,100 trillion. Similar to cents in a dollar, a Satoshi is the metric for the smallest unit of Bitcoin.

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There are 100 million Satoshis in each Bitcoin, which means there will only ever be 2,100 trillion Satoshis, which amounts to roughly the same as the global supply in 2009. A Bitcoin can be divided down to 8 decimal places. Therefore, 0.00000001 BTC is the smallest amount that can be handled in a transaction. Based on this, Bitcoin would be well suited to replace all FIAT currencies and have the ability to act as a global currency.

This theory aligns with the email correspondence between software developer Mike Hearn and Nakamoto. In the email, Satoshi explains that he intended Bitcoin unit prices to eventually align with traditional FIAT currencies, so that 0.001 BTC would be equivalent to 1 Euro.

"I wanted to pick something that would make the prices similar to existing currencies, but without knowing the future, it's a hard feat to achieve. I ended up picking something in the middle," Mr. Nakamoto said. He further added that if Bitcoin remains a small niche, then its value will be worth less per unit than existing currencies.

If we imagine Bitcoin being used for a small fraction of the world's commerce, then there's only going to be 21 million coins for the whole world, so Bitcoin's value would be worth much more per unit.

There are also other theories as well. Some users believe that Bitcoin's 21 million limit was arbitrarily set by Nakamoto when he made two key decisions. The first is that Bitcoin should add new blocks to its Blockchain every 10 minutes while the second dictates that the reward paid to miners is halved every 210,000 blocks or roughly every 4 years.

When the block reward eventually hits 0, the number of coins generated will happen to be just under 21 million tokens.

Ultimately, the theory of Bitcoin's 21 million supply limit will be at most a hypothesis unless it is confirmed by Mr. Nakamoto himself. This is so as the currency is effectively infinitely divisible.

This means that the precise amount doesn't really matter as a user can divide it into any amount as long as the other party is in agreement. Speaking of Bitcoin's supply, have you ever wondered what will happen when all 21 million Bitcoins are given out as rewards? Let's take a look!

4. What Happens Once 21 Million Bitcoins are Rewarded?

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Bitcoin has a stipulation set forth in its source code, and states that it must have a limited and finite supply.

In other words, this means that there are only 21 million Bitcoins that can be mined in total. On average, these Bitcoins are introduced to the Bitcoin supply at a fixed rate of one block in every ten minutes. Additionally, the amount of Bitcoin released in each of these aforementioned blocks is reduced by 50% in every four years.

Once Bitcoin miners have unlocked all the Bitcoins, it's supply will then essentially be tapped out. Currently, around 18.5 million Bitcoin have been mined; This means that there are less than three million coins that have yet to be introduced into the circulation.

Once all the Bitcoins have been mined, the miners will then have the incentive to process the transactions with fees. The Bitcoin mining process rewards miners with a chunk of Bitcoin upon every successful verification of a block.

This process is adapted over time. When Bitcoin was first launched, the reward offered was 50 Bitcoins. However, In 2012, it was cut in half to 25 Bitcoins and halved again to 12.5 Bitcoin in the year 2016. As of May 11, 2020, the reward was set at 6.25 Bitcoin.

This process shows that Bitcoin's inflation rate was effectively lowered in half every four years. The Bitcoin mining process provides Bitcoin rewards to miners, but the reward size is decreased periodically to control the circulation of new tokens.

The reward will continue to halve every four years until the final Bitcoin has been mined. In actuality, the final Bitcoin is unlikely to be mined until around the year 2140.

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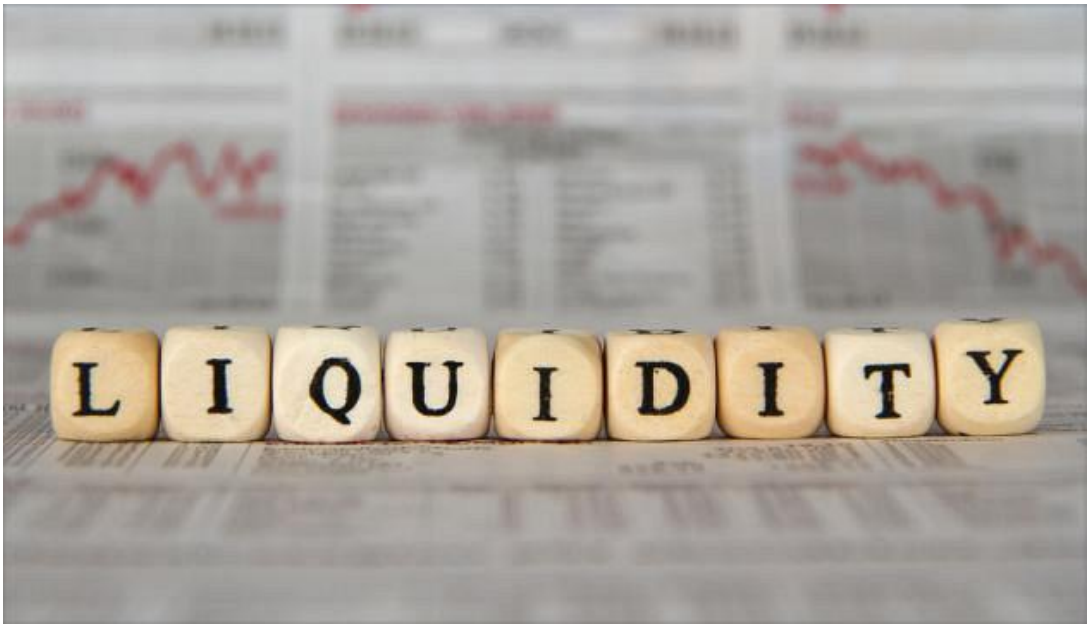
However, it's possible that the Bitcoin network protocol will be changed between now and then.

When we talk about Bitcoin supply and Bitcoin Mining, we can't disregard another important aspect in the cryptocurrency ecosystem, that is the liquidity.

5. Liquidity



Liquidity is the measure of the ease at which an asset can be converted to another asset without affecting its price. In simple terms, Liquidity describes how quickly and easily an asset can be bought or sold.

Good Liquidity is defined as an asset that can be quickly and easily bought or sold without affecting its price. Conversely, bad or low Liquidity means that an asset can't be bought or sold quickly. Cash can be considered the most liquid asset since it can be easily converted into other assets.

Liquidity is an important part of the cryptocurrency industry for several reasons. Firstly, Liquidity can provide better and fair prices for everyone as well as overall good market stability. High Liquidity ensures that the prices are stable and will not be prone to large swings in the market due to large trades.

In a liquid market, prices are stable enough to withstand large orders due to the presence of many market participants and their orders. Good Liquidity will also guarantee quicker transaction times and increased accuracy for technical analysis purposes.

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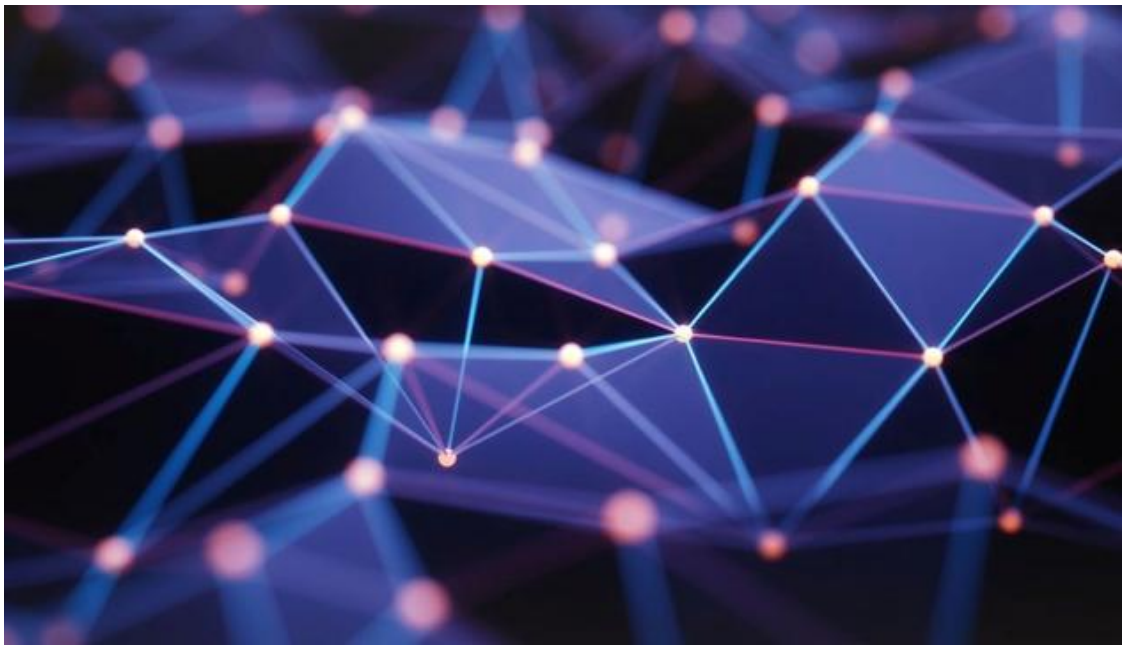
There are also several factors that will affect Liquidity in the market. These factors include trading volume, cryptocurrency exchange, acceptance and type of regulations. Veteran Blockchain users and cryptocurrency traders will take these factors into account and utilize it to the best of their ability to manipulate the digital token circulation. A high volume of Liquidity also means that there is a high volume of activity going on in the blockchain. These activities contain a huge amount of information and data. These data are highly sensitive and it would be disastrous if it is in any way compromised. How should we prevent this from occurring? The solution is found in one of the components of Blockchain itself, known as the Node.

6. Nodes



The definition of a Nodes is really general as a Node can be classified as any device connected to the Blockchain. This includes servers, computers, laptops, desktop wallets and mobile phones. All of the Nodes are connected to the Blockchain and are constantly updating each other with the latest information being added to the blockchain.

These Nodes act as further validation for the ledger and allow anyone to transparently view transactions or data conducted on the network. The core benefits of Nodes are to ensure that the data being held on the Blockchain is valid, secure and accessible to authorized parties.

The objective of Nodes is to maintain the reliability of the data stored on a Blockchain. The more Nodes a Blockchain has, the more decentralized it becomes and thus becoming resilient to threats such as system failures or power outages. When a new

piece of block is added to a Blockchain, a Node will communicate the block to other Nodes on the network.

Based on the validity of the new block and the type of node, full Nodes can reject or accept the block. Once a new block is accepted by the node, the information is stored and saved on top of the pre-existing blocks.

This is why Nodes are an irreplaceable and crucial part of the Blockchain network. Speaking of the Blockchain network, a Blockchain can either be centralized and decentralized. As you can see from the terms CeFi and DeFi meaning Centralized Finance and Decentralized Finance respectively. Let's take a deeper look at CeFi and DeFi.

7. CeFi vs DeFi

As mentioned previously, DeFi or Decentralized Finance is an open-source technology that aims to remove intermediaries by introducing a decentralized layer and eliminating rent seeking middlemen. CeFi or Centralized Finance on the other hand is the complete opposite of DeFi. CeFi is a service which is structured so that all the orders are controlled by one central exchange with no other competing parties.

While CeFi and DeFi both provide financial services to their users, their core execution and functionality are largely different. DeFi is largely dependent on the trust while CeFi is dependent on a central entity for handling all business transactions. DeFi, at its core offers transparency, accessibility and utility for its users.

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However, it is still lacking and does not provide all the functionalities offered by CeFi such as fiat to crypto conversion and cross chain solutions. That said, the DeFi industry is gaining traction and increased popularity among the crypto community in recent years.

DeFi and CeFi also differ greatly in several aspects such as controllability, regulation, fees and much more. The CeFi Exchanges usually charge users a higher fee to maintain the platform, and improve their products while DeFi platforms are more affordable to trade on, as they don't provide custody services and does not have any team involved in the governance process.

The way Liquidity is achieved in DeFi is very different compared to CeFi. In CeFi projects, the platforms match buyers' and sellers' orders similarly to forex or stockbrokers. Meanwhile, In DeFi, all trading is not carried out automatically on the blockchain. Instead, DEX platforms rely on AMMs to locate their funds.

Due to its decentralized transactions, permissionless services, and trustless nature, DeFi remains the better option as it provides many more advantages over CeFi. In conclusion, even though DeFi is comparatively better than CeFi, there is no doubt that both CeFi and DeFi are useful in their own rights. It is up to users to weigh their options carefully when deciding to choose one over the other.

For example: if users are focusing their efforts on creating DApps or Decentralized Applications, then their primary focus should be based on the DeFi ecosystem since the backend codes for DApps can only be built on decentralized networks. It uses the Ethereum Blockchain for data storage and smart contracts for their app logic.

8. Ethereum

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Speaking of Ethereum, Ethereum is an open-source, blockchain-based, decentralized software platform used for its own cryptocurrency, Ether or ETH. It enables Smart Contracts and Distributed Applications (ĐApps) to be built and run without any downtime or interference from a third party. In simple terms, Ethereum is a technology that lets you send cryptocurrency to anyone for a small fee. Ethereum is also a programming language running on the blockchain, as it helps developers to build and publish their own Dapps.

The Ethereum Blockchain is designed so that transactions can only take place when certain conditions are met. The rules deciding these conditions are called 'smart contracts'. These smart contracts are an integral part of the Ethereum's infrastructure and can be used for a variety of functions such as multisignature accounts, encoding financial agreements, storage, and providing for third parties.

Another core part to the Ethereum infrastructure is the aforementioned Dapps. A Dapp, or decentralized application, is a software application that runs on a distributed network. Dapps are not hosted on a centralized server, but instead on a peer-to-peer decentralized network such as Ethereum.

The creation of these Dapps can provide multitude of benefits such as censorship resistant, no downtime and open source. There are thousands of Dapps in the world, with the most popular ones being MakerDAO, a smart contract that allows users to interact with the DAI stablecoin system and Uniswap, a protocol on Ethereum for swapping ERC20 tokens without the need for buyers and sellers to create demand.

The Ethereum network also provides all sorts of benefits to the users. Not only is it immutable and secure, but it is also decentralized and has a fast transaction. This makes the process significantly faster, cheaper and has no need for any intermediary involvement as well.

The upgrade of the Ethereum network into Ethereum 2.0 also aims to enhance the speed, efficiency, and scalability of the Ethereum network so that it can process more transactions at a faster rate. With the Ethereum 2.0 just being launched, there is definitely a lot to look forward to in this new upgrade.

Just like Ethereum 2.0, the cryptocurrency industry is always coming up with new and innovate solutions to further expand the repertoire and usability of blockchain. In fact, in recent years, many platforms are trying integrate real world assets onto the blockchain. This phenomenon is known as Tokenization.

9. Tokenization

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Tokenization simply means turning something into the form of a token. The concept of tokenization has existed for a long time, albeit in much different form than the current one. In fact, it has been introduced all the way back in 2001 by a company called TrustCommerce to protect credit card information.

Since then, it has undergone numerous transformations throughout the years. With the emergence of Blockchain, tokenization has evolved to a new concept known as Asset Tokenization.

Asset Tokenization refers to the act of transforming real world assets into digital token. The tokenization of real-world assets will enable the creation of new markets by decreasing barriers and frictions to information exchange and trade.

By switching to a digital token system, asset owners and investors can create new efficiencies like making assets more liquid by automating a cumbersome, manual process while retaining the real-world characteristics of the underlying asset itself.

Asset tokenization can be applied to many types of real-world assets such as private equity shares, real estate, physical goods, commodities, loans and even intellectual property.

The reason asset tokenization is highly sought after is due to its many benefits it can provide to the financial industry such as enhanced asset liquidity, lower risks, faster and cheaper transactions and reduced entry barriers.

These benefits can greatly aid the financial industry in increasing its trading volume. The existence of tokenization as well as other notable concepts such as NFTs, Yield Farming and DeFi have not only expanded upon the Blockchain world, but each

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concept has also contributed greatly to the market volume for the industry as well as various digital tokens, resulting in a highly liquid and active market.

However, an active market comes with a price. Depending on the market economy and its current conditions, the price of digital tokens will keep changing, resulting in constant fluctuations. So, how do you determine the price of a token in this case? Let's use Bitcoin as an example.

10. How is Bitcoin Price Determined?

Initially when Bitcoin was launched into the public market the cost of one Bitcoin was actually a quarter of a penny.

The price of a Bitcoin is determined by the market as a whole, based on supply and demand. This is very similar to the stock market and the prices of various stocks. When demand for Bitcoins increases, the price increases. In contrast, when demand falls, the price will fall as well.

There is only a limited number of Bitcoins in circulation with new Bitcoins being created at a predictable and decreasing rate. This means that demand must follow this level of inflation in order to keep the price stable.

Besides overall volatility, Bitcoin has historically proven itself to be subject to market whims and news. As the cryptocurrency boom swept up a number of digital currencies into record-high prices, news from the digital currency sphere could prompt investors to make quick decisions, causing the price of Bitcoin to fluctuate easily.

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Since Bitcoin is still a relatively small market, it doesn't take significant amounts of money to shift the market price up or down, thus making the price of a Bitcoin to be very volatile.

In addition to ushering in a new focus on Blockchain technology, Bitcoin itself has tremendous baseline value as well. Billions of people around the world lack access to banking infrastructure and traditional means of finance like credit. With Bitcoin, these individuals can send value across the globe for close to no fee.

Bitcoin's true potential as a means of banking for those without access to traditional banks has perhaps yet to be fully developed. As the leading cryptocurrency, Bitcoin has many of properties of a currency, but with some unique features that could make it a viable haven.

Thank you for tuning in to our blockchain education video. We hope that you enjoyed the video and hope that you will join us on our next video. Thank you and see you soon!