
Understanding Blockchain Technology and CryptoCurrency – An Investors Point of View

Bijal Raval, Durgavati Singh and Anand Hindolia
PTVA's Institute of Management, India

ABSTRACT

This paper focuses on understanding the block chain technology & Crypto Currency from an investor's point of view. The methodology adopted in this study is quantitative in nature, with a sample size of 111. This paper helps in finding the key issues faced by investors & their knowledge level.

Keywords: Block chain Technology, Crypto Currency, Virtual Currency, Digital Currency, Investors knowledge, Tokens

1. INTRODUCTION

"Crypto Currency is such a powerful concept that it can almost overturn governments"

-Charles Lee (2022)

"Paper money is going away, and crypto is a far better way to transfer value than pieces of paper"

-Elon Musk (2022)

Block chain are Blocks that contains information, it went almost unnoticed until it was first used by Satoshi Nakamoto in 2009, who created the digital Crypto Currency Bitcoins. Block chain is an open ledger, having an interesting property, once some data has been recorded into a Block chain it becomes impossible to change, hack or cheat it.

The question here arises is how does that work? Let's consider an empty block for recording data, each block contains a unique hash which consists information of the current block as well as of previous block. Here hash acts as a function that helps to decode the encrypted data. For example, Bitcoins Store details about transactions, such as the sender, the receiver, and the amount of coins collected. A Block also has a Hash, you can compare hash to a fingerprint for identification of its owner. Block too has its own unique method of identification.

Block chain is a peer-to-peer network which allows fastest online payment and transactions to transfer from one party to another without going through any government interference or financial institutions. Digital Signature they provide with security. Benefits of using block chain are commission to third party and double spending is avoided.

Crypto meaning secret, Currency meaning medium of purchase of Goods & Services, It is a peer to peer network meaning person to person network not just limited to one but everyone in the network is maintaining this ledger. It is maintained by Block chain, which is a chain of Block for example a coaches of the train, are connected with passengers sitting inside similarly block contains data and every block is chained together. Block chain is not limited to one computer it is made available in every computer with transparency, in such case if one tries to cheat, fraud it can be tracked with ease.

Every Transactions is checked within a few seconds with accuracy. So whoever is maintaining this public ledger and is taking responsibility they are called "**Miners**" and in this process to maintain it, validate it this process is called "**Mining**". It is wholly system generated, automatic and requires special computers, special software and in this process ample amount of time, money, high energy consumption is involved, so to rewards these miners they are paid off with digital currency.

1(a). Crypto coins and Tokens:

Crypto coins are traceable due to block chain technology to keep a track of all the data whereas tokens implies using someone else's block chain as your own infrastructure while you basically pay for its rent.

When you create a token you don't have to create a block chain which is full of codes and worry about how it should be validated.

Tokens runs on the block chain of someone else's coins. A very well known examples of Ethereum has its own block chain, it shows value and validates transactions i.e. ERC20 which is a token of Ethereum.

1(b). Demand and Supply:

Total how many coins will be produced are fixed, pre-defined or limited for Example, In a Fixed Land area and when Buyers increase, so does the market value for that Land, similarly the pricing of Crypto currency can be seen fluctuating. Currently we have 18,925,137 Bitcoins in existence, that almost 19 million, Since Bitcoins has its maximum limit of 21 million on the supply, limited supply makes it a scarce commodity and increase future pricing.

1(c). Mining Crypto:

Crypto currencies can be mined, mining is a process in which new currency is created and added to the circulation which means a new transaction takes place it is an essential part of the ledger's maintenance towards Block chain.

This means to mine is a very challenging task since it requires having a hardware which can solve arduous math calculations, whichever computer is able to crack/ solve first earns the first block. To mine for Crypto Currency you require Graphic Processing Unit (GPU) or (ASIC) Application Specific Integrated Circuit.

1(d). Trading Crypto:

The Initial method to earn Crypto currency is through Mining and the other way around is trading. As mining can be a painstakingly longer and not a feasible process, hence trading in crypto currency is preferred. Due to its popularity the purchase of crypto currencies can be seen as a trending pattern of investment amongst investors in global market. Some of the well-known crypto currency exchange apps used in India are: WazirX, Coinbase, Binance, CoinSwitch, Luno etc.

2. Features of block chain technology and crypto currency:

Block chain is a cheaper and faster way to transfer any given Currency without third party or government interference which makes it a decentralized form of investment.

The Drawbacks of trading in crypto currency is frequent price momentum, high usage of unethical software's resulting in criminal activities.

Crypto currency enjoys support from investors due to its high trading volumes and some crypto currency do not have volume. At present 10,000 crypto currencies as of February 2022, are established. Some of the widely traded and volatile crypto currencies are Bitcoin, Ethereum, Litecoin, Cardano, Polkadot, Stellar, Dogecoin etc.

2(a). History of Block Chain

Year	Narrative
1991	Cryptographically put forth for the first time by Stuart Haber and W Scott Stornett
1998	"Bit Gold" which is a decentralized digital currency which was first started by Nick Szabo.
2000	A theory was published on Cryptography by Stefan Konst
2008	Satoshi Nakamoto Released a white paper initiating the block chain model.
2009	Bitcoins are made public by Satoshi Nakamoto.

Source: wikipedia.com

3. Privacy & Securities

If you try to change some data inside the block, it will change the Hash as well, causing changes in the entire transactions which is merely impossible to change such large amount of transactions and info.

The first Block containing data is called the Genesis block, which cannot be counterfeited, since many Crypto currencies are decentralized networks, they are Block chain technology based which ensures no government interference manipulation, and no government controlling allows crypto currency to exist globally.

Privacy- Cryptography Since mentioned Block chain technology is an open public ledger it, raises several questions of privacy, so to answer them, Block chain Works on Cryptography. Cryptography means everything is coded.

4. CHARACTERISTICS

1. Block chain is Decentralized Structure
2. In Block Chain Technology the Records of transactions are unalterable, it is an end to end encryption mode,

and this ensure security and privacy of its user

3. Manual work or Manpower is reduced; Reporting and auditing data is made easy
4. Immobility ensures the host or origin is traceable in order to avoid any hacking or changes done
5. Control is given individually, It is upon the user to decide the data they are willing to share, with limitations
6. Tokenization is very important aspect of the Block Chain technology, which means it can convert or add value to an asset of digital token, Non Fungible Token (NFT's) are used to sell digital art at present Instagram influencers are engaged in NFT's transaction

5. REVIEW OF LITERATURE

Ryoshi (2021) : The founder of Shiba Inu in an articles states that unmasking his identity will be of no success as he is just a guy behind the major growth of shiba inu even though the controversy is going around of him becoming a millionaire overnight, he said in an open statement "I own Zero Shiba Inu".

Vitalik Buterin (2021): Buterin in an interview with Bloomberg said that "people who invest in crypto or build their own crypto, a lot of them welcome bearish market, it tends to invite a lot of short term investor attentions".

Vijay Ayyar (2022): Vijay Ayyar being the head of Asia - pacific with crypto exchange luno, he said that "With memecoins it can be hard to speculate the actual reason behind the price momentum".

Pete et al. (2020): Crypto currencies are clearly different from classical asset investment, mainly due to its behavioral pattern of high variance and departure from normal trading. Crypto currencies are considered diverse due to its clustering analytical nature.

Karame et al. (2012): Due to its fast transaction support investors are attracted, although each transactions needs an average time of 10 minutes to form into a block chain and more than an hour to validate, this results in prevention from attacks.

Goldman Sachs (2021): Recently in article "noted to their investors that ethereum has a good change of overtaking the 660 \$ billion market cap of Bitcoins".

Dan Gambardello (2022): Founder of Crypto Capital Venture, "Said that (ADA) Cardano is built to provide financial infrastructure globally Cardano is the Biggest Sleeping Giant and it will explode in the years to come".

6. OBJECTIVES

Based on the Review of Literature the gap of studies is found and following objectives are framed for the study.

- To understand the technology of Block chain & Crypto Currency
- To Measure the knowledge level of Citizen in Mumbai Region
- To Measure the Level of Investment done by citizens of Mumbai Region in Crypto Currency

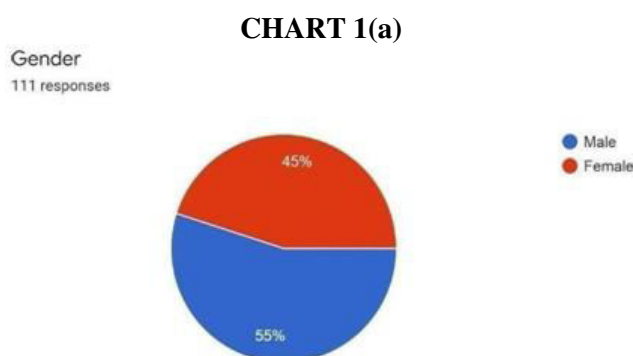
7. RESEARCH METHODOLOGY

To achieve the objectives of the study primary data has been collected and analyzed using statistical method like Percentage analysis (Pie chart).

Primary Data is collected using Online Questionnaire via Google forms. Sample size of 111 is considered in this study. The data is collected using convenient sampling technique.

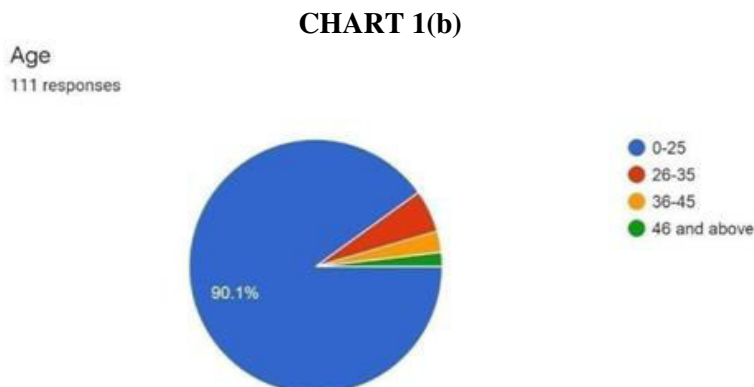
8. DATA ANALYSIS AND INTERPRETATION

Here the study analysis and interprets the data collected



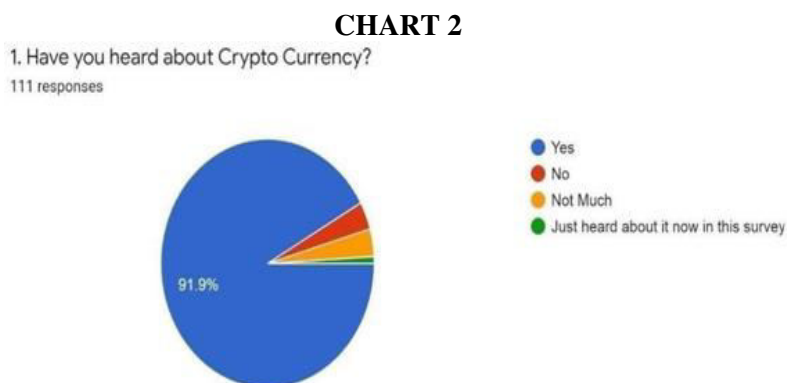
INTERPRETATION

Based on the survey, the color Blue represents male and Red represents Female category respectively. From the above Pie Chart 1 (a), 55% Male Dominated this category and remaining 45% were Females. Gender based question was asked to see the pattern of investment amongst male and female, and a total of 111 responses were collected. Further, we can assume that approx. 50 females and 61 males invest which is altogether fair in comparison.



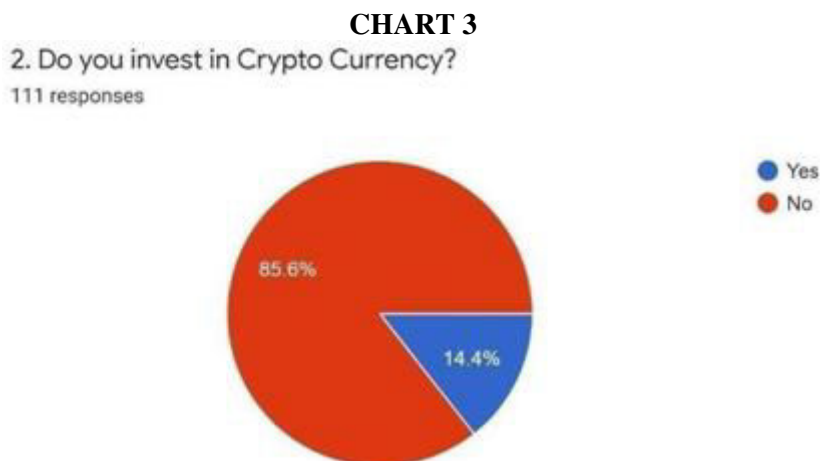
INTERPRETATION

This category was distributed amongst various age group and 0 to 25 age took the majority of this survey consisting of 90.1%, followed by the age group of 26 to 35 years.



INTERPRETATION

Based on responses received outcome shows that 91.9% know about Crypto Currency. Whereas, remaining 8.10% were unaware. And 3.6% were acquainted about Crypto while taking the survey. 0.9% were completely unaware prior to taking this survey



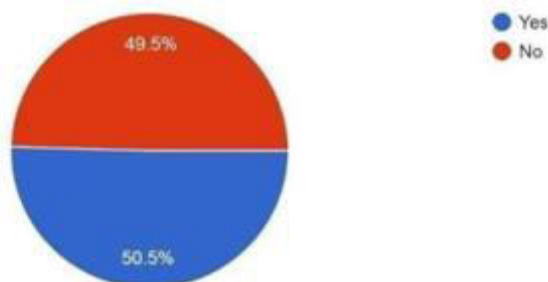
INTERPRETATION

A very small amount of respondents said 14.4% said they invest in Crypto Currency rest 85.6% did not prefer or want to disclose about investing in Crypto currency as their medium of investment.

CHART 4

3. Do you know about Block Chain Technology?

111 responses



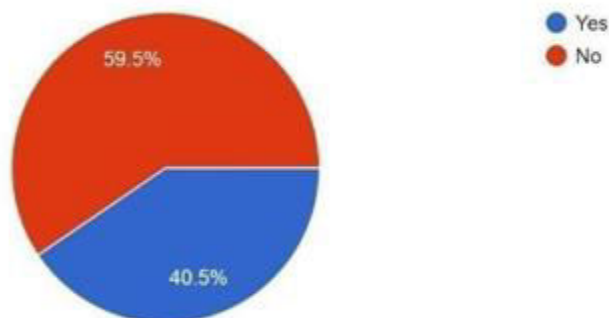
INTERPRETATION

When asked about Block chain technology, the response was on par 49.5% & 50.5% simultaneously, when compared with PIE CHART 2, Respondents know about Block Chain technology but not about Crypto Currency.

CHART 5

4. Does any of your Family or Friends invest in Cryptocurrency?

111 responses



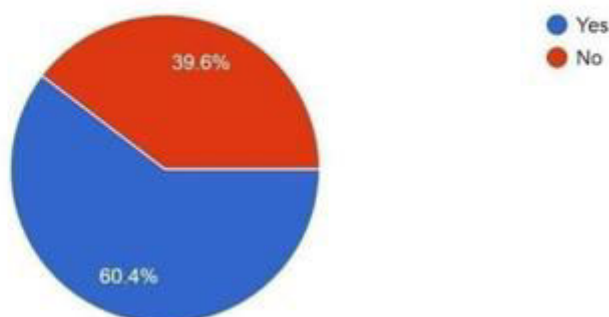
INTERPRETATION

People themselves who do not invest in crypto Currency know at least 1 out of 2 people that do, and they are influenced by some of their close Family Members, Friends, and Colleagues etc.

CHART 6

5. Do you know the Platform's for trading Crypto Currency?

111 responses



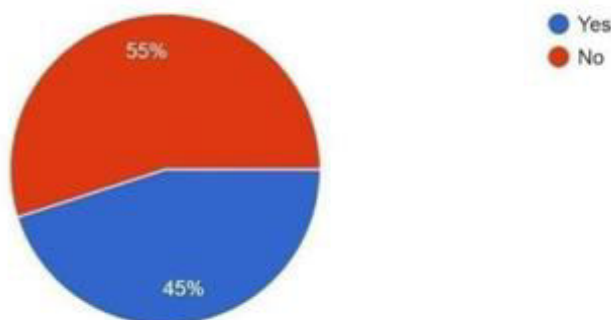
INTERPRETATION

People who do not Trade themselves, are aware of the trading platforms provided for Crypto Currency trading, here we interpret that crypto being an advance method of Investment only few people trade by themselves, and others prefer third party or broker to trade on behalf of them.

CHART 7

6. Do you find any security issues in Investment of Crypto Currency?

111 responses



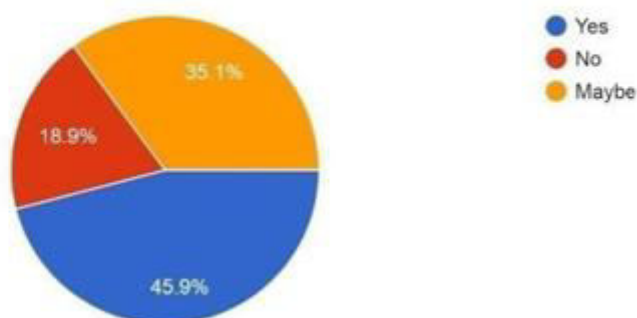
INTERPRETATION

As Crypto Currency was used keeping Privacy as their top priority, Yet 45% feel that Crypto Currency Trading Platforms needs to be more secure with respect to the Data that that collect at the time of Account opening.

CHART 8

7. Will you invest in crypto Currency if proper training is provided?

111 responses



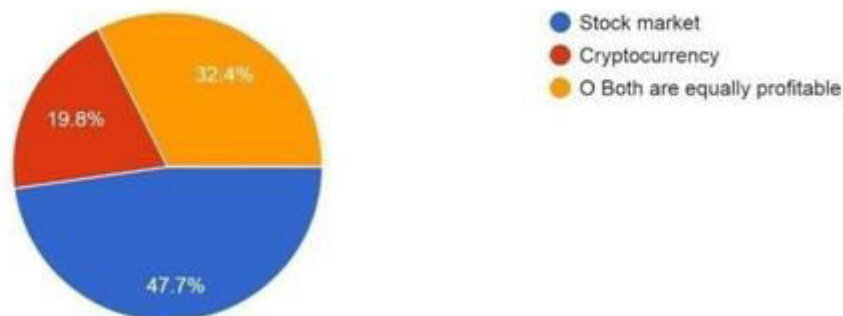
INTERPRETATION

81% were interested to Invest in Crypto Currency if proper training and knowledge is provided to them, yet 18.9% were unsure considering the risk involved in Crypto Market Since it is a decentralized Currency.

CHART 9

Which do you think would be more profitable, investing in the stock market or investing in cryptocurrency?

111 responses

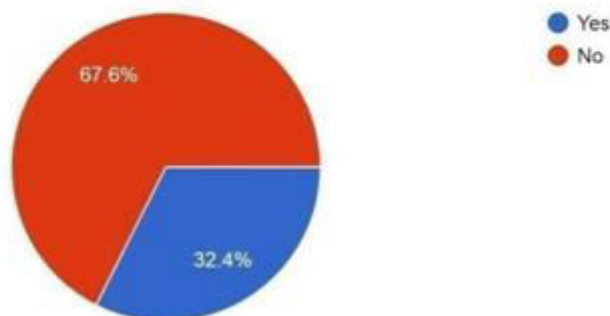


INTERPRETATION

47.7% who find stock market profitable are probably trading in Equity and 19.8% feel that CryptoCurrency is more profitable as compared to stock market. Since, Crypto is a very volatile market with only 10,000 Crypto currency in existence (as of Feb 2022), volume is more in the Equity Market.

CHART 10

9. Do you feel cryptocurrency is more valuable than Equity?
111 responses

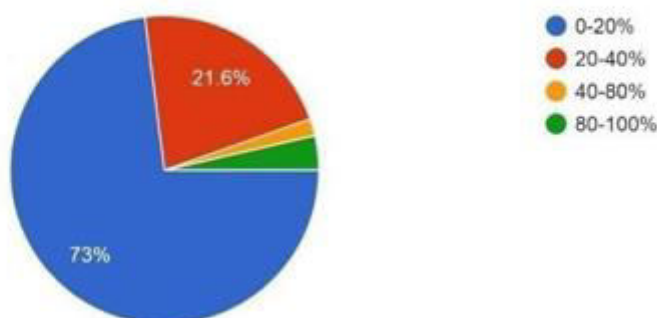


INTERPRETATION:

According to the Pie chart we can observe that 67.6% believe Crypto Currency is not a valuable mode of investment as compared to previous (PIE CHART 3) only 14.4% invest in Crypto currency and an increase in 32.4% shows that who do not Invest In crypto Yet find it more valuable than equity, maybe the reason being, not adequate amount of Knowledge or resources

CHART 11

10. How much percentage of your total income will you invest in cryptocurrency?
111 responses



INTERPRETATION

A very large amount of people believe that they won't invest more than 20% of their income, whereas only 21.6% are willing to invest more than 20% but not more than 40% of their total income.

9. LIMITATIONS AND SCOPE FOR FUTURE STUDIES:

The study covers sample only from Mumbai region, The study is conducted in the time frame of 30 days only, There was no financial grants was received for this study

Researchers are further encouraged to consider larger sample size and bigger geographical area with more parameters to measure the customer point of view.

10. CONCLUSION:

Crypto Currency & Block Chain technology being a newly established currency not many are familiar with its functioning and some of them who are aware prefer Crypto currency as a medium of investment other than Stock market. Block chain technology came into existence due to Bitcoins. Here we can see that Bitcoins play a major role in the formation of the Crypto Currencymarket and many investors were introduced to Crypto currency due to viral news initiating bitcoins.

Block chain technology is thriving in the tech-driven world owing to its smart capabilities such as faster transaction speed, low transaction fees, transparency, utmost cyber security, and many more. But there is a need to have a clear understanding of the difference between the market trend and reality in sync with the business goals of an organization. Multiple organizations need to be aware common block chain mistakes to avoid any serious consequences in the nearby future.

Even though Crypto Currency being decentralized wherein no governing bodies intervenes it is widely accepted around the globe. Hence we conclude that Income, Age, Financial literacy and Cultural factors such as family and friends play a major role in modelling/influence the investor minds.

Here we conclude that people are not hesitant to invest in crypto currency they are willing to invest, if given formal training 45.90% said yes to invest in Future. Whereas 35.1% needed proper instruction. So overall 81% of people were intrigued to invest in crypto market.

In conclusion, online trading is accessible and there is a vast number of exchange sites available to a range of users, including beginners. Bitcoin mining, on the other hand, is a great option for anyone that is looking for long-term involvement with the block chain network.

11. REFERENCES

1. Vigna Paul (2022) "Wall Street Journal"- "Banking and finance" from <https://www.proquest.com/docview/2627050156/DCB87931FA084482PQ/22?Accountid=178351&forcedol=true>
2. PWC (2022) "Making sense of bitcoin, Crypto Currency, Block chain" from <https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html>
3. Euro money "What is Block chain"- "euromoney.com" from <https://www.euromoney.com/learning/blockchain-explained/what-is-blockchain>
4. Adam Hayes (2022) "Crypto currency strategy and Education"- "Investopedia.com" from <https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html>
5. Team91 (2022) "Best Crypto currency exchange apps in India for online trading" – "91mobiles.com" from <https://www.91mobiles.com/hub/best-cryptocurrency-exchange-apps-in-India-for-bitcoin-ethereum-dogecoin-online-trading/>
6. Danny Bradbury (2021) "Lite coin founder Charles Lee on the origins and potential of the world's second largest Currency" – "www.coindesk.com" from <https://www.coindesk.com/markets/2013/07/23/litecoin-founder-charles-lee-on-the-origins-and-potential-of-the-worlds-second-largest-crypto-currency/#:~:text=%E2%80%9CCryptocurrency%20is%20such%20a%20powerful,to%20c%20urrency%2C%E2%80%9D%20he%20says.>
7. Murshid Alam (2016-2018) "Research project on Crypto Currency" – "www.scribd.com" from <https://www.scribd.com/document/378383138/Literature-Review> The Indian Express (2021) "Crypto cash: Stakeholders talk about what could be the way forward" – "indianexpress.com" <https://indianexpress.com/article/india/crypto-cash-cryptocurrencies-digital-currency-bill-7644979/>
8. The Home Of UK Tech (2021) "Is Bitcoin Mining or Trading a Right Choice for You?" - "uktechnews.com" from <https://www.uktech.news/is-bitcoin-mining-or-trading-a-right-choice-for-you#:~:text=If%20you%20only%20are%20interested,long%20term%20on%20the%20network.&text=Bitcoin%20mining%2C%20on%20the%20other,involvement%20with%20the%20blockchain%20network>