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CONSCIOUS CONSUMER BEHAVIOR IN THE WORLD OF CRYPTOCURRENCY

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## **1. Abstract:**

Financial sustainability is one of the most predominant factors, that has played a significant role in controlling the socio-economic and socio-political paradigms of the world since all social and political factors are explicitly related to the economy. Hence, it is given special significance, which is demonstrated by the incorporation of new models, and the adoption of new strategies to attain economic sustainability. One such strategy is the deployment of technology in finance, which has introduced new modes of payment, primarily called digital currency. The digital currency, principally cryptocurrency has changed the complete dynamics of the economy, completely revolutionizing the world of currency. Cryptocurrency is different from fiat currency in that that it is not regulated by any third party or intermediary in the form of banks or other financial institutions. But yet, it offers increased transparency, privacy, protection, and regulation of the financial system though it might be vulnerable to some breaches. Hence, in this paper, we will evaluate the various parameters of cryptocurrency, including its implications, advantages, disadvantages, and others, and how these facets affect consumer behavior. The research method incorporates a structured questionnaire, and a desk survey, which has provided a detailed insight into the conscious consumer behavior in the world of cryptocurrency, by evaluating the preferences and perspectives of 109 respondents. Hence, the research will be highly significant for economists and investors, giving them an insight into the various paradigms and trends of the cryptocurrency market, by an evaluation of the interest of consumers in the market.

## **1. Introduction:**

With the increasing technological revolution, all the bureaus of human life including society, economy, politics, and environment are incorporated with the technology, whether it's artificial intelligence, big data, data-driven databases, the internet of things, machine learning, cloud computing systems, robotics, and various other forms, have entirely changed the conventional methods used for executing various operations. This technology has primarily worked by replacing the older structural hierarchies and strategies with new techniques, that are more secure, transparent, automated, and efficient.

And since economic sustainability is directly associated with social development, political stability, and environmental advancement, therefore, it is considered critical, giving it the most important among all bureaus. That's why technology has been mostly deployed to the mechanisms that are either directly or indirectly associated with economic development. Hence, as a result, new and digitalized methods of the economy have been introduced, which have largely influenced the systematic mechanism of the international, national, as well as organizational structures of finance, and monetary policy. And though there have been numerous new inventions in the economic world, a recent invention of cryptocurrency, a form of digital currency has entirely revolutionized economics (Dwyer, 2015).

## **1.1 Digital currencies:**

Digital currencies as evaluated by JS Hans are a form of currency that is only available and operated in the electronic or digital form and is also regarded as digital money, electronic currency, electronic money, and cyber-cash. Primarily these currencies can only be accessible through the internet by using a computer, mobile, or laptop since these types of currencies are only available in electronic form. It has been asserted by R Grinberg that digital currencies primarily lack physical attributes, or material existence, which is the principal difference between the federally generated currency or paper money and digital currency.

Paper money is used nearly everywhere, for the exchange of goods and services at international, national, and provincial markets, whereas digital currency is primarily used for the specified markets, which conventionally use an electronic wallet, which can easily access the internet or other networks related to the internet. In other words, physical currencies such as minted money or banknotes are real and definite, showing their physical presence. Moreover, the transactions involving the exchange of these currencies are only possible as both parties involved in the exchange have physical ownership of this paper money. And though the use of digital currency is the same, since both are used to buy various goods and services, the mechanism of how these currencies operate is entirely different from each other. Besides, physical appearance or physical attributes, another predominant distinction between paper money and digital money is that digital money can be used to avail services and purchase goods not only across cities, countries but also continents, which makes it the most seamless invention of technology (Hogan, 2012). There are two primary forms of digital currencies, including centralized digital currency and decentralized digital currency, which are primarily different from each other based on their regulatory mechanisms. The centralized digital currency as evaluated by MD Brodo and AT Levin is a type of digital token, which is essentially issued by the federal bank, and is pegged to the equivalent value of a federal currency. Furthermore, this type of digital currency is regulated and administered as per the federal monetary policies, which are imposed by the federal bank. This form of digital currency has been established to impose regulations on digital currencies and to ensure that there is a provisional authorization of the government over the digital currency. Consequently, this currency offers financial inclusion and economic transparency. Digital currency hence



is a preliminary strategy to endure financial sustainability, without impuring the currency with corruption and black money. Digital currencies are increasingly implemented by many countries all across the world including India, China, Russia, Sweden, and various other states.

## **1.2 Advantages of Digital Currency:**

The major advantages of digital currency as asserted by W Engert and BSC Fung are that it offers cross-border payment, allowing people to avail of services and products throughout the world. Moreover, centralized digital currency is free from credit and liquidity risks, which makes it comparatively more secured and transparent, allowing financial sustainability. Moreover, centralized digital currency, through a retained administration by the federal bank and federal monetary policies supports the international role of federal currency since it is quite sustained and secured. Moreover, centralized digital currency expands access to the general public, allowing them to use it without any external assistance, and at all places, which has largely facilitated people (Kshetri, 2021).

However, a decentralized digital currency which is also referred to as peer-to-peer money, on the other hand, is a bank-free method, that does not depend on any bank or any intermediary to transfer goods and services. Primarily, decentralized currency is used in the virtual markets, and is not regulated by the federal banks, since these currencies are not coherent with the financial regulations as implemented by the government. Furthermore, decentralized currency is cheaper and more economical as compared to centralized digital currency, since there's no intermediary party, which results in lower transaction costs. Moreover, it is asserted by Steve Gilbert and H Lol that decentralized digital currency is more beneficial for the parties involved in the exchange of goods and services, since it allows increased transparency and increased security among them, leading to increased confidence, though it may not be favourable for stabilization of the economic structure of a state. And since the decentralized currency doesn't function according to the financial regulatory system, therefore, it is assumed that decentralized digital currency relatively offers more freedom and more independence. However, the lack of financial inclusion poses a threat to the economic structure of a country, which results from the lack of administrative control over decentralized currency, allowing it to be used for illegal purposes, and

corruption. Hence, decentralized digital currency can disrupt the financial structure, leading to the imbalance between economic growth and monetary regulations, as imposed by the federal banks (Rolnick, 2010).

### **1.3 Types of Digital Currency:**

Similarly, there are three prevalent types of digital currency, which are widely used, and include virtual currency, cryptocurrency, and central bank digital currency. These all are of prime importance since each of these plays a pivotal role in driving the complete technological framework of digital currencies. Virtual currency is an unregulated and unadministered type of digital currency, that is fundamentally monitored by either a founding company or a developer, and incorporates miscellaneous stakeholders. However, to control digital currency, a developer is not a requisite, since these currencies can be easily controlled through the use of complicated datasets known as algorithmic combinations based on a definitive protocol. This type of currency is both stored and transacted by the use of software, connected to the internet, and offers a dedicated and secured exchange of goods and services.

Virtual currencies primarily offer faster transactions through automation, increased security through the use of complicated datasets and algorithmic combinations, increased transparency, and increased convenience. Central bank digital currency, on the other hand, is a type of digital currency that is regulated and monitored and is issued by either a federal bank or a federal organization controlling the financial state of the system. A central bank digital currency can easily replace a traditional currency, conventionally used in a country, and can be used as a medium of exchange between various parties with the consent of the government. However, unlike fiat currency, which is present in both physical and digital forms, centralized digital currency is available only in digital form. And as a result of national regulation, it offers financial inclusion and economic transparency, leading to financial sustainability, therefore it has been accepted by various countries, implementing in the markets as a medium of exchange. Some of these areas include India, England, Uruguay, and others (Berentsen, 2006).

## **1.4 Cryptocurrency And Its Implications:**

Similarly, Cryptocurrency, the most significant and supreme type of digital currency, is quite similar to virtual currency and is based on a cryptographic framework, which makes it highly secured, and highly protected. Cryptocurrency is primarily a decentralized digital currency since it does not depend on a third party or an intermediary and does not follow any provisions implied by the federal government. Cryptocurrencies are these digital or virtual currencies that depend on cryptographic systems, and allow the users to execute online payments without using any external source, or third-party intermediary. The word crypto is regarded as the various encryption datasets that are based on cryptographic techniques, which safeguard data entries including public-private key pairs, elliptical curve encryption, and hashing functions. It is asserted by R Auer and R Bohme that cryptocurrency uses cryptographic techniques, which principally include blockchain and distributed ledger technology, make it nearly impossible for hackers to hack the system, or counterfeit or double-spending the system, since these technologies incorporate a disparate and extensive network, which makes it immune from external threats.

Besides the mechanism of cryptocurrency, since is based on a decentralized digital economy, therefore it is also immune to the interference of the government and hence immune to governmental manipulation. Hence, the protection that cryptocurrency offers to users, from both sides, makes it a very reliable and secured type of digital currency, making it preferable. Normally, users access the cryptocurrency by buying it from cryptocurrency exchanges, and cryptocurrency mines, and can be used for various functions including sales, retail, gaming, trading, and others (Townsend, 1989).

## **1.5 Bitcoin and its Significance:**

Bitcoin is a very important form of decentralized digital currency, that works by use of verified transaction networks, principally using cryptographic nodes to store and retrieve data using blockchain, a form of distributed ledger technology. Bitcoin though is a highly secured system and a highly protected strategy since it is immune from governmental interference, as well as third intermediaries, which gives the users

confidence and trust to use the digital currency. Furthermore, digital currency is very easy to use, since it was released as open-source software, offering increased transparency (Andolfatto, 2018).

## **1.6 Forms of Cryptocurrency:**

Evaluating the various forms of cryptocurrency, T Keister and DR Sanches, have listed 20 primary types of cryptocurrencies, that are widely used as a medium of exchange. These types include bitcoin, stable coin, lite coins, Ethereum, Cardano, EOS, and various others. The word alternative coins, which is also simplified as altcoins, is collectively used for token cryptocurrencies, that are not included under the tag of the bitcoin. The altcoin is also disparagingly referred to as the shitcoins or alternative versions of bitcoin. It has been asserted by MJ Kiff and J Alwazir, that the term altcoin has been proposed to include all types of cryptocurrency tokens, that have been proposed after the bitcoins. The primary difference between bitcoin and altcoin is that altcoin uses smart contracts rather than blockchain cryptography, which is equally transparent and is equally protected like cryptography but is more automated since it allows to perform various transactions through systematic databases (Schreger et. al, 2021).

## **1.7 Advantages of Cryptocurrency to the Economic World:**

Considering the various advantages offered by cryptocurrency, it has entirely revolutionized the complete infrastructure of economics, offering numerous benefits to the financial paradigms, leading to the stabilization of the financial structure of the world. Cryptocurrency offers a very unique, yet sustainable paradigm for the increased transparency and increased security of the economic system, using a decentralized system of economy. The significance of cryptocurrency primarily lies in the independence of the mechanism that it uses for the transaction of money, primarily independent of the centralized intermediaries including financial institutions, independent of these institutions to implement regulations that somehow impede the autonomy and sovereignty of the users. This results in increased confidence and trust of users, which

operate the entire system with the assistance of developers, and algorithmic combinations using the system to execute the operation by themselves, through increased automation.

Moreover, the system of cryptocurrency eliminates the possibility of a single point of failure, which is very common in banks and a leading cause of disruption of financial systems, leading to economic regression. Hence use of cryptocurrency is comparatively safer, as it eliminates the possibility of financial breakdown and fosters the process of economic sustainability (SÖNMEZ, 2020).

Furthermore, cryptocurrency facilitates the process of sending and receiving funds between two various parties, by using algorithms, and blockchain, without the need for physical presence or any meeting, but all the matters can be resolved virtually, without the assistance of third parties and banks. Hence, this has largely increased the efficacy and effectiveness of online transactions, which are not only highly effective but also highly secured, through the use of public keys and private keys, and various other forms of incentives including proof of work which is also typically known as proof of stake. And since cryptocurrency explicitly operates between two parties, therefore it is much faster compared to the transfer of fiat currency, which primarily incorporates three parties, and hence takes more time. For instance, flash loans, a type of cryptocurrency, primarily a decentralized form of finance, can be processed within seconds, without backing collateral, and hence are extensively used in trading. Therefore, because of convenience and time-saving, cryptocurrency has the optimal potential to serve as a very productive form of currency in the trading, and other transfers of funds (Perugini and Maioli, 2014).

Furthermore, cryptocurrency can be highly useful for generating profits, and large sums of revenue since cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Hence, cryptocurrency withholds numerous opportunities for both stakeholders, businesspersons, and investors, allowing them to earn huge profits as per the demand of the market. This is also evident from the fact that the market of cryptocurrency has been constantly growing since its inception in early 2008.

The total revenue generated by the cryptocurrency market in 2010 was less than 1 billion USD, however, in 2015, it increased to more than 4.59 billion USD, which further increased to more than 773 billion USD in 2018, 2555 billion USD in May 2021, which rapidly rose to 3048 billion USD in November 2021, which depicts the continuously and increasingly increasing growth of the cryptocurrency market, demonstrating the

large potential that the industry holds in the future. And besides the growth of the collective cryptocurrency market, the individual types of cryptocurrencies are also gaining momentum, receiving attention all across the world. This can be demonstrated by the fact that Bitcoin is valued at more than 862 billion USD in the crypto market, which is considered the beginning of the era of digital currency (YAO, 2017).

Similarly, another significant advantage offered by cryptocurrency is that it is currently integrated into the fiat currency as an intermediary currency, streamlining money transactions across borders. This system has been primarily incorporated by the remittance economy and has been referred to as the most significant and provisional use of cryptocurrency as asserted by economists. In this process, the fiat currency is transformed into a cryptocurrency, principally a bitcoin, and then is later transacted across borders, and then is again converted into the fiat currency of the place of arrival. This method has been very significant since it allows the users to receive and send money effectively, with increased reliability, security, transparency, and convenience, streamlining the entire process of money transfer, and achieving the whole process economically (Goldfarb, Greenstein, and Tucker, 2015).

The easy transaction associated with cryptocurrency is highly pivotal, as crypto transactions can be executed easily at a low operational cost, thereby using a simple setup, constituting smartphone applications, exchange wallets, or hardware wallets, allowing all people to virtually execute their transactions. This convenience of the cryptocurrency has been regarded as the biggest advantage, allowing the users to execute and administer their financial transactions on their own, without any intervention or assistance from third-party or federal institutions. Some of the cryptocurrencies including Ethereum, Litecoin, and Bitcoin can be easily purchased with fiat currency or cash, at a Bitcoin ATM, and can be used without having a bank account. However, it can also be purchased online. These all facets collectively result in easy transactions and increased independence of the consumers.

Similarly, increased security is also a fundamental benefit offered by the market of cryptocurrency, which is based on blockchain technology and cryptographic mechanisms, making it a comparatively secured form of payment. This security is largely based on the hash rate, as the higher, the hash rate is, the higher the computing power and algorithmic complexity, which in turn means higher security. Bitcoin has the highest hash rate and therefore is more secure, which is the primary reason for the increased demand and popularity of bitcoin. However, this security is only

possible if the algorithmic combinations are constantly changed, and altered so that the specified combination cannot be hacked. If it is not administered properly, it can lead to the stealing of private information.

Furthermore, increased consensus and reduced cost are other property, which makes cryptocurrency a comparatively preferable medium of payment. And though some people invest in cryptocurrency for price appreciation, for others it is an acceptable and regulated medium of payment, allowing them to make quick settlements at comparatively lower fees. For instance, Bitcoin and either transaction can cost anywhere from nickels and dimes to dollars and more, portraying the maximal payment mode of the currency. Whereas Litecoin and XRP can cost pennies or less, showing the minimal payment mode of the currency. This offers users to choose the right kind of currency for their transactions. Moreover, these transactions can be executed within seconds, and minutes, even for cross-border transactions. However, currencies involving banks are comparatively slower and usually take three to five business days to be administered and settled.

Similarly, the industry of cryptocurrency is exponentially growing and is becoming the fastest growing industry in the world. And as a result, the major multinational companies are investing in it, and are accepting thereby incorporating it as a medium of payment. This is evident from the fact that the net market cap of cryptocurrency was nearly 1.6 billion USD in 2013, a few months after its launching, which gradually increased to 4.86 billion USD in 2015, 773.23 billion USD in 2018, and 3048 billion USD in 2021. This exponential growth of cryptocurrency despite the pandemic shows the significance of the industry and the prospective potential it withholds.

Similarly, outsized returns are also a significant advantage of cryptocurrency, contributing tremendously to the strengthening of the economic structure of individuals, businesses, and countries. Cryptocurrency specifically bitcoin results in large outsized returns, representing millions of points on the stock exchange market, worth millions of dollars. Hence, cryptocurrency offers numerous advantages for day traders and investors, allowing them to earn large outsized returns through the investment of this digitized currency.

Moreover, privacy and the execution of private transactions are also highly significant, implicated by blockchain technology, and distributed ledger technology. The blockchain technology incorporated by cryptocurrency results in increased security, by creating a distributed ledger, that analyzes and records all transactional data. And each block only shows the wallet address of the user, keeping him/her anonymous, thereby leading to increased privacy. However, if the wallet address is somehow hacked, and is connected to the user's identity, then tracking of

transactions becomes easy, and the identity of the user is vulnerable, but that's rare. However, besides blockchain technology, there are other mechanisms to integrate cryptocurrency, thereby integrating the transactions, and keeping them private. One such mechanism is coin mixing services group transactions results in the opaqueness of digital transactions, making it impossible for the hackers to hack the system. It has been asserted by researchers, that despite minor security breaches, cryptocurrency is relatively private and secure from transactions involving third groups and other regulatory bodies.

Furthermore, portfolio diversification is also a well-known advantage of cryptocurrency, becoming a non-correlated asset class, functioning independently of other markets. Therefore, the price of these assets is determined by factors different from the factors that affect fiat currency, including stocks, commodities, and bonds. This is evident from the economic progression attained by cryptocurrency over the last decades, to rising by millions of percentage points.

Likewise, cryptocurrency offers a sustainable control of inflation and hence plays a substantial part in economic reinforcement. Mainly mineable cryptocurrencies, like Bitcoin, Monero, Litecoin, and others, having a restrained supply cap is considered an effective barrier to inflation. And as monetary inflation is inflicted by financial regressions, which are fostered by the printing of more money by the banks, and governments, which in turn increases the supply, leading to decreased value. However, the case of cryptocurrency is different, since this electronic currency has a specified value, measured in dollars, which has a higher chance of having an increase in inherent value. But despite this, the protocol of Bitcoin is designed in such a way that it keeps these coins scarce, being indifferent to the monetary policies.

Another benefit of cryptocurrency is that it is a 24/7 market, unlike the conventional financial markets. For instance, the stock exchange markets are open only for a specified time, only on weekdays and between the determined business hours. However, on weekends, holidays, and at night, these markets are non-functional, which largely affects the financial operations. Cryptocurrency offers a very strategic resolution to this problem since crypto markets are open 24/7, trading at all times, allowing the consumers to execute their financial transactions at any time, without any intervention. The only things that can disrupt these crypto markets include power outage, centralized exchange outage, and internet outage. Hence, this demonstrates that cryptocurrency is a comparatively more effective and efficient type of currency.



## **1.8 Disadvantages of Cryptocurrency:**

However, besides these advantages, there are several disadvantages associated with the use of cryptocurrency, which is primarily associated with the lack of regulatory mechanisms, impeding the system of cryptocurrency to become incorporated into the world economy. Primarily, cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. However, the digital datasets incorporated in these transactions are evaluated by intelligence institutions, which leads to the possibility of the tracking of financial transfers of money by the common people, as investigated by federal institutions. Furthermore, cryptocurrency has also become a significant tool for criminals, which is used by them for illegal activities, primarily associated with black money, such as money laundering, corruption, and terrorism. Cryptocurrency is also widely used by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Furthermore, cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities (Singh et al., 2018).

Furthermore, cryptocurrency has been found to centralize money, though it is a decentralized form of currency, it still, prompts the accumulation of money to a specified class of people, making it a concentrated form of currency. This is evident from the fact that nearly 11000 investors held 45% of the total value of bitcoins, showing the concentration of currency to the specified group of people. Furthermore, another significant disadvantage of cryptocurrency is that it can be operated by anyone using simply a computer and internet connection. However, this mining of the cryptocurrency requires a large amount of energy which in turn requires large costs as well as unpredictability, resulting in the concentration of mining primarily among multinational companies, which leads to the increasing revenue of these companies, with the accumulation of money, as 10% of the total miners of cryptocurrency own 90% of the mining capacity.

Hence, cryptocurrency somehow disrupts the balance in the economic system, leading to a specified concentration of money. Furthermore, it has been asserted by economists that cryptocurrency is quite secured, which is because of the cryptographic combinations and blockchain technology, but some crypto repositories are not secured such as mechanisms of wallets and exchanges, which can be hacked through a sustained effort, resulting in the stealing of some specified coins, which can be millions of dollars' worth (Liu and Tsyvinski, 2022).

Another significant disadvantage of cryptocurrency is that it largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world. This is evident from the fact that the market of cryptocurrency fluctuated, rising to more than 17,738 USD in late 2017 and then falling to 7575 USD in early 2018, showing a rapid change in the world of cryptocurrency. That's why some economists have asserted cryptocurrency to be rather a transient currency, which is rather short-lived or a speculative bubble (Wu, 2020).

### **1.9 Research Objectives:**

- To evaluate cryptocurrency and the various properties of cryptocurrency including its types, implications, and regulatory methods, with an analysis of the market trends of cryptocurrency.
- To analyze the conscious consumer behavior in the world of cryptocurrency, by evaluating the perspective of consumers about cryptocurrency, and their inclination towards adoption of cryptocurrency as a medium of payment.
- To evaluate the advantages of the cryptocurrency and their resulting impact on the consumer behavior.
- To evaluate the disadvantages of the cryptocurrency and their resulting impact on the consumer behavior.

### **1.10 Research Questions:**

- What is cryptocurrency and what are the various properties of cryptocurrency including its types, implications, and regulatory methods, with an analysis of the market trends of cryptocurrency?
- What is the conscious consumer behavior in the world of cryptocurrency, and what are the perspectives of consumers about cryptocurrency, and their inclination towards the adoption of cryptocurrency as a medium of payment?
- What are the advantages of the cryptocurrency and how these advantages affect consumer behavior?
- What are the disadvantages of the cryptocurrency how these advantages affect consumer behavior?

### **1.11 Significance of the Study:**

The research is significant to analyze the implications of cryptocurrency, concerning the various parameters that affect the market of cryptocurrency, and influence consumer buying behaviour, including factors such as advantages, and disadvantages which predict changing behaviour of consumers in the market. Hence, the research is critical for economists and consumers, to analyze various facets pertaining to cryptocurrency, and for policymakers to make administrative policies as per the behaviour of consumers.

### **1.12 Problem Statement:**

Conscious consumer behaviour in the world of cryptocurrency is highly critical, since it is pivotal for the success of the market, and for increasing the value of the currency, thereby mitigating the negative impacts of the currency.

## **2 Literature Review:**

### **2.1 Integration of Technology and Finance: FinTech**

FinTech as evaluated by Kowalski, Lee and Chan is an assortment of finance and technology, which has substantially ruled out the people in finance, as technology has completely taken over it. It has been implied by the technologists that predominantly technology was implemented in the financial institutions through the back-end mechanisms, whose entire objective was to benefit the organizations in performing the organizational tasks, but with technological advancement, this conceptual framework has changed, changed to benefit the consumer by developing consumer-oriented services. FinTech is highly significant, as it has entirely revolutionized the business world, making it reliable and convenient to operate. This assortment of technology and finance, which is used to improve and automate various financial processes and services is considered FinTech. FinTech is extensively assessed as the use of new technology in the monetary sector to improve, reinforce, and innovate the use of financial services to automate operational tasks and services. As a result of this automation, FinTech is presently used by business owners, corporate organizations, and consumers to virtually administer their financial mechanisms, financial or economic operations,

and processes by the use of systematic and specialized software, by the use computers, mobiles, and principally internet. And hence under these consumer-oriented services, FinTech has now evolved as it includes the integration of financial systems of different sectors, including education, retail banking, investment management, industries, fundraising and non-profit management and others (Kowalski, Lee, and Chan, 2021).

## **2.2 Implications of FinTech:**

Yang explained the various parameters of FinTech and the various advantages offered by it. He asserted that one of the most important parameters of FinTech is the hodgepodge of FinTech and the new technology such as artificial intelligence, robotics, data-driven databases big data, cloud computing systems, and others. These technological facets specifically artificial intelligence is a comparatively broader encompass of the new technology since it includes numerous facets, including machine learning, data-driven marketing, behavioural analytics, and others which largely facilitates the organizations in performing business operations, and in taking effective financial decisions. And because of the significance of FinTech, a large number of companies are investing in FinTech landscapes. This is evident from the fact that in 2016, nearly 17.4 billion USD were invested in FinTech, while in 2017 nearly 83.6 billion USD were invested in the same industry, which increased to 143.37 billion USD in 2018.

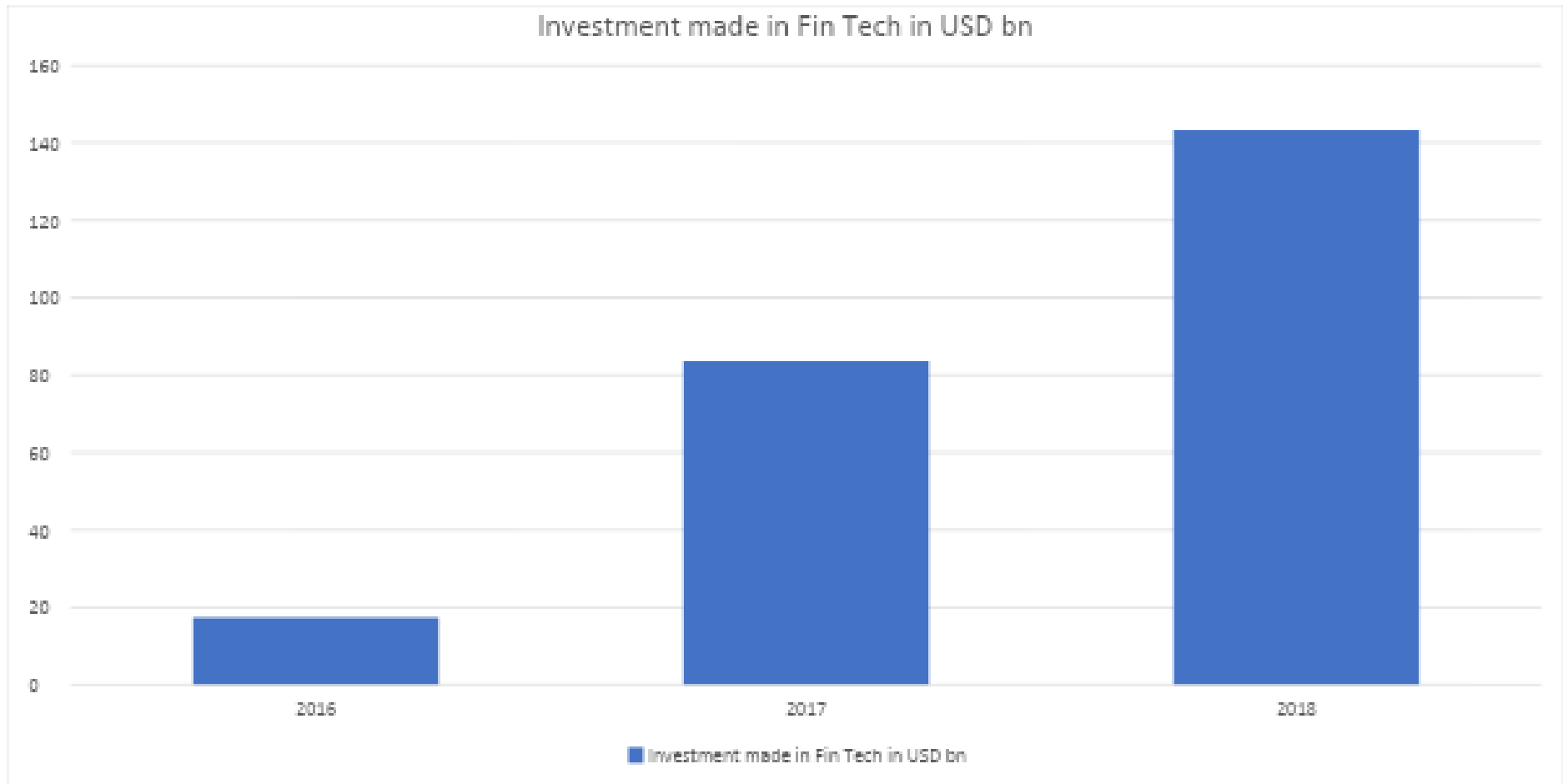


Figure 1 Investment made in Fin Tech in USD bn

Yang and Brown have presented a list of areas principally a list of parameters, which represent the potential benefits of FinTech. This list includes electronic banking or e-banking, open banking, blockchain, digital currency, smart contracts, Insurtech, Robo-advisors, unbanked

services, and others. Open banking is a type or a modification to e-banking, but uses a blockchain mechanism and promotes the access of the third party (a party other than the bank and consumer) to the data record of the bank, enabling the bank to develop a collaborative interconnection through an application, that creates a network of financial institutions, principally banks and the third party.

Unbanked service often disadvantages low-income individuals, or who are financially less developed, and the traditional banks also underscore or undervalue these individuals, as some of the mainstream financial institutions. Digital currency principally cryptocurrency, protected by cybersecurity, leads to increased protection of the data, through increased protection of databases, transactional records, and transactional processes, and this is significantly important because of the increased cybercrime and decentralized storage of data. Blockchain technology, includes Ethereum, a type of distributed ledger technology (DLT), which stores the data record on a computer network but does not have a central ledger. Insurtech, the assortment of technology in an insurance company, to improve and automate customer services. Smart Contracts, which also use technology in computer programs, use blockchain technology to automate the contracts between the buyers and the sellers. Robo-advisors incorporate algorithmic means to automate investment and incorporate effective decision-making mechanisms, for financial inclusion, increased accessibility, and lower cost. (Treleaven, Gendal Brown and Yang, 2017)

### **2.3 Introduction to Cryptocurrency:**

The word cryptocurrency is derived from the widely used encryption method, which is used to protect the digital economic networks. A cryptocurrency as mentioned earlier, is a type of digital currency, principally a decentralized digital currency, that is operated by cryptography, making it impossible for businesses to counterfeit or double-spend the money, thereby protecting the revenue effectively. Cryptocurrency, the most significant and supreme type of digital currency, is quite similar to virtual currency and is based on a cryptographic framework, which makes it highly secured, and highly protected. Cryptocurrency is primarily a decentralized digital currency since it does not depend on a third party or an intermediary and does not follow any provisions implied by the federal government. The algorithms and data used in the cryptocurrency are highly complex and integrated, as it is designed to operate as a technological medium of exchange. The operational system of

the cryptocurrency is highly effective, as it stores the datasets of each of the coins, by using cryptographic mechanisms, and computerized databases. In addition to storing the record of each coin ownership, it regulates the record of each transaction, to ensure the safe transfer of coin ownership, and the creation of new coins. Cryptocurrencies are these digital or virtual currencies that depend on cryptographic systems, and allow the users to execute online payments without using any external source, or third-party intermediary.

The word crypto is regarded as the various encryption datasets that are based on cryptographic techniques, which safeguard data entries including public-private key pairs, elliptical curve encryption, and hashing functions. There are several mechanisms, used in the transaction of the cryptocurrency. Some of the crypto schemes employ validators to sustain the cryptocurrency (Wang et. al, 2020). And in this process, some of the coin owners place their tokens as collateral for increased transparency, and as a result of this process, these coin owners acquire administration over the specified proportional amount, equal to the worth of their token. And with time, these token owners are paid with increasing ownership, in the form of minted tokens, network fees, or any other reward. It is asserted by R Auer and R Bohme that cryptocurrency uses cryptographic techniques, which principally include blockchain and distributed ledger technology, make it nearly impossible for hackers to hack the system, or counterfeit or double-spending the system, since these technologies incorporate a disparate and extensive network, which makes it immune from external threats. Besides the mechanism of cryptocurrency, since is based on a decentralized digital economy, therefore it is also immune to the interference of the government and hence immune to governmental manipulation. Hence, the protection that cryptocurrency offers to users, from both sides, makes it a very reliable and secured type of digital currency, making it preferable (Fernández-Villa Verde et al., 2020).

## **2.4 Evaluation of Blockchain:**

Dhotre evaluated blockchain and explained its functional mechanism of blockchain. He asserted that Blockchain, is, a type of decentralized database, which records transactional data by using unchangeable cryptographic data, which is commonly regarded as the hash. A blockchain is

an extended list of datasets, which are referred to as the blocks, and these blocks are linked together by using mathematical algorithms of cryptography.

A blockchain is also evaluated as a digital balance sheet containing the transactional data, which is transcribed and translated across the entire network of blockchain across the computer system. Each of these blocks a certain record, of a certain number of transactions, and each time a new transaction is made, the data of that transaction is added to the balance sheet of the participant Each of these blocks consists of cryptographic data, which is related to the data of the subsequent block. This data is principally transaction data and a record of time. This transactional data demonstrates the record of each of the transactions, whereas the timestamp is used to keep the record of the time, and the date on which each of the blocks was launched. This provides the complete data record of each of the blocks.

Any individual with a computer and an internet connection can use them for making transactions, and can also become the validator. As each block consists of the complete information of its record and the information of the subsequent block, and therefore these blocks reinforce the information of each of these blocks, keeping the information intact. These blocks are correlated with each other and form a network of data, and this network is resistant to any change, once the data is recorded This fact makes cryptography a reliable algorithmic combination, as it is entirely based on this chain of blocks, whose data cannot be altered, replaced, or modified without changing the configurational sequence of the blocks. This entire network of blocs is referred to as the blockchain, which is defined as an algorithmic system for recording information in such a way, which renders it impossible or at least difficult to alter, modify, or hack the system (Dhotre, 2019).

## **2.5 Security Receptacle of Blockchain:**

Peck explained the security of the blockchain using the principle of data storage on the blocs. He asserted that these blockchains are normally monitored by an integrated network or precisely a peer-to-peer network since it is a distributed ledger, where each of the multiple participants implies a disciplinary protocol to inform and verify the addition of data to a block, as well as the production of new blocks. The reason that a blockchain network is difficult to hack, is because of the complicated algorithmic data on each block in the chain, and how these blocks record



the information. If one block in the chain is changed or altered, it would indicate immediately that it had been changed, because the data of the subsequent block will be changed. Hence, to hack the regulatory system of the cryptocurrency, the hacker will have to change the entire blockchain and change the data of every block, across all of the versions of the blockchain, distributed across all the computers. And this all-systematic mechanism of data input, data record, and data processing, makes the blockchain a relatively secure system. That is why, blockchain is the operating system of cryptocurrency, which as mentioned earlier uses cryptography (Peck, 2017).

## **2.6 Types of Blockchain and Respective Cryptocurrencies:**

Xiong et al explained the types of blockchains since these types are highly significant for understanding cryptocurrency. it is classified into four categories: public blockchains, private blockchains, hybrid blockchains, and sidechains. The private blockchains, on the other hand, are not accessible to everyone, and cannot be used by everyone. They can only be accessed if invited by a network administrator, and the participant and validator access is restricted in the private blockchains. They are mostly decentralized and are regarded as decentralized databases. The public blockchains are accessible to everyone with a computer, and therefore they have no restrictions. These blockchains are highly beneficial for financial advancement, as they offer monetary incentives. Similarly, hybrid blockchains are an assortment of private and public blockchains and are having the properties of both centralized digital blockchains, and decentralized digital blockchains.

Therefore, some of the features of the hybrid blockchains are accessible like public blockchains, while some of the features are restricted like the private blockchains since it incorporates both centralized and decentralized systems. A sidechain is quite different from all three categories. It is a design for the blockchain ledger that is proportional to the initial blockchain. The data record of the primary chain is transcribed and is translated to the sidechains. Once the sidechains are formed, and the data is recorded on them, they can operate independently of the primary blockchain. This is mainly done by using a different algorithmic combination and a different operating system for storing the data, as from the primary blockchain (Xiong et al., 2021).

## **2.7 Smart Contract and Altcoins:**

Kabuye explained that the word alternative coins, which is also simplified as altcoins, is collectively used for token cryptocurrencies, that are not included under the tag of the bitcoin. The altcoin is also disparagingly referred to as the shitcoins or alternative versions of bitcoin. It has been asserted that the term altcoin has been proposed to include all types of cryptocurrency tokens, that have been proposed after the bitcoins. The primary difference between bitcoin and altcoin is that altcoin uses smart contracts rather than blockchain cryptography, which is equally transparent and is equally protected like cryptography but is more automated since it allows to perform various transactions through systematic databases. He asserted that smart contracts, using a technological receptacle that also uses networks in computer programs, use blockchain technology to automatize the contracts between the buyers and the sellers. Moreover, the blockchain operates by employing smart contracts, which is a newly emerging protocol, incorporated by modern AI-based machines. Smart contracts use a strategic method to set out some provisional rules for executing and enacting financial contracts, assuring that the right agreements are made under the right regulations. Hence, once a treaty is being made, using a smart contract, it holds funds unless all regulations and rules are improvised, and as soon as these regulations are met, the contract automatically releases these funds. Hence, this has entirely changed the Fintech works, as it has replaced the conventional financial transaction methods with a new one, and the mode of transactions, as well as the intermediaries, are all now operating through online mode (Kabuye, 2018).

## **2.8 Stable Coins and Significance:**

Zilioli evaluated stable coins and how this type of digital currency is different from other types of cryptocurrencies. Zilioli asserted that stable coins are the most used type of cryptocurrency in the digital market making it different from other types of cryptocurrencies. These are a type of cryptocurrency that is linked to an inherent value, and by linking to a physical currency, principally a federally administered currency, like the US dollar, European Euro, or other currency. However, the majority of the stable coins use the dollar as their benchmark, but some are also

linked to government-issued fiat currencies. As a result, the inherent value of the cryptocurrency becomes stable, with very little fluctuation in the value. This differentiates stable coins from the other types of cryptocurrencies, including Bitcoin and Ethereum, which are vulnerable to sudden fluctuations.

The first stable coin was established in 2014, and was called Tether, which is inherently connected to the US dollars, and was initially used by investors to avoid the sudden risks and immediate volatility, that are often related to other cryptocurrencies. Besides saving it from extreme volatility, the linking of Tether with the inherent value of the dollar was to keep its value within the crypto market. Basically, stable coins are cryptocurrencies, whose price is pegged to a fiat currency or exchange-traded commodities including metals, and industrial products, such as gold and silver (Chohan, 2019). After tether, many other stable coins have been modelled, which are extensively used in the business. These stable coins are backed by a physical asset, which makes them highly reliable, as they are stabilized by physical assets whose value fluctuates outside the sphere of cryptocurrency, and hence this fluctuation does not affect the value of cryptocurrency. This is one of the most effective measures to be taken to reduce financial instability, as it has largely mitigated the economic risks. The other cryptocurrencies on the other hand, including Bitcoin, and Litecoin, are highly vulnerable to financial risks, and their holders cannot escape the falling prices unless they either exit the market or invest in stable coins. Normally, it is operated in a very systematic way, in which each user receives a token in exchange for a dollar, and this token can be translated back into the original currency with the same value of one dollar, at any time with the one-for-one exchange rate (Brown, 2019).

Moreover, these stable coins are regulated by a centralized as well as decentralized system and have the mechanism for financial sustainability. Through this mechanism, the asset backing the stable coin can be regained, and since it is directly related to the cryptocurrency, its inherent value is also stabilized. Some economists have implied that though there is some risk associated with stable coins, because of the financial risks associated with the physical asset, such as the fall in inherent value because of the rise in inflation, if a stable coin is linked with the physical asset by the use of a decentralized system, then it can be effectively saved from all sorts of financial risks. However, if these stable coins are linked with the physical asset using the centralized system, and are regulated by the federal government or any other federally administered organization, then these are prone to financial risks, for instance, robbery (Zilioli, 2020).

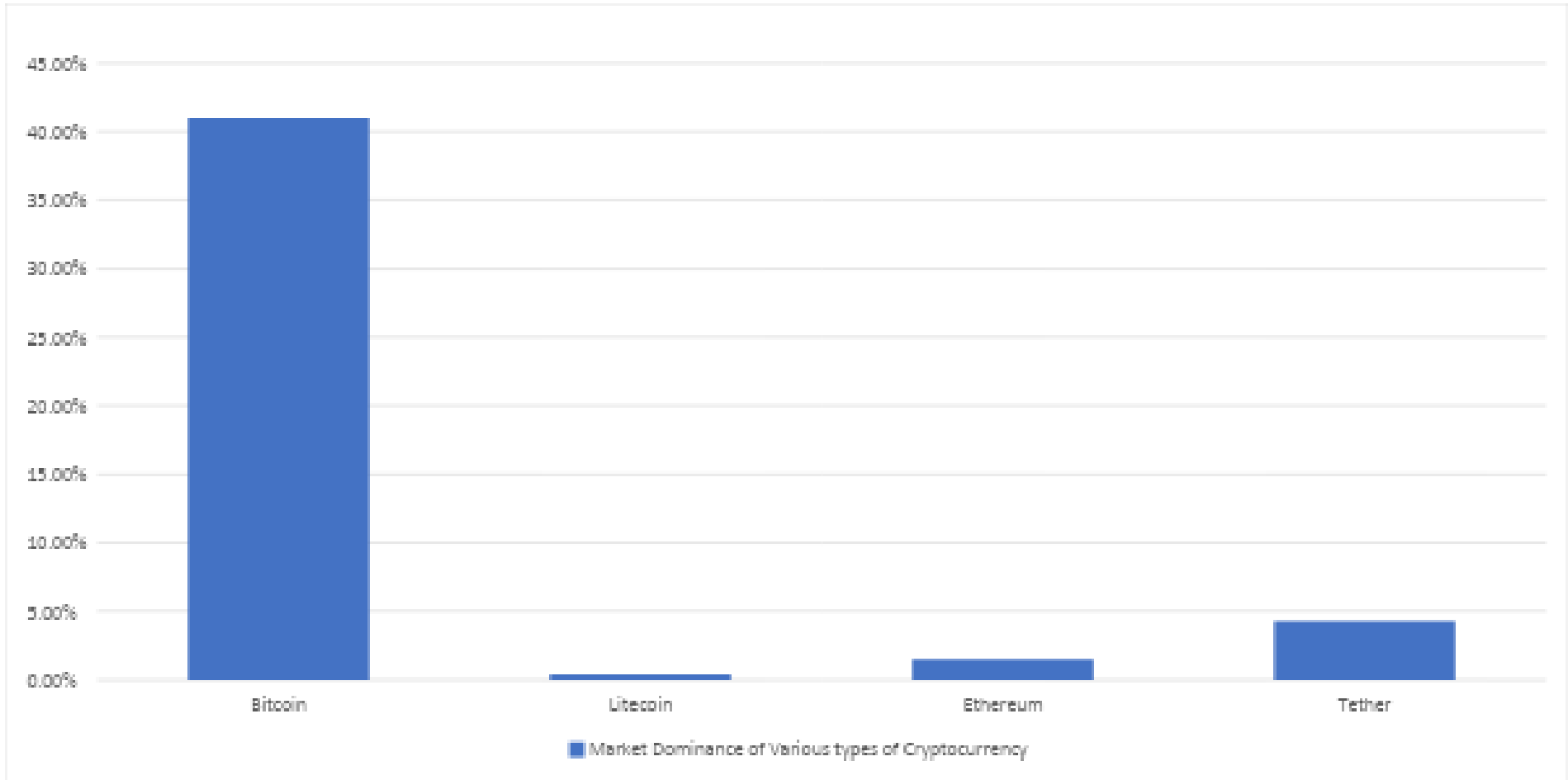


Figure 2 Market Dominance of Various types of Cryptocurrency

## **2.9 Advantages of Cryptocurrency:**

Wang et. al evaluated the various advantages offered by cryptocurrency, asserting that cryptocurrency has entirely revolutionized the complete infrastructure of economics, offering numerous benefits to the financial paradigms, leading to the stabilization of the financial structure of the world. Cryptocurrency offers a very unusual, yet sustainable paradigm for the increased transparency and increased security of the economic system, using a decentralized system of economy. Cryptocurrency facilitates the process of sending and receiving funds between two various parties, by using algorithms, and blockchain, without the need for physical presence or any meeting, but all the matters can be resolved virtually, without the assistance of third parties and banks.

Furthermore, portfolio diversification is also a well-known advantage of cryptocurrency, becoming a non-correlated asset class, functioning independently of other markets. Therefore, the price of these assets is determined by factors different from the factors that affect fiat currency, including stocks, commodities, and bonds. Likewise, cryptocurrency offers a sustainable control of inflation and hence plays a substantial part in economic reinforcement. Mainly mineable cryptocurrencies, like Bitcoin, Monero, Litecoin, and others, having a restrained supply cap is considered an effective barrier to inflation since this electronic currency has a specified value, measured in dollars, which has a higher chance of having an increase in inherent value. But despite this, the protocol of Bitcoin is designed in such a way that it keeps these coins scarce, being indifferent to the monetary policies.

Similarly, the industry of cryptocurrency is exponentially growing and is becoming the fastest growing industry in the world. And as a result, the major multinational companies are investing in it, and are accepting thereby incorporating it as a medium of payment. This is evident from the fact that the net market cap of cryptocurrency was nearly 1.6 billion USD in 2013 and 3048 billion USD in 2021. This exponential growth of cryptocurrency despite the pandemic shows the significance of the industry and the prospective potential it withholds.

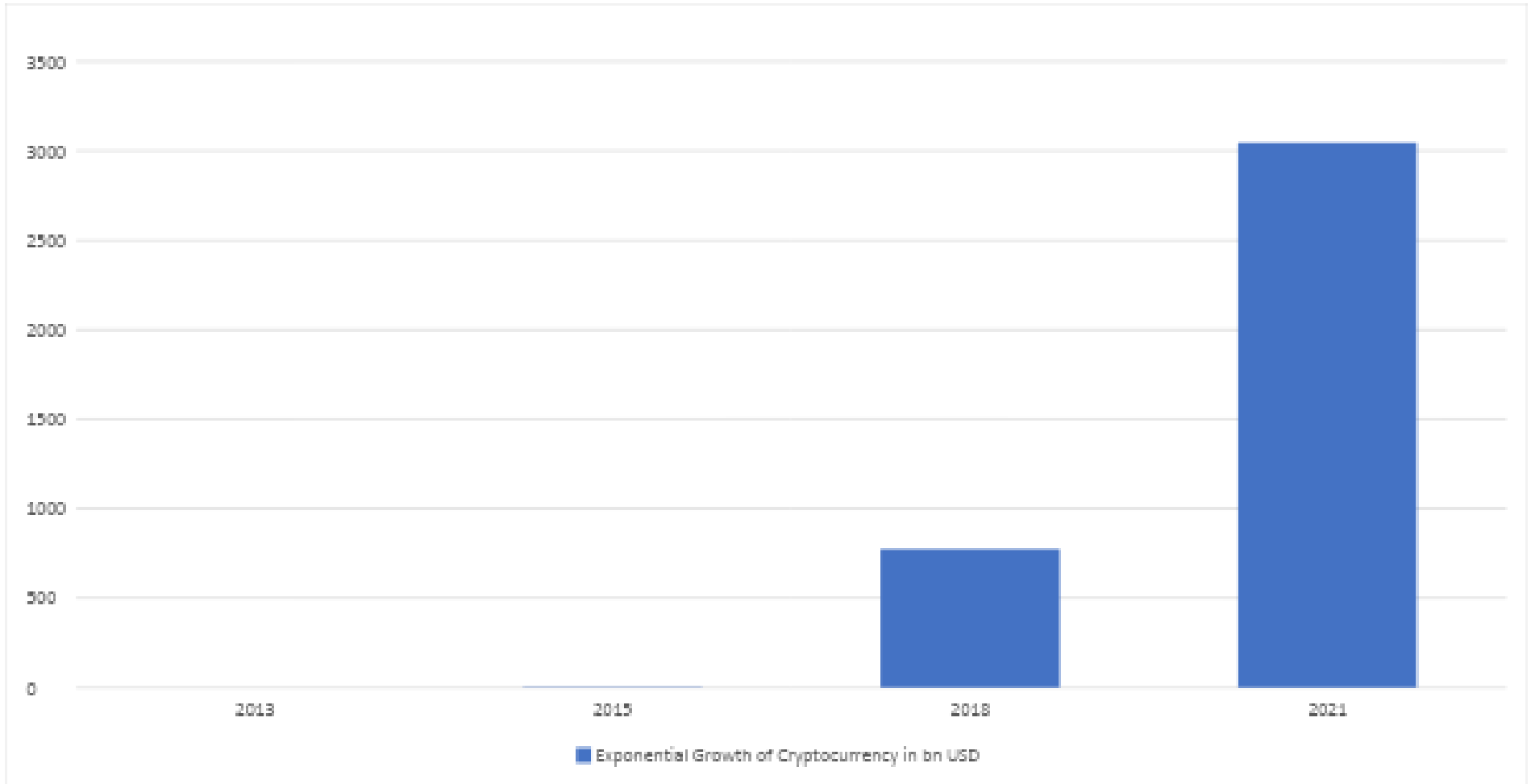


Figure 3 Exponential Growth of Cryptocurrency in bn USD

Similarly, outsized returns are also a significant advantage of cryptocurrency, contributing tremendously to the strengthening of the economic structure of individuals, businesses, and countries. Cryptocurrency specifically bitcoin results in large outsized returns, representing millions of points on the stock exchange market, worth millions of dollars. Similarly, increased security is also a fundamental benefit offered by the market of cryptocurrency, which is based on blockchain technology and cryptographic mechanisms, making it a comparatively secured form of payment. This security is largely based on the hash rate, as the higher, the hash rate is, the higher the computing power and algorithmic complexity, which in turn means higher security. Furthermore, increased consensus and reduced cost are other property, which makes cryptocurrency a comparatively preferable medium of payment. Another benefit of cryptocurrency is that it is a 24/7 market, unlike the conventional financial markets. For instance, the stock exchange markets are open only for a specified time, only on weekdays and between the determined business hours. Crypto markets are open 24/7, trading at all times, allowing the consumers to execute their financial transactions at any time, without any intervention. The only things that can disrupt these crypto markets include power outage, centralized exchange outage, and internet outage.

Furthermore, significance of cryptocurrency primarily lies in the independence of the mechanism that it uses for the transaction of money, primarily independent of the centralized intermediaries including financial institutions, independent of these institutions to implement regulations that somehow impede the autonomy and sovereignty of the users. This results in increased confidence and trust of users, which operate the entire system with the assistance of developers, and algorithmic combinations using the system to execute the operation by themselves, through increased automation. Moreover, the system of cryptocurrency eliminates the possibility of a single point of failure, which is very common in banks and a leading cause of disruption of financial systems, leading to economic regression. Therefore, the use of cryptocurrency is comparatively safer, as it eliminates the possibility of financial breakdown and fosters the process of economic sustainability.

Hence, this has largely increased the efficacy and effectiveness of online transactions, which are not only highly effective but also highly secured, through the use of public keys and private keys, and various other forms of incentives including proof of work which is also typically known as proof of stake. Furthermore, cryptocurrency can be highly useful for generating profits, and large sums of revenue since

cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Hence, cryptocurrency withholds numerous opportunities for both stakeholders, businesspersons, and investors, allowing them to earn huge profits as per the demand of the market (Sheth and Dattani, 2019).

## **2.10 Disadvantages of Cryptocurrency:**

LEE Kuo Chuen et. al, explained various types of disadvantages associated with the use of cryptocurrency, which are primarily associated with the lack of regulatory mechanisms, impeding the system of cryptocurrency to become incorporated into the world economy. A cryptocurrency is a significant tool for criminals, which is used by them for illegal activities, primarily associated with black money, such as money laundering, corruption, and terrorism. Cryptocurrency is also widely used by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Furthermore, cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. However, the digital datasets incorporated in these transactions are evaluated by intelligence institutions, which leads to the possibility of the tracking of financial transfers of money by the common people, as investigated by federal institutions. Furthermore, cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities.

Furthermore, cryptocurrency has been found to centralize money, though it is a decentralized form of currency, it still, prompts the accumulation of money to a specified class of people, making it a concentrated form of currency. Furthermore, cryptocurrency somehow disrupts the balance in the economic system, leading to a specified concentration of money as it can be operated by anyone using simply a computer and internet connection. However, this mining of the cryptocurrency requires a large amount of energy which in turn requires large costs as well as unpredictability, resulting in the concentration of mining primarily among multinational companies, which leads to the increasing revenue of these companies, with the accumulation of money, as 10% of the total miners of cryptocurrency own 90% of the mining capacity.

Moreover, cryptocurrency largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world. That's



why some economists have asserted cryptocurrency to be rather a transient currency, which is rather short-lived or a speculative bubble (LEE Kuo Chuen, Guo, and Wang, 2020).

## **2.11 Conscious Consumer Behavior and Cryptocurrency:**

G Heilman and R Rauchs evaluated the consumer buying behaviour in the world of cryptocurrency, specifically concerning the continuously changing value of the cryptocurrency, and the considered speculative bubble of the cryptocurrency and other digital currencies. Heilman and Rauchs assert that the world of cryptocurrency has generated considerable attention from the people, constantly fluctuating the perception of consumers towards it as the value of these digital assets has changed substantially. And this whole perception of the consumers is principally changed because new consumers are constantly entering the world of cryptocurrency, while some are leaving it.

This is evident from the fact that within one the year 2021, nearly 969.5 million people visited 60 crypto websites all across the world, which was a nearly 200% increase in the audience as compared to 2020. This increase in the number of people resulted in the increased value of cryptocurrency, which was doubled over the years, Bitcoin, reached a value of more than 1 trillion USD in late 2020, despite the pandemic which had disrupted the the complete financial receptacle of the world.

Heilman and Rauchs used web trafficking and internet data to acquire information on how many people visited various websites of cryptocurrency, how frequently visited these websites, and how much invested in them, giving them a generalized insight into the total number of people leaving the sphere of digital currency, and entering the digital currency. The recent data statistics show that consumers have been primarily interested in cryptocurrency, as the investments being made by people have been constantly increasing during the last decade, with the increasing value of the cryptocurrency. Using these statistics, it was found that by December 2021, the total market capitalization of the crypto market was more than 2.21 trillion USD, showing the potential of the market of cryptocurrency. Furthermore, nearly the average trading volume of cryptocurrency was amounted to be 120 billion USD, which demonstrated the constantly growing and constantly flourishing cryptocurrency on a daily, monthly, and annual basis. And though all types of cryptocurrencies have been important, 40% of the consumers investing in

cryptocurrency invested in bitcoin, which predominantly dominates in the world of cryptocurrency. This is also evident from the fact that during the pandemic when the value of nearly all things fell, the business world suffered socially, and economically, leading to the disruption of the whole economic receptacle.

However, despite all these economic failures, the world of cryptocurrency flourished, primarily because of its stability, and potential to minimize financial regression, which led to various small and medium-sized enterprises adopting cryptocurrency as a medium of exchanging goods and services with their shareholders, customers, and investors. This is evident from the fact that nearly 32% of the corporations in the United States not only accepted but also adopted cryptocurrency as a form of payment. This resulted in the increasing value of bitcoin, which rose from 6000 USD to more than 60,000 USD from 2021 to 2022. Furthermore, considering the increasing surge in cryptocurrency, it is expected that the currency will grow at an annual rate of 13% by 2030. And this increasing surge toward cryptocurrency has resulted in an increasing inclination of the people toward the adoption of bitcoin, for instance, it has been found that nearly 27% of Americans have supported the adoption of bitcoin as legal tender.

However, it was found by R Farell, that cryptocurrency is somehow not so popular throughout the world, but is specifically concentrated in some geographic zones, which is primarily because of the disadvantages of the cryptocurrency, including price volatility, scalability, lack of investment values, and various others.

In nearly, 195 countries situated on the map of the world, only 10 countries are found to be extensively incorporated into the market of cryptocurrency, which primarily includes Canada, the United States of America, Brazil, Russia, Australia, Spain, India, Japan, Ukraine, and Argentina, all responsible for the advancement of cryptocurrency. Though cryptocurrency is quite flourishing in these zones, however, other countries are quite restrained from using cryptocurrency. This can also be associated with a large number of scams, that people face while using cryptocurrency as a medium of exchange. For instance, in 2020, it was found that there were 8000 scams of cryptocurrency in the United States. Furthermore, it has been found that though consumers want to adapt to the cryptocurrency, a preliminary lack of users around them impedes them to adopt the currency itself. The perspective of the people plays a vital role in this case since people are collectively influenced by the perception of each other, which either motivates them to adopt or retrieve a technology.

However, besides this, there are several other reasons which impede the users to incorporate cryptocurrency as a medium of payment. Furthermore, Wang asserted that cryptocurrency explicitly operates between two parties, which makes it much faster compared to the transfer of fiat currency, which primarily incorporates three parties, and hence takes more time (Wang et. al, 2020).

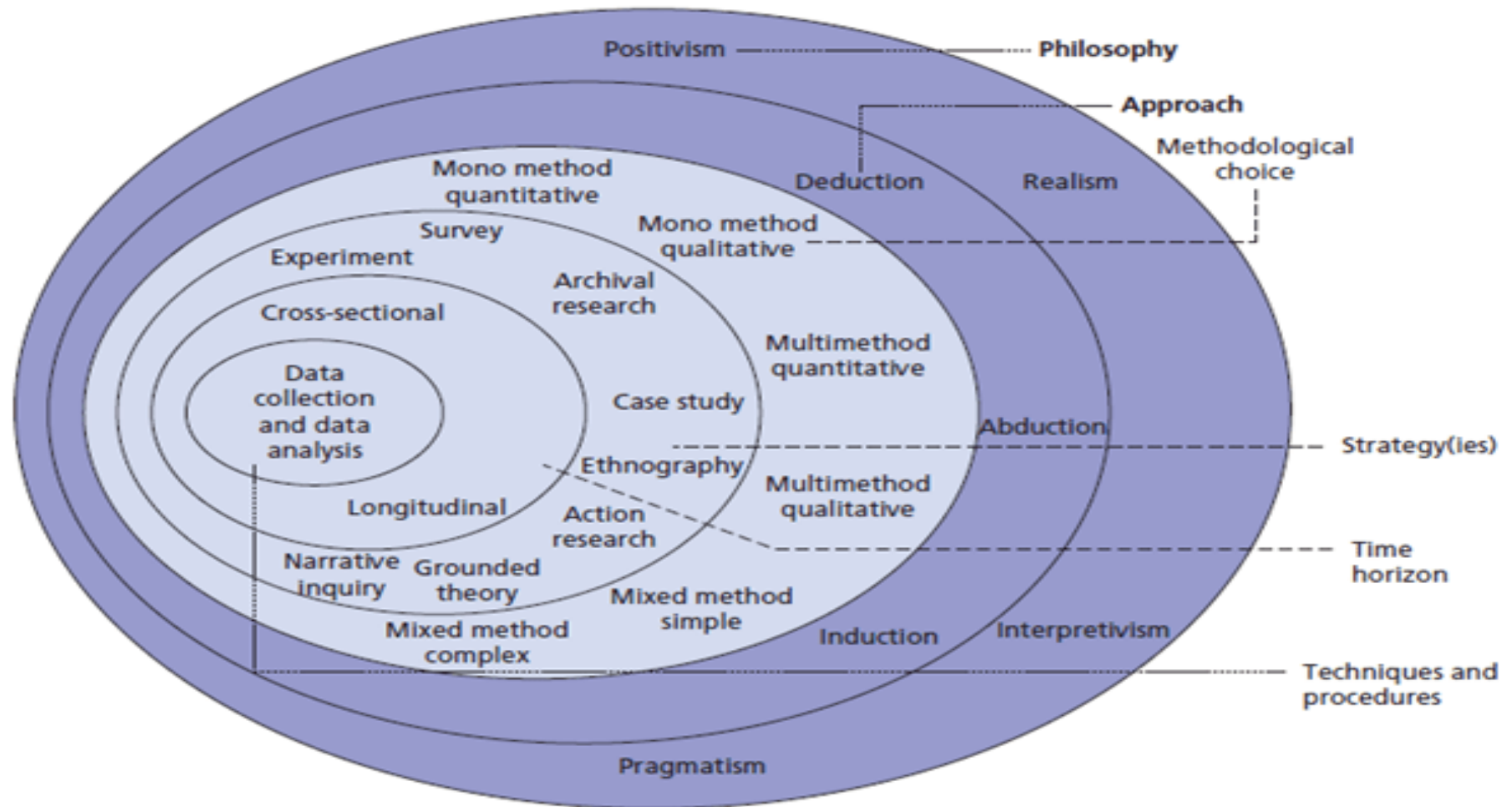
### **3 Research Methodology:**

#### **3.1 Research Background:**

This chapter includes the research methods on which our research will be based, including various research strategies and research paradigms, all collectively used for the assortment and analysis of data. Research methods are specifically defined as the various strategies and various techniques used for evaluating, analysing, and computing data, which is collected as per the research methods. When conducting research, the research method specifically allows a reader to comprehend and understand the primary objective of research, and analyze the major motives of the research incorporating research questions, research goals, research paradigms, and significance of the research, enabling the reader to understand the research critically. These research systems are primarily, as asserted by Baker et. al, a source-based articulation of a research problem, which is strategically resolved by using a set of research strategies, encompassing the study of literature, theoretical the assumption, a method to assort data, and a technique for analysing and computing this data.

It has been asserted by researchers that the principal difference between a successful research method and an unsuccessful research method is the validation of the research objectives and research questions. A successful research method clearly states the data, and evaluates it about the research objectives, whereas, an unsuccessful research method deviates from its research questions and fails to elaborate on research objectives. Furthermore, an effective research method effectively elaborates the various variables, including both dependent and independent, thereby evaluating the relationship between these variables and the research objectives.

Moreover, research methods are highly important as these enable the researcher to overcome various operational and functional difficulties, which is a significant hurdle in devising data and providing the researcher with effective methods to analyze and elaborate data, leading to the formulation of an action plan that ensures successful execution and enactment of research.



### **3.2 Research paradigms:**

Research paradigms are predominately the process that ensures that the research method, that is implemented for the execution of the research, is the best method among all methods, and is perfectly suitable for comprehension and articulation of specified research objectives and research questions. Furthermore, a research paradigm primarily proposes a subjective receptacle of research, to evaluate the subjective background of research questions. There are various types of research paradigms used in research including radiology, epistemology, positivism, and interpretivism.

This research, the evaluation of conscious consumer behavior in the world of cryptocurrency, is evaluated by using the philosophy of positivism, as this theory is highly efficient in proposing a validated theoretical proposition, within the context of data collection and data analysis methods, based primarily on data acquired from a vast population using a field survey, or interview. Furthermore, Collis as Hussey asserted that positivism is highly rigid, and is highly resolute, since it is unaffected by external factors, that somehow affect the efficacy of the results obtained from research. Secondly, the positivism research method is best to evaluate the perspective of the people and to analyze the various socio-political and socioeconomic factors that affect a bureau, analysed research. And, in this research, we analyze consumer buying behaviour, therefore, positivism is the best deductive strategy to be used.

### **3.3 Research Approach:**

Research approaches incorporate the various strategies, that are used in the research to ensure that research methods and research paradigms are implemented effectively, and righteously to obtain effective and validated results. There are two primary forms of research approaches, including a deductive approach and an inductive approach. The deductive approach tests a hypothesis by using quantitative research methods, whereas the inductive research methods investigate research questions by using a research survey, based on the evaluation of the perspective of people, their behaviour towards a specified market, their personalized opinions, and personalized preferences, as asserted by Dash and Malhotra. Hence, in this method, we use an inductive research approach and evaluate the behaviour of the consumers towards cryptocurrency, based on an online

generates questionnaire. The inductive method is highly productive, as it is very effective in evaluating a research question, by correlating the behaviour of the people with the literature review, to form a relationship between the hypothesis and the previous research. Therefore, it is extremely important for the execution of research effectively.



*Figure 5 Data Collection Methods*

### **3.4 Data Collection Method:**

The research method used for the collection of data is quantitative since it is based on primary data, using an exploratory quantitative method that will incorporate a hierarchical questionnaire to collect data from different people to induce attention to the research. This questionnaire will be created using the very effective, Google Forms, and will be shared with the respondents through email, WhatsApp, Messenger, and other social networking accounts. The focus group incorporates 190 respondents, from different parts of the world, with different ethnicities, educational backgrounds, social receptacles, and economic frameworks. This questionnaire will explicitly evaluate the various facets related to cryptocurrency, and will primarily analyze the perspective of consumers about cryptocurrency, and the constantly growing market of cryptocurrency.

Furthermore, the questions will also pertain to the analysis of the various advantages of the cryptocurrency, as well the disadvantages, to analyze their major perspective including both the reason for their inclination towards cryptocurrency and the reason for restraining from it. These all questions will be coherent to the research questions and research objectives and will be formulated in such a way that it leads to a detailed evaluation of the primary goals of the research. Moreover, these questions will be formulated as per the literature review, so that research h creates a connective link between the findings and the existing data, allowing the reader to comprehend and assess the data by themselves, deducing useful insights into the findings obtained. Moreover, the questionnaire will incorporate comprehensive questions, that will drive multi-dimensional knowledge, driving comparative and quantitative data for interpreting data, and providing validated and authentic data. Hence, the research questionnaire will be generated effectively, keeping all facets into consideration for detailed execution and enactment of the research methods, proposing a descriptive evaluation and computation of data.

### **3.5 Research Sampling:**

The research is based on random sampling, as the questionnaire was distributed throughout Asia and Europe, using social networking accounts, and all the respondents are considered as a single group of the population. However, this random sampling incorporates two types of population



groups including proportionate and disproportionate sampling. This research has used proportionate data sampling, which will be highly beneficial for the execution of data, and to keep the results unbiased from the demographic background.

### **3.6 Ethical Considerations:**

Following ethical considerations were taken before conducting research,

- The data was collected by following coherent principles of ethics, which were provided by the educational institute. Furthermore, a consent form was provided to the respondents of the questionnaire to give their approval to participate in the research.
- As a rudimentary facet of ethical consideration, the researchers ensured that the generation of any unrelated or insignificant data was avoided, to validate the data.
- Moreover, all the literature reviewed in the research is backed by proper Harvard referencing, to demonstrate the background of the literature explained.

### **3.7 Access Issue:**

- Proper consent was acquired from the respondents before the collection of data, as a receptive approval form was filled out by respondents before filling out the questionnaire.
- The survey was examined before the collection of data, and respondents were notified through a questionnaire. Furthermore, the privacy of the respondents was given special emphasis by anonymizing the respondents.
- The data obtained from the questionnaire was primarily stored in password-protected software and the transfer of the data obtained from the questionnaire to any other computer or researcher was prevented as a protective policy.

### **3.8 Reliability and Validity:**

Reliability is defined as the explanation of the various components of the data analysis, by using the various factors that ensure that the research was conducted using reliable sources, and the results obtained are backed by validated facts. The research has used the data collected from

reliable sources, primarily a questionnaire that includes highly educated respondents, who provided their unbiased and realistic responses, for validated research. Moreover, their responses were correlated with the literature obtained from credible sources, including journal articles from Google Scholar, books from Sci-Hub, research papers from Research Gateway, and others. Moreover, the disproportionate random sampling method has been used to enhance the reliability of data collection, to minimize the effect of external factors affecting the research results.

### **3.9 Research Limitations:**

Following are some of the limitations of the research:

- The total time provided for the collection and analysis of data was quite definitive, and it was arduous to conduct research within this short period of time.
- Research was executed voluntarily, and no financial assistance was provided, therefore the research is conducted with the limited finance of the researcher.
- The research, since, includes a research questionnaire, in which data is collected from participants, therefore there is a high probability that the result might be affected by external factors including demographics, educational background, regional and social advancement, and others.

### **3.10 Time Horizon:**

The time for the research is defined, as a structural and cross-sectional timeline was provided to complete the research within a specified period.

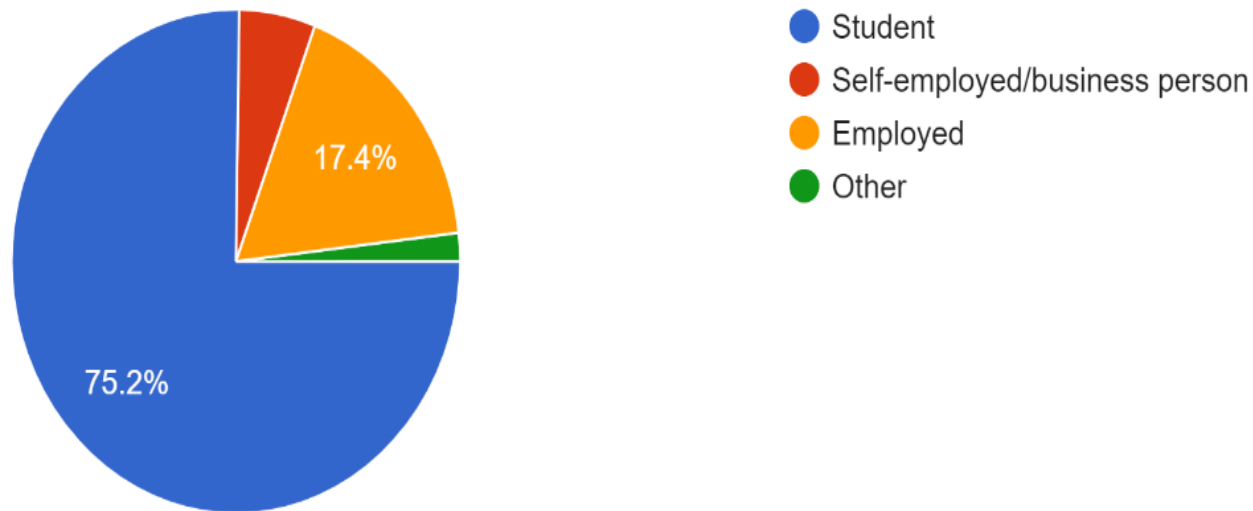
## **4 Data Analysis:**

As we have used a semi-structured questionnaire for the collection of data, which has been filled out by 109 respondents, from different parts of the world, and with different cultural, social, educational, and financial backgrounds. Therefore, in the first part of the questionnaire, the background of respondents was evaluated, considering their professional background, education, age, and salary, which diversify the research.

Considering the profession 75.2% of the respondents, nearly 82 respondents are students, 5.5% of the respondents, nearly 6 respondents were self-employed, or businesspeople as regarded conventionally, 19 of the respondents nearly 17.4% are employed, while 1.8% nearly 2 of the respondents had different professional background. The research was conducted specifically by people of different professions, to collect diversified data, and analyze the perspective of people from different professions, diversify the research, and mitigate the effect of external factors.

### What is your profession?

109 responses



*Figure 6 Profession of Respondents*

Similarly, considering the financial system of the respondents, respondents were asked about annual salary before tax, 8% of the respondents nearly 8 respondents had an annual income from 20,000-30,000 USD, 3% nearly 3 of the respondents had an income from 30,000-40,000 USD, 15 respondents nearly 15% had an annual income from 10,000-20,000 USD, 6% of the respondents had more than 40,000 USD, while 68% nearly 69 respondents had less than 10,000 USD. This difference in the annual salary of the different respondents is highly beneficial for analysing the impact of the crises management packages on consumer buying behaviour, as financial hierarchy, largely pertains to consumer buying behaviour.

# What is your annual salary before tax?

100 responses

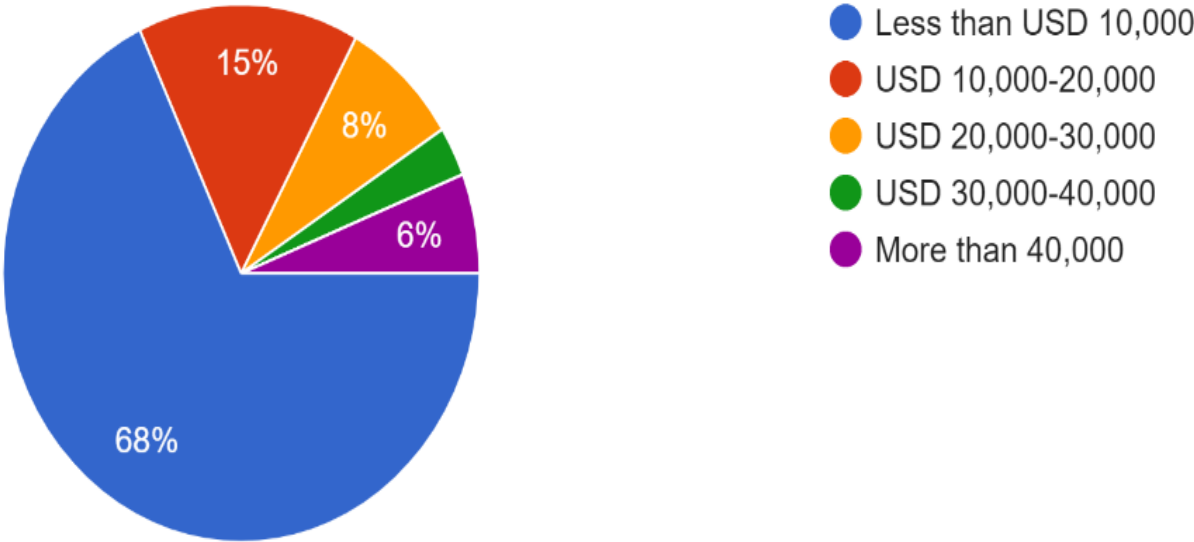


Figure 7 Annual Salary of Respondents

The respondents are also varied in terms of their age, as 17.4% of the respondents nearly 19 respondents were between 25-40 years, 78% nearly 85 of the respondents were aged between 18-25 years, 1.8% of the respondents nearly 2 respondents were less than 18 years, and 2.8% of the

respondents nearly 3 respondents were between the ages of 40-55 years. This age difference is significant, as the consumer buying behavior is largely reliant on age since people of different ages have different buying preferences, this also increased the efficacy of the results, as it minimizes the effect of external factors.

### What is your age?

109 responses

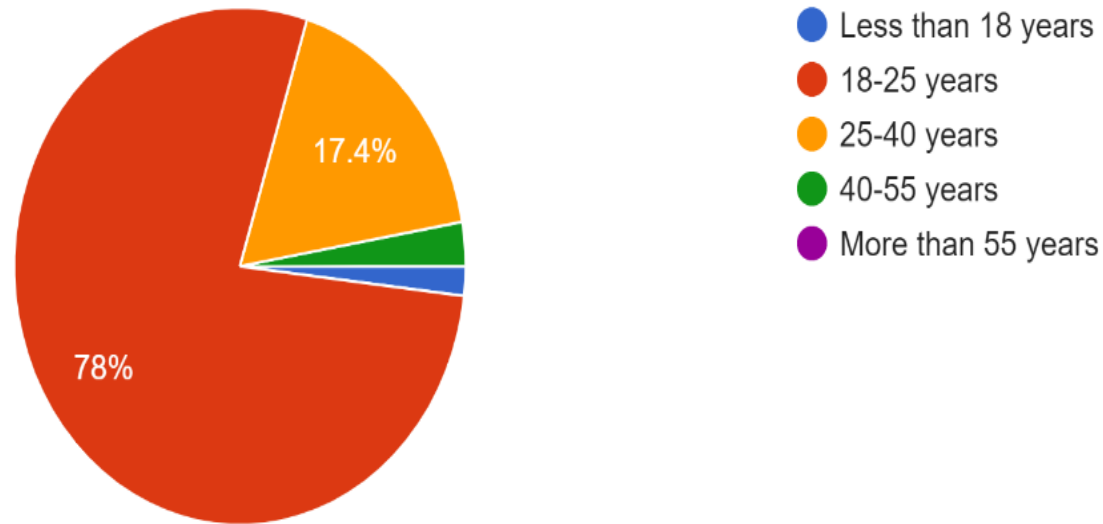


Figure 8 Age of Respondents

Similarly, if the educational background of the respondents is considered, 51.4% of the respondents, nearly 56 of the respondents were graduates, nearly 25 of the respondents are high school students, 18.3% of the respondents, nearly 20 of the respondents are post-graduated, 7.3% of the respondents, nearly 8 of the respondents have different educational backgrounds, 22.9% of the respondents. This difference again is considered significant for minimizing the impact of the external factors, and for obtaining accurate and validated research.

### What is your education?

109 responses

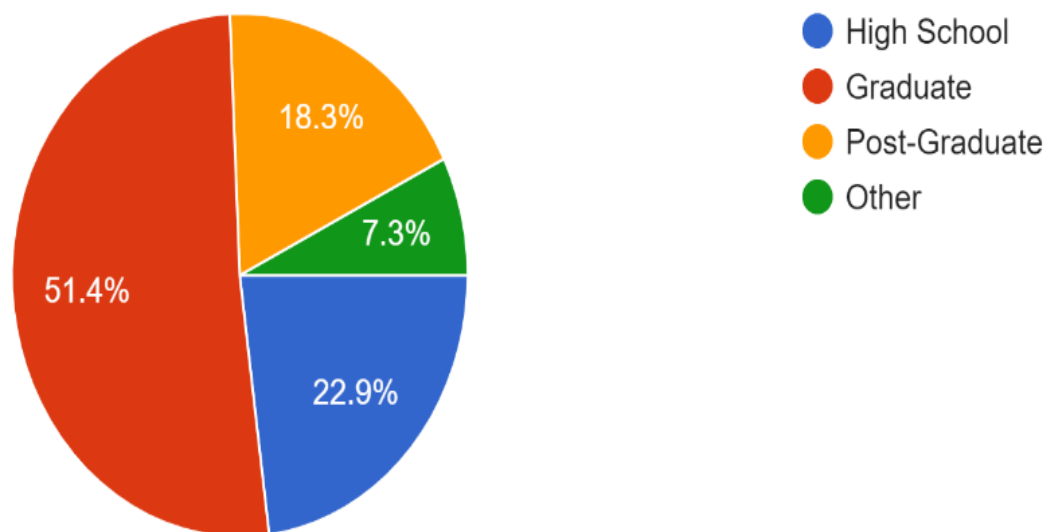


Figure 9 Education of Respondents

And the last informational question that respondents were asked about their financial sustainability, as financial receptacle plays a considerable role in shaping consumer buying behaviour, and an important role in predicting the preferences of consumers, and their inclination to the cryptocurrency. Consumers were asked if they consider themselves financially stabilized. 40.4% of the respondents, nearly 44 respondents asserted that they were not financially stabilized, 36.7% of the respondents, nearly 40 respondents implied that they are financially stabilized, while 22.9 % of the respondents, nearly 25 respondents were not sure. This shows the diversity in the financial hierarchy of the consumers, and thereby diversity in the consumer buying behaviour, which in turn depends somehow on these external factors of financial sustainability, education, salary, and others.



# Are you financially stabilized?

109 responses

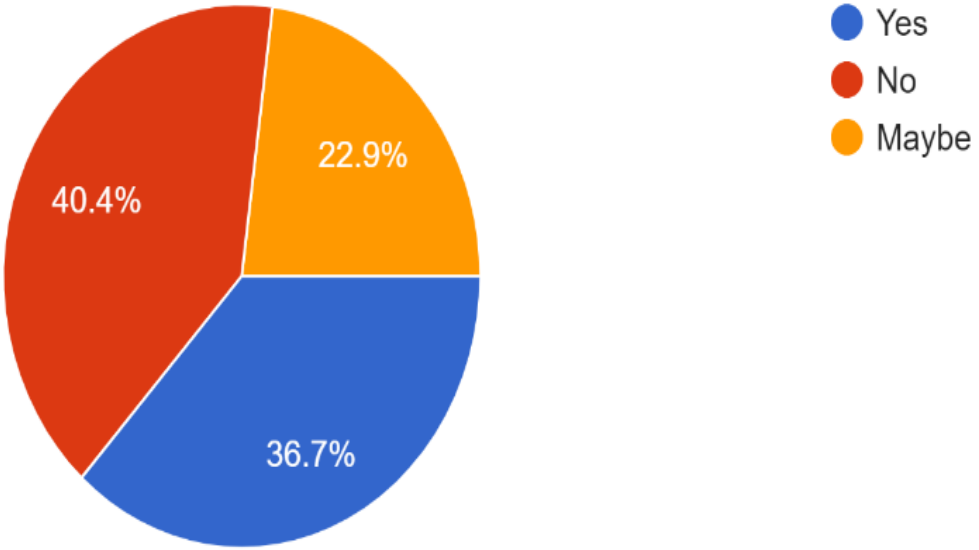


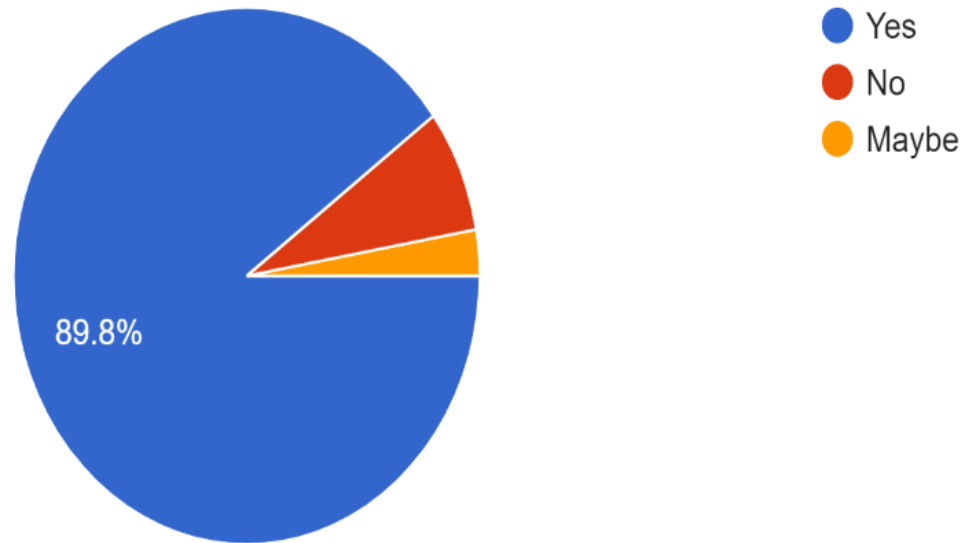
Figure 10 Financial Stabilization of Respondents

The next section of the questionnaire is based on the analysis of the cryptocurrency, which incorporates the evaluation of the conscious consumer behaviour toward cryptocurrency, incorporating the various advantages, disadvantages, and implications of the cryptocurrency as defined by the consumer.

Hence, analysing the conscious consumer behaviour towards cryptocurrency, we asked the consumers, if they have ever heard about cryptocurrency, nearly 89.8% of the respondents, 97 people asserted that they had heard of cryptocurrency, 7.4 of the respondents, 8 people asserted that they had not heard about cryptocurrency, while 2.8% of the respondents, 3 people were unsure.

### Have you ever heard about cryptocurrency?

108 responses



*Figure 11 Knowledge of Cryptocurrency*

This indicates that a majority of the respondents were aware of cryptocurrency, while a small population of people is only unaware of the cryptocurrency, which shows that cryptocurrency is quite renowned all across the world, with expanded brand awareness, and expanded geographical presence, which does not only demonstrate the success of the cryptocurrency market, but also the increased inclination of people towards the currency.

Similarly, evaluating further the conscious consumer behaviour in the world of cryptocurrency, we analysed the extent to which cryptocurrency is accepted and adopted in the world, as a medium of exchanging goods and availing services. When respondents were asked if they use cryptocurrency as a medium of payment, nearly 72.5% of the respondents implied that they do not use cryptocurrency as a medium of payment, 23.9% of the respondents implied that they use cryptocurrency as a medium of payment, while 3.7% of the respondents, 4 people were unsure.

# Do you use cryptocurrency as a money exchange?

109 responses

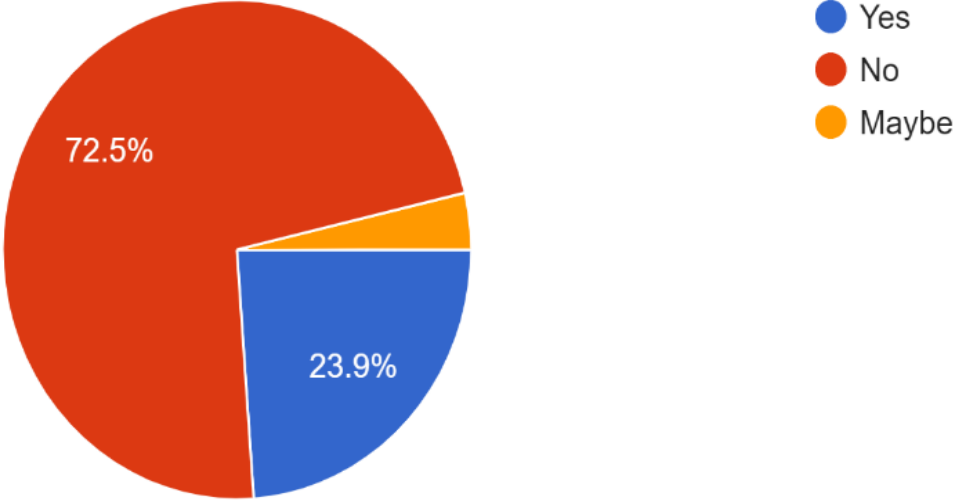


Figure 12 Cryptocurrency as a medium of payment

This shows that though most people are aware of the cryptocurrency, and acknowledged it to be a validated currency, however, they have yet not adopted it and used it as a medium of payment, and have not replaced it with conventional money. This is directly related to the literature, which demonstrates that that cryptocurrency is somehow not so popular throughout the world, but is specifically concentrated in some geographic zones, which is primarily because of the disadvantages of the cryptocurrency, including price volatility, scalability, lack of investment values,

and various others. In nearly, 195 countries situated on the map of the world, only 10 countries are found to be extensively incorporated into the market of cryptocurrency, which primarily includes Canada, the United States of America, Brazil, Russia, Australia, Spain, India, Japan, Ukraine, and Argentina, all responsible for the advancement of cryptocurrency. Though cryptocurrency is quite flourishing in these zones, however, other countries are quite restrained from using cryptocurrency. This can also be associated with a large number of scams, that people face while using cryptocurrency as a medium (I G, 2020).

Similarly, respondents were also asked if they preferred cryptocurrency over federally generated currency, nearly 45.9% of the respondents, 50 people asserted that they do not prefer cryptocurrency over fiat currency, 31.2% of the respondents, 34 people implied that they prefer cryptocurrency over fiat currency, while 22.9% of the respondents were unsure.

# Do you prefer cryptocurrency over federally generated currency?

109 responses

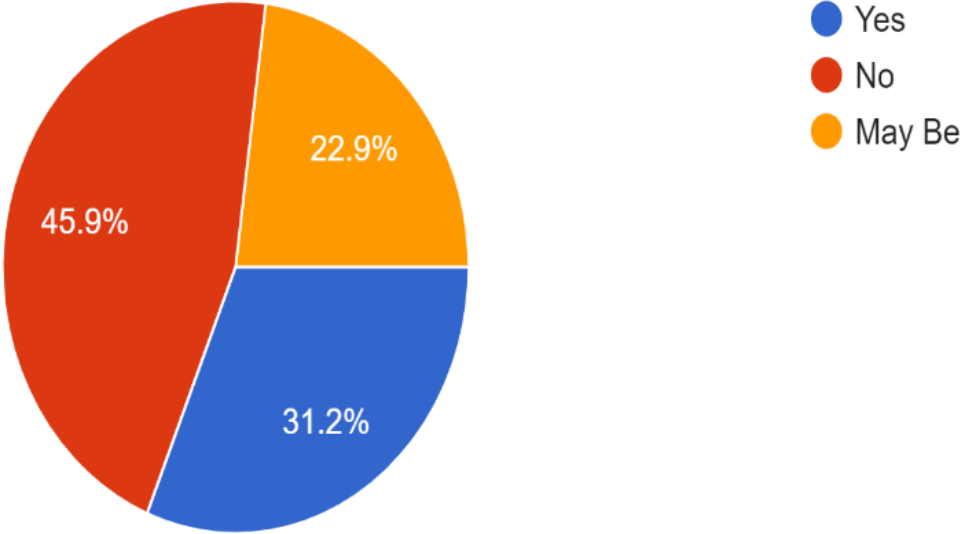


Figure 13 Cryptocurrency as Federal Currency

Considering fundamental differences, the cryptocurrency can only be accessible through the internet by using a computer, mobile, or laptop since these types of currencies are only available in electronic form. Besides, physical appearance or physical attributes, another predominant distinction between paper money and digital money is that digital money can be used to avail services and purchase goods not only across cities,

countries but also continents, which makes it the most seamless invention of technology. It has been asserted by R Grinberg that cryptocurrency primarily lacks physical attributes, or material existence, which is the principal difference between federally generated currency or paper money and digital currency. Paper money is used nearly everywhere, for the exchange of goods and services at international, national, and provincial markets, whereas digital currency is primarily used for the specified markets, which conventionally use an electronic wallet, which can easily access the internet or other networks related to the internet.

In other words, physical currencies such as minted money or banknotes are real and definite, showing their physical presence. Moreover, the transactions involving the exchange of these currencies are only possible as both parties involved in the exchange have physical ownership of this paper money. And though the use of cryptocurrency is the same, since both are used to buy various goods and services, the mechanism of how these currencies operate is entirely different from each other. This demonstrates that though most people do not prefer cryptocurrency over federally generated currency, which can be associated with numerous facets, including regulatory problems, price volatility, scalability, lack of inherent value, and others. However, a very significant comparison exists here, between the people not using cryptocurrency, and the people preferring cryptocurrency. Nearly 72.5% of the respondents, which incorporate 79 people asserted that they do not use cryptocurrency as a medium of payment, however, only 45.9% of the respondents which encompass 50 respondents asserted that they do not prefer it, which shows that a the specified proportion of people not using cryptocurrency want to switch to cryptocurrency, demonstrating the increasing growth of the market of cryptocurrency, the prospective potential that the industry withholds, since, a large group of the population prefers cryptocurrency over the federally generated currency, and will replace it with fiat currency in the future. Hence, based on the analysis, we can hypothesize that,

***The market of cryptocurrency is yet to flourish and expand since a large number of consumers prefer cryptocurrency over fiat currency, and they're not using it currently, indicating that these people might switch to cryptocurrency in the future, based on their personalized preferences.***

Similarly, we asked respondents, if cryptocurrency is advantageous for economic sustainability since it is comparatively protected from continuous changes of inherent value, which protects the economy from the financial crisis and economic regressions. Nearly 38.5% of the

respondents asserted that cryptocurrency is advantageous for economic sustainability, 10.1% of the respondents strongly agreed, 11% of the respondents disagreed, 3.7% of respondents strongly disagreed, and 36.7% of the respondents were neutral.

### Cryptocurrency is advantageous for economic sustainability?

109 responses

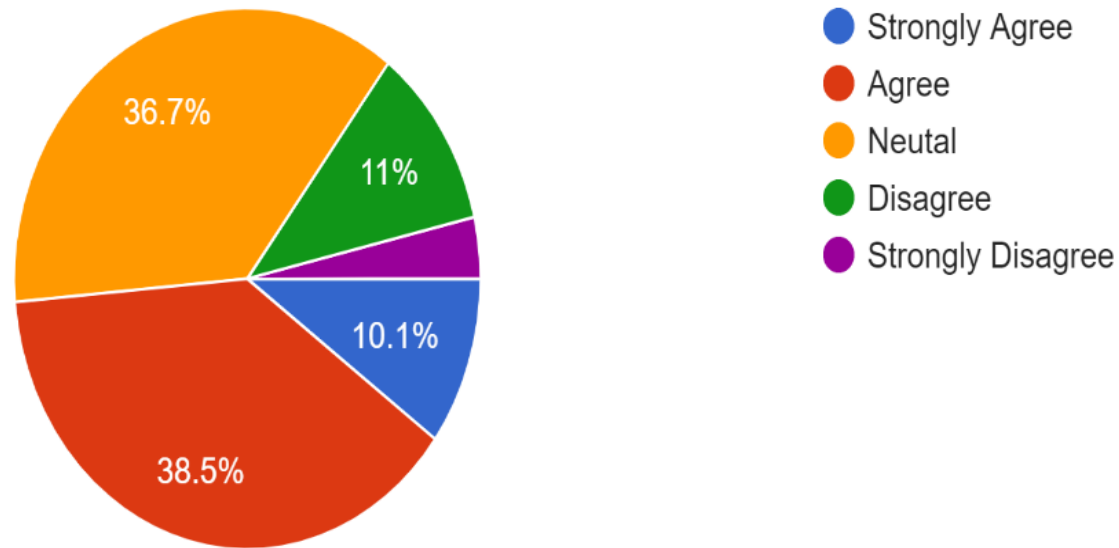


Figure 14 Cryptocurrency for Economic Sustainability



The agreement of nearly 48.6% of the respondents in favor of cryptocurrency, fostering economic sustainability, shows that consumers have a positive insight the cryptocurrency, showing an increased inclination of the consumers toward cryptocurrency. The system of cryptocurrency eliminates the possibility of a single point of failure, which is very common in banks and a leading cause of disruption of financial systems, leading to economic regression. Therefore, the use of cryptocurrency is comparatively safer, as it eliminates the possibility of financial breakdown and fosters the process of economic sustainability. Hence, we can hypothesize that,

***Cryptocurrency is highly beneficial for stabilizing the financial structure, and for fostering economic sustainability since it protects the economy from both financial crises and economic regressions by keeping the inherent value intact.***

Evaluating the conscious consumer behavior in the world of cryptocurrency, we further asked respondents, that what is the biggest advantage of cryptocurrency according to them. 25% of the respondents, which incorporated 25 people asserted transaction speed, 13.9% of the respondents who incorporated 15 people asserted inflation protection, 14.8% of the respondents who incorporated 16 people asserted accessibility, 13% of the respondents who incorporated 14 people asserted privacy, 10.2% of the respondents who incorporated 11 people asserted security, 6.5% of the respondents incorporated 7 people asserted transparency, 5.6% of the respondents, incorporated 6 people asserted diversification, and 11.1% of the people asserted transaction costs.

# What is the biggest advantage of cryptocurrency?

108 responses

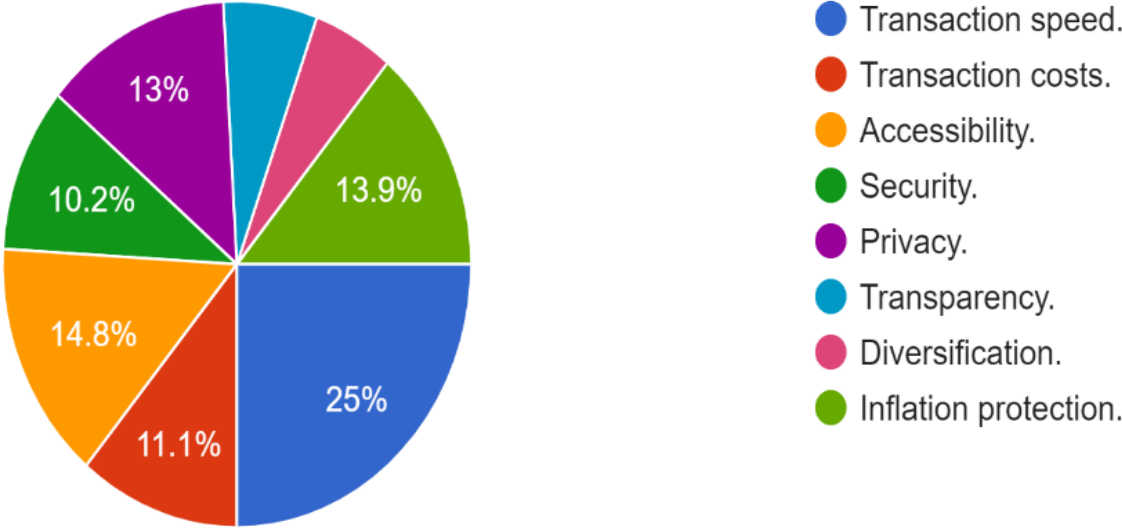


Figure 15 Biggest Advantage of Cryptocurrency

Hence, this data obtained is quite multidimensional and shows that cryptocurrency offers more than one advantage, which collectively makes it a very intact currency. Reviewing the literature, the significance of cryptocurrency primarily lies in the independence of the mechanism that it uses for the transaction of money, primarily independent of the centralized intermediaries including financial institutions, independent of these

institutions to implement regulations that somehow impede the autonomy and sovereignty of the users. This results in increased confidence and trust of users, which operate the entire system with the assistance of developers, and algorithmic combinations using the system to execute the operation by themselves, through increased automation leading to increased privacy, security, and transparency.

Furthermore, cryptocurrency facilitates the process of sending and receiving funds between two various parties, by using algorithms, and blockchain, without the need for physical presence or any meeting, but all the matters can be resolved virtually, without the assistance of third parties and banks. Hence, this has largely increased the efficacy and effectiveness of online transactions, which are not only highly effective but also highly secured, through the use of public keys and private keys, and various other forms of incentives including proof of work which is also typically known as proof of stake resulting in accessibility. And since cryptocurrency explicitly operates between two parties, therefore it is much faster compared to the transfer of fiat currency, which primarily incorporates three parties, and hence takes more time. Resulting in increased transaction speed. Similarly, cryptocurrency can be integrated into the fiat currency as an intermediary currency, streamlining money transactions across borders. In this process, the fiat currency is transformed into a cryptocurrency, principally a bitcoin, and then is later transacted across borders, and then is again converted into the fiat currency of the place of arrival.

This method has been very significant since it allows the users to receive and send money effectively, with increased reliability, security, transparency, and convenience, streamlining the entire process of money transfer, and achieving the whole process economically resulting in the stabilization of the financial structure. Moreover, reviewing the literature, cryptocurrency can be highly useful for generating profits, and large sums of revenue since cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Hence, cryptocurrency withholds numerous opportunities for both stakeholders, businesspersons, and investors, which can lead to an administered control of inflation (Nelson, 2018).

Hence, based on data obtained, and the literature review, we can assert that cryptocurrency offers numerous advantages, which all collectively contribute to economic sustainability. Hence, based on our assertion, we can hypothesize that,

**Cryptocurrency offers a set of benefits to the users, which primarily include increased transaction speed, accessibility, protection from inflation, privacy, decreased transaction cost, security, transparency, and diversification, all contributing optimally to the stabilization of the financial structure, and the attainment of economic sustainability.**

Similarly, we asked respondents about the disadvantages of cryptocurrency, since cryptocurrency is not regulated and monitored by any federal institution or bank, therefore, several strategic problems can arise with it. Nearly 34.9% of the respondents who incorporated 38 people asserted price volatility, 30.3% of the respondents who incorporated 33 people asserted cybersecurity, 12.8% of the respondents who incorporated 14 people asserted lack of inherent value, 11.9% of the respondents who incorporated 13 people asserted price takeaway, 5.5% of the respondents who incorporated 6 people asserted regulation and 4.6% of the respondents who incorporated 5 people asserted scalability.

# What is the biggest disadvantage of cryptocurrency?

109 responses

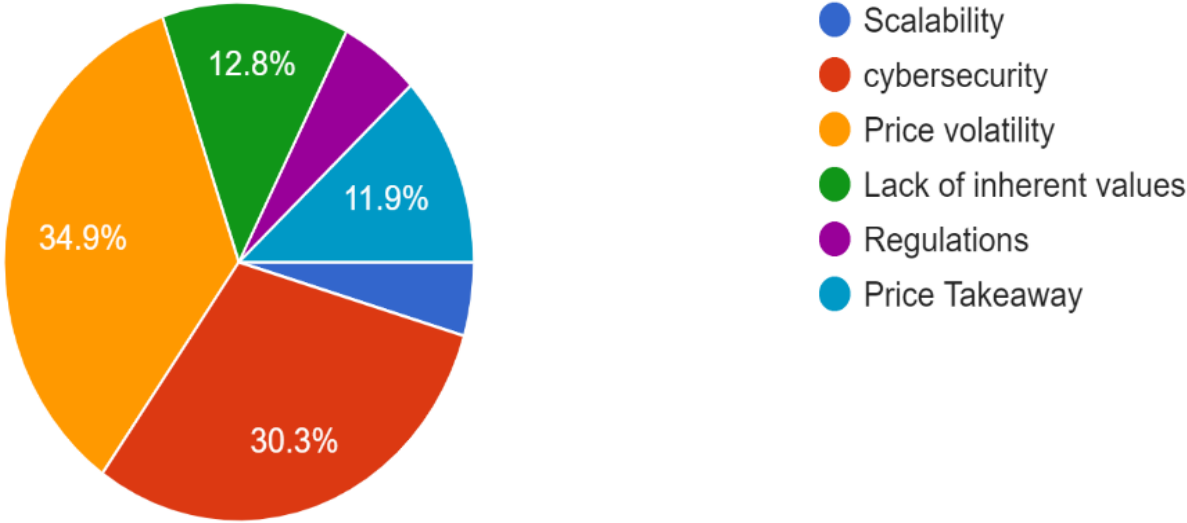


Figure 16 Disadvantages of Cryptocurrency

Hence, this demonstrates that cryptocurrency has predominantly been associated with numerous disadvantages, which are either because of the unregulated structure of cryptocurrency. First of all, scalability, which is probably a very significant disadvantage of cryptocurrency, is a result of the scaling that is posed. And as cryptocurrency is adopted throughout the world, the tokens are allocated at an increased rate, and problems of

scale are posed. Furthermore, cybersecurity through leads to increased security, by using blockchain and algorithmic combinations, but still are volatile to cybersecurity breaches, leading to security attacks, and hence stealing of the data, and important information. This is evident from numerous attacks and scams, which have resulted in the loss of millions of dollars. For instance, one of the cryptocurrency attacks led to the stealing of 473 million USD. Furthermore, it has been asserted by economists that cryptocurrency is quite secured, which is because of the cryptographic combinations and blockchain technology, but some crypto repositories are not secured such as mechanisms of wallets and exchanges, which can be hacked through a sustained effort, resulting in the stealing of some specified coins, which can be millions of dollar's worth.

Similarly, cryptocurrency has also become a significant tool for criminals, which is used by them for illegal activities, primarily associated with black money, such as money laundering, corruption, and terrorism. Cryptocurrency is also widely used by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Furthermore, cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. However, the digital datasets incorporated in these transactions are evaluated by intelligence institutions, which leads to the possibility of the tracking of financial transfers of money by the common people, as investigated by federal institutions. Similarly, cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities. Likewise, cryptocurrency has been found to centralize money, though it is a decentralized form of currency, it still, prompts the accumulation of money to a specified class of people, making it a concentrated form of currency. Another significant disadvantage of cryptocurrency is that it can be operated by anyone using simply a computer and internet connection.

However, this mining of the cryptocurrency requires a large amount of energy which in turn requires large costs as well as unpredictability, resulting in the concentration of mining primarily among multinational companies, which leads to the increasing revenue of these companies, with the accumulation of money. Another significant disadvantage of cryptocurrency is that it largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world. This is evident from the fact that the market of cryptocurrency fluctuated, rising to

more than 17,738 USD in late 2017 and then falling to 7575 USD in early 2018, showing a rapid change in the world of cryptocurrency. Hence, cryptocurrency is also referred to be a transient currency, which is rather short-lived or a speculative bubble as asserted by economists.

Hence, based on the data obtained and the literature, it is indicated that cryptocurrency is associated with various disadvantages that somehow impede the attainment of economic sustainability. Hence, based on the data, we can hypothesize that,

***Cryptocurrency has some major disadvantages which largely hinder the strategic process of attaining economic sustainability, and include scalability, cybersecurity, price volatility, lack of inherent values, regulations, and price takeaway.***

Furthermore, we asked respondents if cryptocurrency is more secure and transparent as compared to fiat currency, nearly 33.3% of the respondents who incorporated 36 people agreed, 13% of the respondents who incorporated 14 people strongly agreed, 38.9% of the respondents who incorporated 42 people were neutral, 11.1% of the respondents who incorporated 12 people disagreed, and 3.7% of the respondents who incorporated 4 people strongly disagreed.

# Cryptocurrency is more secured and transparent compared to Federally generated currency?

108 responses

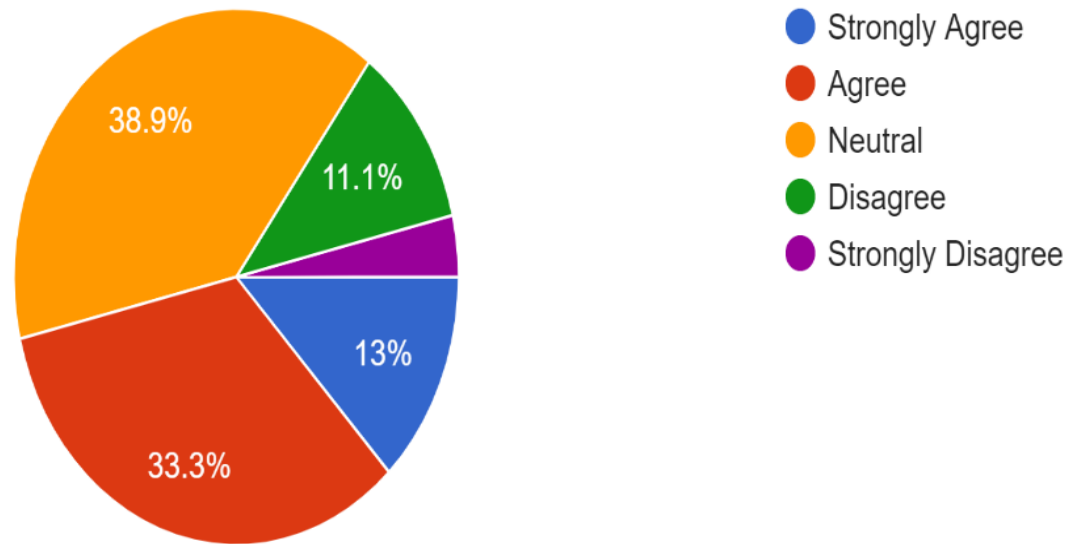


Figure 17 Transparency of Cryptocurrency

Cryptocurrency, on the other hand, is a bank-free method, that does not depend on any bank or any intermediary to transfer goods and services, and since it is used in the virtual markets, and is not regulated by the federal banks, since these currencies are not coherent with the financial regulations as implemented by the government. And though cryptocurrency is more beneficial for the parties involved in the exchange of goods



and services, it allows for increased transparency and increased security among them, leading to increased confidence. However, the lack of financial inclusion poses a threat to the economic structure of a country, which results from the lack of administrative control over decentralized currency, allowing it to be used for illegal purposes, and corruption. Hence, decentralized digital currency can disrupt the financial structure, leading to the imbalance between economic growth and monetary regulations, as imposed by the federal banks. Hence, based on the data obtained, 28.5% of the respondents agreed that cryptocurrency is more regulated compared to fiat currency, however, 35.8% of the respondents disagreed. Hence, both literature and the data obtained, demonstrate that cryptocurrency is less regulated compared to fiat currency. Hence, we can hypothesize that,

***Cryptocurrency is comparatively less regulated or unregulated than fiat currency, as no third party or intermediary is involved in the exchange of cryptocurrency, which is primarily a federally-authorized financial institution or a bank.***

Similarly, we asked respondents if cryptocurrency will overtake paper money in the next few years, nearly 37.6% of the respondents who incorporated 41 people agreed, 9.2% of the respondents who incorporated 10 people strongly agreed, 32.1% of the respondents who incorporated 35 people were neutral, 16.5% of the respondents who incorporated 18 people disagreed, and 4.6% of the respondents who incorporated 5 people strongly disagreed.

# Cryptocurrency is more federally regulated and more controlled, as compared to paper money?

109 responses

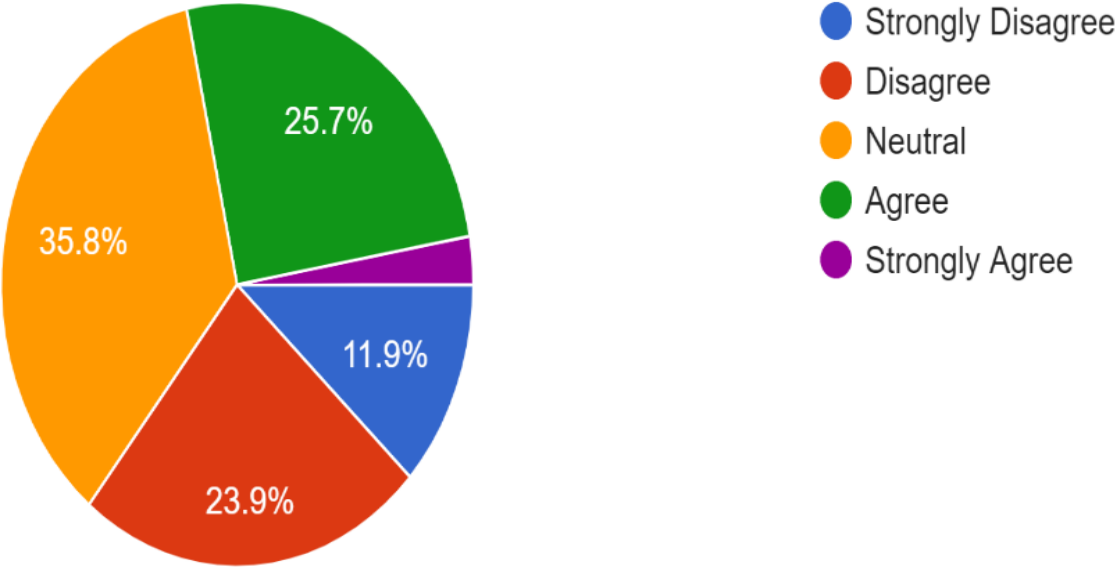


Figure 18 Federal Regulation of Cryptocurrency

Hence, the agreement of 46.8% of the respondents, and the disagreement of 21.1% of the respondents, demonstrate that the consumers believe that cryptocurrency has the potential to become an accepted medium of payment in the next few years, which shows that cryptocurrency is more powerful and more incorporated, compared to paper money. Hence, we can hypothesize that,

***In the next few years, cryptocurrency will overtake paper money, becoming the most prevalent medium of payment, since consumers are more inclined toward cryptocurrency.***

Furthermore, we asked respondents, if they will adopt cryptocurrency, replacing it with typical money, nearly 40.2% of the respondents asserted that they will replace it with typical money, 25.2% of the respondents asserted that they will not replace it, while 34.6% of the people were neutral.

## Cryptocurrency will overtake paper money, in the next few years?

109 responses

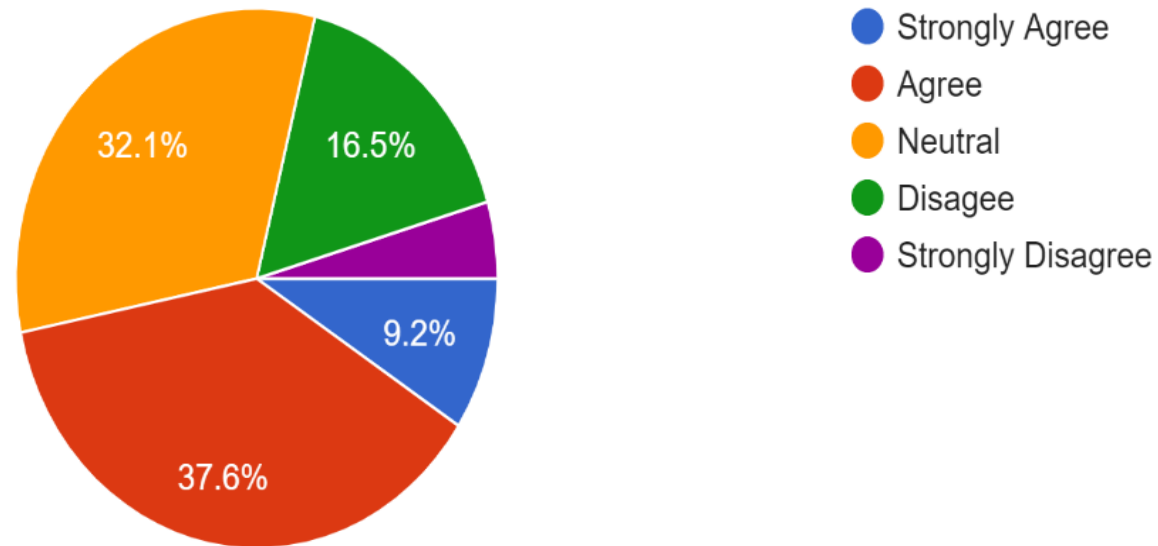


Figure 19 Future of Cryptocurrency

Hence, based on the data, it can be hypothesized,

***Consumers are inclined towards cryptocurrency, and will adapt and execute it as a medium of payment, in the future, ruling out the typical money.***

Similarly, we asked respondents if cryptocurrency is less risky compared to the fiat currency or federally generated currency, nearly 28.4% of the respondents who incorporated 31 people agreed, 3.7% of the respondents who incorporated 4 people strongly agreed, 31.2% of the respondents who incorporated 34 people were neutral, 28.4% of the respondents who incorporated 31 people disagreed, and 8.3% of the respondents who incorporated 9 people strongly disagreed.

### Cryptocurrency is less risky compared to federally regulated currency?

109 responses

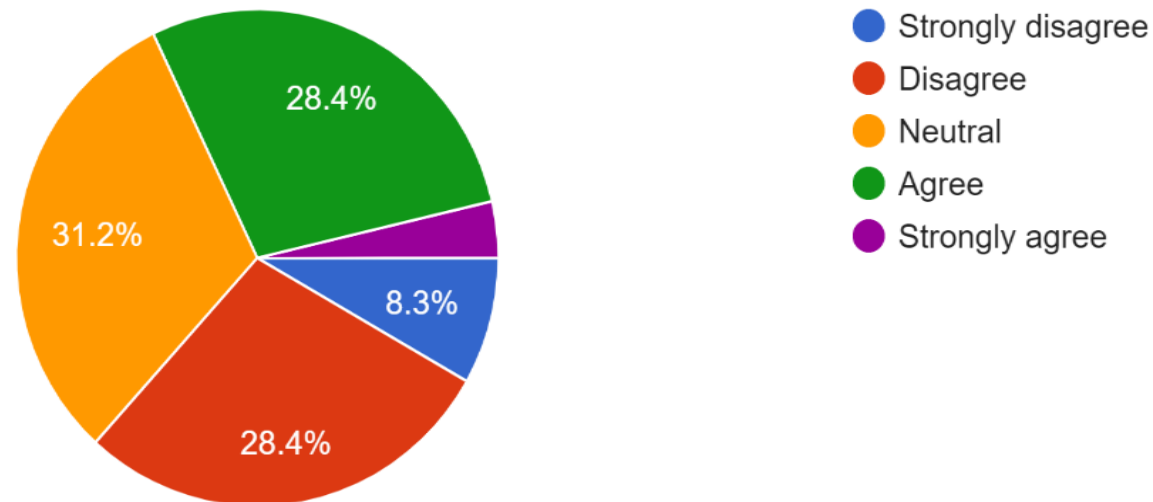


Figure 20 Risk associated with Cryptocurrency

The disagreement of 36.7% of the respondents and agreement of 32% respondents somehow points towards the increased risk of cryptocurrency compared to the federally generated currency. This is also demonstrated by literature. Cryptocurrency, as asserted by researchers, is a significant tool for criminals, which is used by them for illegal activities, and by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities. Furthermore, cryptocurrency somehow disrupts the balance in the economic system, leading to a specified concentration of money as it can be operated by anyone using simply a computer and internet connection. Moreover, cryptocurrency largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world. Cryptocurrency, as asserted by researchers, is a significant tool for criminals, which is used by them for illegal activities, and by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities. Furthermore, cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. Hence, based on the data obtained and literature reviewed, it can be implied that cryptocurrency is somehow riskier compared to fiat currency. Hence, we can hypothesize that,

***Cryptocurrency, as a result of price volatility, security breaches, lack of inherent value, and cyber crime is riskier than fiat currency or federally regulated currency.***

# In how many years, you see cryptocurrency taking over the world?

108 responses

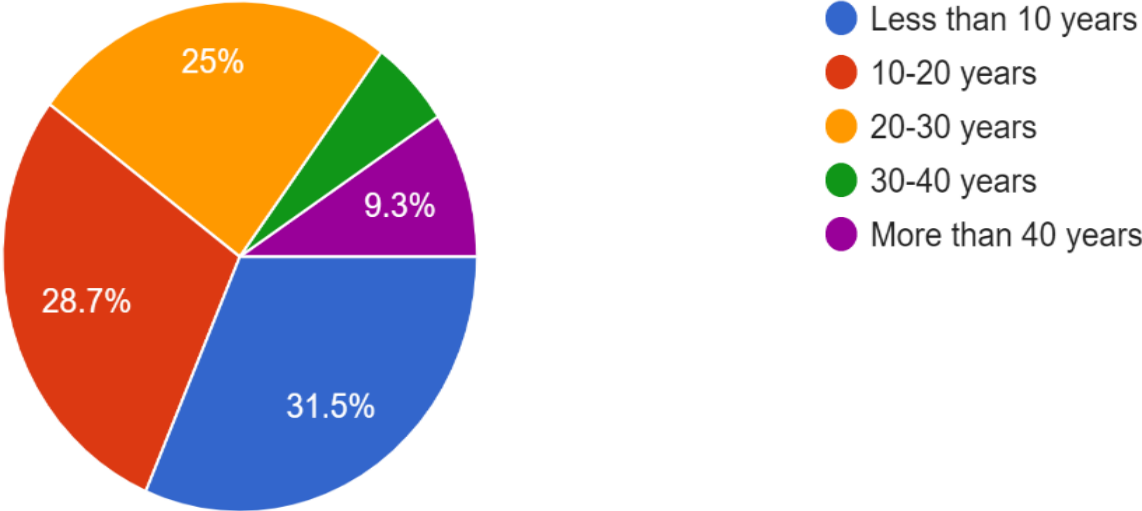


Figure 21 Future Overtaking of Cryptocurrency

Similarly, we asked respondents in how many years they see cryptocurrency taking over the world, nearly 31.25% asserted that in less than 10 years, 28.7% asserted 10-20 years, 25% asserted 20-30 years, 9.3% asserted more than 40 years, and 6.5% asserted 30-40 years.

As mentioned, that the market of cryptocurrency has been constantly growing since its inception in early 2008. The total revenue generated by the cryptocurrency market in 2010 was less than 1 billion USD, however, in 2015, it increased to more than 4.59 billion USD, which further increased to more than 773 billion USD in 2018, 2555 billion USD in May 2021, which rapidly rose to 3048 billion USD in November 2021, which depicts the continuously and increasingly increasing growth of the cryptocurrency market, demonstrating the large potential that the industry holds in the future. And besides the growth of the collective cryptocurrency market, the individual types of cryptocurrencies are also gaining momentum, receiving attention all across the world. This can be demonstrated by the fact that Bitcoin is valued at more than 862 billion USD in the crypto market, which is considered the beginning of the era of digital currency.

Hence, this shows that soon cryptocurrency will take over the world, probably within next ten years.

Similarly, we asked respondents that if they will accept cryptocurrency and adopt it as a medium of payment, nearly 40.2% of the respondents asserted that they will adopt cryptocurrency and will replace it with typical money. Nearly 25.2% asserted that they won't adopt cryptocurrency, while 34.6% respondents were unsure.



# Will you adapt cryptocurrency, replacing it with typical money?

107 responses

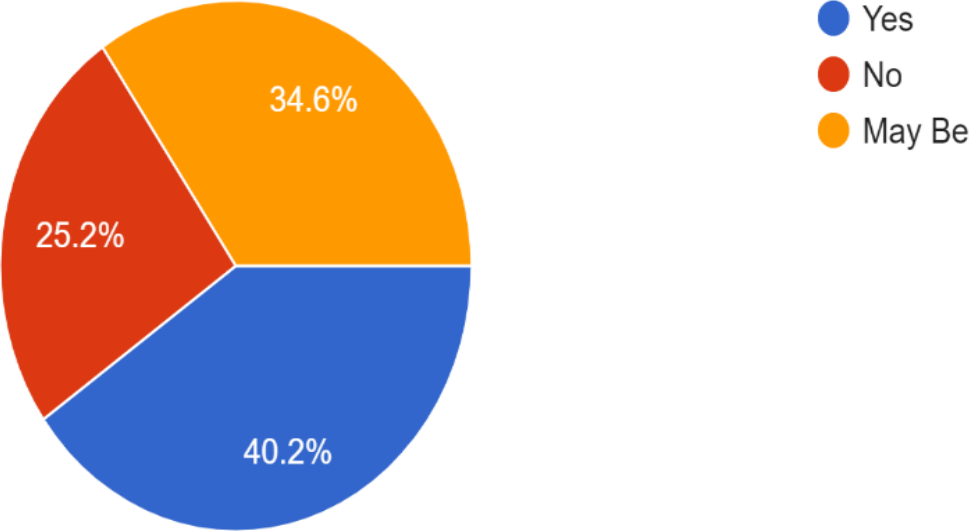


Figure 22 Consumer Perception of Cryptocurrency

The world of cryptocurrency has generated considerable attention from the people, constantly fluctuating the perception of consumers towards it as the value of these digital assets has changed substantially. And this whole perception of the consumers is principally changed because new consumers are constantly entering the world of cryptocurrency, while some are leaving it.

This is evident from the fact that within one the year 2021, nearly 969.5 million people visited 60 crypto websites all across the world, which was a nearly 200% increase in the audience as compared to 2020. This increase in the number of people resulted in the increased value of cryptocurrency, which was doubled over the years, Bitcoin, reached a value of more than 1 trillion USD in late 2020, despite the pandemic which had disrupted the complete financial receptacle of the world.

The recent data statistics show that consumers have been primarily interested in cryptocurrency, as the investments being made by people have been constantly increasing during the last decade, with the increasing value of the cryptocurrency. Using these statistics, it was found that by December 2021, the total market capitalization of the crypto market was more than 2.21 trillion USD, showing the potential of the market of cryptocurrency. Furthermore, nearly the average trading volume of cryptocurrency was amounted to be 120 billion USD, which demonstrated the constantly growing and constantly flourishing cryptocurrency on a daily, monthly, and annual basis. Heilman and Rauchs used web trafficking and internet data to acquire information on how many people visited various websites of cryptocurrency, how frequently visited these websites, and how much invested in them, giving them a generalized insight into the total number of people leaving the sphere of digital currency, and entering the digital currency. And though all types of cryptocurrencies have been important, 40% of the consumers investing in cryptocurrency invested in bitcoin, which predominantly dominates in the world of cryptocurrency. This is also evident from the fact that during the pandemic when the value of nearly all things fell, the business world suffered socially, and economically, leading to the disruption of the whole economic receptacle.

Hence based on the data obtained and literature reviewed, it can be asserted that consumers are inclined to the use of cryptocurrency, and will adopt it, thereby replacing it with typical money. Hence, it can be hypothesized,

***Cryptocurrency has successfully drawn attention of the consumers, who are inclined to adopt and execute it as a medium of payment.***

## **5 Conclusion and Proposals:**

The research has analyzed the conscious consumer behavior in the world of cryptocurrency analyzing various facets and parameters of cryptocurrency. Cryptocurrency, the most significant and supreme type of digital currency, is quite similar to virtual currency and is based on a cryptographic framework, which makes it highly secured, and highly protected. Cryptocurrency is primarily a decentralized digital currency since it does not depend on a third party or an intermediary and does not follow any provisions implied by the federal government. Moreover, cryptocurrency is different from paper money since it can only be accessible through the internet by using a computer, mobile, or laptop since these types of currencies are only available in electronic form. Besides, physical appearance or physical attributes, another predominant distinction between paper money and digital money is that digital money can be used to avail services and purchase goods not only across cities, countries but also continents, which makes it the most seamless invention of technology.

It has been asserted by R Grinberg that cryptocurrency primarily lacks physical attributes, or material existence, which is the principal difference between federally generated currency or paper money and digital currency. Paper money is used nearly everywhere, for the exchange of goods and services at international, national, and provincial markets, whereas digital currency is primarily used for the specified markets, which conventionally use an electronic wallet, which can easily access the internet or other networks related to the internet. In other words, physical currencies such as minted money or banknotes are real and definite, showing their physical presence. Moreover, the transactions involving the exchange of these currencies are only possible as both parties involved in the exchange have physical ownership of this paper money. And though the use of cryptocurrency is the same, since both are used to buy various goods and services, the mechanism of how these currencies operate is entirely different from each other. This demonstrates that most people do not prefer cryptocurrency over federally generated currency, which can be associated with numerous facets, including regulatory problems, price volatility, scalability, lack of inherent value, and others. However, a very significant comparison exists here, between the people not using cryptocurrency, and the people preferring cryptocurrency. And based on research, we have found that consumers are largely inclined toward the use of cryptocurrency, which is primarily associated with the advantages of cryptocurrency.

These advantages are offered by cryptocurrency, Cryptocurrency facilitates the process of sending and receiving funds between two various parties, by using algorithms, and blockchain, without the need for physical presence or any meeting, but all the matters can be resolved virtually, without the assistance of third parties and banks. Hence, this has largely increased the efficacy and effectiveness of online transactions, which are not only highly effective but also highly secured, through the use of public keys and private keys, and various other forms of incentives including proof of work which is also typically known as proof of stake. And since cryptocurrency explicitly operates between two parties, therefore it is much faster compared to the transfer of fiat currency, which primarily incorporates three parties, and hence takes more time. Furthermore, cryptocurrency can be highly useful for generating profits, and large sums of revenue since cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Moreover, cryptocurrency offers independence to the users for the transaction of money, primarily independent of the centralized intermediaries including financial institutions, independent of these institutions implement regulations that somehow impede the autonomy and sovereignty of the users. This results in increased confidence and trust of users, which operate the entire system with the assistance of developers, and algorithmic combinations using the system to execute the operation by themselves, through increased automation. Similarly, another significant advantage offered by cryptocurrency is that it is currently integrated into the fiat currency as an intermediary currency, streamlining money transactions across borders. Moreover, the system of cryptocurrency eliminates the possibility of a single point of failure, which is very common in banks and a leading cause of disruption of financial systems, leading to economic regression. Hence use of cryptocurrency is comparatively safer, as it eliminates the possibility of financial breakdown and fosters the process of economic sustainability. Similarly, cryptocurrency can be highly useful for generating profits, and large sums of revenue since cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Hence, cryptocurrency withholds numerous opportunities for both stakeholders, businesspersons, and investors, allowing them to earn huge profits as per the demand of the market. Therefore, because of convenience and time-saving, cryptocurrency has the optimal potential to serve as a very productive form of currency in the trading, and other transfers of funds. Hence, cryptocurrency has entirely revolutionized the complete infrastructure of economics, offering numerous benefits to the

financial paradigms, leading to the stabilization of the financial structure of the world. Cryptocurrency offers a very unique, yet sustainable paradigm for the increased transparency and increased security of the economic system, using a decentralized system of economy.

However, there are several disadvantages that hinder the integration of cryptocurrency as a generalized and accepted medium of payment for purchasing various goods and availing services. Primarily, cryptocurrency has also become a significant tool for criminals, which is used by them for illegal activities, primarily associated with black money, such as money laundering, corruption, and terrorism. Cryptocurrency is also widely used by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Furthermore, cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities.

Similarly, cryptocurrency has been found to centralize money, though it is a decentralized form of currency, it still, prompts the accumulation of money to a specified class of people, making it a concentrated form of currency. Furthermore, the cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. However, the digital datasets incorporated in these transactions are evaluated by intelligence institutions, which leads to the possibility of the tracking of financial transfers of money by the common people, as investigated by federal institutions. Besides, another significant disadvantage of cryptocurrency is that it can be operated by anyone using simply a computer and internet connection. However, this mining of the cryptocurrency requires a large amount of energy which in turn requires large costs as well as unpredictability, resulting in the concentration of mining primarily among multinational companies, which leads to the increasing revenue of these companies, with the accumulation of money. Besides, another disadvantage of cryptocurrency is that it largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world.

Hence in review to this literature and the data obtained, following results are obtained,

1. The market of cryptocurrency is yet to flourish and expand since a large number of consumers prefer cryptocurrency over fiat currency, and they're not using it currently, indicating that these people might switch to cryptocurrency in the future, based on their personalized preferences.

2. Cryptocurrency is highly beneficial for stabilizing the financial structure, and for fostering economic sustainability since it protects the economy from both financial crises and economic regressions by keeping the inherent value intact.
3. Cryptocurrency offers a set of benefits to the users, which primarily include increased transaction speed, accessibility, protection from inflation, privacy, decreased transaction cost, security, transparency, and diversification, all contributing optimally to the stabilization of the financial structure, and the attainment of economic sustainability.
4. Cryptocurrency has some major disadvantages which largely hinder the strategic process of attaining economic sustainability, and include scalability, cybersecurity, price volatility, lack of inherent values, regulations, and price takeaway.
5. Cryptocurrency is comparatively less regulated or unregulated than fiat currency, as no third party or intermediary is involved in the exchange of cryptocurrency, which is primarily a federally-authorized financial institution or a bank.
6. In the next few years, cryptocurrency will overtake paper money, becoming the most prevalent medium of payment, since consumers are more inclined toward cryptocurrency.
7. Consumers are inclined towards cryptocurrency, and will adapt and execute it as a medium of payment, in the future, ruling out the typical money.
8. Cryptocurrency, as a result of price volatility, security breaches, lack of inherent value, and cybercrime is riskier than fiat currency or federally regulated currency.
9. Cryptocurrency has successfully drawn attention of the consumers, who are inclined to adopt and execute it as a medium of payment.

## **6 Summary:**

The research evaluates cryptocurrency and the conscious consumer behavior about it, thereby analyzing various advantages and disadvantages of the cryptocurrency, and how they influence the behavior of people. Cryptocurrency is a type of digital currency and has evolved as a result of the integration of technology in finance: FinTech, which is the hodgepodge of new technology such as artificial intelligence, robotics, data-driven

databases big data, cloud computing systems, machine learning, data-driven marketing, behavioral analytics, and others which largely facilitates the organizations in performing business operations, and in taking effective financial decisions. Digital currencies are an important part of FinTech. Digital currencies as evaluated by JS Hans are a form of currency that is only available and operated in the electronic or digital form and is also regarded as digital money, electronic currency, electronic money, and cyber-cash. Primarily these currencies can only be accessible through the internet by using a computer, mobile, or laptop since these types of currencies are only available in electronic form.

There are two primary forms of digital currencies, including centralized digital currency and decentralized digital currency. The centralized digital currency as evaluated by MD Brodo and AT Levin is a type of digital token, which is essentially issued by the federal bank, and is pegged to the equivalent value of a federal currency. Furthermore, this type of digital currency is regulated and administered as per the federal monetary policies, which are imposed by the federal bank. However, a decentralized digital currency which is also referred to as peer-to-peer money, on the other hand, is a bank-free method, that does not depend on any bank or any intermediary to transfer goods and services. Primarily, decentralized currency is used in the virtual markets, and is not regulated by the federal banks. Cryptocurrency is a type of decentralized digital currency. Cryptocurrency is primarily a decentralized digital currency since it does not depend on a third party or an intermediary and does not follow any provisions implied by the federal government. The operational system of the cryptocurrency is highly effective, as it stores the datasets of each of the coins, by using cryptographic mechanisms, and computerized databases.

In addition to storing the record of each coin ownership, it regulates the record of each transaction, to ensure the safe transfer of coin ownership, and the creation of new coins. Cryptocurrency uses cryptographic techniques, which principally include blockchain and distributed ledger technology, making it nearly impossible for hackers to hack the system, or counterfeit or double-spending the system since these technologies incorporate a disparate and extensive network, which makes it immune from external threats. A blockchain is an extended list of datasets, which are referred to as the blocks, and these blocks are linked together by using mathematical algorithms of cryptography. A blockchain is also evaluated as a digital balance sheet containing the transactional data, which is transcribed and translated across the entire network of blockchain across the computer system. Each of these blocks consists of cryptographic data, which is related to the data of the subsequent block. This data is

principally transaction data and a record of time. This transactional data demonstrates the record of each of the transactions, whereas the timestamp is used to keep the record of the time, and the date on which each of the blocks was launched.

These blocks are correlated with each other and form a network of data, and this network is resistant to any change, once the data is recorded (IG, 2020). This fact makes cryptography a reliable algorithmic combination, as it is entirely based on this chain of blocks, whose data cannot be altered, replaced, or modified without changing the configurational sequence of the blocks. And this system of blockchain is primarily associated with the security of Bitcoin. However, for altcoins, smart contracts are used. Smart contracts use a strategic method to set out some provisional rules for executing and enacting financial contracts, assuring that the right agreements are made under the right regulations.

There are several advantages of cryptocurrency. Firstly, it facilitates the process of sending and receiving funds between two various parties, by using algorithms, and blockchain, without the need for physical presence or any meeting, but all the matters can be resolved virtually, without the assistance of third parties and banks. Furthermore, the significance of cryptocurrency primarily lies in the independence of the mechanism that it uses for the transaction of money, primarily independent of the centralized intermediaries including financial institutions, independent of these institutions to implement regulations that somehow impede the autonomy and sovereignty of the users. This results in increased confidence and trust of users, which operate the entire system with the assistance of developers, and algorithmic 9 using the system to execute the operation by themselves, through increased automation.

. Moreover, the system of cryptocurrency eliminates the possibility of a single point of failure, which is very common in banks and a leading cause of disruption of financial systems, leading to economic regression. Hence, this has largely increased the efficacy and effectiveness of online transactions, which are not only highly effective but also highly secured, through the use of public keys and private keys, and various other forms of incentives including proof of work which is also typically known as proof of stake. Furthermore, cryptocurrency can be highly useful for generating profits, and large sums of revenue since cryptocurrency markets have been flourishing over the last two decades, rising constantly over the past years, and consequently is attracting the attention of investors. Hence, cryptocurrency withholds numerous opportunities for both stakeholders, businesspersons, and investors, allowing them to earn huge profits as per the demand of the market.



The convenience of the cryptocurrency has been regarded as the biggest advantage, allowing the users to execute and administer their financial transactions on their own, without any intervention or assistance from third-party or federal institutions. Some of the cryptocurrencies including Ethereum, Litecoin, and Bitcoin can be easily purchased with fiat currency or cash, at a Bitcoin ATM, and can be used without having a bank account. Furthermore, increased consensus and reduced cost are other property, which makes cryptocurrency a comparatively preferable medium of payment.

And though some people invest in cryptocurrency for price appreciation, for others it is an acceptable and regulated medium of payment, allowing them to make quick settlements at comparatively lower fees. Similarly, outsized returns are also a significant advantage of cryptocurrency, contributing tremendously to the strengthening of the economic structure of individuals, businesses, and countries. Cryptocurrency specifically bitcoin results in large outsized returns, representing millions of points on the stock exchange market, worth millions of dollars. Hence, cryptocurrency offers numerous advantages for day traders and investors, allowing them to earn large outsized returns through the investment of this digitized currency.

However, cryptocurrency has predominantly been associated with numerous disadvantages, which are either because of the unregulated structure of cryptocurrency. First of all, scalability, which is probably a very significant disadvantage of cryptocurrency, is a result of the scaling that is posed. And as cryptocurrency is adopted throughout the world, the tokens are allocated at an increased rate, and problems of scale are posed. Cryptocurrency is also widely used by drug sellers on the dark web, for selling drugs, and other illicit products, and services. Furthermore, cryptocurrency is an unspecified form of transaction, which is executed anonymously, by pseudonymous people. However, the digital datasets incorporated in these transactions are evaluated by intelligence institutions, which leads to the possibility of the tracking of financial transfers of money by the common people, as investigated by federal institutions.

Similarly, cybersecurity through leads to increased security, by using blockchain and algorithmic combinations, but still are volatile to cybersecurity breaches, leading to security attacks, and hence stealing of the data, and important information. This is evident from numerous

attacks and scams, which have resulted in the loss of millions of dollars. Furthermore, cryptocurrency is also widely used by hackers for stealing private data and important data, using it for performing ransomware activities. Similarly, cryptocurrency has been found to centralize money, though it is a decentralized form of currency, it still, prompts the accumulation of money to a specified class of people, making it a concentrated form of currency.

Also, cryptocurrency somehow disrupts the balance in the economic system, leading to a specified concentration of money as it can be operated by anyone using simply a computer and internet connection. And another significant disadvantage is that cryptocurrency largely suffers from volatility, and consequently, its value changes constantly, surging immediately at times and then falling after sometimes, which can disturb the economic cycle, leading to the disturbance of the economic structure of the complete world.

However, despite these disadvantages' cryptocurrency has been rendered beneficial as per the response given by respondents, showing their inclination towards cryptocurrency, as the majority of them agreed that cryptocurrency is more favorable for economic sustainability, and they're ready to adopt and integrate it as a medium of payment. This shows that cryptocurrency has the potential to become the largest industry in the future, incorporating itself into all financial institutions.

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## Appendix

### Questionnaire Questions:

What is your profession?

What is your annual salary before tax?

What is your age?

What is your education?

Are you financially stabilized?

Have you ever heard about cryptocurrency?

Do you use cryptocurrency as a money exchange?

Do you prefer cryptocurrency over federally generated currency?

Cryptocurrency is advantageous for economic sustainability?

What is the biggest advantage of cryptocurrency?

What is the biggest disadvantage of cryptocurrency?

Cryptocurrency is more secured and transparent compared to Federally generated currency?

Cryptocurrency is more federally regulated and more controlled, as compared to paper money?

Cryptocurrency will overtake paper money, in the next few years?

Will you adapt cryptocurrency, replacing it with typical money?

Cryptocurrency is less risky compared to federally regulated currency?

In how many years, you see cryptocurrency taking over the world?

## NYILATKOZAT

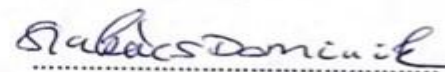
Alulírott .....Szakács Dominik..... büntetőjogi felelősségem tudatában nyilatkozom, hogy a szakdolgozatomban foglalt tények és adatok a valóságnak megfelelnek, és az abban leírtak a saját, önálló munkám eredményei.

A szakdolgozatban felhasznált adatokat a szerzői jogvédelem figyelembevételével alkalmaztam.

Ezen szakdolgozat semmilyen része nem került felhasználásra korábban oktatási intézmény más képzésén diplomaszerzés során.

Tudomásul veszem, hogy a szakdolgozatomat az intézmény plágiumellenőrzésnek veti alá.

Budapest, 2022. év ...05..... hónap 02... nap



hallgató aláírása