Analyzing Cryptocurrencies and the Future of Money

Joshua Casado

Senior Thesis

BU 400 Thesis and Practicum

Nicolais School of Business

Wagner College

Fall 2021

Abstract

The paper will shed light on the emerging industry of cryptocurrencies compared to other traditional methods of saving or investing in different types of currency. Currently, there is a transformation in the power of wealth. The evolution has created a way for people to send funds without relying on traditional methods. Traditional methods like bank use have failed people in the past, leading to financial crises in history. The stimulus bills passed in the United States are causing increased money to be printed during the pandemic. People are left to reconsider whom they should trust in maintaining their wealth's purchasing power. The shift of preference in how governments and centralized institutions use your money has displeased people in numerous ways, creating a decentralized form of holding value in cryptocurrency. The creation of blockchain technology has attracted a broad following because of the ability to cut out the intermediary in a transaction. Businesses in all parts of the world are transforming into a new digitalized commerce method. A growing population adopting cryptocurrency has disrupted how the movement of wealth has functioned since the start of centralized institutions. This paper uses relevant data and information to study and emphasize how using cryptocurrencies will be more helpful and valuable in improving life and accomplishing everyday business tasks. Also, I would include graphs to highlight points in the paper related to the hypothesis.

Keywords: Cryptocurrency, Blockchain, Centralization, Decentralization, Social Media, Crypto Mining, Peer-to-Peer, Bitcoin, Ethereum, Stock, Gold

Introduction

There is one significant similarity between cryptocurrency and gold. The form of money in gold is physical currency, and crypto is digital currency. Cryptocurrency coins like Bitcoin (BTC) have several qualities comparable to gold. Cryptocurrency and gold both share the

similarity of being driven by the power of scarcity. Bitcoin and other cryptocurrencies have a demand that is greater than the supply. One of the pros of investing in gold is that it cannot be produced and has a limited supply, causing your investment to grow. The same increase in value is happening with Bitcoin and other cryptocurrencies.

The value of cryptocurrency is seen by many, and groups are witnessing the booming crypto market. Many younger individuals heavily favor the ages of people investing in cryptocurrency, mainly millennials and Gen Z. There is data that even the Gen Z age group is learning and adopting crypto and ditching traditional investing methods. Every generation has some changes and advancements to improve life.

The Federal Reserve is the central bank of the United States, founded in 1913 to maintain the country's monetary and financial system. The Federal Reserve has various techniques to combat anything hurting the economy, like inflation or unemployment. The Federal Reserve's job is to maintain the value and purchasing power of the U.S. dollar. Unfortunately, that is not the case since the Federal Reserve took the U.S. off the gold standard in 1971, and since then, there has been a decline in the dollar's value. The gold standard was created to reduce the economy's risk of collapsing, prevent recessions, and increase income levels.

The Federal Reserve can print how much is needed to fund any bill or debt. In the past, the Federal Reserve used only to print money when matched by a physical commodity like gold, but now the policy change is a severe dilemma. Most of the world takes the United States dollar as its reserve currency, and countries are held– dollars in their bank reserves. The COVID-19 pandemic shined a bright light on the problems that are occurring at the moment, and it is hard to tell the drastic impacts it will have in the future. One of the Federal Reserve's issues was printing out stimulus packages to revive the economy by giving out checks to millions of Americans.

This printing of money to fund debt has been going on since 1971 and could have drastic effects soon. "The Federal Reserve has been printing money to pay for about $29 trillion in U.S. debt. However, what is new is that 40% of U.S. dollars were printed in the last 12 months alone." (Louise, 2021). The pandemic exposed this problem to many people, especially young people, causing them to find different alternatives, like investing in cryptocurrencies. Since the U.S. dollar is not backed by gold, the only alternative is to buy gold or Bitcoin, the next best bet.

There are numerous reasons cryptocurrency can be good and bad for the economy. Globally, everything has advantages and disadvantages, but we can distinguish between both by evaluating the benefits and risks of any scenario. In this case, it is hard to determine what lies ahead for the future of cryptocurrency. What someone can determine is how crypto impacts the lives around us.

Cryptocurrency beneficially motivates people by making them invest in their financial literacy. People want to upgrade their status in life, and investing in cryptocurrency has made the average person make better returns than saving money at a bank or investing in the stock market. Every day, entrepreneurs benefit from cryptocurrency since they can do deals in international markets without being forced to deal in a national market. (Davis, 2021). The transactions between buyer and seller are accomplished quickly, assisting in creating relationships of trust that would only occur because of cryptocurrency. The protection against scams or fraud promotes trust in cryptocurrency, the confidence in the privacy of no personal information being published, and the expeditious transfers.

One of the bad aspects of cryptocurrency for the economy is that not all cryptos have the same value in their blockchain technology, making the utility valuable and worth investing in. There is an ongoing problem of influencers promoting specific cryptocurrencies to their fanbase.

These influencers have a large following on social media platforms, and they persuade their followers to buy crypto, leading to the price of the crypto. When the price of the specific crypto goes up, the influencer sells all their holdings in the specific crypto, causing the price to go down. While the influencer gains profits in return, the influencer's fanbase investments are lost or wiped out since the crypto market is volatile. In addition, governments worldwide do not like the idea of cryptocurrency. Governments and financial institutions would be powerless if a country's currency were worthless. Governments must make laws and enforce regulations, with a prominent following adopting cryptocurrency. These regulations could affect the crypto prices but provide more financial support for the U.S. dollar. Lastly, cryptocurrency can do more harm than good in protecting the climate. Climate change is a global issue, and this new type of technology that requires expansive amounts of electricity and the internet could create more problems in the climate. There are many factors in how cryptocurrency could be bad for the economy.

Literature Review

Crypto vs. Stocks

A new generation has recently invested more money into online marketplaces and mobile investing apps than ever. The way of investing has changed, making it more accessible to invest money without a hassle. There has been an increase in the number of innovators and developers interested in investing, whether in stocks or crypto.

The definition of the stock market is a public market that is there for issuing, buying, and selling stocks that trade on a stock exchange.

A *cryptocurrency* is a digital currency that can be bought, sold, verified, recorded, and maintained by a decentralized system using blockchain technology.

There are numerous differences between stocks and cryptocurrency. First, different factors make the stocks and crypto move in price. For example, a post on social media from an influencer or a press conference from high-ranking government officials may affect the crypto market, causing a price downside; one can argue that the same applies to stocks. Cryptocurrencies are more volatile than stocks. Second, the stock purchase is buying into a company in the form of equity, giving the company the right to be a shareholder. The purchase of crypto, whether a coin or a token, is buying you the technology and access to the utility behind the purpose of the crypto. The value that is found in crypto is behind its technology. Crypto is much different from stocks because you can trade funds with anyone worldwide without trusting someone to secure the transaction. There is no third party, and the function of debit and credit cards is unnecessary. Financial institutions need to be required to move money independently when using decentralized exchanges. Another difference is that stocks are regulated by the SEC, and crypto does not have enforcement of regulation. There is far more regulation in stocks than in crypto. The benefits of using decentralized exchanges differ from the normalized use of centralized exchanges.

Centralization vs. Decentralization Finance

Centralized Exchange

A centralized exchange (Cefi) is where a financial institution controls money flow. The centralized exchange takes complete control of the money as a bank does. Many centralized exchanges are controlled by governments all around the world. Centralized exchanges act as a third party between the buyer and seller. The centralized exchange takes the entire ownership of the value listed.

Decentralized Exchange

A decentralized exchange (Defi) is non-regulated and provides more transaction privacy. Blockchain technology has smart contracts that operate in privacy behind the decentralized exchange. Intelligent contracts are saved onto the blockchain that fulfills orders of all traders without any interference or hassle from a financial intermediary. This process gives the crypto investor the power to decide the individual's value. Decentralized exchanges are attractive to use since they cannot be regulated. "In light of these challenges, a growing fraction of cryptocurrency traders now opt to conduct their trades on decentralized platforms, since by nature, these cannot be regulated, censored, or shut down." (Aureliano, 2021). In recent years, people have preferred to use decentralized exchanges more often.

Crypto Mining

There are many reasons why people have started trading crypto. One of the reasons is that it provides a technology that runs without authority. Blockchain technology is the main element of the crypto mining process. A crypto miner will validate transactions and brand-new mint coins from a block. A block records transactions that have yet to be put to work. Each block has a hash value, providing complex calculations to solve the transaction. The hash value has information in them that is very long numbers, which helps distinguish between different blocks. The hash value acts as a security form to ensure each block is fulfilled with the correct information. Each block is recorded onto the public ledger, which is the blockchain.

There are two types of ways to mine crypto. These are called proof of work and proof of stake.

Proof of Work

Proof of work uses custom-designed circuits that perform specific tasks. These circuits are called Application-specific integrated circuits (ASIC) and Graphics processing units (GPU). The crypto miners are built with unique circuits to stay running for however long each task takes. Proof of work requires large amounts of time since the network feeds off the processing power. These specialized electronic circuits are programmed to accomplish tasks efficiently and fast. In this case, the miner can solve complex puzzles using electricity and power from the machine. Once the miner finishes solving the calculations of the puzzle, then the coins are minted.

Proof of Stake

Proof of stake is, in a way, being a stock shareholder but, in this case, in cryptocurrency. There is a network of validators that are within the staking process. Each validator's goal is to earn a reward for completing the staking process. The proof of stake process requires holding a certain quantity of cryptos to be transformed into a node. Nodes are an integral part of the staking process, which means "a … node in the wireless network is used for monitoring and tracking data distribution between communicating nodes." (Nesarani, 2020). Once the stake is formed into a node, it goes into the network process with validators. The process selects one validator due to factors such as the extended time or the number of cryptos. The validator that wins must verify previous transactions to ensure the blockchain is accurate, and then the network updates. This process requires vast electricity and internet since the miner is running nonstop.

Profits in Crypto Mining

Crypto mining is an emerging and profitable industry, which is why many people are attracted to crypto. Younger people have been mainly at the forefront of the crypto-mining industry. Many high school and college students buy or build their crypto mining machines. With the crypto industry booming now and for years to come, this has made crypto miners much

money since the longer you mine specific crypto like bitcoin, the more earnings the miner will receive. These high schoolers are saying no to college since the profits in this new industry make it not worth going for higher education. Mining specific cryptos like Bitcoin has enticed young people to acquire a miner. Having a miner can passively create wealth with minimal effort. "Roughly every ten minutes, 6.25 bitcoins are created. In order to mint these new tokens, a global pool of miners is all contributing their computing power to running a hashing algorithm. However, these miners are not working in a vacuum. They are competing against each other to see who can unlock each batch of new bitcoin first." (Sigalos, 2021). The miner can earn more than nine to five jobs if executed correctly and efficiently. The crypto mining industry looks promising, with Bitcoin increasing in price and producing massive returns.

Risks in Crypto Mining

The significant factors that affect the risks in crypto mining depend on the kind and price of the miner, the cost of producing the amount of energy required, and the cost of the cryptocurrency. The pricing for electricity and internet is a significant factor as well. Budgeting for all requirements needed to run an effective miner that produces profit is necessary. Getting going will be a considerable investment, but it could be worth it if the process is done well.

Issues can occur if the system needs to be programmed correctly. For example, proof of stake requires the validator to verify the transactions previously. If validating the transactions is done accurately, then it could be allowed. "In proof of stake, the validators' staked crypto funds serve as an economic incentive to act in the network's best interests. If a validator accepts a bad block, some of their staked funds will be "slashed" as a penalty. The amount that a validator can be slashed depends on the network." (What, 2020). The risk in proof of work is "the penalty for miners submitting invalid information, or blocks, is the sunk cost of computing power, energy,

and time." (What, 2020). There are differences between the approaches in crypto mining, whether good or bad. With every investment, there is risk involved. It depends on what type of risks are acceptable for an investor to take the chance.

How Crypto Came About

The first known cryptocurrency created was Bitcoin (BTC) in 2009. There have been attempts to create a cryptocurrency before the creation of Bitcoin. However, it is not similar to the advancement of Bitcoin's technology. The person who created Bitcoin was Satoshi Nakamoto. There have been conspiracy theories about Nakamoto's character. The idea was started when Nakamoto invited experts interested in blockchain to help him create this crypto project. Nakamoto vanished from the project quickly and has not been seen. Whether or not it is true, Nakamoto is the author who created the original Bitcoin whitepaper. Numerous people have claimed to be Satoshi himself, but it has not been verified and remains unknown. Nakamoto would be a billionaire or even a trillionaire because the bitcoin price was $57,040.90 on December 1, 2021.

There has been an enormous following and movement in Bitcoin in all parts of the world. People became enticed to learn about Bitcoin's algorithm since many people started to mine Bitcoin through their computers. The help of people mining bitcoin helped create the network needed to produce newly minted bitcoins. The first Bitcoin transaction happened on May 22, 2010, when one of the Bitcoin developers, Laszlo Hanyecz, bought two pizzas for $10,000. With the price of Bitcoin today, Hanyecz would be valued at half a million.

Bitcoin rose slowly in the early years. Bitcoin started to get attention when an online drug business tried to use Bitcoin as an option for payment to avoid being traced and caught for illegal transactions. The website's creator ended up getting arrested for illegal actions in 2013. Also,

Bitcoin was hacked in 2014. It gave investors more reason to question whether Bitcoin is a good investment. There was terrible news surrounding Bitcoin early on until people realized that it is an investment and there is a risk when striving for rewards. Despite the bad news, it made Bitcoin more popular by finding new investors. The price of Bitcoin in 2013 ranged from $13 to $1,100. In 2017, Bitcoin's price increased to $20,000, breaking records and gaining popularity.

The Purpose of Crypto

There are many purposes for cryptocurrency. Like many other cryptocurrencies, Bitcoin was made for people worldwide to send money over the internet without worrying about how a government determines how consumers save, send, or spend their money. After the 2008 global financial disaster, there was a movement to create a currency that ordinary people could control without needing a centralized authority. In the second quarter of 2020, more than 7,000 cryptocurrencies were effectively exchanged, and their entire market cap surpassed 300 billion U.S. dollars (Wu, 2021). People were fed up and grew motivated to create something to hold a value that they could appreciate without it being controlled. The 2008 global crisis could have been avoided; many ordinary people were wiped out and had nothing left to their names. These ordinary people knew the financial institutions were behind the 2008 global crisis. The crypto world was created to disrupt centralized exchanges and provide perspectives on who holds the power of money. With that being said, everyone owns the power of cryptocurrency.

Another purpose of cryptocurrency is that it cannot be duplicated or replicated since it operates on the blockchain. The blockchain has smart contracts that are distributed to all computers. The smart contract has codes that are verified with each computer worldwide. It makes it impossible to hack the intelligent contracts since there would have to be changes to all the blocks ahead of time and revise the copies in the blockchain. Since the network is massive, it

would be nearly impossible to hack Bitcoin with prominent cryptocurrencies like Bitcoin. The security and the assurance of money not being duplicated are crucial to holding value and maintaining wealth.

Crypto was made for transparency since there are centralized exchanges that are inefficient. People wanted to invest their money in value to hold it confidentially. The privacy of crypto provides anonymous transactions, so it is unlikely to determine how much a person has in value. The only record of the transactions made is in the blockchain ledger. Since it was created, criminals have been using crypto since they can transfer value hidden without being traced. In a centralized exchange, the payment must be in physical cash to pay someone privately. Paying someone with large sums of cash could raise questions for authorities if income cannot be verified. Criminals use crypto when doing illegal business since if the criminals get arrested and their centralized accounts get frozen, they can still access their cryptos in decentralized exchanges. Criminals have been getting away from the law, "At least 13% of all criminal proceeds in Bitcoin passed through privacy wallets - which make it harder to track cryptocurrency transactions - in 2020, up from 2% in 2019." (Irrera, 2020). Law enforcement is trying to keep up with the amount of money being exchanged illegally and the criminals benefitting from this emerging industry. Progress has developed in tracking illegal activity within the blockchains. The purposes of why cryptocurrency was created will be advanced when it is further regulated.

Blockchain

Peer-to-Peer Transactions

Blockchain is a network that allows decentralized trades to occur at any given moment. The blockchain works by having peer-to-peer transactions, which eliminates any need for

intermediaries. Blockchain is a publicly distributed ledger (DLT). It records transactions in blocks across the entire network and lets anyone track the assets in real-time.
Bitcoin does not store the data, the information, and the cycles in any one place, but it stores something similar in indistinguishable spots.

Cryptocurrency has attracted many people because no one can change or tamper with transactions stored in a blockchain. Blockchain's properties are security, accountability, decentralization, transparency, and immutability. These properties help crypto become impenetrable and not be hacked to increase cybersecurity.

Types of Blockchain Networks

There are several types of Blockchain networks: public, private permissioned, decentralization, and consortium networks.

The public blockchain network allows anyone to enter freely and engage in the main parts of the blockchain network. The private permissioned blockchain allows a selected group of participants via invitation. The chain owner can reverse, change, or remove any records in the private blockchain. There is complete freedom in a decentralized blockchain network because there is no entity authority to oversee activities in the network. Consortium blockchain networks are a technology where single or multiple organizations supervise the platform.

There are different blockchain technologies for each cryptocurrency. For instance, Bitcoin (BTC) and Ethereum (ETH) run through a decentralized system that records transactions in a distributed ledger. An example of a private permissioned blockchain is Ripple (XRP). Ripple was created for banks and is a digital payment network for paying or exchanging their currency.

There are different uses for every cryptocurrency and when investing in one. It is wise to research before investing in cryptocurrency and how to go about it when investing in a particular one.

Crypto Platforms

In recent years, there has been a boom in companies getting into the crypto market, and companies have been creating platforms to purchase and hold cryptocurrencies. There are numerous platforms where a person can purchase cryptocurrencies. One of the most popular platforms is Coinbase, the largest U.S. cryptocurrency exchange, with an IPO on April 14, 2021. Coinbase has more than sixty cryptocurrencies that can be traded. It is the most considerable and safest platform to start a crypto investment.

Another popular platform is Binance, an international exchange based out of Hong Kong, and it is an alternative to Coinbase. It offers more than 500 cryptocurrencies to trade about and maintain trading volume. There is an expectation for the crypto industry to boom in the upcoming years. More financial industries will integrate crypto into their platforms.

Riskiness of Cryptocurrencies

Regulations

From 2020 to 2021, there has been speculation that there will be regulation in the cryptocurrency industry in the United States. China and the United States have been at the forefront of the emerging crypto industry.

China has already set a precedent by banning all its crypto mining activities towards Bitcoin and other cryptos. China has actively regulated the crypto industry since its economy is communist, not leaving any industry without controlling it. China was the leader in Bitcoin mining until the Chinese regulators halted it altogether. The Chinese government stopped crypto

trading, meaning nobody can buy and sell any crypto. At first, this decreased the price of Bitcoin and other cryptos, but prices increased to what they were before the bans. The United States overtook China as the largest bitcoin mining country globally. China has an approach to banning Bitcoin because the Chinese government wants to roll out its digital currency, the yuan. They were articles saying the United States had been planning for their digital currency of the dollar.

In the United States, there has been discussion within the government about regulating the crypto market. Federal regulators are trying to control the industry to address the potential risks and problems it may bring to consumers and financial markets.

When the Chinese government regulated the crypto industry, crypto prices dropped, so it will be interesting when the Federal government tries to regulate it. Congress has started discussing regulating this industry before it gets out of hand. President Biden of the U.S. reappointed the Chair of the Federal Reserve, Jerome Powell, for a second term. With Powell's last term in the Fed, he may make some regulations during his second term in the crypto industry. With Powell's support and the Security and Exchange Commission, Chairman Gary Gensler has stated concerns about the need for cryptocurrency regulation.

This regulation could protect investors and ensure no corruption or disruption to any financial markets in the United States. China has bans on crypto, while the United States has not addressed any regulations.

There has been much illegal activity in the crypto industry. People who do not want to be traced by the government have taken advantage of this problem by avoiding paying taxes and transferring wealth using cryptos. The United States government will have to address the crimes of using cryptocurrency like tax evasion and fraud. The U.S. government will have to worry about the newly created crypto ETFs being put on the market. There will be pressure on

Congress by regulators to create bills to target the regulation of cryptocurrencies. Without any regulation by the U.S. government, other countries could start making Bitcoin a legal tender as El Salvador did. Making Bitcoin a legal tender means that Salvadorans can pay taxes in Bitcoin. The United States' position as the number one currency countries use holds, and value could be affected if not regulated in time.

The topic of regulation in the cryptocurrency industry is interesting since centralized exchanges will try to limit decentralized exchanges. Since governments are feeling pressure from disruptive decentralized exchanges, they are quickly trying to develop their form of digital currency. *Regulation* is an ongoing theme floating around Congress and the rest of the U.S. government to act now.

Hypotheses

H1: Financial literacy impacts the preference to use cryptocurrencies.

H2: The risks of investing in cryptocurrencies negatively affect the desire to use them.

H3: The social media influence of cryptocurrencies increases the want to use them.

Methods

Subjects

Traditional stock market investors purchase publicly traded stocks via a stock exchange (e.g., the NASDAQ or NYSE). Cryptocurrency investors purchase cryptocurrencies via decentralized exchanges. Centralization exchanges usually trade stocks of publicly traded companies. Decentralization exchanges provide more ownership in what you trade and usually trade cryptocurrency. The risks involved in using cryptocurrencies. The desire to use cryptocurrencies. People influence others to use cryptocurrency—different platforms where the influencing occurs.

Measures

The first variable is the number of people investing in cryptocurrency by looking at the data of people investing in the United States. The data will provide how many people are holding some cryptocurrency.

The second variable is the social media influence of cryptocurrencies. Look at specific people, like celebrities, to see if what they post increases or decreases.

The third variable is the risks that negatively affect the desire to use cryptocurrencies. There are many risks that people have to consider when using cryptocurrency.

Lastly, the fourth variable is how many stock market investors there are by looking at a graph that shows the demographics in the stock market and the overall amount of people holding some stocks.

Table 1: Components of Study

	Variables			
Data	Number of people investing in cryptocurrencies	Social media influence on cryptocurrencies	Risks negatively affect the desire to use them	Number of traditional stock market investors
Instrument	Survey of people investing in cryptocurrencies	Survey of the social media influence on people	Survey of the value in cryptocurrency theft	Survey of people investing in the traditional stock market

Data Source	Best, R. de. (2021, October 11). Blockchain Wallets 2011-2021. Statista. Retrieved October 27, 2021, from https://www.statista.com/statistics/647374/worldwide-blockchain-wallet-users/.	Rivera, M. J., & Yi, A. (2021). Social media endorsement activities can prompt securities and exchange commission liability for celebrities. The Entertainment and Sports Lawyer, 37(1), 27–38. Retrieved from https://ezproxy.wagner.edu/login?url=https://www.proquest.com/trade-journals/social-media-endorsement-activities-can-prompt/docview/2585484725/se-2?accountid=14865	Best, R. de. (2021, February 5). Theft of cryptocurrency value 2020. Statista. Retrieved October 27, 2021, from https://www.statista.com/statistics/960226/theft-of-cryptocurrency-value/.	Vitalis, I. (2019, October 25). U.S. demographics and the stock market. Tradimo News. Retrieved October 28, 2021, from https://news.tradimo.com/us-demographics-and-the-stock-market/.
Type of data gathered	Quantitative	Quantitative	Quantitative	Quantitative
Types of scores produced/description	Test Scores: 0 to 80 million	Test Scores: Which platforms have the most impact?	Test Scores: 0 to 100	Test Scores: 0 to 100 million

Table 2: Hypothesis, Instruments, and Statistical Analysis					
	Variables			Hypotheses & Variable Relationships	Statistical Tests
Hypothesis	Social influence and the wants to use them.	Risks and desires to use them.	Financial literacy and preference to use cryptocurrencies		

H1: The social influence of cryptocurrencies increases the want to use them.	Social influences'		Preference to use cryptocurrencies .	Social media influences people to want to use them.	Correlation: line charts
H2: The risks of using cryptocurrencies negatively affect the desire to use them.		Risks		The risks of using cryptocurrencies negatively make people not want to use them.	Correlation; line charts
H3: Financial literacy impacts the preference for cryptocurrencies.			Financial literacy	Financial literacy impacts the preference to use cryptocurrencies .	Correlation; line charts

Procedure

Looking at peer-reviewed articles in the Wagner Library and Google Scholar by searching "cryptocurrency"/"stock market"/"stock investors"/"crypto investors."

Key Terms

- **Cryptocurrency**
- **Blockchain**
- **Game theory**
- **Financial intermediation**
- **Decentralization**
- **Customer price index**
- **Inflation**
- **Block chaining.**

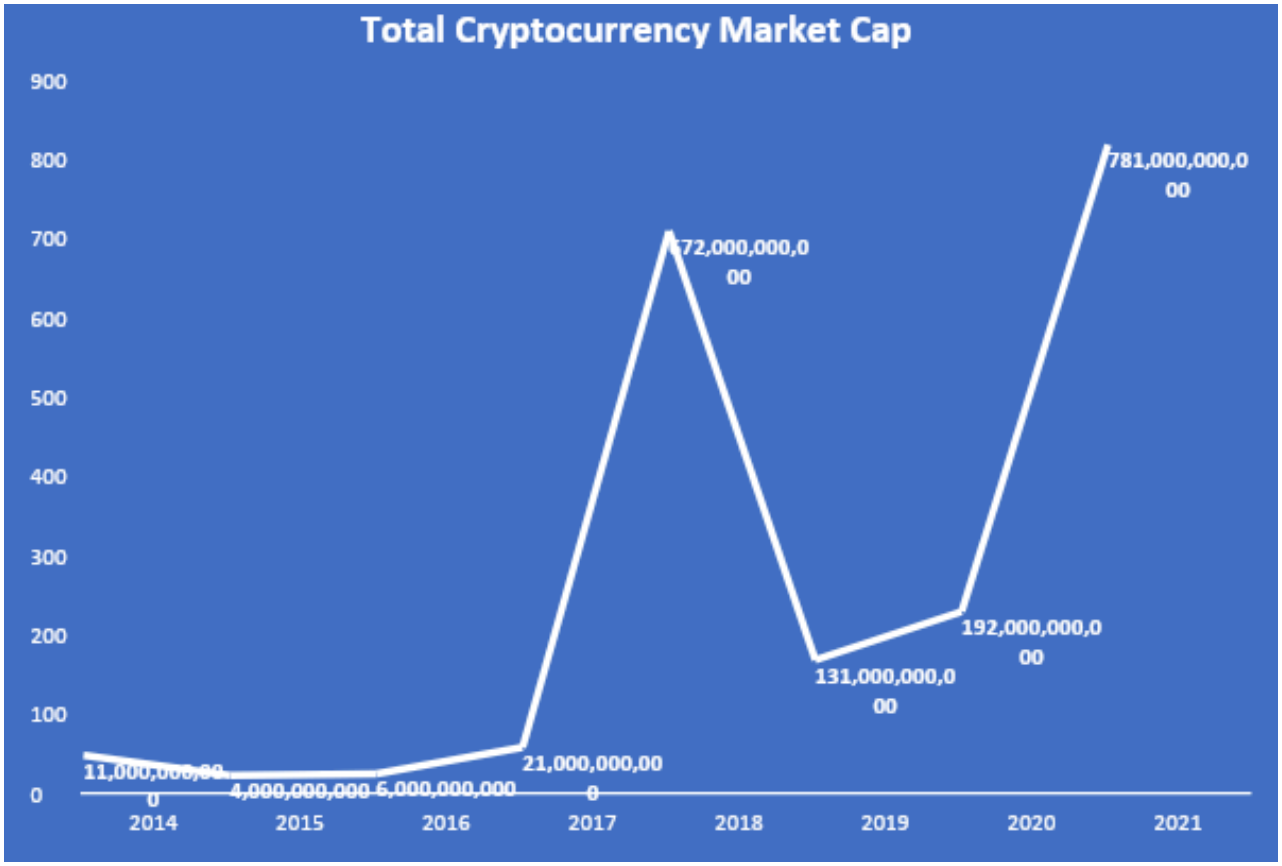
These key terms helped me find articles to extract information and form my observations, tables, or surveys.

Statistical Methods to Present and Analyze the Data

The data analysis method uses graphs to show the difference between stocks and crypto. The graph showed data on the benefits and risks of investing in cryptocurrency. The stock and crypto market caps graph illustrates how many people have invested.

Table 3: Total Cryptocurrency Market Cap	
Years	**Amount**
2014	11B
2015	4B
2016	6B
2017	21B
2018	672B
2019	131B
2020	192B
2021	781B

Global cryptocurrency market charts. CoinMarketCap. (2021, November 15). Retrieved November 16, 2021, from https://coinmarketcap.com/charts/.

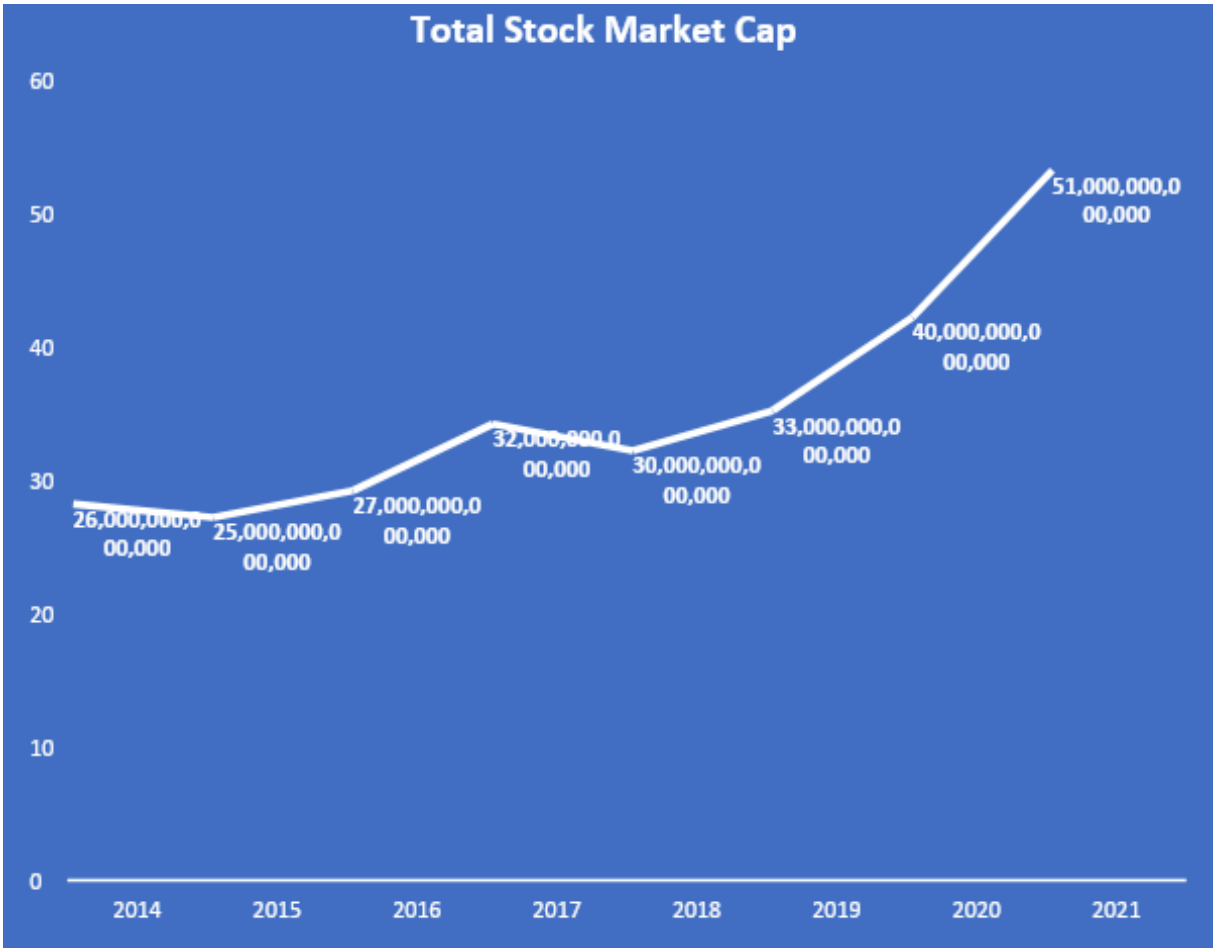


- This graph shows the total cryptocurrency market cap rising rapidly in 2017-2018; the data ranges from 2014 to 2021.

Table 4: Total Stock Market Cap

Years	Amount
2014	26T
2015	25T
2016	27T
2017	32T
2018	30T
2019	33T
2020	40T
2021	51T

United States of America market capitalization, 1960-2020. Knoema. (n.d.). Retrieved November 16, 2021, from https://knoema.com/atlas/United-States-of-America/topics/Economy/Financial-Sector-Capital-markets/Market-capitalization.

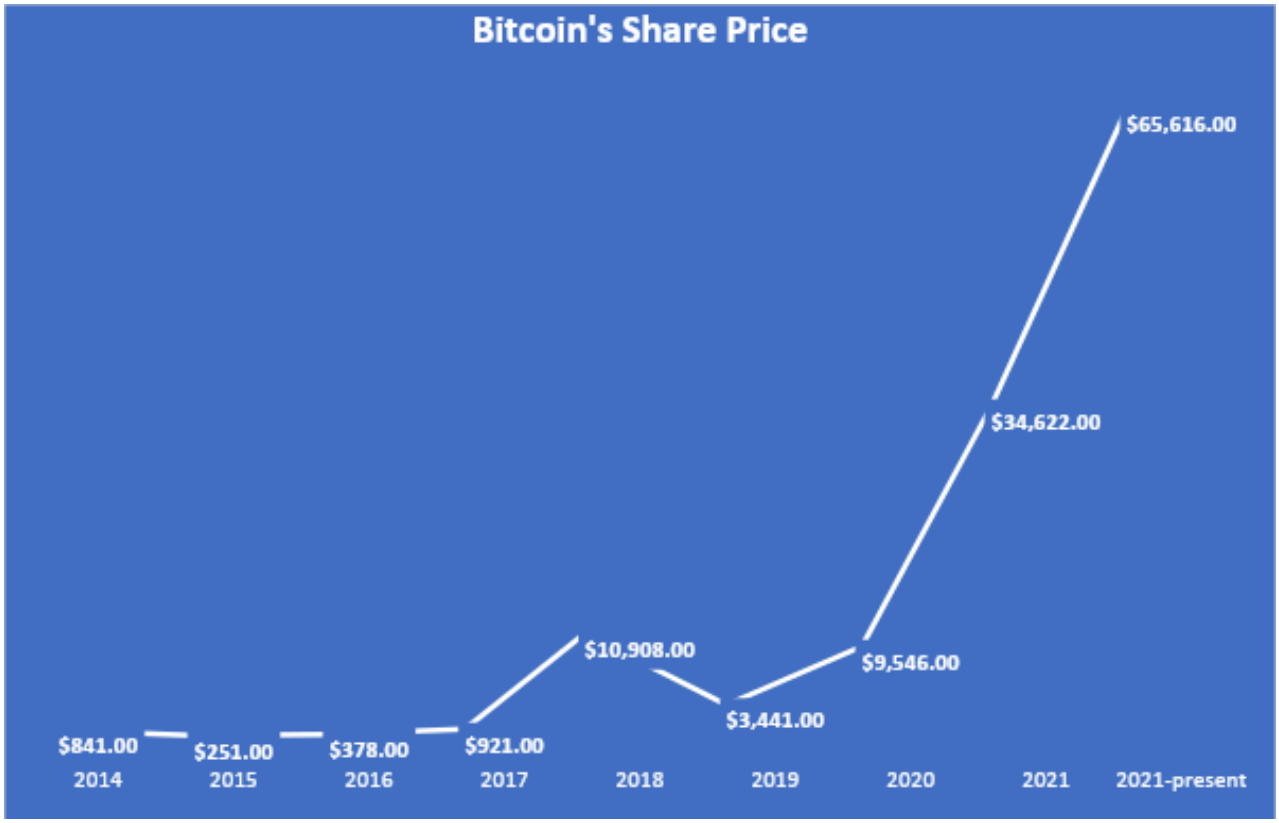


- This graph shows the steady increase in the total stock market from 2014 to 2021.

Table 5: Bitcoin - #1 Traded Crypto

Years	Bitcoin Price
2014	$841.00
2015	$251.00
2016	$378.00
2017	$921.00
2018	$10,908.00
2019	$3,441.00
2020	$9,546.00
2021	$34,622.00
2021-present	$65,616.00

Yahoo! (2021, November 16). *Bitcoin USD (BTC-USD) price, news, Quote & History*. Yahoo! Finance. Retrieved November 16, 2021, from https://finance.yahoo.com/quote/BTC-USD/.

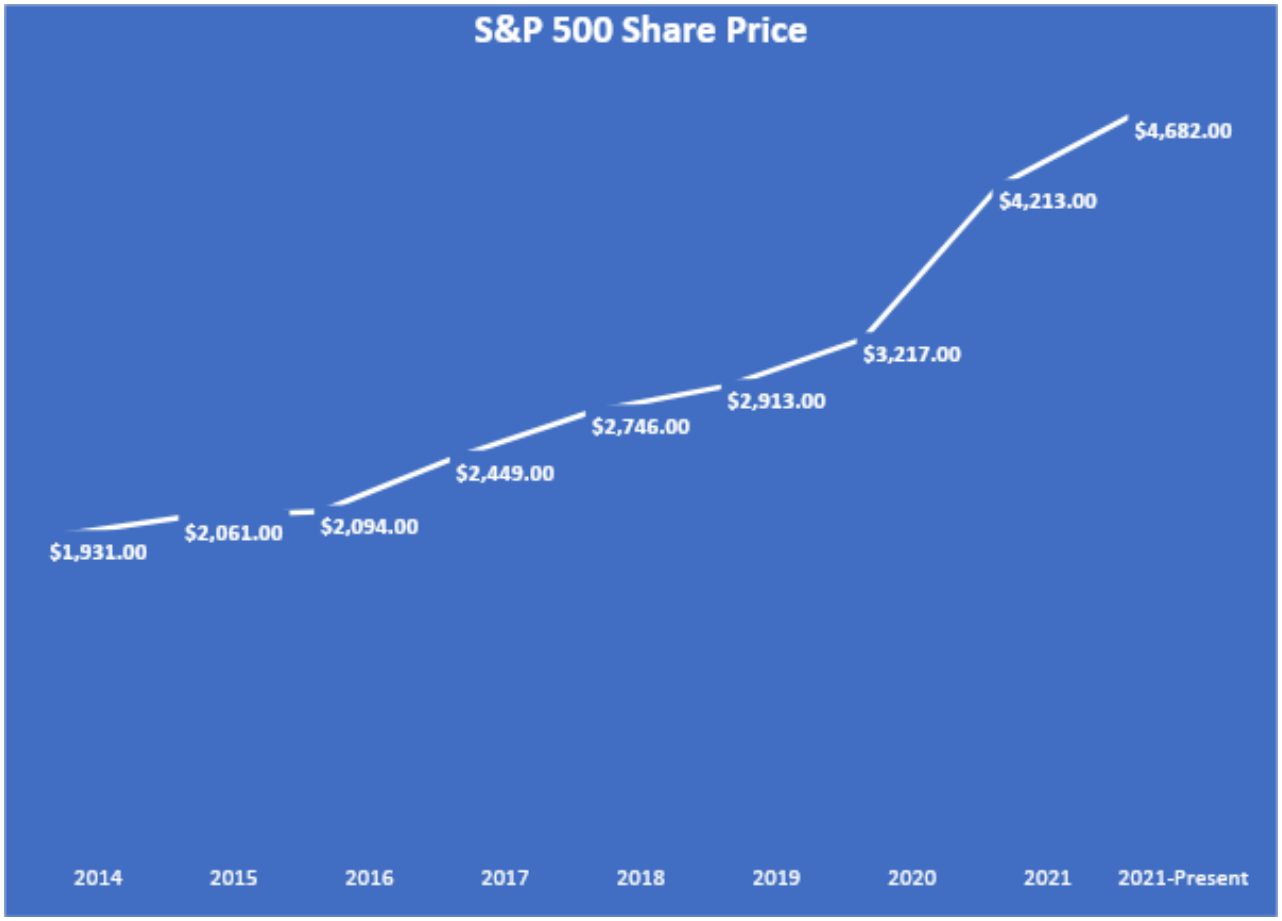


- This graph shows the rapid increase in Bitcoin's share price from 2020 to 2021, with data ranging from 2014-2021.

Table 6: S&P 500 - #1 Traded US Index

Years	S&P 500 Price
2014	$1,931.00
2015	$2,061.00
2016	$2,094.00
2017	$2,449.00
2018	$2,746.00
2019	$2,913.00
2020	$3,217.00
2021	$4,213.00
2021-Present	$4,682.00

Yahoo! (2021, November 16). *S&P 500 (^GSPC) charts, Data & News*. Yahoo! Finance. Retrieved November 16, 2021, from https://finance.yahoo.com/quote/%5EGSPC?p=%5EGSPC&.tsrc=fin-srch.

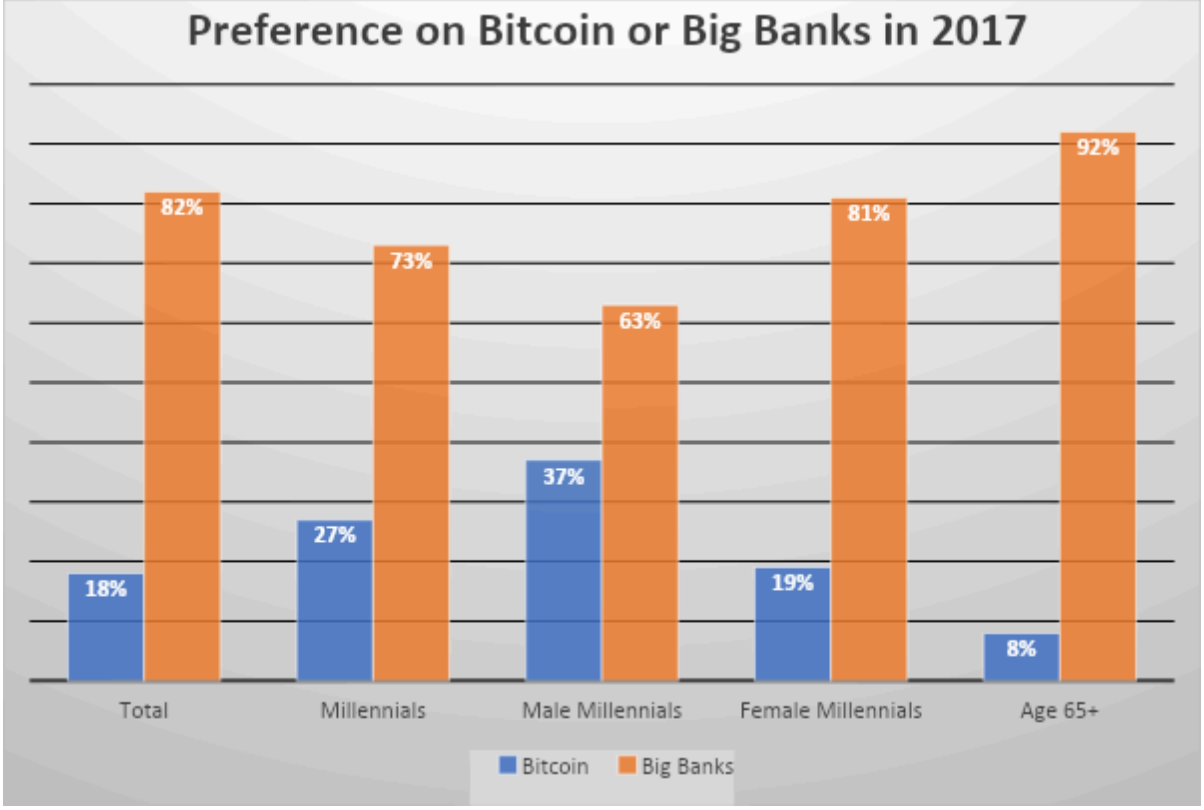


- This graph shows the steady increase in the S&P 500 share price from 2014 to 2021.

Table 7: Preference for Bitcoin or Big Banks in 2017

Age/Gender	Bitcoin	Big Banks
Total	18%	82%
Millennials	27%	73%
Male Millennials	37%	63%
Female Millennials	19%	81%
Age 65+	8%	92%

Fries, T., & Neagle, S. (2021, January 18). Comparing public bitcoin adoption rates in 2021 vs. 2017. The Tokenist. Retrieved November 16, 2021, from https://tokenist.com/bitcoin-survey-2017-vs-2020/.



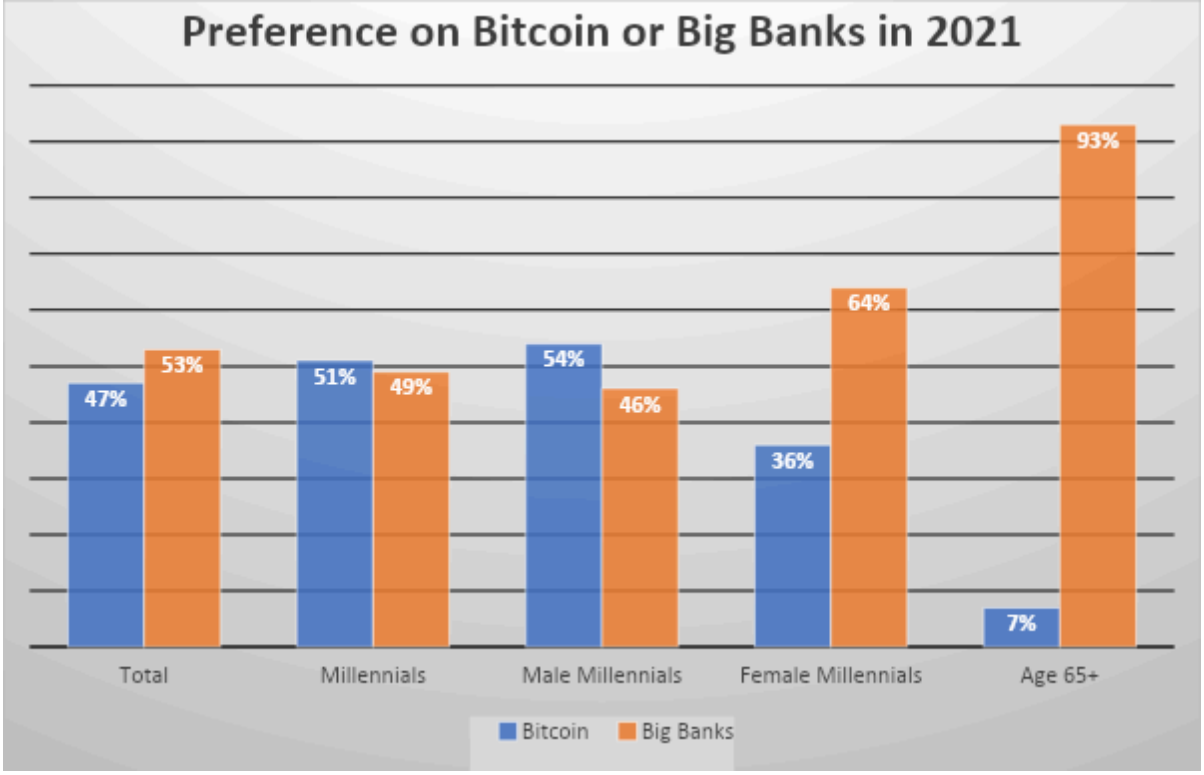
- This graph shows the difference between millennials and people over 65 and illustrates the preference between bitcoin and big banks in 2017.

Table 8: Preference for Bitcoin or Big Banks in 2021

Age/Gender	Bitcoin	Big Banks
Total	47%	53%
Millennials	51%	49%
Male Millennials	54%	46%
Female Millennials	36%	64%

Age 65+	7%	93%

Fries, T., & Neagle, S. (2021, January 18). *Comparing public bitcoin adoption rates in 2021 vs. 2017*. The Tokenist. Retrieved November 16, 2021, from https://tokenist.com/bitcoin-survey-2017-vs-2020/.



- This chart shows the difference between millennials and people over 65 and highlights the preference between bitcoin and big banks in 2021.

Discussion

H1: Financial literacy impacts the preference to use cryptocurrencies.

Over the years, financial literacy has impacted the preference to use cryptocurrencies. Table 7 and 8 shows the consumer preference for investments by age and gender in 2017 and 2021. The data provides data on the increase in what investors choose to invest in. The data shows that in 2017 there was a preference for big banks over Bitcoin. Big banks are traditional commercial banks like JP Morgan Chase and Bank of America. My hypothesis could not be supported due to

insufficient data to determine whether financial literacy impacts the preference to use cryptocurrencies.

H2: The risks of investing in cryptocurrencies negatively affect the desire to use them.

None of my charts support my hypothesis, so I must find data that can support it. I must find the risks you take to invest in the stock market compared to investing in cryptocurrency. The only chart related to my hypothesis is that the total stock market cap is higher than the total cryptocurrency market cap, with the total stock market cap at 51 trillion compared to the crypto market cap at 781 million. More people in the stock market are investing than in the crypto market. In that case, some risks are affecting people using cryptocurrency.

H3: The social media influence of cryptocurrencies increases the want to use them.

The graph that supports my hypothesis is table 5.1 and 5.2. The tables show the consumer preference for investments by age and gender in 2017 and 2021. Social media is used more by millennials than people older than 65+. In 2017, millennials preferred big banks over bitcoin due to various reasons. Millennials picked big banks at 73% compared to bitcoin at 27%. One of the reasons could be that bitcoin and other cryptocurrencies were not as known as how it is now. However, in 2021 millennials picked 49% in big banks and 51% in bitcoin. Social media is one of the ways consumers can be notified of any crypto news.

Conclusion

General Conclusions

Cryptocurrency is relevant today since it was created to disrupt traditional ways of doing things using blockchain technology. Blockchain technology will be improved in the future, making the process even more efficient. Cryptocurrency is an emerging industry still being

developed but has shown up-and-coming ideas that can transform the future into a different place than it is already. Cryptocurrencies have created a new way to transfer funds without trusting a third-party entity. There are different factors when researching crypto. First, the main goal of crypto is to give people the power to their wealth. If people knew what crypto is striving for, they would be investing in them. It is tough to see people not know financial literacy and how technology could help you become financially free. If more people knew blockchain technology, they would want to start adopting this new form of technology. Financial literacy can teach a person how to make intelligent investments and distinguish which investment is better off. Financial savvy people try to find new ways to earn more in the future. Next, there are risks involving everything we do in life. Without significant risks, there would not be big rewards, so researching the pros and cons when entering something unfamiliar is good.

There are many risks in crypto, which impact the average individual from investing. Lastly, social media can be used for an advantage or disadvantage because influencers try to profit from someone. When choosing investments, it is wise to be careful, and not everything on social media is true. Consumers are forced to think about crypto even if they are not interested, especially celebrities favoring specific cryptocurrencies by posting when to buy or support any cryptocurrency. For instance, Dogecoin's cryptocurrency increased 500% in gains, making it one of the best investments in February 2021. The CEO of Tesla, Elon Musk, posted some tweets on Twitter, creating this buzz behind Dogecoin. Elon's following of the crypto coin increased in percentages that any stock in the stock market has never seen before.

Cryptocurrency is an important topic with many different ideas and technologies. There are many ways you can describe perspectives on crypto and where it will stand in the world. The more research I do on cryptocurrency, the more I understand what purpose it serves. If I had to

do more research on a topic, I would dig deep inside the future of cryptocurrency involving non-fungible tokens (NFTs).

References

Aureliano, L. (2021, July 27). Why centralized cryptocurrency exchanges are seeing a mass exodus? Retrieved December 03, 2021, from https://www.yahoo.com/now/why-centralized-cryptocurrency-exchanges-seeing-142300736.html

Cho, R. (2021, September 16). Bitcoin's impacts on climate and the environment. Retrieved December 03, 2021, from https://news.climate.columbia.edu/2021/09/20/bitcoins-impacts-on-climate-and-the-environment/#:~:text=One%20study%20warned%20that%20Bitcoin,more%20renewable%20energy%20is%20used.

Davis, K. (2021, November 03). The economic impact of cryptocurrency. Retrieved December 04, 2021, from https://globaledge.msu.edu/blog/post/57042/the-economic-impact-of-cryptocurrency#:~:text=It%20has%20made%20it%20easier,been%20fantastic%20for%20developing%20nations.

Gavin Brown, & Richard Whittle. (2020). Algorithms, Blockchain & Cryptocurrency: Implications for the Future of the Workplace. Emerald Publishing Limited.

Irrera, A. (2020, December 09). Criminals are getting smarter in the use of digital currencies to Launder Money. Retrieved December 03, 2021, from https://www.reuters.com/article/crypto-currencies-criminals/criminals-getting-smarter-in-use-of-digital-currencies-to-launder-money-idUSKBN28J1IX

Louise, N. (2021, October 23). 40% of U.S. dollars in existence were printed in the last 12 months: Is America repeating the same mistake of 1921 Weimar Germany?: Tech News: Startups News. Retrieved December 04, 2021, from https://techstartups.com/2021/05/22/40-us-dollars-existence-printed-last-12-months-america-repeating-mistake-1921-weimar-germany/

Nesarani, A., Ramar, R., & Pandian, S. (2020). An efficient approach for rice prediction from authenticated blockchain node using machine learning technique [Abstract]. Environmental Technology & Innovation, 20, 101064. doi:10.1016/j.eti.2020.101064

Sigalos, M. (2021, October 27). This 19-year-old earns $54,000 a year mining bitcoin as a full-time job - here is what it is like. Retrieved December 03, 2021, from https://www.cnbc.com/2021/07/31/bitcoin-miners-how-they-got-into-it-what-their-lives-are-like.html

What is "proof of work" or "Proof of stake"? (n.d.). Retrieved December 03, 2021, from https://www.coinbase.com/learn/crypto-basics/what-is-proof-of-work-or-proof-of-stake?utm_source=google_search_nb&utm_medium=cpc&utm_campaign=9943088770&utm_content=127915792732&utm_term=&utm_creative=523247202125&cb_device=c&cb_placement=&cb_country=us&cb_city=open&cb_language=en_us&gclid=Cj0KCQiAnaeNBhCUARIsABEee8WM62nP0_CT0ddzrnlGAMrCzavg0rN_PK_5StzWqgpnzIpxmLQGU0waAtQTEALw_wcB

Wu, J., Liu, J., Zhao, Y., & Zheng, Z. (2021). Analysis of cryptocurrency transactions from a network perspective: An overview. Journal of Network and Computer Applications, 190, 103139. https://doi.org/10.1016/j.jnca.2021.103139