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Honors LA II

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Research Journals on Bitcoin

1. 5/20/19

Research Results and Findings:

In 2009, the first cryptocurrency, Bitcoin, was released. A cryptocurrency is a currency that is only online. No one controls how Bitcoin works or how many Bitcoins exist; Bitcoin's blockchain controls how they are created and how they are transferred. Bitcoin is an open source program, and blockchain is the part of the code that records transactions and creates new Bitcoins ("Beginners Guide: What is Bitcoin?"). I can use this research to give a basic introduction to Bitcoin. In explaining this topic, it is especially important to tell people that Bitcoin is simply an open source program, that has these digital currencies that are distributed, and that blockchain is simply a part of the program that handles the transfer and creation of Bitcoins.

Thoughts on my Progress:

I feel like my research is doing great right now. I am only on my first research log, but the first source that I am using is great for a basic introduction. Having been previously confused about what exactly Bitcoin and blockchain were, it makes it more clear how this source put these concepts into perspective. Sometimes, when a topic is complex, it can be confusing whether something is digital, physical, or just a concept, but now that I will be able to introduce what it

actually is, I will be able to explain how it is simply what the code does explained as a concept. This is important because explaining Bitcoin mining and blockchain transactions can be complex, so I must explain it in simple terms.

2. 5/20/19

Research Results and Findings:

There are around 17 million Bitcoins in circulation, and there is a programmed cap at 21 million Bitcoins, controlled by the blockchain. Once there are 21 million Bitcoins that exist, new Bitcoins cannot be created. This makes some believe that it would not be able to replace current currencies because not enough can be distributed; however, very small decimals of Bitcoin can be given out. Some believe that Bitcoin was created to combat the power of governments from making paper money ("Beginners Guide: What is Bitcoin?"). I can use this research to explain the potential of Bitcoin in the future. Although it is not immediately adopted as an international currency, there could be potential in Bitcoin replacing other currencies in the future.

Thoughts on my Progress:

My research is still doing well. I previously asked as a research question whether it is possible for Bitcoin to replace other currencies. This research log gives support for this being possible. However, I am not sure if it being possible alone will be enough; it will probably have to gain government support for people to start using Bitcoin. To understand the possibility of Bitcoin as an official currency for a country in the future, I will research the opinions of experts on currency and economics. This is a question that I have an interest in, and my stance near the end of my presentation will likely have an opinion on this answer.

3. 5/21/19

Research Results and Findings:

Transactions are not controlled by a server, but they are controlled by everyone connected to the network. This is known as peer to peer networking. In peer to peer networking, every computer acts as a server for other computers, and there is no central server controlling everything. People known as Bitcoin miners all have pieces of hardware that attempt at solving complex math problems. If they solve the math problems first, a block of transactions is added to the virtual ledger by blockchain. A proof of work, or proof that the algorithm was found in an efficient way, is added to the block ("Beginners Guide: What is Bitcoin?"). I will use this to explain how Bitcoin mining works. In explaining the concept with blocks, it is important that I include images of a virtual blockchain to explain the concept.

Thoughts on my Progress:

My progress is doing well. However, I feel like I put a lot of information into this research log, so I must figure out a way to present this in an easy to understand way. Blockchain can be explained as a concept with blocks attached to each other, which is how I plan to explain it. Once I finish explaining it in this way though, I must remember to put it into perspective, based on my first research log. Although images and possibly animations can show blockchain in a simple way, it can be confusing after what it actually is and how it connects to Bitcoin. I must put this into perspective when showing it this way.

4. 5/21/19

Research Results and Findings:

When miners add a block to the ledger, solving the math problem, they are awarded around 12.5 Bitcoins. However, this value awarded lowers every few years. Many people have

computers that are specifically created for Bitcoin mining. There is a large amount of competition between experienced Bitcoin miners that makes it very difficult for newcomers to get any Bitcoin at all unless they invest in a large amount of hardware ("Beginners Guide: What is Bitcoin?"). I will use this information in explaining why competition exists in Bitcoin. Only the fastest hardware gets any Bitcoin, and only the first miner or group of miners that solves an algorithm gets the Bitcoins.

Thoughts on my Progress:

This information will be useful for my research project. Unlike the previous research log, this information is easier to understand. I may show how much hardware is used by the top companies that mine Bitcoin if I am able to find any. I am familiar with the fact that people can join pools for Bitcoin mining if they contribute a computer for Bitcoin mining in order to get a fraction of Bitcoin. I may research more about this in the future to see how difficult it would be for a newcomer to get Bitcoin this way. It is likely near impossible to get Bitcoin by just mining Bitcoin on one's own if they lack many pieces of hardware, so this could make it possible for anyone to invest in Bitcoin.

5. 5/21/19

Research Results and Findings:

An exchange platform is where money is traded for cryptocurrency, such as Bitcoin. When an exchange platform gets hacked, many Bitcoins can be stolen. For example, in 2014, the exchange platform, MtGox was hacked, losing around 850,000 Bitcoins. However, Bitcoin and blockchain itself cannot be hacked; these systems are very secure. The cases where exchange platforms get hacked happen due to flaws in their security when exchanging Bitcoin and cash

("Beginners Guide: What is Bitcoin?"). I will use this information to explain the security of Bitcoin. People should not be worried about Bitcoin itself as a security factor since it is near impossible to hack. However, they should be cautious when doing transactions because there have been security flaws in the past.

Thoughts on my Progress:

My research is doing great so far. I was wondering about the security of Bitcoin for a while, and this source has detailed information on the topic. It is very interesting to see how secure Bitcoin is and to see that the only real flaws are other services utilizing Bitcoin, such as exchange platforms. The incident that was described in this source happened in 2014, so this makes me wonder whether these still occur and whether this was a one-time thing. It could be possible that there was an overlooked flaw that is now fixed. Even then, it is still entirely possible for other platforms to be hacked because normally security must adapt to hackers as they get smarter. Unlike exchange services, Bitcoin itself is set up in a way that is almost unhackable.

6. 5/21/19

Research Results and Findings:

Some people store Bitcoins on hard wallets, or USBs that hold the key to Bitcoins. When using hard wallets, they cannot be hacked from online. The key to the Bitcoins would no longer exist online, only existing on the hard wallet. However, if the hard wallet is stolen or gets lost, one will lose their Bitcoins. There have been cases where people attempt to recover many Bitcoins that were stored on a hard wallet and then lost, but they were unable to access them again since they do not exist online anymore ("Beginners Guide: What is Bitcoin?"). I will use

this information to explain how some can completely prevent the possibility of losing Bitcoins to hackers.

Thoughts on my Progress:

I believe that I have made great progress in my research so far. I now understand the concept behind the topic as well as some extra information, such as security. It is important to know about hard wallets because it could present a future in Bitcoin. If it gets proven that there is no real way to completely prevent hackers in Bitcoin transactions, more people will choose physical Bitcoin holders. This is essentially opening up the possibility for a physical currency, not owned by the government or a company. A downside of Bitcoin could be that it can be complex to complete transactions, but if everyone were able to carry around a USB that replaced their money, it could be a stable international currency.

7. 5/21/19

Research Results and Findings:

Bitcoin allows people to make transactions do not require any identification. This makes it ideal for criminals. For example, in 2011, drug dealers used Bitcoins on a website called The Silk Road, which was later shut down. However, very few Bitcoin transactions are used for criminal activity; most are used by people exchanging Bitcoin for money or money for Bitcoin (Popper). I can use this information to discuss Bitcoin's role in criminal activity. It is often connected to criminals because criminals do actually use Bitcoin, but it is important to remember that most people that use Bitcoins are not criminals.

Thoughts on my Progress:

My research is doing good so far. I feel that the connection to criminal activity is important for discussing Bitcoin, and I may search for further information on this topic. Something that I may want to research more is examples of people getting away with crimes due to Bitcoin. I may also look into whether Bitcoin transactions are truly anonymous. Although Bitcoin does not require identification, I heard that Bitcoin is traceable, so I am wondering if it is really not as useful to criminals as it may seem. For example, if it is known that a person completed a specific Bitcoin transaction, I want to know whether this means that any past or future transactions can be connected to the same person.

8. 5/21/19

Research Results and Findings:

Anyone is able to trade their country's currency for Bitcoin. This can either be set up online, through a company such as Coinbase, or Bitcoins can be sold or purchased in person through companies such as LocalBitcoins. The advantage of buying in person rather than simply purchasing it online is that when buying online, identification must be given. When buying in person, no identification is needed, which makes this option ideal for criminals or anyone that wants to hide their identity (Popper). This information will be used in my presentation to explain how Bitcoin is purchased. Although it may seem complex, it is very simple for anyone to exchange money for Bitcoin.

Thoughts on my Progress:

So far, I have a lot of progress in my research logs. Not only is the technical parts of the topic researched now, but now there is information on how anyone is able to purchase Bitcoin. This is important because it allows anyone watching my presentation to realize that they can

purchase Bitcoin in the future if they choose to and that it is very simple. My presentation will likely focus on the positive aspects of Bitcoin and the reason as to why it is a good idea to invest in Bitcoin, so it is important to explain how to get involved. I hope to find predictions about Bitcoin's future sometime in my research logs, so based on these, I will either describe Bitcoin as a good investment or bad investment.

9. 5/21/19

Research Results and Findings:

Bitcoin constantly changes in value, and its value is based on the demand of the market. No one actually controls Bitcoin; the programming in the software controls everything. In fact, the original creator, Satoshi Nakamoto, the creator who set up the system and rules, has no power (Popper). I will use this research in my project to explain the possible uses of Bitcoin. The fact that the person that coded Bitcoin themselves can no longer make changes or updates to the system shows that no one can ever take control of this system; besides banning Bitcoin from a country, there is nothing a government can do to interfere with the Bitcoin system. The fact that it cannot be changed and that the value is not fixed gives potential for an international currency.

Thoughts on my Progress:

I feel that I am making good progress on my research. It is interesting how the creator of Bitcoin no longer has any power for their own program. It makes me wonder what would happen if they released Bitcoin without noticing a bug. However, it has been out long enough that it is very likely there are no bugs. When I am searching for the future of Bitcoin, I hope to also find research on whether the fact that Bitcoin has no creator increases the chances of a new

cryptocurrency taking over in the future. For example, if a different cryptocurrency had a feature that had to be implemented directly into the software for the cryptocurrency, that Bitcoin lacked, there would be no way to change the code for Bitcoin. The only way to use this feature would be to switch to the new cryptocurrency. With enough people switching, it could create higher demand than there is for Bitcoin.

10. 5/21/19

Research Results and Findings:

Bitcoin fluctuates because it is not backed up by anything valuable and physical, such as gold. Since the price is based on demand, if there are more sellers than buyers, the price will go down, and if there are more buyers than sellers, the price will go up. This makes it possible to manipulate the price. For example, in the past, a camp purposefully decided to sell many Bitcoins at once to drop the price. This worked, actually lowering the price until it recovered from the market (Cruickshank). I will use this research to present some of the things holding bitcoin back from becoming an official currency for a country or becoming a widely used international currency.

Thoughts on my Progress:

My research is doing great. I previously wanted research on whether Bitcoin can have a future as a widely adopted currency, possibly replacing other currencies, and this article refutes that so far. Although I was hoping for Bitcoin to have a large amount of potential, this article is so far only going against this. I will see in my future journal logs whether this article goes over any indicators that show Bitcoin having a good chance at becoming a widely used currency. However, if the negatives are the only points highlighted, I will look for an article that points out

the positives. If only the negatives are covered, it shows that Bitcoin will likely not be used as a standard currency, at least until a long time.

11. 5/22/19

Research Results and Findings:

Bitcoin transactions are not actually anonymous even though they do not require identification. Transactions are able to be tracked and it is possible to link a person to a transaction. Zerocoin, another cryptocurrency, is actually anonymous, so much that the buyer or seller would never even know who the other person in the transaction was. Banks are starting to use this type of system when making transactions with other banks in order to prevent information of a trade from being released (Cruickshank). I will use this research to explain some of the downsides of Bitcoin specifically compared to other cryptocurrencies. This may cause the downfall of Bitcoin and the rise of other cryptocurrencies. In fact, with the nature of cryptocurrency, the creator has no control, so this could lead to many cryptocurrencies rising and falling due to it being impossible to truly create a perfect cryptocurrency.

Thoughts on my Progress:

I am getting far in my research, and I feel that this log specifically will be useful in making my stance. I previously questioned whether other cryptocurrencies may fix the faults of Bitcoin, but this source makes it clear that this is the case. It is interesting to see how Bitcoin is still said to be used by criminals even though it is truly not anonymous. They probably do not switch because it could be difficult to sell cryptocurrency with less demand. Besides the criminals though, with many wanting privacy when it comes to technology, it would not be surprising if the general public that used Bitcoin switched to another cryptocurrency that fixed

some of Bitcoin's flaws. Although this log showed the negatives of Bitcoin, I hope to find some positives of Bitcoin as well that makes it likely for Bitcoin to become widely used in the future.

12. 5/22/19

Research Results and Findings:

As time goes on, Bitcoin is becoming accepted more as a form of payment by various companies. However, cryptocurrency is advancing, and there will be newer versions that people use in the future. When people move to other cryptocurrencies, Bitcoin will not be important anymore because it is simply the first version of new technology. As upgrades are made, people will switch the newer versions (Cruickshank). This information can be used to show the future of Bitcoin and cryptocurrency itself. I can show companies that use Bitcoin as a way to show support for Bitcoin becoming more widely used, but I can also refute this showing some new cryptocurrencies that fixed flaws of Bitcoin.

Thoughts on my Progress:

I am making great progress on my research. I feel that this article has given a great idea on the future of Bitcoin. Although cryptocurrency itself has a large potential, Bitcoin has flaws and will die off. The idea of cryptocurrency itself is starting to get support from companies to be used as a form of payment, but these companies will likely easily switch to a new and better cryptocurrency similar to the people that use Bitcoin. I would still like to see if there is any possibility of Bitcoin itself having a future, but this seems unlikely based on this article. I may also try to look into some of the features new cryptocurrencies have besides full anonymity.

13. 5/22/19

Research Results and Findings:

A large investor of Bitcoin, Tim Draper, has made predictions about the future of Bitcoin. Not only does he believe that Bitcoin's value will rise to around $250,000 by 2022, but he also believes that within two years, everyone will be using it. In addition, Bitcoin has proven so far to be more secure than banks. Banks have been hacked in the past, but Bitcoin has never been hacked so far (Bambrough). I can use this in my project to show some of the support for Bitcoin becoming the future of money. However, when presenting this, I must make it clear that the person who makes these claims has invested a very large amount of money into Bitcoin. Making claims like this could simply be a way to encourage more to get into Bitcoin in order to make his investment more worth it. However, the fact that he did invest such a large amount does suggest that he genuinely does believe that Bitcoin will rise.

Thoughts on my Progress:

My research is almost complete. Once I finish my research with this article, I feel that I will have more than enough information for my project. I have research on the technical side of Bitcoin, as well as its current use in society today. In addition to these, I have research on reasons as to why Bitcoin may fail in the future, and I am now researching reasons as to why it will succeed. Based on these arguments, I will create a stance that I will present and explain. Right now, I am having a difficult time deciding whether Bitcoin has a positive future or not. I believe that there can be better cryptocurrencies that could replace Bitcoin, but at the same time, I feel that Bitcoin could not be replaced due to its popularity. As to whether cryptocurrency itself will succeed, I feel that is definitely a possibility.

14. 5/22/19

Research Results and Findings:

The lightning network is an extra layer that can be added to Bitcoin which would make smaller transfers faster and more efficient. According to Draper, this gives the potential for Bitcoin as an easy way to make purchases in stores as opposed to cash. In addition to this, Draper believes that the fact that Bitcoin can be tracked is good. It would allow criminals to be tracked while still keeping the security that Bitcoin has. As a result of this, Draper believes that when Bitcoin becomes regularly used, only criminals will be using cash, which cannot be tracked (Bambrough). This research will be useful for my presentation. A common concern of Bitcoin is its complexity in making purchases. However, if the purchases can be set up to be faster and simpler, there would be a good reason to use Bitcoin. During my presentation, I can possibly show a flow chart or another diagram that shows how simple and fast a Bitcoin purchase can be in the future.

Thoughts on my Progress:

I have plenty of information on my topic, and the remaining research that I do will be information in making my stance. As I research about how Bitcoin can possibly become more widely used, I am starting to believe that Bitcoin does have potential. The source that described Bitcoin as only the first version of cryptocurrency described Bitcoin's lack of anonymity as something that would cause it to be replaced. However, this source describes this as a good thing, allowing criminals to be tracked. I am starting to get a lot of ideas for my project based on the research that I have so far, and I am getting closer to choosing a stance. When thinking about the future of Bitcoin, I feel that it is even possible for Bitcoin and other cryptocurrencies to thrive at the same time. Although Bitcoin is by far the most popular cryptocurrency, there are new cryptocurrencies that may come out. It is entirely possible for Bitcoin to still thrive and for the

new cryptocurrency to start also thriving. The previous source described Bitcoin as something that will be replaced, but I feel that many will stay with Bitcoin because some may prefer not to have the features that new cryptocurrencies may bring.

15. 5/22/19

Research Results and Findings:

The bank, J.P. Morgan claimed that it will be creating its own private cryptocurrency. This will be owned by J.P. Morgan, unlike Bitcoin, which is not owned by any company. However, something that can be very useful in getting support for Bitcoin is a feature coming to the next Samsung phone. There will be a wallet for cryptocurrency, which will make it more convenient to use Bitcoin and other cryptocurrencies (Bambrough). I will use this research in my presentation to show how Bitcoin will likely only grow. J.P. Morgan's cryptocurrency that is coming out will likely not succeed. This is because by making the currency still owned by a company, it misses the whole point of cryptocurrency. Cryptocurrency was meant to be created as something that is controlled by the people and is not specific to one company or government. I will present the Samsung news as a good thing because it will allow more people to get involved in Bitcoin.

Thoughts on my Progress:

At this point in my research, I feel that I have enough information for a great project. I have plenty of research to back up a stance that is for or against Bitcoin becoming more widely used. I will likely choose a stance that combines both sides, such as believing that Bitcoin will still be successful, but other cryptocurrencies will start to become as successful. In addition to the stance, I have enough research for the technical side of Bitcoin as well as other pieces of

information to get a better understanding of the cryptocurrency. Before giving a stance, it is important that I present the information in a way that gives some technical topics and at the same time is simple and understandable.

Works Cited

Bambrough, Billy. "Veteran Investor Makes a Bold Prediction About Bitcoin and the Future of Money." *Forbes*, 20 Feb. 2019, www.forbes.com/sites/billybambrough/2019/02/20/a-billionaire-investor-has-made-a-bold-prediction-about-bitcoin-and-the-future-of-money/#5f1b3fc14711. Accessed 22 May 2019.

"Beginners Guide: What is Bitcoin?" *CoinCentral*, coincentral.com/beginners-guide-what-is-bitcoin/. Accessed 1 May 2019.

Cruickshank, Saralyn. "The future of finance? A look at bitcoin's boom and how cryptocurrency works." *John Hopkins University*, 8 Jan. 2018, hub.jhu.edu/2018/01/08/what-is-bitcoin-and-how-does-it-work/. Accessed 1 May 2019.

Popper, Nathaniel. "What Is Bitcoin, and How Does It Work?" *The New York Times*, 1 Oct. 2017, www.nytimes.com/2017/10/01/technology/what-is-bitcoin-price.html. Accessed 1 May 2019.