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Virtually Coined

There are many different currencies in the world. However, a subcategory of currency that differs from other traditional currencies is cryptocurrency. Cryptocurrency is a type of digital currency that is not monitored by the government, but rather a decentralized system. However, many cryptocurrencies are not accepted for most retail shopping, but used for other purposes. One of these purposes is to purchase non-fungible tokens, or NFTs. NFTs are unique digital items stored within a blockchain. A blockchain is "a large, digital, public record … distributed across many nodes (read: people's computers)". (*Open Sea*) In short, blockchains are devices from people all over the world that are used to store information such as cryptocurrency and NFTs. The "non-fungible" part of NFTs is how it is not interchangeable with other digital copies, making it "unique" and "one of a kind." *Open Sea*, a website where NFTs can be published and purchased, gives an example to how the two same items can have different prices: "Two cars of the same make and model might have different values based on how many miles are on the odometer, their accident records, or if it was previously owned by a celebrity". (*Open Sea*) So, NFTs have their own way of showing its non-fungibility through having its ownership stored in a blockchain. This complex network of non-fungible tokens and cryptocurrencies positively changed the economic world by creating a new investment market system and allowing aspiring digital artists to rise.

Cryptocurrencies' and NFTs' intricate network delivered another market system to the economic world. Similarly to stocks, these digital assets have fluctuating value as well. Cryptocurrencies' exchange value and an NFT's worth are not set to one fixed price. So, what many investors do 'would do what people do for stocks: buy and sell. Many people would buy NFTs and cryptocurrencies in the hopes that its price would go up. Then, they can sell it for other cryptocurrencies or government-issued currencies like United States dollars.

Investing is an important part of economic success, which cryptocurrency and NFTs are now a part of. More alternative ways for people to invest diversifies the economic world, grabbing the attention of new investors to contribute to the circulation of money; cryptocurrency and NFTs is another product for people to buy. Furthermore, some companies allow payments through different cryptocurrencies.

One of the biggest companies that accept cryptocurrency would be Tesla. Tesla models can be purchased from regular government-issued money, but also through the cryptocurrency, DogeCoin. The duality through how cryptocurrency can be used as a way to invest, but also a way to purchase products like Tesla models further expands how cryptocurrencies can be the new currency and positively affect industries and the economy itself.

Unlike physical currency, cryptocurrency have blockchain miners. As aforementioned before, a blockchain uses devices from people to store digital information. To go in depth, these people volunteer to use their device or multiple devices for computing all of this information, one of them being transactions. To verify the legitimacy of these transactions and know that the

purchase(s) is not using fake cryptocurrency, the transaction information is sent to multiple computers that verify the transaction using different algorithms and equations: “What a blockchain does is to allow the data held in that database to be spread out among several network nodes at various locations. This not only creates redundancy but also maintains the fidelity of the data stored therein—if somebody tries to alter a record at one instance of the database, the other nodes would not be altered and thus would prevent a bad actor from doing so”. (Hayes) These computers are from people who decide to become blockchain miners, or cryptocurrency miners.

These cryptocurrency miners are compensated by finding new cryptocurrency. (Hayes) Every cryptocurrency has a unique identifier, so after a miner solves a block in a blockchain, they find and are rewarded with cryptocurrency. This cryptocurrency — that the miner obtained — has never been used in purchases, as its unique identifier is not in the blockchain.

Using blockchains, it is a safer and secure way to store information. One of cryptocurrencies’ and NFTs’ greatest selling points would be how nothing is lost. Especially for NFTs, the way for someone to show its ownership is forever stored in the blockchain: “This record serves as a permanent statement of authenticity that can be viewed or accessed by anyone”. (*Open Sea*). This allows for a better way to save something, in this case ownership. The only way for someone’s ownership to get lost would be if the whole blockchain were to shut down, but that would require every single computer that is involved with mining cryptocurrency to disappear. Its security would seem like a problem since everyone has access to the blockchain. However, this is not the case since all the blocks — which are all the information like transactions and movements with cryptocurrency — are encrypted: “The records stored in the Bitcoin blockchain (as well as most others) are encrypted. This means that only the owner of a record can decrypt it to reveal their identity (using a public-private key pair). As a result, users of blockchains can remain anonymous while preserving transparency”. (Hayes) So, this creates a safer place for people to purchase products using cryptocurrencies itself. All of the information is stored in the blockchain, allowing easy access to everyone, but access only to the owner to truely see its contents.

Although cryptocurrency is constantly being found through mining, there is only a set amount of cryptocurrency. For example, in Euny Hong’s article, “How Does Bitcoin Mining Work?”, she explains how much bitcoin there is: “As of March 2022, there were just under 19 million bitcoins in circulation, out of a total of 21 million”. (Hong) So, this means that cryptocurrency is not affected by inflation; like how the government can print out money, it is impossible to go over the limit of a cryptocurrency due to its set amount. In most cases, inflation negatively affects the consumer due to increasing the cost of an item. Thus, if an individual were to save a lot of money in their bank account, that money will have less purchasing power after a few years due to inflation. Cryptocurrency on the other hand does not have this problem. In fact, due to its set amount, cryptocurrency goes up as inflation in government-issued currency goes down, off-setting inflation itself. Nonetheless, cryptocurrencies are not necessarily a better type of currency than government-issued currency. This is because as discussed before, the prices fluctuate, so it is possible for huge drops of value for a cryptocurrency. Although its prices fluctuate, it is not random and can be invested like stocks. Likewise, as stocks help businesses grow, cryptocurrencies and NFTs allow artists to shine.

Cryptocurrencies and NFTs paved another way for artists to gain traction and earn money. Before NFTs, trading online artwork for currency was not possible. There was no point or value to pay for someone's digital artwork for them to keep and admire; there is no incentive for art collectors to collect artwork that is already online and pay for the digital artwork. That is until NFTs where purchasing digital artwork is now possible. Artists can now make their artwork an NFT so that people can purchase their artwork even though it can be distributed online. What makes the purchased NFT special is how NFTs work; NFTs have their ownership stored in the blockchain, so the owner's account is linked with NFT itself. (*Open Sea*) Now, artists have a way to create and display digital artwork, which people can buy if they like it. Artists do not have to hide their artwork to a paywall and potentially have the artwork leaked if they plan to make it an NFT where someone can purchase it. Because of how anything can be an NFT, 3-D artists can make their artwork an NFT as well, opening the art world for 3-D artists.

An example of a 3-D artist that gained success from NFTs is Beeple. Beeple released a digital 3-D artwork of an astronaut walking through different sceneries named "HUMAN ONE". (Porterfield) This artwork sold for over fifteen million dollars, which shows that NFTs as 3-D artwork can be successful.

What makes NFTs helpful for an artist's recognition is that NFTs can not only be collected, but distributed and invested. NFTs can be bought for the sole purpose of investment; some people will buy NFTs to expect it to rise in value to eventually sell it to a buyer. This makes someone's artwork get distributed across multiple people, which can constantly be shared to different places and people, increasing the artist's exposure. So, not only are art collectors buying NFT artwork from the artist, but also investors, widening the targeted consumers. Moreover, just like many famous artists, people will buy a person's artwork because they are popular. However, unlike physical artwork which have many physical difficulties, purchasing pieces of artwork would sometimes require walk-in auctions. NFTs can simply be purchased online, skipping the problems that physical artwork has.

Although cryptocurrencies and NFTs have many positives when it comes to the economic world, there are also negative aspects. Two of them being the damage to the environment and regulations.

One of the detrimental factors towards having cryptocurrency and NFTs would be the damage it causes to the environment. Since cryptocurrency and NFTs run on blockchains and miners to verify transactions, it takes a lot of computing power. This computing power consumes a lot of resources, mainly electricity. What makes this a problem is where most of our energy comes from. In the article "The Climate Controversy Swirling Around NFTs", written by Justine Calma, they discuss the environmental problem with the cryptocurrency Ethereum, the main cryptocurrency for purchasing NFTs: "'Many NFT transactions send a stronger economic signal to the miners which may lead to increased emissions' … If NFTs significantly push up the value of Ethereum, miners might try to cash in by upping how many machines they use. More machines generally mean more pollution". (Calma) Since cryptocurrency mining takes up a lot of energy, this causes a lot of carbon emissions, leading to an overall negative impact to the environment.

Of course, alternatives do exist for fixing these issues. An example would be proof-of-skate. (Calma) This model is where instead of using a large amount of energy, it instead locks the consumer's other cryptocurrency. So, if they were to cheat or abuse the system, they would lose the cryptocurrency that was locked. If they were legitimately purchasing their item, then the locked cryptocurrency would be given back to them. However, the better and energy-efficient blockchains and mining is dependent on whether the companies and people decide to implement it or not. Ethereum's blockchain method still did not implement the "proof-of-stake" model. (Calma) This shows many negative outlooks and assumptions towards cryptocurrency and NFT corporations. Risk is most apparent when it comes to changing something for the better at the cost of money or production. Changing Ethereum's blockchain to a completely different system would have to revamp how all the transactions and information is stored, which will take a lot of time and resources to implement. Thus, a heavy risk that Ethereum could make is that the "proof-of-stake" model implementation fails, damaging NFTs and Ethereum's value.

In essence, cryptocurrency and non-fungible tokens are two fairly new topics that many are aware of, but not many know about how they work. They have positive economic outcomes for their existence by creating a new investment system and giving artists an alternative way to gain traction. Of course, just like many technological creations, cryptocurrency and NFTs have downsides; the most apparent would be the environmental impact. However, it is possible to fix the harmful effects that cryptocurrencies and NFTs create. With the continuous advancement of technology, they will both become more apparent and integrated into society, as they are technology-based assets. However, due to the their differences with their counterparts (i.e. cryptocurrency to government-issued currency and NFTs to physical artwork), their advantages, disadvantages, and implementations are so vast that unless the world switches to purely virtual or augmented reality, then cryptocurrencies and NFTs will not be a replacement for their counterparts.