



AN ANALYSIS OF CRYPTO CURRENCY

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Abstract:

The study is about the Crypto currencies. It have emerged as financial system like Bitcoin have matured from being associated exclusively with techies and radicals to being considered by central bank as a technology to implement digital currency. Crypto currency is an unregulated digital asset that can be transferred completely digitally. Crypto currency transaction may attract capital gain tax, income tax, transaction tax, wealth tax.

Introduction:

Crypto currency is a form of payment that can be exchanged online for goods and services. Many companies have issued their own currencies, often called tokens, and these can be traded specifically for the good or service that the company provides. Crypto currencies work using a technology called blockchain. Blockchain is a decentralized technology spread across many computers that manages and records transactions. Part of the appeal of this technology is its security.

Key words:

Digicash, Anonymous, Open network, Technology, Electronic, Cryptographic

History:

In 1983, the American cryptographer David Chaum conceived an anonymous cryptographic electronic money called eCash. Later, in 1995, he implemented it through Digicash, an early form of cryptographic electronic payments which required user software in order to withdraw notes from a bank and designate specific encrypted keys before it can be sent to a recipient. This allowed the digital currency to be untraceable by the issuing bank, the government, or any third party.

In 1996, the National Security Agency published a paper entitled How to Make a Mint: the Cryptography of Anonymous Electronic Cash, describing a Crypto currency system, first publishing it in an MIT mailing list and later in 1997, in The American Law Review.

In 1998, Wei Dai published a description of "b-money", characterized as an anonymous, distributed electronic cash system. Shortly thereafter, Nick Szabo described bit gold. Like bit coin and other cryptocurrencies that would follow it, bit gold (not to be confused with the later gold-based exchange, BitGold) was described as an electronic currency system which required users to complete a proof of work function with solutions being cryptographically put together and published.

In 2009, the first decentralized crypto currency, bitcoin, was created by presumably pseudonymous developer Satoshi Nakamoto. It used SHA-256 a cryptographic hash function, in its proof-of-work scheme. In April 2011, Namecoin was created as an attempt at forming a decentralized DNS which would make internet censorship very difficult. Soon after, in October 2011, Litecoin was released. It used scrypt as its hash function instead of SHA-256. Another notable crypto currency, Peercoin used a proof-of-work/proof-of-stake hybrid.

On 6 August 2014, the UK announced its Treasury had commissioned a study of crypto currencies, and what role, if any, they could play in the UK economy. The study was also to report on whether regulation should be considered. Its final report was published in 2018 and it issued a consultation on crypto assets and stable coins in January 2021.

The Most Popular Crypto currencies:

There are thousands of crypto currencies, most with very little value and unclear potential. Many advisors recommend investors stick to Bitcoin and Ethereum — if any — and pass on the smaller cryptos.

Leading cryptocurrency news outlet CoinDesk maintains a CoinDesk 20 list of the most popular cryptocurrencies currently being bought and sold. This list includes cryptocurrency assets and networks by their most common names. Some, like Bitcoin (BTC), have one name for both the blockchain network and the cryptocurrency. Others, like Ethereum, are named for the broader blockchain network, but have a different name for their associated native cryptocurrency (Ether, or ETC, in the case of Ethereum).

Updated quarterly, the list ranks cryptocurrencies based on dollar volume and other data from third-party cryptocurrency exchanges, where people can buy and sell different cryptocurrencies.

- | | |
|------------|-----------------|
| 1.Bitcoin | 6. USD Coin |
| 2.Ethereum | 7. Chain link |
| 3.XRP | 8.Uniswap |
| 4.Cardano | 9.Polkadot |
| 5.Steller | 10.Bitcoin cash |

1. Bitcoin

As the first crypto currency, Bitcoin (BTC) is also the most popular and highly valued, despite high volatility over the course of its history. Bitcoin was initially created to be used as a digital payment system, but experts say it is still too volatile to be used for that.

2. Ethereum

Ether (ETH) is the crypto currency of the Ethereum network, an open-source blockchain upon which developers can build apps and other crypto currencies. It's also the second largest crypto currency by market cap, behind Bitcoin.

3. XRP

XRP is the crypto currency of the Ripple digital payment network. Built for digital payments, XRP touts itself as a faster and more efficient way to power global payments. Ripple and XRP also allow for third-party development on other uses for XRP.

4. Cardano

Cardano (ADA) uses a technology called Ouroboros, a peer-reviewed blockchain protocol. It describes itself as a more secure and scalable way to maintain decentralization.

5. Stellar

Stellar's native crypto currency is the Lumen (XLM). Stellar is designed as an "open network for storing and moving money" that allows people to create, send, and trade digital money. It's designed to sell and trade all digital monies, not just Stellar's own associated crypto currency, the Lumen — although you'll need to own some Lumen to make transactions.

6. USD Coin

USD Coin (USDC) describes itself as "the world's digital dollar." Created by a global financial firm called Circle, USDC is the result of work that has been invested in by Goldman Sachs, Baidu, and IDG Capital, among others. USD Coin is tied to the U.S. Dollar, which makes its price much more stable than other cryptocurrencies. That stability lends itself more toward digital payments, while other cryptocurrencies have more potential to increase in value as investments (along with more risk of losing value, of course).

7. Chainlink

Chainlink (LINK) uses “real-world data and off-chain computation while maintaining security and reliability,” according to its website.

8. Uniswap

Uniswap (UNI) is a decentralized crypto exchange that operates on Ethereum’s blockchain. Its developers promise to get rid of unnecessary intermediaries, which it says gives users more control.

9. Polkadot

Polkadot (DOT) says its mission includes allowing different blockchains to exchange information and transactions with one another. Its website plays up data and identity security and users being in control.

10. Bitcoin Cash

Bitcoin Cash is a peer-to-peer electronic cash system, which was the original intention of Bitcoin. The currency allows you to send money anywhere for very low fees.



Major Cryptoassets By Percentage of Total Market Capitalization (Bitcoin Dominance Chart)



The above graph shows the individual proportion of the largest ten cryptocurrency relative to total market capital of all assets. Since BTC was the first asset it has remained of the largest by market cap, which is why its dominance in the market is a number many people follow. We describe the assets cracked in this chart as crypto assets.

How to work with crypto currency in automobile industry

Blockchain, a technology famous for its application in crypto currencies like Bitcoin, is being explored by automakers as a way to improve security in increasingly connected vehicles. As the average car gets closer to being fully connected, electric, and/or autonomous, there will be a corresponding increase in the need for a more evolved database to match – and blockchain is shaping up to be the answer.

Implications for the Future: Buying Cars with Bitcoin

Does this move by Musk and Tesla signify the beginning of a growing trend? Before the purchase was announced, Musk did spend some time on Twitter seemingly promoting Bitcoin, firstly by adding the hashtag bitcoin to his profile page. That simple act alone pushed Bitcoin's price up as much as 20 percent. A couple of days later on the social media platform Clubhouse, he said that "Bitcoin is a good thing, and I am a supporter of Bitcoin."

How Does a Blockchain Work?

A blockchain is a distributed database, meaning that the storage devices for the database are not connected to a common processor; instead, it maintains a growing list of ordered records called blocks. Each block has a timestamp and a link to a previous block, making it impossible for an individual block to be altered without also changing the rest of the blocks behind it. Users can edit parts of the blockchain that they "own" by possessing the private keys necessary to write to the file. Cryptography ensures that everyone's copy of the distributed blockchain is kept in sync.

Blockchains are secure databases by design, making them excellent prospects for recording things like medical records, financial transactions, identity management, and proving provenance. Blockchain offers the potential of removing the middleman in trade and transaction processing.

Here are the 5 ways blockchain:

1. Secure Payment, In-Vehicle

Blockchain first landed in the public consciousness as the technology supporting crypto currencies, such as Bit coin, crypto currency remains primary in which blockchain technology is used. Car owners soon, however, could use blockchain to pay for the electricity to charge electric cars

2. Safe-guarded Autonomous Data

As a self-driving vehicle navigates the world, the blockchain could become responsible for recording data about the details associated with the trip. This localization data could include everything from information about road and infrastructure details to general traffic patterns. Other vehicles in the network could then access this information and trust that, since it has been processed through blockchain technology, it is accurate and secure (the data structure of shared ledgers in blockchains makes adding to, removing, or altering data nearly impossible once it has been validated and stored in a block). Since sharing everyone else's data is the fastest path to autonomous driving, automakers may soon leverage blockchain to share all

the localization data as securely as possible. Only authorized parties would be able to access this data in real-time because it is cryptographically secure. Hacking is big business and not a threat to individuals as much as it is to OEMs. Blockchain usage will prevent “bad actors” from hacking the network and potentially holding OEMs hostage as a result of a display of what can be done to the automaker’s autonomous vehicle network.

3. Ridesharing Decentralized

Ride-hailing services such as Lyft and Uber are already reinventing the way we use — or don’t use — our vehicles. With a few swipes on an app, a driver pick up in their car and takes to our destination. Blockchain, along with autonomous technology, could take ridesharing to the next level in the not-too-distant future.

One aim of blockchain is to remove intermediaries between rider and driver while establishing more secure maintenance of data. By basing payment on predetermined conditions and installing them in a smart contract, for example, drivers will get paid only when they have delivered a rider to their destination. If a rider cancels, the contract could release a small portion of the funds to the driver to account for their time instead of an arbitrary cancellation fee.

The possibility is even there for blockchain technology to disrupt the way companies such as Uber operate. By transferring the processes of payment and driver/rider selection to the objective, secure blockchain, an ecosystem-type platform could be built as a remedy to remove the middleman. Riders could connect directly with drivers on such a platform, viewing individual reputations and choosing a driver based on price, quality and other free-market factors. It would be a welcome alternative for many drivers fed up with the current ridesharing pay structure associated with companies like Uber.

4. Fair and Reliable Car Sharing

Blockchain-based systems facilitate the sharing of not just rides but also vehicle ownership. For example, in the future, a group of people may share ownership of vehicles — instead of every person living in a high rise owning their car or relying on other modes of transportation, they could share a fleet of 10 vehicles. They’d request access to a vehicle when they needed it via an app, and during use, the cars’ blockchain would record the activity of each vehicle.

The system would automatically settle payments on whatever basis the owners agree upon, and the secure nature of blockchain would take the guesswork out of exactly how long, far, and fast vehicles are used for — ultimately creating more convenience for all.

5. Supply Chain Management in blockchain technology.

In the automotive industry, the transparency offered by distributed ledgers could help ensure that manufacturing, shipping, and suppliers see the same supply chain, making it nearly impossible for the insertion of counterfeit parts. Furthermore, multiple blockchains could be put into use to manage the mass amounts of data generated and monitored by automotive manufacturers and suppliers daily: one blockchain might contain bills of lading for vehicle components, another could contain quality-inspection records

created during the manufacturing process, and another could store WIP information for each vehicle assembly from start to finish.

Additionally, smart contracts could be embedded in manufacturing blockchains to automatically release purchase orders at certain phases of the manufacturing process. Supply chains could benefit from contracts being automatically awarded to the supplier with the largest inventory on hand.

How Crypto currency and Blockchain Are Transforming the Auto Industry

The nonprofit organization, mobility open blockchain initiative (mobi), consists of auto giants such as BMW, General Motors, Ford, and Renault, along with companies in the tech, financial, and insurance industries. “It’s all about building trust in a business network between otherwise untrusting parties,” Ballinger said.

Industry executives have expressed excitement at the prospect of the new technology. “We believe blockchain will transform the way people and businesses interact, creating new opportunities in mobility,” Rich Strader, vice president of mobility product solutions at Ford, explained.

The announcement, which has been a year in the making, comes on the heels of at least half a dozen auto industry titans announcing forays into the world of blockchain technology. And while most of these projects are in their infancy, Ballinger and his coalition are operating around one ideal, If applied correctly, blockchain can revolutionize the auto industry, and it’s very likely that the industry will look tremendously different a decade from today.

How can blockchain be integrated into the automotive industry?

The automotive industry has never shied away from experimenting with new technologies. This bold approach has helped them streamline their operations and boost their revenue by introducing new user functionalities. Similarly, blockchain aims to streamline the automotive industry by providing its benefits in the following sectors-

A] Car Manufacturing:

Supply Chain Management: Car parts have a tendency to get lost while in delivery or get stolen, damaged, or replaced. To prevent any of these from happening, blockchain comes in as the savior by providing the manufacturer with a complete follow-up of these parts. Blockchain also helps to resolve recalls more efficiently. By searching the history of the piece, the automaker can conclude whether any modifications have been made to it or if it contains a manufacturing defect.

Manufacturing Processes: Blockchain takes care of a variety of manufacturing processes, ranging from storing data from bills of lading for vehicle components, quality inspection records during the manufacturing process, and WIP information for each vehicle assembly.

Finances: Blockchain can help streamline all manual data insertion processes used in auto manufacturing, like transaction costs and revisions. Blockchain keeps track of all these processes during the lifecycle of the car.

Vehicle Safety and Data Security: As more and more vehicles get connected, they are equally vulnerable to attack from hackers. Thanks to the strong cryptographic roots within the blockchain, the data stored within the blockchain is safe from reverse engineering and cannot be changed even in the case of a deadly cyber-attack.

Smart Insurance: With blockchain, the vehicle's sensor data can be stored securely and transparently in a decentralized network. Thus, the concept of a 'blockchain black box' can be used to resolve the circumstances of an accident for autonomous vehicles. Blockchain also enables the transfer of insurance to other vehicles with the help of a user profile, e.g in carsharing.

Telematics and Infotainment: The car's telematics represents all its software-based navigation, vehicle-to-vehicle (V2V) communications, and other safety services that have a hand in vehicle and passenger safety. With the help of blockchain, we can safely maintain the data that is transmitted by telematics services. With such a high level of encryption, no hackers can steal or view the data emitted by the vehicle telematics.

B] Car Owners:

Buying and selling a car- Blockchain has enabled flawless transparency in the car selling process. Any user can directly survey the car's history through the blockchain entries and find whether it has been involved in an accident. Through blockchain, the buyer can also get a clear overview of all parts of the vehicle. With blockchain, there is no need for a middleman between the buyer and seller, thanks to the transparent transactions involved in the process.

C] Mobility Sector:

Leasing and Vehicle Financing: With blockchain, we can simplify and automate the various processes involved in car leasing and financing. For example, if a car's lease hasn't been paid, we can prevent the user from using the car by deactivating the unlocking system.

Car Sharing: Blockchain also helps to build our self a secure digital identity to avail of the carsharing services. This way no external party can steal your personal data which we have saved in our car. Blockchain also simplifies the carsharing process by registering other users through a single registration in the blockchain ecosystem.

Car Rental: Blockchain keeps a track of all the activities currently going on with the car like maintenance or cleaning. This way the car rental company gets a report of the current state of the car.

Current implementations of blockchain in the automotive industry

Recently, Ford started using a blockchain pilot on the IBM platform for ethical sourcing of cobalt. Thus, Ford is tracking the cobalt supply chain through their blockchain network to ensure that companies aren't using any inferior cobalt while producing lithium-ion batteries.

Volkswagen is also working towards a blockchain initiative that should prevent odometer fraud in the automotive industry that is currently a widespread issue. Thus, dishonest car dealers can't trick their buyers by selling them faulty odometers that provide deceptive mileage values. This keeps control of malpractices and ensures that the customers don't incur any losses.

Recently, Hyundai has also partnered with IBM to create new blockchain technology and cloud-based AI. Hyundai is planning to use this blockchain for its supply chain financing ecosystem. It also aims to add it to the in-car experience of the user. Thus, we might soon see its flagship models like the Hyundai Palisade showcasing the technology.

Another Asian carmaker, Honda, has added a suite of applications that let users purchase services straight from the car's infotainment system. This includes making reservations and purchasing movie tickets as well.

IBM is currently developing this blockchain using open-source Hyperledger Fabric and they aim to automate the manual processes, reduce cost and provide a seamless customer experience. BMW and General Motors are also experimenting with blockchain through their MOBI initiative, as they share the data of their self-driving cars with themselves and other automakers.

Vision and benefits of blockchain to the auto industry

IBM filed a patent for a project that would permit it to manage information and interactions for self-driving autonomous cars that using blockchain technology. This technology outlines the various parameters that can be used to assess nearby drivers' behavior, using a wide array of sensor IOT technologies. This collected data can be leveraged to optimize risk assessment based on the predicted and the actual maneuvering of nearby vehicles and drivers.

In the age of autonomous automobiles, billions of IOT devices must interact with each other without little delay. These interactions must be auditable and shareable. Blockchain provides a decentralized platform that makes it harder to tamper with, thus supporting transactions that are secure, private and efficient.

In the autonomous vehicle world, there are many players who contribute to this ecosystem. For example, the shared ledger of a specific car which includes auto manufacturer data, real-time data from sensors, street conditions, environment variables, OEMs, insurance vendors and others key players, will form a significant subset of information necessary to support the functionality the automobile will need to operate autonomously.

How Did Crypto currencies Become Popular?

While safety and security with online transactions was a definite selling point, it was investment possibilities that drew attention from the masses. For those who were unable to take advantage of traditional banking products, easy access to online cryptocurrencies gave another way for this group of people to invest. There are several benefits of investing in crypto currency, including:

- Avoiding fees
- Easy access to a wide range of investment opportunities
- Direct control over investments

What are the Downsides to Crypto currency?

Crypto currencies might seem like a beneficial opportunity, but they are not without their drawbacks. Some of the big disadvantages to consider include:

- Cyber security
- Lack of regulation and supervision
- Volatile value
- Lack of inherent value
- Infrastructure stability problems due to fast growth

The Future of Crypto currency

We can speculate on what value crypto currency may have for investors in the coming months and years (and many will), but the reality is it's still a new and speculative investment, without much history on which to base predictions. No matter what a given expert thinks or says, no one really knows. That's why it's important to only invest what you're prepared to lose, and stick to more conventional investments for long-term wealth building. Keep your investments small, and never put crypto investments above any other financial goals like saving for retirement and paying off high interest debt.

Trend Analysis:

Global Cryptocurrency Charts

Total Cryptocurrency Market Cap



The above graph shows the total market cap of all Cryptoassets including stablecoins and tokens

What news regulation could mean for investors:

Recent proposed legislation could make it easier for the IRS to find cases of tax evasion when it comes to crypto, though investors should already keep records of any capital gain or losses on their crypto assets but the new rates may also make it easier for investors to properly report crypto transaction

CONCLUSION:

Crypto currencies such as BitCoin still have numerous significant obstacles to overcome before they could totally replace current currency systems. The most immediate is the simple opposition from existing financial institutions, which wield great power and have incentives to discourage the proliferation of crypto currencies. Other large corporations, even when amenable to the idea of crypto currencies, do not currently consider them stable enough to keep as assets for long periods of time .

In addition to battling the current economic system, crypto currencies have some internal challenges to overcome. Attempting to convert the entire world financial system to the BitCoin model, for example, could cause such a massive growth in blockchain size that the distributed ledger model would become impractical. It is also still unclear whether blockchain technology could be successfully adapted to use cases which require very high speeds with high volumes (on the order of seconds instead of hours), and would be poorly suited for any application which required some degree of reversibility . Finally, because of the substantial energy costs and diminished rewards over time associated with the "mining" process, users may eventually be forced to bear increasingly high and unreasonable transaction costs.

