

 

**CRYPTOCURRENCIES AND BLOCKCHAIN TECHNOLOGY.**

**THE MARKETING STRATEGY OF THE CRYPTOCURRENCIES.**

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**ABSTRACT**

Today digital currency showcase is genuine theme for talking about and discussing. Indeed, even a few specialists guarantee that, exploring this area can be contrasted with making an examination Internet in 1990s. Since the future of these virtual monetary forms is as yet unsure. This thesis is intended to clear up fundamental thoughts of cryptocurrencies to readers and give a few recommendations for development segment.

The thesis consists of two chapters:

1. *Theoretical analysis of the problem. Cryptocurrencies and their marketing strategy;*
2. *Methodology and the results of empirical research. Blockchain Technology.*

Firstly, fundamental futures of bitcoin and different altcoins, including advantages and disadvantages of exchanging with cryptocurrencies on trades and the marketing strategies of different cryptocurrencies are covered. In the second area of the paper, the discussion is about the blockchain innovation and its future prospects, the positive sides of applying this innovative technology to other industries and methodology and results of the empirical research are investigated.

Furthermore, the second part begins with methodology of different industries to this advancement, conceivable guideline is introduced to readers. All figures utilized in thesis are till first of May 2019. The paper also tries to respond to the question: Must cryptocurrencies be acknowledged as an importance of installment, property or contributing device? It is trusted that this paper will be helpful for Finance understudies and whom keen on cryptocurrencies also.

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**INTRODUCTION**

In the digitalization era, scientists, economist, and almost all the other experts from various industries try to change everything to digital forms. That’s why, they are exploring to find new inventions. No doubt, one of these findings are cryptocurrencies and the application of most of them – Blockchain Technology. Nowadays, not only cryptocurrencies, but also some states and large companies want to apply this technology to their relevant areas.

One of the most discussed topics in the recent years was value blast of Bitcoin (BTC). After the skyrocketing of the price of BTC from 1000 USD to 20000 USD during short period attracted financial specialists', investors and many individuals' attentions. Everybody, it does not matter what is their specializations, positions, began to talk and give predictions about eventual future of this first crypto. I was interested in cryptocurrencies, mainly Bitcoin from 2013, when the price of BTC was just under 300$. Therefore, I made a decision to choose the subject for bachelor thesis which I would like to research it during one semester: “Cryptocurrencies and Blockchain Technology. The marketing strategy of the cryptocurrencies.”

One of this theory intentions is contending against some misperceptions and varying bitcoin and blockchain, clarifying advantages and disadvantages of different altcoins and so on. The name of this thesis is resolved along these lines, since future destiny of digital currencies is obscure and is getting well known step by step. Albeit past research and books about this subject are not enough, I suppose online sources will be useful for composing my thesis. Before going into the point, I might want to give a concise data why I have chosen this the most recent and not well investigated subject. The reason is so that, blockchain – key innovation of cryptocurrencies is new to the point that it is available to research and developments for applying distinctive areas. The fundamental point of proposal is discovering answer that: in future digital forms of money, namely cryptos will be resource or mechanism of trade?

After 2008-09 "mortgage crisis" in U.S.A. it is seen that previous fiscal framework does not respond economy of new period. Indeed, even today it is unknown for the scientists and researchers whether this individual or gathering of first coin-Bitcoin exists or not. Bitcoin began to be well known since end of 2016 when the quantity of online stores acknowledged it as a medium of trade. At that point, BTC started to be accepted by some governments as a legal payment method. For instance, Russia and Japan has declared that they will legalize the utilization of cryptographic forms of money, namely, bitcoin. Thus, the estimation of bitcoin began to go up fundamentally and pulled in consideration of individuals and media in a brief timeframe. Both increasing value of bitcoin approximately 100.000 times during about 8 years, and making cash exchange simpler caused to investigate this innovation profoundly by masters. There are some characteristics of cryptocurrencies, such as being decentralized, having straightforwardness, unknown nature, making money transfer simpler and faster, charging negligible commissions, avoiding time-wasting procedures by banks made them surely understood inside brief timeframe. The unpredictability of these cryptos are excessively high, it makes them profitable and dangerous. The vast majority of purchasers and sellers of BTC right now are speculators. “BTC will do to the banks like e-mail did to the postal business” (R.Falkwinge, 2018).

One of the primary cons of fiat money was danger of inflation. On the other hand, cryptographic forms of money don't have this sort of hazard on account of having furthest farthest point ahead of time. For example, Bitcoin outflow will proceed till achieving 21 million, as of April 2019, there are about 17.6 million bitcoins available for use. But it shows up deflation risk. Also not having formally acknowledgment by states, recharging highlight when physical store (equipment) ruins, long security achievement history and having hacking, speculation chance are fundamental dangers to Cryptocurrencies for now. “While there is not any system is "unhackable," blockchain's basic topology is very secure” (A.Tapskott, 2017). When most of the people hear "Cryptocurrencies" word, a large portion of them simply recall Bitcoin, however there are approximately 1600 different coins (Altcoins) and each of them has extraordinary attributes and suggestions. For instance, the idea of Siacoin is making storage for information that is more dependable and lower cost than conventional distributed storage suppliers. Rest of them likewise has got specific innovation which alludes to blockchain innovation as well. These characteristics define highest demand to these currencies by investors. The more cash is contributed, the higher rate goes up. It implies trust of investors is very important on valuation of this currencies. Accordingly, news related with digital forms of money can affect on prices to such an extent. Finally, restrictions of ads on the popular social media sites, such as Facebook, Twitter, Linkedln and so on caused a dump in market. As observed, this theme is fairly wide and to be required investigate it.

As aforementioned, many people confuse Blockchain Technology and BTC. That’s why, this field needs to be investigated. And also, there are some altcoins that they fail when they enter the crypto market. Therefore, they should make a good marketing strategy. If the marketing strategies of these coins appropriate, then they will be successful in comparison of other cryptos in market. I will discuss all these topics in the next parts of the diploma.

For covering topic completely, paper is separated into three chapters. Overall, the thesis will information about “Theoretical and Conceptual Framework”, will show “Substantiation and system of the research”, and finally, will discuss about “Outcomes of the empirical research and generalization of the results”.

**CHAPTER 1: THEORETICAL ANALYSIS OF THE PROBLEM. CRYPTOCURRENCIES AND THEIR MARKETING STRATEGY.**

Since you have a decent comprehension of what blockchain innovation is, and all the more significantly what that involves, how about we go over what cryptographic money is and its relationship to blockchain. On the off chance that you remove all the clamor around digital forms of money, you'll understand that it's simply restricted sections in a database which nobody can change without satisfying explicit conditions. This may appear to be normal, however this is actually how you can characterize a money.

Put basically, cryptographic money is an advanced or virtual cash intended to fill in as a mechanism of trade. It utilizes cryptography to verify and confirm exchanges just as to control the making of new units of a specific digital money. Basically, cryptocurrencies are constrained sections in a database that nobody can change except if explicit conditions are satisfied. Different supporters like the innovation behind cryptocurrencies, the blockchain, on the grounds that it's a decentralized preparing and recording framework and can be more secure than conventional installment frameworks.

You can purchase a wide range of coins and other digital currency from online trades which enable you to exchange fiat for crypto. Except if you have the fundamental hardware required to seek after mining, it's simply not achievable to exclusively mine. The cost of digital currency is resolved exclusively by what individuals are eager to get it for. All things considered; the cost cited by one cryptographic money trade with one book of purchase requests can be definitely unique in relation to the cost of another trade with another book of purchase orders.

Cryptographic money is an advanced or virtual cash intended to fill in as a mechanism of trade. The cost of cryptographic money is resolved exclusively by what individuals are happy to get it for.

So how are these two identified with each other? All things considered; cryptographic forms of money keep running on blockchain innovation. As such, blockchain fills in as the fundamental innovation for digital money and can be executed in various different businesses outside of simply account. These terms run connected at the hip with one another, yet one is required for the other to exist in any case.

Crypto is regularly important to execute on a blockchain. In any case, without the blockchain, we would not have methods for these exchanges to be recorded and exchanged. Consider digital money a use of blockchain, one of the apparently unlimited uses of blockchain innovation. In spite of these inherent contrasts in usefulness between the two substances, cryptographic money and blockchain can possibly function admirably with one another.

Cryptocurrencies offer an advantageous method to remunerate clients of the blockchain arrange. ICOs (Initial Coin Offerings) have ended up being a reasonable method to raise assets for new activities. For this situation, tokens are circulated to back ventures and pay clients of a blockchain to urge them to enable it to push ahead. It resembles issuing partakes in the financial exchange, yet here, clients and speculators cover as in clients would likewise be compensated with offers and become investors consequently. For whatever length of time that the network of clients stays trustful with each other, the tokens will keep on having esteem and stay high in worth.

Crypto is regularly important to execute on a blockchain. Be that as it may, without the blockchain, we would not have methods for these exchanges to be recorded and exchanged.

* 1. **The most popular coins.**

2017 was an incredible year for digital currencies as their market capitalization developed from about $18 billion in January 2017 to $800 billion in January 2018.

Unfortunately, from that point forward, we saw an enormous amendment as the costs of practically all digital forms of money smashed and their market capitalization achieved a depressed spot of $254 billion toward the start of April 2018. “2018 'cleared the clamor' in the blockchain space, and 2019 will be the year when enormous players enter the crypto world” (H.Aslanian, 2019).

In this paragraph, I am going to impart to you a review of the most prevalent digital forms of money. I will discuss their favorable circumstances, detriments and furthermore their speculation history.

***1. Bitcoin (BTC)***

The intriguing thing about the first crypto – Bitcoin which was created in 2008, is that nobody knows who made it. The only thing we know is that he/she/they pass by the pseudonym of Satoshi Nakamoto.

“BTC guarantees to take probably a portion of that control far from governments and hand it to individuals. That by itself foreshadows critical political, social, and financial conflicts.” (P.Vinga, 2017).

On the off chance that you need to pay 1 BTC to your companion, you can do it straightforwardly without including your bank by any means. In this way, two words to portray Bitcoin would be — decentralized and computerized. Its point is to make an option for fiat monetary standards, as USD, GBP, JPY and so on. “BTC is the most crucial invention in the world since the Internet” (Roger Ver, 2017)

**Positive sides of Bitcoin**

* Being the most established digital money, it has the greatest network of engineers and financial specialists backing it for further development.
* It is anything but difficult to buy Bitcoin, notwithstanding for the novices, as it is strengthened by all the top trades and wallets.
* Bitcoin is being received in the standard economy. Bloomberg, Microsoft, Overstock.com, Expedia.com and numerous others have begun tolerating installments in BTC.

**Negative sides of Bitcoin**

* With an extremely moderate exchange speed, Bitcoin is confronting immense difficulties in scaling up. A Bitcoin exchange takes approximately 9-10 min., and the system can process just around 7 exchanges for every second.
* Mining, which is a significant action for any digital currency, has moved toward becoming profoundly vitality concentrated on account of Bitcoin. Bitcoin mining is presently conceivable just with costly, very incredible equipment that utilizes heaps of power.
* Transaction charges for sending Bitcoin are likewise at an unsurpassed high, making it less plausible.

**Historical performance**

In 2010, the price of 1 Bitcoin (BTC) was not exactly a dollar and in December 2017, the cost of one BTC achieved a high of about $18.000. As should be obvious in the preview beneath, BTC skyrocketed by roughly 2000% in 2017 alone. Like all different cryptos, BTC too observed a gigantic plunge in the Q1 of 2018 and has been fluctuating from that point onward. Its cost has encountered another critical dunk in December of 2018.

BTC, with a market capitalization of $95 billion (30/04/2019), has a great piece of the overall industry. Bitcoin is the beginning stage of the cryptographic money world and thus it is without a doubt the most famous digital currency.

***2. Ethereum (Ether)***

Ethereum is the second most profitable cryptographic money after Bitcoin. Made in 2015 by Vitalik Buterin, Ethereum is in reality significantly more than only a computerized cash.

Ethereum is a blockchain-based stage for creating decentralized applications and smart contracts. Ether is the local cryptographic money utilized for every one of the exchanges on Ethereum's blockchain.

*Note: Smart contracts are the contracts coded on the blockchain and they execute themselves on the satisfaction of certain pre-set conditions.*

This means on the off chance that you have a thought for an undertaking/application that utilizes blockchain innovation, you don't have to build up your own blockchain. You can begin building it on Ethereum's blockchain.

**Positive sides of Ethereum**

* It is the most well-known stage for structure savvy contracts, something which is viewed as the following enormous thing in the digital currency universe.
* Ethereum gives an incredible stage to propelling the Initial Coin Offerings (ICOs) for other blockchain ventures. Most of the $5.6 billion worth of ICOs in 2017 was propelled on Ethereum.
* Ethereum has an exchange speed of a couple of moments against the 10 minutes or a greater amount of Bitcoin.

**Negative sides of Ethereum**

* Like Bitcoin, Ethereum is additionally confronting difficult issues with respect to versatility. Despite everything it utilizes an outdated instrument (Proof-of-Work) to check the exchanges which are prompting system blockage. This is a similar component that Bitcoin utilizes, so simply like Bitcoin, Ethereum requests a great deal of power. It is critical to note, however, that Ethereum is effectively progressing in the direction of an answer for this.
* Ethereum just backings one coding language — Solidity. Since designers need to gain proficiency with another dialect, it goes about as a section obstruction for them.
* Ethereum is confronting solid challenge in the market from coins like NEO and Cardano which are putting forth comparative stages however with improved innovation.

**Historical performance**

Ethereum has been a standout amongst the best entertainers of 2017. As should be obvious in the preview underneath, the cost of Ethereum skyrocketed from $9 in January 2017 to $1389 in January 2018 giving an arrival of 17,000%!

At present, Ethereum has started slamming once more. With a relentless downwards streak, it began appearing of ascending from the fiery remains by and by in January 2019. Second, just to Bitcoin, Ethereum has a market capitalization of $17 billion (30/04/2019).

***3. Ripple (XRP)***

Ripple is a one of a kind digital money as it is centered around taking care of issues identified with only one industry — International Payment Transfers. It was established in 2012 with the intend to make universal exchanges both quick and modest. Of the absolute number of 100 billion XRP that will ever exist, 50 billion are possessed by Ripple labs (the organization behind Ripple).

**Positive sides of Ripple**

* A global cash exchange takes about seven days. Then again, Ripple can get it going inside seconds. Additionally, the expenses are significantly lower when contrasted with what is charged by money related organizations and different digital forms of money.
* Ripple has an exceptionally clear use case — universal installments. The group can convey the best arrangements focused at one specific industry.
* Ripple is among the couple of digital money stages which are being tried out in reality. Ripple has vital ties with many major money related organizations and is at present being utilized by American Express and Santander.

**Negative sides of Ripple**

* Since the organization itself possesses half of the coins, it is regularly condemned for being concentrated while decentralization is the center thought behind cryptographic forms of money.
* Banks and money related establishments, which are Ripple's greatest clients, have begun building up their very own cryptographic forms of money for universal installments.

**Historical performance**

Regardless of the way that Ripple has been around for a long time, it bounced on the advancement vehicle just in the Q2 of 2017. In any case, starting now and into the foreseeable future, it has formed to transformed into the third most critical cryptographic cash with a market capitalization of about $13 billion (30/04/2019).

It is a fact that XRP was among the top performers of 2017 as its cost created from around zero in January 2017 to about $3.65 in January 2018. Like different altcoins, XRP smashed and contacted its base of $0.48 in April 2018.

***4. Bitcoin Cash (BCH)***

As the name recommends, Bitcoin Cash has been forked from Bitcoin itself in 2016. At the point when the designer network of Bitcoin couldn't go to an understanding with respect to the progressions required in Bitcoin's code, it was forked into BCH.

*Note: A fork is the point at which a digital money is part into two. Parent digital currencies hold their highlights while the kid cryptographic money experiences innovative upgrades.*

The motivation behind making BCH was to take care of a portion of the current issues of Bitcoin, particularly with respect to versatility and exchange charges.

**Advantages of Bitcoin Cash**

* Bitcoin Cash exchanges are quicker than Bitcoin exchanges as a result of the expansion in square size to 8MB when contrasted with the 1MB of Bitcoin.
* Average Bitcoin exchange expenses are right now around $1.8 which has gone down to $0.067 on account of Bitcoin Cash.

**Disadvantages of Bitcoin Cash**

* Bitcoin Cash, as Bitcoin, is required to be totally decentralized. In any case, think about what, it has a CEO rather, something which has been exceptionally reprimanded in the crypto world.
* BCH1 mining is as costly as Bitcoin mining however gives lesser returns, so it's anything but a most loved among the diggers.
* Bitcoin Cash isn't as effectively accessible on digital money trades as the other famous cryptocurrencies.

**Historical performance**

Propelled just in 2016, Bitcoin Cash has become in all respects rapidly to make it to the top cryptographic money list. It developed from about $500 in July 2017 to about $4,000 in December 2017, giving an arrival of around 10,000% in under a half year.

As should be obvious in the chart beneath, the cost of Bitcoin Cash has additionally been encountering a consistent ruin since May 2018. With a couple of indications of life, the eventual fate of BCH is still very questionable.

***5. Litecoin (LTC)***

Litecoin was made route in 2011 by Charlie Lee, an ex-Google representative. It was based on the blockchain of Bitcoin itself, with the reason for improving it. In this way, as Bitcoin, Litecoin is likewise only a computerized cash and does not give a stage to smart contracts.

Litecoin has made it to the best cryptocurrencies as it has stood the trial of time and has been around for more than 7 years.

**Positive sides of Litecoin**

* Litecoin exchanges take around 150 seconds while it takes more than 9-10 minutes to finish a Bitcoin exchange. This is the reason why its name starts with "Light".
* Average Litecoin exchange charges are around $0.179 which is 100 times cheaper than the same indicator of Bitcoin.

**Negative sides of Litecoin**

* Except for exchange speed, there is no other offering from Litecoin which can fundamentally separate it from others. It is confronting firm challenge from coins which offer protection, shrewd contracts, and worldwide installments and so forth.
* Like Bitcoin mining, Litecoin mining is additionally costly and limited to those with particular incredible equipment.

**Historical performance**

Litecoin has been one of the top digital forms of money for quite a while with a market capitalization of about $4.5 billion (30/04/2019).

Litecoin had an incredible 2017 as its cost developed from $4 in January 2017 to $350 in December 2017, giving it an arrival of over 8000%.

Costs of Litecoin plunged as the digital money advertise slammed in March 2018. Its cost has been moving downwards from that point onward.

**6. IOTA**

Established in 2015, IOTA is the most special coin among these best 10 digital currencies. It is the just a solitary one to utilize another convention creation called 'Tangle' instead of blockchain innovation.

You have presumably known about the Internet-of-Things (IoT), an innovation which empowers correspondence between different items with sensors, by means of the web. Particle is focused on making this innovation progressively secure, consistent and adaptable.

**Positive sides of IOTA**

* The greatest preferred standpoint that IOTA offers over all different cryptocurrency is zero exchange expenses.
* When all different digital forms of money are battling with adaptability issues, IOTA's innovation guarantees boundless versatility.

**Negative sides of IOTA**

* IOTA is wagering on the achievement of another industry — Internet-of-Things, making its future significantly more unusual than the other top 10 digital forms of money.
* MIT Media-Lab had recently discovered a security issue on Tangle.
* If the enormous IoT players themselves build up their very own digital money then IOTA could confront firm challenge

**Historical performance**

When IOTA was made in 2015, its token was issued on the trades just in 2 years. It was a quick accomplishment as its cost skyrocketed from $0.44 in June 2017 to $5.34 in December 2017, giving it a return of approximately 1,200%.

Like the vast majority of the other top cryptos, IOTA likewise encountered a value decreasing recently. It is at present encountering an adjustment – the reality of the situation will become obvious eventually if IOTA will figure out how to move back up.

**1.2. Trading operations with cryptocurrencies on exchanges. Examples for famous exchanges.**

Before we get into trades, we should revive our psyches about what cryptographic money is. The idea driving digital forms of money is generally basic, while the math and innovation are most certainly not. Basically, a cryptographic money is a virtual or computerized cash that uses cryptography as a method for insurance and security.

Cryptography is likewise used to manage the production of extra units, in order to not drive the by and large advanced cash advertise wild. One of the best interests of digital forms of money is that they are not managed by any administration offices. The most prevalent advanced resource is the bitcoin, trailed by Ethereum.

**What Are Cryptocurrency Exchanges?**

Cryptocurrencies can be exchanged through crypto-exchange platforms. These Cryptocurrency trades are stages through which you can buy or sell computerized monetary standards for dollars, euros, and pounds, just as other advanced resources. For instance, you can sell bitcoins and buy dollars with the sold bitcoins, or you could trade bitcoins for ether. These trades are an indispensable piece of the virtual cash development rate.

There are private trades, which are restrictive and work by welcome just, just as those accessible for general society. Nearby trades additionally exist. Some are simpler to use than others are; certain trades are flexible to the point that computerized resources can be exchanged legitimately through the inherent talk highlights of explicit mainstream dispatchers, similar to Telegram.

**What to consider when choosing the best Cryptocurrency Exchanges**

Here are a couple of things you will need to consider before choosing the best crypto-exchange platform appropriate for your exchanging and theoretical needs.

**Fees** – Almost all trades charge charges for you to work together on their stages. Ensure that when you are joining or investing in a particular trade that you know everything about its expenses.

**Confirmation Requirements and Security** – These are crucial to comprehend before beginning on a trade. Most trades require a type of personality confirmation as an identification, driver's permit, evidence of living arrangement, or other comparative archive before joining. The more mind boggling the confirmation procedure, the more secure the trade stage.

**Trade Rates** – Exchange rates are likewise significant, as you would prefer not to join a digital currency trade that charges draconian expenses for exchanges and trades. That just wouldn't be reasonable for you or monetarily astute.

**Reputation** – The best digital currency trades dependably have good and bad times. Be that as it may, the general conclusion of the main ones is sure. The best trades have a strong notoriety and are all around trusted by brokers.

**Region** – It's additionally critical to discover a trade that bolsters your geographic area. A few trades may bolster the majority of the nations in South America, while not supporting any of the nations in Asia, and the other way around. On the off chance that you are living in Russia, for instance, ensure you pick the best trade stage that underpins your area.

Presently, how about we investigate the absolute best crypto trades out there.

**Security -** Something which is essential to exposed as a main priority while choosing a cryptographic money trade to make your exchanges and buys on is their safety efforts. It is notable that numerous trades have been hacked before, most prominently the Mt Gox trade, which individuals are as yet getting a handle on the tumble from that point forward.

You should realize that your assets or coins on a trade or not by any stretch of the imagination yours, except if you possess the private keys to the wallet of your coins you are depending on another person to be caretaker of your assets.

Fortunately, there are some essential estimates you can take when utilizing a trade. The most significant is to never store more there than you are eager to lose, in the event that you have a noteworthy parity, you ought to pull back it back to your own wallet and for additional security, utilize a Hardware wallet to verify these assets.

Trades ought to be utilized for fast buys of your ideal cryptographic money or for exchanging a sum you are content with. They ought to never be utilized as your essential wallet, that isn't their planned capacity.

Another significant advance to take is to utilize all the security choices accessible on the site, ensure that two-factor verification (2FA) is setup accurately and you utilize an application like Authy or Google authenticator. Try not to utilize the cell phone alternative which writings you a code, this isn't protected as there have been various prominent hacks including sim-swaps which permit a future programmer to assume control over your telephone number and afterward access your record.

**Coinbase**

Coinbase is one of the, if not the, most believed cryptographic money trade stages on the planet. It is likewise the biggest advanced resource trade stage on the planet. The stage underpins in excess of 32 nations and has in excess of 4 million dynamic clients. Brokers are permitted to secure and sell bitcoins utilizing their ledger, Visa, PayPal, and other installment strategies, also. So as to start exchanging on Coinbase, you should set up an e-wallet for purchasing and selling cryptos. Besides, clients must almost certainly interface a substantial financial balance so as to buy bitcoins.

Presently, completely checked U.S. inhabitants are just permitted to hold up to 50,000 bitcoins every day. By and large, Coinbase has an extraordinary notoriety and is very regarded in the merchant network. Most exchanges through Coinbase just have a 1 percent exchange expense notwithstanding any charges that your chose installment strategy may convey.

As with CEX, you can just buy a couple of monetary standards: Bitcoin, Ethereum and Litecoin. You would then need to utilize Changelly to change over these to other digital forms of money.

Another advantage of enrolling with Coinbase is the reality you are then ready to utilize the Coinbase Pro trade which is owed by a similar organization. Coinbase Pro permits to further developed exchanging highlights, for example, edge exchanging and Market, Limit, and Stop Orders. Coinbase Pro likewise has lower expenses than Coinbase.

**Binance**

Binance is a more current trade however one we have developed to adore; it has a wide scope of digital forms of money accessible to buy and exchange and has a fundamental and propelled see which you can switch between effectively. Their expenses are truly sensible and they enable you to enroll and exchange quickly without checking your record. You will at that point have the capacity to make withdrawals of up to 2 BTC every day, on the off chance that you need to pull back higher sums you will, at that point need to transfer your picture ID and a "selfie" photograph.

The general assessment of Binance right now is high with individuals lauding the speed of the site, usability and shoddy expenses.

**KuCoin**

KuCoin is another yet energizing trade situated in South Korea. They work comparably to Binance in the way that they list new altcoins a lot faster than different trades so it's a decent spot to buy digital forms of money soon after their ICO importance there is a more prominent chance to benefit by getting in ahead of schedule.

The interface is extremely spotless and present day and a lot simpler to work than other more seasoned and increasingly awkward trades.

They likewise offer their own token KCS which enables all holders to get a day by day offer of benefits of the stage, this is an incredible token to hold as you are paid in a wide range of monetary standards that the site enables individuals to exchange.

**LocalBitcoins**

LocalBitcoins is a shared cryptographic money trade utilized in most enormous urban areas around the globe. The general rule behind this trade is that you can discover individuals who live in your general vicinity or city and meet with them face to face to direct a trade. The stage likewise offers choices for buying advanced monetary forms by means of PayPal, Square, direct-to-bank exchanges, and numerous other installment handling strategies. The stage charges a little expense of 1 percent for every exchange in situations where merchants apply their own conversion standard.

Like the way Uber travelers and drivers are evaluated, LocalBitcoins applies a rating to every merchant that utilizes the stage, and this rating is openly shown. Exchanges initially need to experience an escrow procedure to guarantee that no one will be misled by utilizing the stage. Once everything is checked, the assets and cryptocurrencies exchange between dealers. LocalBitcoins takes a commission of 1 percent from merchants.

**CEX.IO**

CEX.IO is one of the most seasoned cryptographic money trades on the planet. In any case, in spite of being alluded to as a cryptographic money trade, CEX.IO must be utilized with bitcoins and Ethereum which are the fundamental two exchanging sets for alt-coins. On the off chance that you need to buy different monetary standards, you can utilize CEX and afterward an administration named Changelly to change over them to numerous different cryptos.

The stage is enlisted with the FINCEN and applies KYC and AML standards. As such, clients need to totally confirm their personality before they can get associated with any exchanges with this stage. As of now, the stage bolsters buy with credit cards, wire exchanges, or SEPA exchanges for European occupants.

When you enter an exchange, the stage consequently computes the cost of the exchange and stops the swapping scale for 120 seconds, which is very advantageous. Be that as it may, numerous clients note that there are incidental concealed expenses. CEX.IO has a level charge of 7 percent for anything including fiat monetary forms. For instance, on the off chance that you obtain $100 in bitcoins, you will just get $93 in coins.

**Bittrex**

Bittrex is well-established and exceedingly respected crypto exchanging stage, with numerous coins and tokens to browse. The interface isn't for finished novice's nevertheless you ought to have the capacity to discover your way around after a short time.

Obviously, Bittrex's most prominent exchanging sets are BTC and ETH. It must be noticed that the trade as of now does not offer any sort of fiat-to-crypto sets, for example with U.S. dollars, euros, or British pounds). One thing that speculators can do is purchase USDT (Tether tokens) by means of wired bank moves so as to utilize USDT for crypto-to-crypto trades.

Be that as it may, you'll should be completely checked and willing to slap down at any rate $10,000 USD for Bittrex to considerably think about the exchange.

**Conclusion**

Choosing the perfect crypto-exchange platform stage for your particular needs might be a troublesome and tedious procedure. Make sure to focus on the fees, reputation, security, confirmation forms, and regional benefits a trade stage brings to the table. Keep in mind that you are not restricted to utilizing just a single digital currency trade. Ideally, the data gave will help you in choosing which trade stage to utilize.

**1.3. The marketing strategy of the cryptocurrencies.**

In 2017, there was a blast in the ICO (Initial Coin Offering) industry. Over $5.6 billion was raised through Initial Coin Offerings (ICOs), with 435 fruitful ICO ventures raising a normal of $12.7 million. The ICO gathering pledges technique, spearheaded by Ethereum in 2014, still misses the mark regarding the $188.8 billion raised from in excess of 1,600 customary Initial Public Offering (IPO) extends in 2017. Notwithstanding ICOs raising just about 2% of IPO continues around the world, ICOs have turned out to be more famous than IPOs. In the initial three months of 2018 alone, ICOs collected more cash than the entire of 2017. The $13.7 billion imprint was hit 5 months in and it is currently at an expected $21.7 billion.

Nonetheless, only one out of every odd ICO is a triumph. For example, in 2017, the 10 biggest ICOs represented over 25% of the aggregate sum of cash raised, with just 48% of ICOs esteemed fruitful. Rivalry is wild. This while today there are more than 2,094 digital currencies available for use spread crosswise over about 15,840 markets.

The distinction among progress and disappointment with regards to an ICO, as a general rule, is in the promoting. Arranging a triumphant methodology to showcase your ICO venture from the earliest starting point is significant. It tends to be contended that an advertising system might could really compare to the genuine item itself. This is on the grounds that while your item may change, the discernment the open has of your group and venture once in a while endures a terrible initial introduction.

Successful ICO promoting efforts use various distinctive advertising channels, from the more customary and perceived procedures to the most recent propelled methods utilized in showcasing. As rivalry and spending plans increment in the ICO circle, so does the requirement for creative, out-of-the-case promoting systems. On the off chance that you need to make an ICO that is successful you will require a multi-faceted methodology that amplifies constrained assets and uses diverse customary and non-regular advertising channels.

**1.4. How should marketing strategy of cryptocurrencies be made?**

There are hundreds of cryptocurrencies in the global exchanges. When cryptos created, then their creators should make a marketing strategy for them in order to be successful and to comprise a great share of cryptocurrencies market. In this paragraph, I am going to discuss and give some tips to make successful cryptocurrencies.

**Website design**

The first and presumably the most significant activity before you dispatch your crypto coin is to create and deal with a site. Locate a pertinent website composition and make an online stage for your potential financial specialists to know everything is there is to think about your coin.

This is additionally your opportunity to persuade them why they ought to think about putting resources into your money, the advantages it has, and the potential eventual fate of your coin. You can't anticipate that anybody should get some answers concerning your coin and put into it except if you let them know through adequate assets.

**Direct Messaging**

This is simply one more profoundly productive approach to get the word out about your future digital currency. Numerous individuals will disregard a showcasing email even before they read it, so there go every one of the endeavors you put into making a drawing in email promoting effort.

The better arrangement is to gather focused on portable quantities of potential clients and send advertising writings straightforwardly to them. Versatile messages are bound to be perused and as a rule get an extraordinary reaction from intrigued clients. You can procure a SMS promoting organization or programming for the assignment.

**Social network sites**

A compelling SM strategy is able to enable you to assemble a connected with group of onlookers around your crypto coin. How to do that?

Begin by making devoted pages for your cash on Facebook, Google Plus, and other interpersonal interaction destinations. Urge individuals to join your pages to remain refreshed with the progressing news and updates about your coin.

**Public Relations (PR)**

Utilize the mainstream news and PR administrations to get the word out about your up and coming advanced coin. There various online Press Release sites, including some devoted cryptographic money PR organizations, that enable clients to distribute news and updates about new coins.

They have an immense number of perusers who are continually searching for data about new digital forms of money in the market. This can enable you to construct a system of intrigued clients and financial specialists.

**Bitcoin Communities**

Counting the authority bitcoin network, there are various different networks where you can additionally advance your new coin advertising. As a matter of first importance, you have to locate the applicable network sites and go along with them. Before you begin discussing your very own money, you first need to assemble a trust by taking an interest in continuous exchanges.

At that point, you can authoritatively present your coin, its history, advantages, future and different subtleties to the network clients. In the event that they are intrigued, they will pose inquiries for which you can give answers in like manner.

**Paid Promotion**

For those, who are very little acquainted with a great deal of web based showcasing strategies, the best option is to enlist paid advertising administrations. These administrations are given by Google, Facebook, Twitter, YouTube and a few other online stages.

This fundamentally includes showing notices, recordings, pennants, and so on, about your coin on officially settled locales with the expect to pick up traffic from them. An internet showcasing organization can enable you to set up a paid advancement crusade for your crypto coin.

**Show Campaigns**

Show battle is a type of paid publicizing where you advance your very own items/benefits on other prominent destinations in a similar specialty through various diverse showcase things, for example, pictures, video, sound, blaze, and content. Numerous digital currency new companies are adequately utilizing this procedure to advertise their new coins to various intrigued clients on significant sites.

**Email Marketing**

It is a type of direct marketing. Contingent upon the nature of email battles, it can help produce astonishing outcomes.

Email promoting includes sending focused on advertising messages about your new item dispatch, offers, and so forth, to explicit individuals. This is a great system to spread the data about your new coin.

In any case, you have to manufacture an email list first and incorporate just the general population who may really be keen on your item. At that point, you can contract an email showcasing administration or programming to begin.

**Affiliate Marketing**

This is a sort of advertising in which other individuals or organizations, called subsidiaries, send traffic or guests to your site/blog in return for a commission.

In the first place, you have to begin a subsidiary crusade on your cryptographic money site. You will pay a commission to subsidiaries who bring new information exchanges (or some other action) through their very own showcasing endeavors.

The thought is that these expert offshoots may know a larger number of individuals and have preferable systems over you do and can enable you to create more traffic to your site.

**Reputation Management**

The fundamental assignment of an online notoriety the board organization isn't simply to fabricate and keep up a positive notoriety for the objective organization yet in addition they are in charge of expelling any negative attention.

While you are building up another crypto coin, your rivals may have been intending to annihilate your image notoriety in any capacity conceivable. Through viable notoriety the executives, you can assemble an unmistakable and positive open impression of your image contributions.

These and numerous other web-based showcasing strategies are able to help the crypto creators successfully develop and promote their coins and ICO in the target market.

**CHAPTER 2: METHODOLOGY AND THE RESULTS OF THE EMPIRICAL RESEARCH. BLOCKCHAIN TECHNOLOGY.**

Almost all the people who have any information about cryptocurrencies, also have heard about Blockchain. Blockchain is an innovative technology which stands behind of these new currencies. At the core of Bitcoin's framework is the Blockchain that it uses to store a web record of the sum total of what activities had been made with bitcoins or different coins. Carrying out a data structure for open ledger that is presented to confine hacker danger and duplicate by all PCs with bitcoin programming. Numerous specialists see this blockchain isn't just in monetary framework yet additionally essential uses in innovation, crowd funding, alternative energy sector, e-voting, smart contracts and in different divisions. Blockchain startups are likewise theme that is needed to deeply investigated. Each of these startups serves for one blockchain-based organizations distribute whitepapers which spread principle details of these new businesses. The fundamental thought behind this innovation is that being decentralized, distributed, and having open records which permit individuals who either don't have the foggiest idea or trust each other for sharing information in a believed book where any sort of data can be put away. The capacity of expanding effectiveness, straightforwardness and decreasing third party, supporting expenses are fundamental highlights of Blockchain innovation in the financial circle. One of the last and most modern use of this innovation is *smart contracts*, in the meantime blockchain has different applications which can likewise profit for the financial area. As observed this innovation has numerous favorable circumstances to disrupt the current financial framework, anyway blockchain is in beginning phase of advancement of itself. The main hypothesis is that this innovation makes a few occupations useless for future, for example, audit, accounting, web-cash exchange function of banks etc. “One day, everything will be tokenized and associated by the blockchain” (Fred Ehrsam, 2019). Nonetheless, a few experts contend that blockchain innovation liable to exploit the changing job structure in an appropriate manner. In this area I will give information to cover primary central highlights, since that Blockchain is a wide innovation.

**2.1. General information about Blockchain Technology and Smart contracts.**

This innovation became animated under the alias Satoshi Nakamoto. The creator of the bitcoin, Nakamoto published his investigation "Bitcoin: A Peer-to-Peer electronic cash register system" in 2008. The creator of this investigation is as yet obscure today, yet it is believed to be a hacker or a hacker-team. As an initial decentralized open record, bitcoin drew the attention of millions all the world. After value blast it transformed into billions. In any case, the success of BTC originates from the cryptographic innovation that underlies it, like Blockchain innovation. The innovation of bitcoin has as of late been an exceptionally genuine subject for scientists, much more talked about than bitcoin itself.

**Cryptography**

It’s known that encryption of data is conducted in 3 forms (figure 1). These types are as follows:

* Unkeyed
* Symmetric-key
* Asymmetric-key

Figure 1: Types of Encryption

**Unkeyed natives** - are introductory sort of encryption which does not use a key to code a message. For example, hashing. Hashing is one of the most critical part to comprehend embodiment of blockchain. A hash work, as being single direction work, just spends so little assets to quantify it, however with numerous efforts, most likely an outlandish sum this procedure is called - mining. In the event that the length of hash is longer, the likelihood for yields rises effectively.

**Symmetric-key** **natives** - uses a comparative key in order to encryption and unscrambling;

**Asymmetric-key** cryptography uses the course of action of an open key and a private key (not equal to one another) which are both important for coding and decoding.

“I think BTC is the first encrypted money that has an ability to change the world” (P.Thiell, 2017).

**Fundamentals of Blockchain**

The blockchain is a framework which gathers all information of transactions and transits in a conveyed register and isn't constrained by whoever individual from the chain, but set up by a few members. This permits individuals who either don't have a trust each other for framing a reliable register in which the data is recorded. The right of property, digital money trade data (purchasing/selling/margin trading) and other data can be put away in these blocks. The three main attributes of the blockchain are being shared, strong and open select. At first, the sharing a key via an ensured channel was an idea of Ralph C. Merkle who proposed it in 1978. Additionally, we are able to summarize each of them and can characterize blockchain like:

"Blockchain technology is simply clarified a public, distributed and trusted ledger in record, which is accessible for everybody. Tamperproof means that when a piece of information is put in to the blockchain, it cannot be tampered with unnoticed. In fact, any sort of intangible data of value can be put in to the record. The blockchain innovation does not require any trust between its clients, which permits making exchanges without a third party. It is a sort of digital intangible system which records and approves all exchanges in a translucent and safe way, disregarding the requirement for mediators, for example, merchants, banks, and expanding trust with the aiding of its exceedingly translucent component. IBM - International Business Machines, proposes definition saying that a blockchain is a shared, immutable ledger for recording the history of transactions. Blockchain innovation is being improving in private and open divisions step by step. The fundamental thought of blockchain innovation is that it is available to all, yet is as yet not controlled or possessed by any client. The technology works by means of a distiributed system, which relies upon a great number of "nodes", such as PCs, everywhere throughout the world. The centers or nodes can return and forward anyway they see fit the framework. The new blocks are imagined because of mining process by specific nodes, or as such miners. These miners work covertly coordinating and endeavoring to solve math “problems” (computation), which makes new blockchain blocks. This creation isn't as fundamental as it may appear. It figures out how to complete and affirm another problem. The channel contains every single acknowledged transaction since the birth or introduction of the blockchain and the data is accessible to everybody whenever. Each participated computer in this distributed blockchain system is known as a node. There are full data of all done transactions and shared information in every node. In the event that transactions are successively are occurred, they are added to squares. At once no more than one block can be added, and for including each new square have to hold a mathematical evidence that approves the earlier squares. Therefore, they have associated with one another chronologically.

All the transactions have an identification code, called *hash*, that contains the original information of the transaction. The hash estimations of exchanges that are assembled in a block are merged in a system called "Merkle Tree" (see Figure 2). This consolidated hash esteem is included the header of another block nearby other information, for instance, the hash of the past piece and a timestamp. The past hash in the new block ensures that the pieces are not degraded and third people duping. Then again, the timestamp demonstrates that the information has existed at that moment.

In order to find appropriate solution, miners check billions of potential solutions for and when that arrangement is discovered, the discoverer announces it to the other members. Alternated miners check the solution and, in the occasion, that it is right, they confirm it and refresh possible block in like manners. Validation by 2 different miners is sufficient for awarding with coins. That is the magnificence of the blockchain - the confusion is hard to appreciate, anyway easy to check. The total was 25 coins for each square mined in 2015 (but now it is 12 p/square). In the occasion that somebody was attempting to reestablish current history, the member ought to know that how to explain great degree hard math puzzles to make another piece. It bonds blockchain security. Nakomoto underlined in his examination that changing the historical backdrop of a block requires re-attempting each of the pieces after it. Eventually, history and chance make cheating is to a great degree troublesome. Blockchains are not simply confined to bitcoin. A wide range of tricky resources are able to be selected and exchanged to blockchains. Blockchain technology can be associated with the capacity of data. A few using of this technology have been developed to date. For instance, a lot of succesfull start-ups in blockchain-based securities exchange markets, blockchain-based land registers and corporate smart contracts.

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*Source: The Economist (2015)*

Figure 2: Merkle tree

In order to find appropriate solutions, miners check billions of potential solutions for and when that arrangement is discovered, the discoverer announces it to the other members. Alternated miners check the solution and, in the occasion, that it is right, they confirm it and refresh possible block in like manners. Validation by 2 different miners is sufficient for awarding with coins. That is the magnificence of the blockchain - the confusion is hard to appreciate, anyway easy to check. The total was 25 coins for each square mined in 2015 (but now it is 12 p/square). In the occasion that somebody was attempting to reestablish current history, the member ought to know that how to explain great degree hard math puzzles to make another piece. It bonds blockchain security. Nakomoto underlined in his examination that changing the historical backdrop of a block requires re-attempting each of the pieces after it. Eventually, history and chance make cheating is to a great degree troublesome. Blockchains are not simply confined to bitcoin. A wide range of tricky resources are able to be selected and exchanged to blockchains. Blockchain technology can be associated with the capacity of data. A few using of this technology have been developed to date. For instance, a lot of succesfull start-ups in blockchain-based securities exchange markets, blockchain-based land registers and corporate smart contracts.

**Smart contracts**

Related with blockchain idea, Smart contracts are distributed on a basis of blockchain and can get or execute operations with any conditions. It means that these operations may be ignored or demand some special terms to perform. The creation reason for these smart contracts is for acting as *computerized transaction protocol* which implement terms of agreement and cryptographer N.Szabo authored first. According to Szabo, real smart contracts ought to have some features, namely, *observability, privacy, verifiability* and *online enforceability*:

* *Observability* means that alludes to the capability of parties to watch or demonstrate to one another the correct execution or capability to complete contractual terms.
* *Privacy* is "the rule that information and power over the contents and execution of an agreement ought to be distiributed among parties just as much as is fundamental for the execution of that agreement".
* *Verifiability* of moves made by the rationale in the agreement, a Point-Of-Sale screen is demonstrating the total ought to be paid to the client.
* *Online enforceability* refers to confirming that the terms of an agreement are being satisfied.

The measures that can be taken to achieve this can be requested into *proactive* and *responsive* ones. *Proactive measures* look to make it really hard to break terms or to allow either assembling to drop out of the agreement should there be a legitimate crack on another part. *Responsive measures* deter vindictive lead through notoriety or authorization, yet also by recovering potential assets after break of agreement. Smart contracts moreover ought to be evident, or auditable, should there be a dispute. Ultimately, smart contracts should be as private as could be implying, inferring that data and control of information engaged with a smart contract ought to simply be accessible to members if important. *The Ethereum stage* is a general blockchain, with a virtual machine - EVM to run smart contracts. Since the Earth exists just on the blockchain as a virtual machine, the smart contracts are completely disengaged from arrange, record framework or various frameworks on the node machines. A high-level, Turing-finish dialect was made to make smart contracts with on Ethereum. The proposed structure of the arrangement of these contracts depends upon the outline standard of having distinctive sorts of agreements to perform unquestionable classes of undertakings.

The key idea of these contracts is that terms and data can be put into an agreement and in the event that the terms work out as expected, at that point the agreement is executed rapidly. There are many kinds of smart contracts, they therefore pay benefits to their partners when an explicit dimension of benefit is accomplished. Smart contracts change the way contracts are wrapped up today by making them more affordable, overlooking intermediaries and making them reliable. Blockchain innovation can be used as a part of the plan and organizing of securities markets. The features of blockchain innovation that enables markets to be sketched out as of late, contrasted with the present stock exchanging. Blockchain securities are in fact in light of smart contracts. The innovation enables financial specialists to put information and exchanging rules in their blockchain securities. These exchanging standards may incorporate certain conditions, for example, value limits. In the occasion that terms are satisfied, the exchange runs subsequently. In the occasion that conditions don't work out, security does not change ownership. Other character for blockchain securities is that it gives a chance to speculators contact with each other legitimately without encountering an intermediary, such as agent, dealers. Most exchanges are by means of an outcast in the present securities advertise. Hence, we cannot clearly choose that how blockchain innovation will impact long haul business markets.

Blockchain innovation can be used to actualize an open and sacred database for property libraries. This could especially profit in nations where property records are inadequately ensured. Land registers incorporate data on property rights, for example, selected spaces and land interests. They increase security of library information from different perspectives. From one perspective, a blockchain-based land library expands security since it takes off it hard to unlawfully improvement obligation regarding rights, which is normal in degenerate nations. At the same time these properties are able to use as guarantee. A high-regarded assurance expands the chance of getting a credit, which assembles the probability of contributing which is essential feature for contributing in the economy.

* 1. **Operational Technologies of Cryptocurrencies. Blockchain and Tangle.**

Operational technologies are the main things which stay behind cryptocurrencies. Although most of the cryptos use Blockchain innovation, there is some cryptos, namely IOTA (MIOTA) which use Tangle Technology. In this paragraph, I will try to compare Blockchain and Tangle Technology, and to demonstrates main pros and cons of both of these innovations.

**What is the blockchain?**

The majority of us comprehend the blockchain's motivation and capacities, so we will keep this brief. The blockchain is a cryptographically verified record of exchanges. All the more essentially, it is a connected rundown of squares, where each square has a reference to the square before it, keeping up a total history of the record.

Also, every node should freely confirm and concur on the status of the record consistently. At the end of the day, each exchange is in the long run settled upon by each node. A few nodes (not all) are diggers, which we know are the ones who get square rewards for affirming exchanges and keeping up uprightness in the system. Excavators frequently put considerable measures of cash in equipment for all the more hashing capacity to improve their odds of winning the square reward.

**Bitcoin's Scalability Issues**

The straight square structure of the blockchain combined with the way that every node must keep a refreshed variant of the whole record consistently makes for genuine versatility issues. The squares themselves can fill in as a bottleneck since a restricted measure of information can fit in a square and another square is discovered each 10 minutes (figure 3).

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| https://cryptomaniaks.com/sites/default/files/pictures/average%20confirmation%20time.png |

*Source: blockchain.com*

Figure 3: Average Confirmation Time

As more exchanges happen on the blockchain, the more confined the system progresses toward becoming. The final product is long exchange times and high expenses, making for miserable clients. We saw this direct start in 2017 with Bitcoin. This period went about as an impetus for a few Bitcoin forks, proposing answers for lower expenses and quicker exchange times.

From that point forward, not just has the blockchain engineering been getting analysis, however so has the motivating force for diggers to add to the system. As more clients send exchanges on the blockchain, the diggers become more sought after from a specialized perspective, however shockingly, mining has been unbeneficial starting late. The impact at that point is less diggers. The lower the quantity of excavators that exist just snowballs into longer hold up times and higher charges; precisely what we are endeavoring to maintain a strategic distance from. To emphasize, mining has turned out to be less gainful, obstructing versatility as less individuals need to mine.

In any case, remember that the center advancement groups are attempting to take off functional layer two arrangements. Likewise, Bitcoin and Ethereum are the main activities to experience adaptability issues since they have had the chance to encounter them. We should rapidly abridge the upsides and downsides of the blockchain (figure 4).

**The positive sides of the Blockchain**

The upsides of the blockchain are:

* It has a demonstrated history that the framework works
* Incredibly secure, the framework itself is hard to settle. In the event that it is undermined through a 51% assault, the network can rapidly stay away from it
* Layer two arrangements are being worked to cure this issue.

**The negative sides of the Blockchain**

The drawbacks of the blockchain are:

* Not versatile naturally
* Can have high expenses and long hold up times if the node check is low
* Mining motivating forces can be disputable

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| https://cryptomaniaks.com/sites/default/files/pictures/blockchain-pros-and-cons.png |

Figure 4: Blockchain: pros and cons

With everything taken into account, the above totals up the blockchain's design and its primary issue being adaptability. As more clients are on the system and more exchanges are communicated, the more impeded a blockchain inalienably moves toward becoming. Accordingly, a fresher computerized cash, IOTA, has displayed a completely unique idea to the business, called tangle. How about we proceed onward to the second piece of the blockchain versus tangle banter.

**What is Tangle?**

Tangle has a totally unexpected design in comparison to the blockchain while planning to fill a similar need: to have a trustless, decentralized system for sending and getting exchanges. The main bit of illumination is that in IOTA, tangle is a usage of a directed acyclic graph (DAG). DAG is a scientific model for arranging every single diverse sort of data. With regards to IOTA, tangle is the name for the execution of DAG. Bode well? Numerous individuals use DAG and tangle conversely, and that is the reason.

Thus, how about we quit wasting time. Dissimilar to the blockchain, tangle based advanced monetary standards don't utilize squares, have no diggers, and no exchanges expenses - taking into account apparently unbounded versatility. If you somehow happened to envision IOTA's tangle, at that point you would see a chart like a tree pushing ahead, as opposed to blockchain's straight connected rundown structure made of squares. This will bode well as we take a gander at tangle all the more explicitly with regards to IOTA (figure 5).

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| https://cryptomaniaks.com/sites/default/files/pictures/dag.png |

*Source: coindrift.io*

Figure 5: Tangle Technology (IOTA)

**IOTA’s Tangle**

Starting at now, IOTA is the greatest name in the business to exploit DAG. As referenced, IOTA's system has no excavators, no charges, rapid exchanges, and takes into consideration improved versatility. How?!

In the IOTA framework, each exchange sender must confirm two different exchanges. Generally, you can say there are no diggers, or that everybody is an excavator - in any case, there is no square, square reward, or system expenses. In fact, there is a little measure of confirmation of work required to check the two different exchanges, however it is unimportant. Hypothetically, it is said that as more individuals use IOTA, the more liquid and adaptable it moves toward becoming, which is in direct difference to how the blockchain works where every node must check every exchange as it occurs.

Without getting into the hypothesis behind DAG, how about we rapidly condense the advantages and disadvantages of tangle now.

**Advantages of Tangle**

The upsides of tangle are:

* No charges
* Quick exchange times
* Adaptable

**Disadvantages of Tangle**

The drawbacks of tangle are:

* The innovation isn't as demonstrated and tried
* Centralized. IOTA has synchronization issues and depends on a central coordinator node to synchronize the state between nodes. The IOTA establishment runs the organizer. This is transitory until there are more clients
* No obvious DApp[[1]](#footnote-1) usefulness or Turing-complete arrangements
* Apparently less secure.

Along these lines, presently you ought to see how tangle contrasts from the blockchain and what pain focuses they solve.

**Blockchain versus Tangle: Which one is better?**

Starting at now, I would state blockchain for a couple of reasons. For one thing, Tangle it isn't as demonstrated or tried. IOTA has not had about the measure of clients that Bitcoin has. All things considered, MIT even discharged a post about a portion of IOTA's vulnerabilities after some testing, which IOTA has since fixed, they guarantee (figure 6).

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| https://cryptomaniaks.com/sites/default/files/pictures/Tangle-and-Blockchain.png |

*Source: wikitribune.com*

Figure 6: Blockchain vs. Tangle

Furthermore, IOTA built up their very own cryptographic rationale, which as per cryptographers is a major no-no taking into account high hazard. I don't know why precisely they did this, yet they did. It is additionally realized that IOTA is in danger of 34% assaults. This implies a terrible entertainer just needs to rule 34% of the system to effectively misuse, rather than 51% or more with blockchain.

In conclusion, as referenced, IOTA utilizes a sole facilitator node because of its synchronization issues, rendering it totally brought together at the season of this composition. In contrast to tangle, blockchain can be said to be decentralized, in any event somewhat.

In synopsis, until IOTA can dispose of its facilitator node (making it totally brought together), make it less powerless against system strength (34% attacks), and demonstrate that its innovation is prepared to take on a conceivably multi-trillion dollar client request, I would feel more secure saying that blockchain is the better wagered starting at now. This does not reject the way that IOTA has a reliable network which may keep on developing, alongside magnificent promoting endeavors. The innovation appears to be encouraging and the group is committed, yet there are as yet a couple of possibilities in the manner (for example facilitator node) until it tends to be utilized 100% in a decentralized manner.

**2.3. SWOT analysis of using Blockchain Technology**

Everybody says the Blockchain, the innovation supporting digital currencies, namely Bitcoin, is going to change everything. And yet, after years of vigorous exertion and billions of dollars contributed, no one has actually thought of a use for the blockchain — besides cash speculation and illegal transactions.

While we have to admit that blockchain is still in its infancy. Many issues like unwanted centralization, moderate transaction verification times and low throughput aren't easy to settle. We have to attempt and find a happy medium between security and speed.

Many use cases of supply chain management utilizing blockchain have been proposed, fabricated and tried. Be that as it may, did they reconsider about this choice, or are they simply determined by the publicity? How about we create a straightforward SWOT analysis to show signs of improvement image of blockchain in global trade finance.

A SWOT analysis is a high-level strategic planning model that enables organizations to recognize where they're doing great and where they can improve, both from an internal and external point of view. It is an acronym for "Strengths, Weaknesses, Opportunities, and Threats."

**Strengths**

* Operational Efficiency;
* Facilitates easier sharing of information about certain items or trades. No more reports that have to passed along. We can now register everything on the blockchain;
* Secure encryption and tamper-verification data storage;
* Eliminates central authority who has full access to the data.

**Weaknesses**

* Business rules change as often as possible, blockchain doesn't;
* Blockchain is for the most part not modular. An old encryption module cannot easily be replaced;
* What if business rules change and we want to send out data to a new blockchain with the right data models? A blockchain doesn't give an immediate out-of-the-container exit strategy;
* Potentially in struggle with existing approaches to regulatory compliance, for example GDPR regulations;
* Idea isn't easy to grasp for a newcomer. We need great education to make mass adoption conceivable.

**Opportunities**

* Gives a platform to Big Data and analytic research;
* Gives back control to the client for example instead of Google and Facebook utilizing your data, you can control who gets access to your data. All these consents will be put away on the blockchain;
* The world is ending up more digital, so more individuals will accept the idea of blockchain in their daily lives.

**Threats**

* Scalability issues: too many transactions (overload), although several arrangements are present;
* Unwanted centralization: mining pools and large mining farms;
* Quantum PCs (later on) who have the ability to unscramble data;
* Publicity and fast changing condition;
* There is always the likelihood of mining attacks, and hacks.

**2.4. Using Blockchain Technology in Enterprises.**

Blockchain is a leap forward innovation that is starting development and R&D crosswise over enterprises. Most real Fortune 500 organizations, from retail and money to vehicles and carriers, are investigating blockchain innovation for its conceivable advantages in business activities and security.

**Blockchain Activity by Industry**

The rundown beneath speaks to a portion of the open heads in big business blockchain R&D, speculation, and advancement.

**Financial Services**

For money related administrations, blockchain action started a couple of years prior and has been progressing through intently overseen PoCs, pilots, and tests. Santander, RBC, JP Morgan, Citibank, BNY Mellon, American Express, Visa, MasterCard, and Goldman Sachs among others are for the most part directing numerous blockchain-related endeavors and have inside working gatherings or committed experts concentrating on blockchain innovation.

Due to some extent to guideline, budgetary foundations are trying blockchain in a deliberate and preservationist way. As CoinDesk creator Noelle Acheson cleverly wrote in October 2017, when the PoCs and pilots in money related administrations join, we see plentiful R&D that focuses to inescapable selection later on.

Budgetary establishments have inclined toward blockchain consortia as they seek after R&D. Numerous banks are in the R3CEV (or R3) consortium, which is devoted to banking. Many are additionally in the Hyperledger consortium and the Ethereum Enterprise Alliance (EEA), among others.

JPMorgan, a part the EEA and Hyperledger consortia, has an interior blockchain group alongside its own blockchain framework called Quorum. Majority depends on the Ethereum blockchain and is explicitly intended for money related administrations exchanges. The organization keeps on putting resources into blockchain, incorporating propelled cryptography into Quorum from its association with Zcash and propelling a between bank installment stage called the Interbank Information Network. The two declarations were made in October, 2017.

The Royal Bank of Canada (RBC) has been trialing blockchain in cross-outskirt finance exchanges with "Task Jasper," which incorporates R3 and Deloitte Canada and which has educated the Monetary Authority regarding Singapore's "Undertaking Ubin" of a parallel reason. They have additionally led preliminaries with noticeable blockchain firm Ripple since 2016 or prior. Swell is an unmistakable blockchain organization expecting to be a kind of "Quick 2.0" that encourages universal installments for budgetary establishments.

Goldman Sachs is carefully building up its methodology. Little is affirmed or known openly. The firm has an interior working gathering concentrated on blockchain and has put resources into Digital Asset Holdings, an organization that itself puts resources into disseminated record innovation organizations that help money related foundations.

In April 2017, American Express connected for a patent for another client rewards program that utilizes blockchain for record-keeping and cryptographic money for remuneration focuses. In November, it reported utilizing Ripple to enable corporate customers to send assets from U.S. banks to U.K. Santander branches.

In November 2017, Visa divulged a pilot of its blockchain-based business-to-business installments administration called "B2B Connect." The stage was first reported in 2016 and is created in organization with Chain, a venture centered blockchain foundation stage.

MasterCard connected for a patent in May 2016 for quicker blockchain-based installments handling for dealers. In March 2017, it connected for a patent for the blockchain-based capacity of installment accounts among sellers and clients.

As organizations crosswise over ventures apply for more licenses, they will probably finish up confining R&D and item advancement in up and coming years, also restrict the blockchain network's open-source ethos.

**Automobile**

Automobile makers perceive that the idea of portability is changing in light of patterns including ride sharing, self-ruling vehicles (AVs), jolt, and other innovative improvements. A few are thinking about blockchain and different innovations to react to and take an interest in the rehash of portability.

Volkswagen Financial Services and Renault drove PoCs in 2017 testing vehicle telematics following. In this utilization case, a vehicle's mileage information, motor use history, fix and upkeep history, and other information can be caught on the blockchain so makers, sellers, purchasers, insurance agencies, and different players know a vehicle's history and movement with precision. It is a decent use case, as an expected 33% of trade-in vehicle deals in Germany have controlled odometers.

Additionally, in 2017, the Toyota Research Institute drove a PoC for a blockchain-based decentralized trade for the buy and closeout of self-ruling vehicle driving information. In this utilization case, automakers buy driving information from vehicle proprietors to use in their self-ruling vehicle AI calculations, and vehicle proprietors thusly utilize the returns to pay for vehicle-related costs, counterbalancing expenses of vehicle possession.

Toyota Research Institute likewise drove a PoC for a blockchain-controlled vehicle sharing stage bolstered by Oaken Innovations, GEM, and Commuterz.

Daimler is maybe the most openly put organization in blockchain R&D. It is financing research to a limited extent with a 100 million euro 1-year corporate security that it issued in June 2017. It is likewise trying blockchain for security issuance; the security's whole procedure from issuance to primary reimbursement works on blockchain innovation. Daimler is a piece of the Hyperledger consortium and furthermore gained a European startup in January 2017 called PayCash that bolsters bitcoin installments.

**Flight**

In Spring 2017, Airbus, some portion of the Hyperledger consortium, led a PoC with Blockchain at Berkeley for fly plane parts following. Soon thereafter, KLM started working with a consultancy in Amsterdam called Kryha to create blockchain-based models.

Besides, Lufthansa is trying a blockchain-based travel application for clients with Winding Tree, and Air France is thinking about circulated record innovation for its production network and to follow work processes inside air ship support frameworks.

For a portion of these undertakings, there's far until creation availability. At Air France, their routine with regards to utilizing paper-based records and procedures is hampering the push to digitize the inventory network and flying information on a blockchain (No joking).

**Transportation, Telecom, and IoT**

Danish transportation monster Maersk's preliminary of blockchain to follow the development of delivery load and cargo was one of the primary significant endeavor test declarations. Its initially live preliminary finished in March 2017, and it has since kept on pursuing enhancing with blockchain innovation, incorporating investigating its utilization in sea protection.

The telecom business is taking an interest in blockchain innovation as an approach to address edge weights and soak rivalry, just as to take an interest in new circulated administration models and the "Web of Things" worldview. In front of friends, AT&T documented a patent for vehicle computerized money installments for associated autos in October 2015.

In February 2017, Comcast documented a patent identified with putting away client information on disseminated databases. In November 2017, British Telecom won a patent identified with cybersecurity measures to ensure blockchain systems.

Likewise, in 2017, Sprint united with SoftBank and Taiwan-based Far EasTone Telecommunications Company to attempt to shape a consortium to "coordinate in mutually creating blockchain innovation for telecom bearers."

In parallel to inward R&D, a few telecoms have made key interests in blockchain innovation firms. Orange partook in Chain's 2015 arrangement C venture round. Verizon Ventures was joined by Intel Capital, SamsungNext Ventures, and JetBlue Technology Ventures in the arrangement A gathering pledges round for Filament, a blockchain startup building up a protected correspondences stage for gadgets working in conveyed conditions.

All the more as of late, Cisco has declared that it is looking to assume a job in confirming the character, security, and dependability of associated gadgets working with blockchains. It likewise recorded a patent for this reason.

The new IoT worldview may see blockchains fill in as an exchange and correspondence layer between gadgets. In this framework, gadget security will be basic. Cisco is a piece of the Hyperledger consortium and the Trusted IoT Alliance nearby Bosch, which has numerous blockchain-related tasks and can assume a significant job in creating particular gadget sensors and connectors.

**Retail**

The retail business seems most centered around production network use cases identified with blockchain innovation. Broadly, Walmart is trialing the utilization of blockchain to follow the development and sources of pork in China.

Additionally, in Asia, Alibaba declared in late 2017 that it has been discreetly building up an in-house private blockchain arrange for as far back as two years to follow item realness in the store network and diminish falsifying. Geoff Jiang, Head of Ant Financial's Innovation Lab expressed that with blockchain, "we know where the item originates from, its source, and which retailer it's originating from."

In December 2017, De Beers declared interests in a blockchain-based jewel following stage that its expectations will enlarge inventory network straightforwardness and precious stone detectability to maintain a strategic distance from struggle precious stones.

De Beers CEO Bruce Cleaver expressed, "This jewel discernibility stage is supported by blockchain innovation, which takes into account a profoundly secure computerized register that makes a carefully designed and lasting record of interactions — in this example, a precious stone's way through the esteem chain."

**CONCLUSION AND RECOMMENDATIONS.**

**Obstacles**

Cryptographic forms of money, namely BTC still have various critical deterrents to defeated before they could absolutely supplant current cash frameworks. The most prompt is the straightforward resistance from existing money related organizations, which employ incredible influence and have impetuses to dishearten the multiplication of digital currencies. “Other huge partnerships, notwithstanding when amenable to the possibility of digital forms of money, don't as of now think of them as steady enough to keep as resources for extensive stretches of time” (J.Davidson, 2017).

Notwithstanding engaging the current financial framework, cryptographic forms of money have some inside difficulties to survived. Endeavoring to change over the whole world budgetary framework to the Bitcoin model, for instance, could cause such a monstrous development in blockchain measure that the circulated record model would end up illogical. It is likewise still indistinct whether blockchain innovation could be effectively adjusted to utilize cases which require high speeds with high volumes (on the request of seconds rather than hours), and would be inadequately appropriate for any application which required some level of reversibility. At long last, due to the significant vitality costs and decreased rewards after some time related with the "mining" process, clients may in the end be compelled to endure progressively high and absurd exchange costs.

**Present moment (3-5 years)**

***Expanding Efficiency in the Financial Industry***

Since the 2008 money related emergency, vast banks are progressively feeling strain to build productivity and cut costs wherever conceivable. Keeping that in mind, a May 2016 report from Goldman Sachs gauges that “the money related industry alone could understand up to $6 billion/year in investment funds through utilization of blockchain innovation” (Goldman Sachs on blockchain, by Pete Rizzo, 2016). Notwithstanding, this would not really incorporate decentralized digital forms of money, for example, Bitcoin, however may include the production of new restrictive concentrated cryptographic forms of money, (for example, the Bank of England's recently presented RSCoin).

The presentation of digital currencies may likewise prompt expanded dimensions of straightforwardness and couple of episodes of extortion. Under current frameworks, the right ID of extortion is difficult work concentrated and inclined to blunder. In any case, digital forms of money are intended to be expressly straightforward and consequently distinguish extortion, significantly lightening the expenses related with overseeing related frameworks.

***Developing Markets***

Since cryptographic forms of money require just an Internet association, and are not subject to build up foundations, for example, banks, they are in a perfect world appropriate for social orders without a well-created monetary framework. Similarly, as with what number of people developing markets skirted landlines and went straight for cell phones, similar people may avoid the overhead of the customary financial framework and connect straightforwardly in portable banking. Thus, we anticipate that digital forms of money should turn into a noteworthy impact in developing markets throughout the following 3-5 years.

**Long term (5-10 years)**

***Financial Market Disruption***

Inside the cryptographic money network, a standout amongst the most promoted objectives is the absolute substitution of banks and other incorporated budgetary delegates. Albeit such establishments may never be completely supplanted by a democratized system, their job (and related benefit) may relentlessly decrease with ascent of cryptographic forms of money, ideally prompting the anticipation of future monetary fiascoes on the size of the 2008 emergency.

***IoT Integration***

“The internet will be one of the main powers to reduce the role of government. A thing that’s missing however that will soon be developed is a trust digital money.” (M.Freidman, 2016). Despite the fact that digital forms of money have the likelihood to supplant elements of the current monetary framework, their most prominent potential might be in fusing with different innovations to encourage a genuine transformation. The blockchain model is in a perfect world appropriate for Internet of Things (IoT) exchanges, which require both effective straightforwardness and vigorous security. For instance, envision if each time you expected to top off a vehicle with gas, your vehicle could pay the corner store consequently.

***Developing Industries***

Notwithstanding altering the financial framework, the blockchain innovation of basic cryptographic forms of money can possibly extend crosswise over about any industry that includes huge scale record-keeping.

Blockchain could be a huge aid to defenders of viable assurance of licensed innovation rights, for example, with music and film. New organizations, for example, A scribe are spearheading strategies for making secure restricted duplicates of computerized media, so as to guarantee that specialists are legitimately made up for their work, rather than being money related harmed by privateers. Different models incorporate the developing "Sharing Economy" (counting AirBnB) which can utilize blockchain to ease personality and notoriety the board, and "Shrewd Grid" service organizations which could utilize blockchain to present proficient microtransactions for vitality utilization.

**Far Future (10+ years)**

In the far future, worldwide and democratized digital forms of money can possibly supplant government-upheld fiat monetary standards as the essential methods for leading budgetary exchanges. In light of that end, Microsoft has likewise started encouraging huge scale reproduction tests for banks and other extensive organizations keen on understanding the potential implications for such an expansive scale move in the worldwide economy.

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