What is bitcoin and bitcoin mining?

UnoBit Solutions
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CoinMonk aims to bring bitcoin awareness to the general public. We provide a wide range of rewarding opportunities to invest in bitcoin and bitcoin mining initiatives.
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Introduction to Bitcoin

CoinMonk aims to bring bitcoin awareness to the general public. We provide an opportunity to invest in bitcoins and bitcoin mining related initiatives. We hold regular meetups for the members of CoinMonk and bitcoin enthusiasts which take place once a month in Bangalore, India. We discuss upcoming opportunities of how we may best implement our business goals.

For people who cannot make it to Bangalore, we have a two page introduction to Bitcoin along with our contact details. We are happy to provide free consultation over the phone to those who may be interested in any of our services.

What is Bitcoin? (abbreviated as BTC)
Bitcoin is defined by wikipedia as a cryptocurrency where the creation and transfer of bitcoins is based on an open-source cryptographic protocol that is independent of any central authority. Bitcoins can be transferred through a computer or smartphone without an intermediate financial institution. The concept was introduced in a 2008 paper by pseudonymous developer Satoshi Nakamoto, who called it a peer-to-peer, electronic cash system.

Benefits of Bitcoin
Bitcoin allows anyone with an internet connection to send or receive payments from anywhere in the world, at almost no cost. Bitcoin's unique features include pseudo anonymity, decentralization and irreversibility. The transactions are processed by computers (or nodes) connected to the network. To process this kind of transaction all nodes maintain a shared ledger balance of every bitcoin address that holds the balance or that held some balance in the past.

Peer to peer transactions (no single authority)
The money sent will reach the recipient without going through any intermediary bank or exchange or payment gateway.

Worldwide payments
Anyone may send as little or as many bitcoin to anyone, anywhere in the world and the bitcoin will reach the recipient quickly and safely.

Almost no processing fee
The sender may choose to send payment without paying any processing fee. The sender may choose to add a small payment fee to process transactions faster. The network recommended fee is 0.0005 BTC, which is equivalent to INR 3.

Pseudo anonymity
One only needs to provide his/her bitcoin address to the person who needs to send him/her bitcoin. The rest of the world will never know the receiver's bitcoin address unless the receiver or the sender release the bitcoin address to the world.
Irreversibility
Once a bitcoin is sent, there is no way to reverse a payment unless the receiver sends the bitcoin back to the sender. There is no such thing as a “charge back” with bitcoin. Every computer on the network can see how many bitcoin a particular bitcoin address owns, but the ability to send the bitcoin lies in the hands of the person who holds the private key for that address (which will be safe guarded by the owner of that bitcoin address).

Bitcoin address
A bitcoin address (also known as a bitcoin public key) is obtained by randomly generating the private key and then applying some irreversible mathematical calculations on it.

A bitcoin private key looks like this:

5JTE3dDnoTBUn4w4M8xdBYWFcBXHFshFpsMqXuh5vbdGFvg

A bitcoin address looks like this:

1653aikWii2nCq5DCcpcVnHEHwzjZopg8J
Global Currency

Bitcoin is a new form of currency that is accepted worldwide and can never be debased by politicians trying to get re-elected or countries trying to pay off huge debts. In a world in which the value of paper money is constantly ravaged by inflation, that’s a very attractive attribute.

Also, the world is very much ready for a “global” currency. Bitcoin satisfies that need. Bitcoins are like cash in that they aren’t tied to your identity, and transactions made with Bitcoins are irreversible and untraceable. But they’re like credits in a manner that they aren’t physical.

Is it secure? Can Bitcoin be hacked?

The Bitcoin algorithm was presented as a scientific paper and has been peer reviewed like any other scientific paper. The paper was widely accepted and clearly describe the working fundamentals of Bitcoin.

What is Bitcoin backed by?

What is gold backed by? What decides the value of gold? Supply and demand.

What decides the value of Bitcoin? Supply and demand. Like gold, the amount of Bitcoins is limited - to 21 million bitcoins. The value of Bitcoin is derived the same way the value of gold is calculated.

The whole premise of Bitcoin is that only a finite amount of it will ever be created. This is in stark contrast to standard currencies, the supply of which is continually increased.

What causes the price of Bitcoin to fluctuate?

Bitcoin is in its infancy and is a free market currency whose price or value is determined by supply and demand. A multitude of factors could in theory affect Bitcoin prices, nobody in the current scenario can conclude that only a few factors affect Bitcoin. Some of the factors which have been observed till date are listed below:

Media Exposure

The initial growth of the Bitcoin ecosystem and prices were attributed to media hype and more people becoming familiar with bitcoin. The world’s supply of Bitcoins is fixed, but when the global media talks about bitcoin, demand continues rising. This increase in demand (and fixed supply) leads to higher prices—and as prices go up, people who currently hold bitcoin develop greater expectations for the currency. Today, the excitement around Bitcoin is still confined to a tiny segment of the population — technology enthusiasts, monetary idealists and speculators make up a majority of bitcoiners. The potential for bitcoin exposure and price increase is very large.

Eurozone Crisis

A direct correlation between the Cypress bailout announcements and bitcoin price increase was observed. Many Europeans moved their investments into bitcoin around the same time the Cypress bailout occurred. This resulted in a massive huge cash inflow into the bitcoin ecosystem.
**Hoarding**
Like any currency, bitcoin is traded on exchanges. Bitcoin holders hoard their bitcoin, which further reduces supply, which in turn boosts the price and then sparks yet more media attention—and the cycle continues until profit selling takes place like in any other currency.

**Fear of Government intervention**
There is nothing illegal about Bitcoin. Cash is more anonymous than bitcoin and is also not tied to identity. Can governments grow increasingly interested in defending their paper-money monopoly? We've already seen hints of this. Because the bitcoin market is already huge and global, there will be a growing attempts to control it, tax it and regulate it.

**Trading exchange outages**
Trading exchanges like Mt. Gox which handle almost 70% of all bitcoin trades have seen trading halted due to DDOS attacks. Such events are seen to be temporary and the price fall due to such attacks are usually recovered when trading resumes to normal levels, leaving only a temporary effect. Smaller exchanges have been hacked due to insecure design of the website. The Bitcoin algorithm, system and framework itself is sound. As with any new creation, there are glitches and vulnerabilities that still need to be worked out.

**Vendor acceptance**
Bitcoins remain very much a niche payment method. In accepting the currency, there is a small circle of large internet companies participating in the ecosystem. This includes WordPress, which will sell you everything from Web hosting to CSS packages in exchange for bitcoins. WikiLeaks and 4chan are part of a growing list of online organizations that accept Bitcoin donations. As vendor acceptance improves, the value of bitcoin as a currency improves.

**Free market currency**
Being in its infancy, bitcoin will see wild price swings until it becomes established as a global currency. The market is still in a price ‘discovery stage’ and is expected to stabilize at a certain point.

**Where are bitcoins stored? What is a bitcoin address?**
Bitcoins can be stored on your computer using a wallet software (equivalent to the wallet in your personal pocket) which is open source and can be downloaded, or in an online wallet. Both methods provide you with an address which you use similar to a paypal address. Send the address to people from who want you to receive bitcoin from. You can mine Bitcoin or buy them from trading exchanges. To store them you can use Software, Mobile or Web wallets.


**Where can I use bitcoins?**
It turns out that once enough companies accept bitcoins that you will be able to use them to buy almost everything you might need. Want to buy clothing, homemade cosmetics or train tickets? Bitcoins can do all that, and more.
More than 8000 small organizations have started accepting Bitcoins. It is expected that it is just a matter of time before real world adoption increases. Ecommerce websites are expected to join suite.

Here is a small list of known Top 20 Bitcoin accepting organizations:

1) Wordpress  
2) Pirate Bay  
3) Reddit  
4) Internet Archive  
5) 4chan  
6) eztv.it  
7) Lumfile  
8) Filecloud  
9) Torrent Leech  
10) LewRockwell  
11) Gyft  
12) Slysoft  
13) LAIMC  
14) WrapBootstrap  
15) Tor Project  
16) What.CD  
17) Erowid  
18) Wikileaks  
19) MtGox  
20) GoldMoney

Indian sites
http://buysellbitco.in  
http://indiabitcoin.com  
https://rbtco.in  
http://http://www.bitcocean.in

The official list of Bitcoin accepting organizations can be found below
https://en.Bitcoin.it/wiki/Trade
https://en.Bitcoin.it/wiki/Business_and_organizations_that_%22also_accept_Bitcoin%22,_but_do_no
t_revolve_around_Bitcoin

What is the real advantage and use of buying Bitcoins?
Strengths
Non-discriminating; single Global currency
Increasing popularity and designed for the internet.
Can easily be exchanged with conventional currencies.
Secured by mathematics and cryptography, not trust.
Limited number of coins will ever be produced (cap at 21 million), thus no inflation. For Bitcoin, no third party is required as a clearing house like banks. Currently, no exchange commissions or taxes.

**Opportunities**
To replace global currencies or take a portion of the market.
Become a relevant currency for global online trade.

**Role of Bitcoin in daily life?**
Fiat paper currencies are a relic of a past age. It has been proven to be a spectacular failure, giving rise to inflations and unending booms and busts. As technology progresses, markets look for an alternative. A single global digital currency is certainly in our future. Bitcoin is the most successful example of that so far.

Bitcoin can be easily used for international transfers without paying commissions to third parties like banks. Bitcoin cuts down transaction times for bank wires from days to hours. Bitcointalk.org has an Indian community
Bitcoin can be used as a currency for investment for trading in India until vendor acceptance reaches critical threshold. Being an early adopter has many advantages. Simply put, since 2009 there has been no asset class on the planet which has increased in value more than Bitcoin. As entrepreneurs and investors, that makes bitcoin extremely relevant. As an entrepreneur, bitcoins can help you reach out to an international clientele, its single window payment allows customer reach to any country without the hassles of international wire transfers.

**Final thoughts**
It is always prudent on your part to view Bitcoins objectively and arrive at its value in your life. In my view, Bitcoin is the Internet, applied to Money. Money over IP, MOIP. We need to remember that Bitcoin is not a stock, a company, a government or even a regular commodity. It is a technology. Bitcoin is both a currency and a payment system. Right now, its most spectacular use is in transferring funds from one person to another. It’s as easy as sending a text message or an email. We live in a digital age. We need a digital currency.

**Additional Info:**
For the Academically Inclined:
**Bitcoin Mining**

**25 bitcoins every 10 minutes**
To help with auditing the transaction process of sending and receiving bitcoins, bitcoin miners come into the picture. The generation of bitcoins are done by super computers dedicated towards processing mathematically complex calculations. Miners must invest computer processing power and electricity to mine bitcoins and are currently awarded 25 bitcoins every 10 minutes by the bitcoin network.

**Difficulty Increases every 14 Days**
The protocol is designed in such a way that the mathematical problem will get more and more difficult over time. Analogous to how gold mining gets more difficult over time, so does bitcoin mining. The overall difficulty of bitcoin mining on the network self adjusts every 14 days.

**Invest in Bitcoin Mining Shares**
The people who engage in such activities are known as miners and the process itself is called mining. To mine today you need asic (application specific integrated chips) hardware, a very reliable internet connection and considerable electrical power requirements. The other option is to participate in bitcoin mining by purchasing mining shares issued by various miners or sellers of those shares.

**21 million bitcoins by 2140**
The coins generated in this fashion are awarded to the miner. The total coins generated to date through mining is nearly 11.5 million and that is the total number of coins available for circulation today. The coins awarded to miners are halved every 4 years. When bitcoin was first introduced back in 2009, miners were awarded 50 coins every 10 minutes until the end of 2012. Today, miners are awarded 25 coins every ten minutes. In the year 2017 it will reduce to 12.5 coins every 10 minutes. This will continue in this fashion up to 2140 after which the total coins in existence will be 21 million. The mining operation will be yielding a negligible amount of bitcoins (something like 0.000001 every 10 minutes).

From 2140 onwards, miners will be compensated based on transaction fees. The transactions occur whenever a sender sends money to a bitcoin address. These transactions will propagate through the network where it gets recorded in a global ledger called blocks by all nodes connected to the network.

![Total Bitcoins Over Time](image-url)
How a transaction is complete
If Mr.X holds a bitcoin address, all such nodes know how many coins are being held by that address. The nodes will approve if and only if the bitcoin address has coins to send from that address to another address. Once the transaction is complete, the distributed ledger is updated with the new reduced number of coins that the address holds and at the same time increases the number of bitcoins for the receiving address. If Mr.X pays a transaction fee, it will be preserved and awarded to the node that starts a new page of the ledger (block) along with 25 BTC for starting that new block.

There are already numerous websites that accept bitcoin for digital and physical goods. Every day, more and more merchants from around the world are beginning to accept bitcoin. If you are not interested in mining, you can buy bitcoins from exchanges like Mt. Gox or from trusted people in your locality. Based on the limited availability of bitcoins (21 million) and the difficulty in generating bitcoins through mining, it is expected that as demand increases, each bitcoin will becomes increasingly more valuable over time - this ultimately means higher purchasing power in the future.

CoinMonk Projects

Invest in Bitcoin Mining Shares
CoinMonk has been investing in mining hardware and now is your opportunity to hold shares from bitcoin mining profits. Purchasing and transferring of shares may only be done as a whole (you cannot buy or transfer 0.5 shares). Profits are calculated as mining revenue minus expenses. Dividends are divided equally to every active share from 95% of profits earned. Remaining 5% of the profits shall be reinvested to purchase more advanced bitcoin mining equipment. This will be done in an attempt to stay at par with industry standards with regard to hashing rates and without having to frequently offer new shares. If such reserve exceeds our estimates of new mining equipment, we will start dividing 100% of profits. However when it is time to buy new mining equipment and if that 5% is still not sufficient, we may offer more shares at that point in time. Rest assured that every decision we take will be to maximize the dividends to share holders. Presently, our mining premise is equipped with redundant multiple ISPs and power backups. The investor is responsible for doing their due diligence prior to investing and must consider: 1) the volatile nature of bitcoin 2) growing hashing power of the network and 3) keeping in mind that purchasing shares is an irreversible process. The investment to shares is non-refundable and non-redeemable for some other service or product. We will do our best to adopt industry level standards of protecting the mining center with needed human and building level security. Investors do need to accept the possibility of a breach of such security or some random act of god. Go ahead with investing if you really understand fully what exactly you are investing for. These terms and conditions are subject to slight modifications for the benefit of share holders.

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Contact UnoCoin @ +919901207630; Dashing Riddler @ +919632720333
Physical Coins
CoinMonk will be offering physical bitcoins in an attempt to bring awareness of bitcoin to the common public. Prototypes for physical bitcoins are available for purchase and planned denominations will be 0.01 BTC, 0.1 BTC and 1 BTC.

Contact us
CoinMonk is run by India Bitcoin meetup group in Bangalore, India: http://www.IndiaBitcoin.com

If you have a general bitcoin question, please refer to the bitcointalk.org website. The http://www.coinmonk.com website is looked after by Dashing Riddler - username is dashingriddler on bitcointalk.org website.

You can use our support ticket system to contact us. If you have any questions or concerns, please contact us over email, you may reach us at dashingriddler@gmail.com.
Useful links and contacts

**Bitcoin foundation**
http://www.bitcoin.org  (visit here to get wallets)

**Quick bitcoin address online**
http://www.bitaddress.org

**Join meetups in Bangalore**
http://www.meetup.com/IndiaBitcoin/

**Bitcoin global forum**
http://www.bitcointalk.org

**Buy or sell bitcoin in India**
http://www.buysellbitco.in

**Buy bitcoin mining shares**
http://www.coinmonk.com