

## How Bitcoin works? Beginner's guide to digital currency



Bitcoin is the talk of the town. It is one the best among [5000](#) digital currencies. But like so many people out there, you have no idea about the concept behind this digital currency and how it works? Well, no problem. Because I will be breaking down the entire concept of cryptocurrency in this article.

### **What is bitcoin?**

Bitcoin or cryptocurrency is simply a digital file called ledger that contains names and balances. Just as you purchase something with paper money, you can buy things with bitcoin (BTC) as well. Let's say you bought something worth 5.2 BTC; your balance will decrease by -5.2 BTC while the receiver's balance will go up by +5.2.

This currency is purely virtual. There is no government-issued currency or gold behind these digital numbers. Cool! Isn't it?

Now you must be thinking about who maintains this ledger and makes sure the system runs smooth. Well, Nobody!! Everyone maintains their ledger. And that's why you can see others' ledgers as well. But the system uses account numbers instead of real names, so that gives some level of anonymity.

### **How does a bitcoin transaction work?**

Just as you save money in your bank account or your wallet, similarly, bitcoins are stored in a "digital wallet." Every time you send and receive bitcoins, a transaction message is generated and recorded in a public list called a blockchain. This allows others to update their ledger and also prevents others from spending money they do not own.

The bitcoin transaction has three main [parts](#);

1. **Transaction input:** the address from which bitcoin was sent
2. **Transaction output:** the address at which bitcoin was received
3. **Amount:** the amount of bitcoins to be sent

However, the bitcoin transaction has a twist. Every transaction needs a signature, not a handwritten one but a mathematical signature. Every bitcoin, when created, comes with a mathematical key. This key, along with the transaction message, is fed into a cryptographic function that allows you to create the signature. These signatures are unique to each transaction. That means every time you make a transaction; a new signature will be generated.

### **How is Bitcoin transaction order maintained?**

The bitcoin transaction messages tell who received the bitcoins but don't tell when the bitcoins were received. This can create problems in determining which transaction was made first and can cause double-spending. Hence all the transactions first go into a list of pending transactions from where they are sorted into a Transaction chain. To select the order of the next transaction, the participants solve a mathematic puzzle using a cryptographic hash. The first person to find the solution gets the chance to list their transaction next in the chain.

### **How can you get bitcoins?**

Interested in getting bitcoins? Following are the ways through which you can get bitcoins

- You can get bitcoin in exchange for the real money from cryptocurrency exchanges
- You can sell something and demand bitcoins in return
- You can also directly get bitcoins from the bitcoin owners
- And you can also create bitcoins through bitcoin mining, but it requires technical expertise

### **Pros and cons of bitcoin**

**The pros:**

- The [bitcoin](#) allows you a secure transaction with a minimum potential expense.
- The users have an excellent level of anonymity as the transaction only uses the account number.
- Bitcoin's value can grow big in the future, so there are chances of high return potential.
- The digital currency system allows you to avoid traditional banking and third-party governed systems.

## The cons

- The [price](#) value of bitcoin is highly volatile, which means the value can drop significantly at any moment.
- Though the bitcoin system seems secure, it's a potential target of hackers. It was reported in [May 2019](#) that there was a theft of more than \$40 million from several accounts.
- The use of bitcoin is minimal hence accepted by only a few online merchants.
- The government does not back the bitcoin system, so there is no buyer protection.
- Any malfunction can delete the bitcoin wallet, and you can lose all the bitcoins.

## Final Takeaway

Bitcoin gained a considerable market value of [\\$1 trillion](#) at the start of this year. With more and more people becoming interested in this new form of currency, bitcoin has a lot of potentials to grow even though the volatility factor is high. You can make your own decision after considering all these factors whether to invest in bitcoin or to stick to typical currency.