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BITCOIN

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ABSTRACT

Bit-Coin itself is having meaning Bit is the unit of information in computing and digital communications and Coin is the currency. i.e electronically handled the digital currency. Bitcoin is based on solving an encryption formula which requires extreme amounts of computing power. No one controls it. Bitcoin aren't printed, like dollars or Euros – they're produced by people, and increasingly businesses, running computers all around the world, using software that solves mathematical problems.

Bitcoin is peer to peer payment system introduced as open source software in 2009 by developer Satoshi Nakamoto.

Keywords: Bitcoins, digital currency

I INTRODUCTION

Bitcoin is a form of digital currency, created and held electronically. No one controls it. Bitcoins aren't printed, like Rupees, dollars or euros – they're produced by people, and increasingly businesses, running computers all around the world, using software that solves mathematical problems.

It is the first decentralized peer-to-peer payment network that is powered by its users with no central authority or middlemen. Bitcoin was the first practical implementation and is currently the most prominent triple entry bookkeeping system in existence.

1.1 Is anyone printing the Bitcoins?

No one printing the Bitcoins. This currency isn't physically printed in the shadows by a central bank, unaccountable to the population, and making its own rules. Those banks can simply produce more money to cover the national debt, thus devaluing their currency.

Instead, bitcoin is created digitally, by a community of people that anyone can join. Bitcoins are 'mined', using computing power in a distributed network.

This network also processes transactions made with the virtual currency, effectively making bitcoin its own payment network.

II WORKING OF BITCOINS

From a user perspective, Bitcoin is nothing more than a mobile app or computer program that provides a personal Bitcoin wallet and enables a user to send and receive bitcoins.

Behind the scenes, the Bitcoin network is sharing a massive public ledger called the "block chain". This ledger contains every transaction ever processed which enables a user's computer to verify the validity of each transaction. The authenticity of each transaction is protected by digital signatures corresponding to the sending addresses therefore allowing all users to have full control over sending bitcoins.

III BASE OF BITCOINS

Conventional currency has been based on gold or silver. Theoretically, you knew that if you handed over a dollar at the bank, you could get some gold back but bitcoin isn't based on gold; it's based on mathematics.

Around the world, people are using software programs that follow a mathematical formula to produce bitcoins. The mathematical formula is freely available, so that anyone can check it.

The software is also open source, meaning that anyone can look at it to make sure that it does what it is supposed to.

3.1 Is Bitcoin Legal?

Bitcoin is of interest to law enforcement agencies, tax authorities, and legal regulators, all of which are trying to understand how the crypto currency fits into existing frameworks. The legality of your bitcoin activities will depend on who you are, where you live, and what you are doing with it.

Yes, Bitcoins are legal It is depending on what you're doing with it.

Read on for our guide to the complex legal landscape surrounding bitcoin. Most of the discussion concerns the US, where many of the legal dramas are currently playing out.

3.2 How Does Cloud Mining Bitcoin Work?

Cloud mining means using (generally) shared processing power run from remote data centres. One only needs a home computer for communications, optional local bitcoin wallets and so on.

However, there are certain risks associated with cloud mining that investors need to understand prior to purchase.

IV CHARACTERISTICS OF BITCOINS

Bitcoin has several important features that set it apart from government-backed currencies.

1. It's decentralized

The bitcoin network isn't controlled by one central authority. Every machine that mines bitcoin and processes transactions makes up a part of the network, and the machines work together. That means that, in theory, one central authority can't tinker with monetary policy and cause a meltdown – or simply decide to take people's bitcoins away from them, as the Central European Bank decided to do in Cyprus in early 2013. And if some part of the network goes offline for some reason, the money keeps on flowing.

2. It's easy to set up

Conventional banks make you jump through hoops simply to open a bank account. Setting up merchant accounts for payment is another Kafkaesque task, beset by bureaucracy. However, you can set up a bitcoin address in seconds, no questions asked, and with no fees payable.

3. It's anonymous

Well, kind of. Users can hold multiple bitcoin addresses, and they aren't linked to names, addresses, or other personally identifying information. However…

4. It's completely transparent

…bitcoin stores details of every single transaction that ever happened in the network in a huge version of a general ledger, called the **blockchain**. The blockchain tells all.

If you have a publicly used bitcoin address, anyone can tell how many bitcoins are stored at that address. They just don't know that it's yours.

There are measures that people can take to make their activities more opaque on the bitcoin network, though, such as not using the same bitcoin addresses consistently, and not transferring lots of bitcoin to a single address.

5. Transaction fees are miniscule

Your bank may charge you a £10 fee for international transfers. Bitcoin doesn't.

6. It's fast

You can send money anywhere and it will arrive minutes later, as soon as the bitcoin network processes the payment.

7. It's non-repudiable

When your bitcoins are sent, there's no getting them back, unless the recipient returns them to you. They're gone forever.

So, bitcoin has a lot going for it, in theory. But how does it work, in practice? Read more to find out how bitcoins are mined, what happens when a bitcoin transaction occurs, and how the network keeps track of everything.

4.1 What does a transaction look like?

If Alice sends some bitcoins to Bob, that transaction will have three pieces of information:
An input. This is a record of which bitcoin address was used to send the bitcoins to Alice in the first place (she received them from her friend, Eve).
An amount. This is the amount of bitcoins that Alice is sending to Bob.
An output. This is Bob's bitcoin address.

4.2 How is it sent?

To send bitcoins, you need two things: a bitcoin address and a private key. A bitcoin address is generated randomly, and is simply a sequence of letters and numbers. The private key is another sequence of letters and numbers, but unlike your bitcoin address, this is kept secret.

Think of your bitcoin address as a safe deposit box with a glass front. Everyone knows what is in it, but only the private key can unlock it to take things out or put things in.

4.3 Are there any transaction fees?

Sometimes, but not all the time.
Transaction fees are calculated using various factors. Some wallets let you set transaction fees manually. Any portion of a transaction that isn't picked up by the recipient or returned as change is considered a fee. This then goes to the miner lucky enough to solve the transaction block as an extra reward.
Right now, many miners process transactions for no fees. As the block reward for bitcoins decreases, this will be less likely.
One of the frustrating things about transaction fees in the past was that the calculation of those fees was complex and arcane. It has been the result of several updates to the protocol, and has developed organically.

V UNDERSTANDING BITCOIN PRICE CHARTS

Whether you already own bitcoin or plan to get some, sooner or later you'll want to know how much the crypto coins are worth when converted to your currency of choice.

Later, you may want to know whether to hang onto your coins or to sell them – hopefully making a little profit in the process. However, analyzing price charts and understanding trading terms from the financial world can be rather daunting, especially for the beginner.

5.1 Methods for predicting price trends

Forecasting price movements of anything traded at an exchange is a risky probabilities game – nobody is right all the time. Many traders have lost lots of money, if not their life savings, into such attempts.

The two main approaches to predicting price development are called fundamental analysis and technical analysis. While fundamental analysis examines the underlying forces of an economy, a company or a security, technical analysis attempts to forecast the direction of prices based on past market data, primarily historical prices and volumes found on price charts**.**

5.2 Bitcoin E-Commerce Services for Merchants

A large part of any currency's function is to serve as a way to buy and sell goods, and crypto currencies like bitcoin are especially suited for spending money over the Internet – with low fees and speedy transactions. Now a growing number of businesses are accepting digital currencies, as the available options for payments increase in number and function.

In this guide, CoinDesk takes a look at the e-commerce systems that can help you accept digital currencies as payment on your website or in your real-world store.

VI CONCLUSION

Bitcoin is a new concept, but it's in the process of being understood and adopted by a growing number of consumers, merchants, and investors around the world. As this process continues the reasons to start using bitcoins are becoming more compelling.

There is also increased investment in the sector and many new finance companies are offering more professional and consumer friendly solutions for everyday use.

Bitcoin poses some technological and financial risks, namely the permanent loss of capital. However as these risks are mitigated, more consumers, merchants, and investors should start learning about and using Bitcoin.

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