

## CASE 1 Bitcoin

Have you ever purchased something you found posted in a classified ad in the newspaper? Or in a listing on Craigslist.org? Mostly likely, the seller would accept nothing other than cold, hard cash in exchange for the item you purchased, and you were probably only willing to provide the cash after personally examining the item. Financial transactions in the physical world have been happening for thousands of years, and still you take such precautions in order to ensure that you are taking as little financial risk as possible during the transaction. Of course, the Internet has enabled an entirely new set of buying and selling opportunities, and many of these take place virtually—where you don't have the opportunity to personally inspect or experience a product or service before paying for it.

Most of us are comfortable with providing credit card information to a reputable online retailer such as Amazon.com or NewEgg.com. Likewise, many of us have purchased things from other individuals or small companies using a payment service like PayPal. Credit card companies and payment services like PayPal provide consumers a safety net, giving them the confidence that their purchase will produce the desired good or service, and ensuring that their personal financial information remains confidential. These services, however, come at a fairly significant cost. Credit card companies charge vendors between 1 and 3 percent of the purchase amount of every transaction, a cost

that is typically passed on to the consumer in the form of higher prices. Payment services such as PayPal also charge fees, ranging up to several percentage points of the total price. For many of us, these fees are simply a cost of doing business electronically. For a small group of forward-thinking developers, however, the relatively high cost of electronic transactions represents an opportunity to change the way the world does business.

Bitcoin was launched around the year 2008 by an anonymous developer pseudonymed Satoshi Nakamoto. Bitcoins are so-called digital currency, a form of value storage and payment that is completely electronic. Bitcoins are transferred as payment within a completely decentralized peer-to-peer payment network—the payment processing is handled by thousands of computers around the world, each running the open-source bitcoin software. When someone pays for something using bitcoin, the payment is broadcast within the bitcoin network, and the transaction is stored on a secure, public ledger that is accessible to any computer that wants to verify the transaction. The authenticity of each transaction is ensured by digital signatures corresponding to the sending address of the payer and payee. The public ledger is constantly verified and maintained by the bitcoin network, and is thus “open for business” 24 hours a day, 7 days a week, and is not subject to any national holidays. In addition, since there is no regulatory body or central clearinghouse as in the modern

banking system, the transaction fees associated with any bitcoin transaction are very small. Though the concept is still quite new, a number of businesses are accepting bitcoin as a valid form of payment. Such companies include Wordpress, TigerDirect.com, Overstock.com, and a growing number of restaurants, apartments, and even law firms.

There remains substantial public concern about the bitcoin payment platform, however. Its anonymity lends itself well to illicit transactions. In 2013, for example, the Federal Bureau of Investigation (FBI) seized and shut down the notorious Silk Road trading site, which used the bitcoin payment system to allow purchases of illegal drugs, fraudulent documents, and even hitmen. As a part of the takedown, the FBI seized over US\$28.5 million worth of bitcoins. Other, less dramatic issues include price volatility, occasional software bugs, and a low degree of acceptance by most mainstream retailers. These issues have led many to pan the payment platform as a trend that will quickly die.

Still, many aspects of the platform are intriguing. Use of bitcoins solves a number of problems that we currently deal with in the electronic marketplace: reducing fees, granting full control and (if desired) anonymity, and freeing consumers from geographical or temporal constraints common to physical payment systems. If some of the weaknesses of bitcoin can be addressed, the platform may be the perfect solution for an increasingly global and digital economy.

### Questions

- 4-40. Is a service like bitcoin needed? Why or why not?
- 4-41. If you were able to institute changes in bitcoin's policy, what would you change and why?
- 4-42. Would you use bitcoin if Amazon.com accepted it as a form of payment? Why or why not?

Based on:

Anonymous. (n.d.). Bitcoin—Frequently asked questions. *Bitcoin.org*. Retrieved May 27, 2014, from <https://bitcoin.org/en/faq>.

Bitcoin. (2014, May 27). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from <http://en.wikipedia.org/w/index.php?title=Bitcoin&oldid=610399007>.

Hall, B. (2014, May 27). How bitcoin can go mainstream. *CIO.com*. Retrieved May 27, 2014, from [http://www.cio.com/article/753261/How\\_Bitcoin\\_Can\\_Go\\_Mainstream](http://www.cio.com/article/753261/How_Bitcoin_Can_Go_Mainstream).