

AN OVERVIEW OF BITCOIN'S LEGAL AND TECHNICAL CHALLENGES

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ABSTRACT

This paper examines Bitcoin from a legal and regulatory perspective, answering several important questions. Bitcoin has been the focus of the forums for the past few years by causing a whirlwind of arguments in a various number of fields all over the globe, such as finance, technology and most importantly the legal field. Currency's evolution through time has been steady and sturdy, but after the creation of crypto currencies, the whole ground structure of a traditional currency has been shattered and transformed dramatically thus changing the core qualities of currencies with its intangibility, anonymity and decentralized nature which are considered as the main merits of Bitcoin as a cryptocurrency. But on second thought, these benefits arose huge complications on both the legal and financial surface where illegal activities from criminals and drug addicts take place by using Bitcoins as a currency, such as fraud, money laundering and terror finance. On the other hand, lack of trust among individuals and merchants in Bitcoin users is the prime factor leading to theft. Nations around the world started to work on defining the nature of Bitcoin in order to regulate crypto currencies in general with a sound legal framework because with great power comes great responsibility to protect citizens from the risks accompanying Bitcoin. The focus of the paper is to cover positive aspects of Bitcoin as a currency and mainly the controversy circling around Bitcoin's regulations. The focus of this paper is to examine legal and technical issues and current international legal status regarding Bitcoin as a crypto currency and recent legal developments affecting Bitcoin, based upon their actual use.

Keywords: Bitcoin, Crypto Currencies, Fraud, Legal Issues, Financial Regulations.

INTRODUCTION

Less than ten years ago on May 2010, Laszlo Hanyecz who traded 10,000 Bitcoins for two Papa John's slices in Jacksonville, Florida made the first Bitcoin transaction. (Litwack, 2015). Set aside crypto currencies and let us go back in time to before paper currencies. In 9000 B.C., countries did not have official paper currencies, and people used valuable items such as jewelleries to exchange goods. Imagine going to a grocery store today to buy some groceries and when you get to the cashier, you hand him or her nice ancient golden earnings in exchange for the groceries. Could such a method of payment be accepted in 2018? I assume not. Same scenario, what if you were in 9000 B.C., and you paid for the groceries using paper currencies, such a method will not be accepted. If; however, you were in 600 B.C., when paper currency was created, then payment with paper currency could have been accepted. Could you have paid with

credit or debit card back then? Now, in 2018, not only you can pay with paper currency, credit and debit cards, you can pay using mobile wallet applications such as Apple Pay, Samsung Pay or Android Pay, and Bitcoins. Currently, it is quite impossible to identify and hold accountable hackers and thieves of Bitcoin transactions. To address this question, this paper covers the positive aspects of Bitcoin and examines the legal aspects and current international framework regarding Bitcoin as a digital currency, as well as the recent legal developments affecting Bitcoin.

RESEARCH PROBLEM

In recent times Bitcoin, have been one of the most current topics regarding payment systems Bitcoin is very popular because of its unique features like private cryptographic key is used to make payments; it is decentralised; and it can be conveyed safely within an online platform without having a single authority backing it as a payment system. However, although virtual and digital currencies have become well established and are accepted as a means of payment, the use of such currencies is not without its problems and legal challenges. There are issues concerning the legal status of Bitcoin and its regulation. The focus of this research is therefore on examining the nature and importance of Bitcoin, legal issues, and technical challenges related to Bitcoins, and legal position of Bitcoins in various countries and specific areas of regulations of Bitcoin's.

Objectives are as follows:

1. To examine the nature of Bitcoins.
2. To find the legal status of Bitcoins in various countries.
3. To evaluate the legal and technical challenges related to Bitcoins.
4. To implicate possible solutions to minimize the challenges emerging from bitcoin.

METHODOLOGY

The main objective of the study is to examine the nature of bitcoins, to find the legal status of bitcoins in different countries. The secondary data has been used for the present paper. The research question requires a multi-faceted approach. The approach of this study is to focus on literature analysis, examining which areas there is agreement and disagreement. Theoretical frameworks will help to explain the benefits and disadvantages of cryptocurrencies and the different approaches towards regulating cryptocurrency. Thereafter, a quantitative analysis will be undertaken different approaches of regulation. For the technical and legal analysis, a theoretical framework will be put forth and discussed in relation to the bitcoin.

Background of Currency

In the latter half of the twentieth century, credit cards, mobile wallet and all the other electronic forms of money were created, which prompted the need to define this new form of exchange (Litwack, 2015). The European Commission on Banking and Finance defined electronic money as:

“Electronically, including magnetically, and stored monetary value as represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions which is accepted by a natural or legal person other than the electronic money issuer” (E.U. Commission Banking, 2014).

In 1982, David Chaum proposed the first digital currency ever; however, his proposal was not very popular and ended up being commercialized in 1994 along with the creation of Digi Cash (Litwack, 2015). In 1996, e-gold was created in the Caribbean and became the forerunner to today’s digital currency. *Id.* In 2003, e-gold suspicions of the use of e-gold in criminal crimes increased. *Id.* Four years later in 2007, the U.S. government shutdown e-gold. In 2009, Satoshi Nakamoto first introduced Bitcoin in a research paper (Agarwal, 2016). Bitcoin was introduced as a digital currency that only existed in an electronic form.

What is Bitcoin?

Simply put, Bitcoin is a digital currency that lives on the cloud, and it can be compare to real currencies such as US Dollar and Euro. Unlike real currencies, digital currency is:

“A medium of exchange that operates like a currency in some environments but does not have all the attributes of real currency.” (Shavers, 2013).

The difference between Bitcoin and other regular paper currencies is that Bitcoin is an international decentralized currency not regulated by any institutional owner or a specific country, and it does not have a physical existence. The question that arises here is where we get Bitcoins from, in which the answer is through four ways: (1) Bitcoin can be obtained *via* exchange for real currencies in person or *via* an online exchange; (2) in a sale of goods or services exchange; or (3) *via* mining. (Tsukerman, 2015). Mining can be defined as the use of the processing power in a computer to resolve very complex mathematical problems to keep the block chain public ledger and to find new Bitcoins.

Positive Aspects of Bitcoin?

Despite all the negativities around Bitcoin, it has many positive aspects. The first positive aspect is Bitcoin’s decentralization. Wouldn’t be nice to live in a borderless world, with one sole currency, which is Bitcoin not regulated by a single country, but rather decentralized peer-to-peer by individual users, just like you. Imagine that you are travelling from one country to another without stopping at the currency exchange in each country, which would be great. Second, Bitcoin is going to transfer the completely international banking system into a system that will allow very fast transactions to take place not only during work hours, but also rather at any time and any place at a very reduced transactional cost. These minimal exchange costs will incentivize low-value transactions, which will help in the development of small businesses and furnish the financial access for countries with underdeveloped financial sectors (Sonderregger, 2015). This is seen as victory for individuals; however, from a political perspective, Bitcoin has been described as:

“A movement a crusade in the costume of a currency. Depending on whom you talk to, the goal is to unleash repressed economies, to take down global banking or to wage a war against the Federal Reserve”. (Shavers, 2013).

Skeptics see Bitcoin as a scheme wrapped up in a libertarian political agenda and that its supporters or users are separated from the financial world and its issues (Sonderegger, 2015).

In addition, one of Bitcoin’s main advantages is that it addresses the problem of counterfeiting. Counterfeiting is known as the double-spending problem, which means using the same currency twice. *Id.* Bitcoin itself can be copied easily; however, it will have no value (Tsukerman, 2015). Simply put, a wallet full of Bitcoin is a wallet full of addresses. When you want to buy something using Bitcoin, you submit the transaction to the network. Then, the network will double check your transaction, and make sure that your address is valid, and it has the proper value (Crimes Enforcement Network, 2014). *Id.* Thus, the risk of counterfeiting does not exist because there is nothing to counterfeit. Nonetheless, there is a risk of counterfeiting Bitcoins by spending them in more than one place which is called the double-spend attack. This method of counterfeiting, because of the design of bitcoin block chain and its security, can only be accomplished with a large amount of computer power (Tsukerman, 2015).

Technical and Legal Challenges of Bitcoin

There are many technical and legal challenges surrounding Bitcoin as a digital currency. Some of the challenges are as follows:

Technology hiccups

In case of dealing with Bitcoin, high volume traffic can cause a temporary shutdown. If a hard disk failure happens it can cause you to lose your entire wallet, therefore to avoid this loss, serious Bitcoin users have multiple wallets in multiple locations over the network. The technical challenges associated with cryptocurrencies are numerous, but a thorough understanding by all the stakeholders will ensure that such issues are not only resolved through successive updates but robust systems need to put in place (Pandey & Sharma, 2018).

Value fluctuation “Volatility”

Bitcoin has been at the center of many scandalous events in the last couple of years. The crackdown on the infamous Silk Road has branded Bitcoin as a sinister currency designed to fuel illegal transactions. Other events such as the failure of Mt. Gox and some data breaches have also contributed to the bad aspect surrounding Bitcoin (Sagar, 2017). The high volatility of bitcoin raises serious concerns about their viability as a currency. and since there is a small community dealing with bitcoins in comparison with traditional currency , it means that any small event or trade can affect the value of bitcoin and The number of bitcoins in circulation and the number of merchants who accept Bitcoin as payment are small.

Lack of trust in bitcoin

Although bitcoin has slowly been gaining mainstream acceptance among the online users and businesses, it seems that most of the countries governments are opposed to the cryptocurrency. For one, the lack of a centralized body or monetary authority overseeing bitcoin exchanges and transactions seems to be the culprit for the lack of security and the rise in hacking incidents. In the absence of any code of conduct or regulations, governing the bitcoin industry could result in an unstable financial system. There are plenty of gray lines in the particular industry that even criminal activities and lawsuits take a while to resolve (Jenn, 2015).

Legal & Ethical Issues in Bitcoin

Bitcoin is an internet currency that is unregulated by governments and banks, yet clients utilize Bitcoin as a form of monetary exchange. As a result, it is important to understand the legal and ethical responsibilities to best serve our clients. Governments are struggling with how to regulate its use, users currently receive little to no legal protection when using Bitcoin, and black market websites are popping up everywhere because of Bitcoin. Problems like these arise whenever a new technology enters the world, and it is up to lawmakers and citizens to decide how to handle such difficulties. Bitcoin offers significant opportunities for those who would use it in Theft, Fraud, Money Laundering, and the use of Bitcoins in countries with heavy-handed control of the Internet. Bitcoin offers outlaw bloggers and revolutionaries the ability to pay for services, such as web publishing, without having to reveal their real identities and it will risk exposing citizens to fall victim to scammers (Federal Bureau of Investigation, 2012).

Legal Status of Bitcoin around the World

The main problem with determining the legal status of how bitcoins should be handled is whether it is currency, security, commodity, or something completely different. While bitcoins are commonly referred to as a "*currency*" as they have many common characteristics of one, the legal definition requires a currency to be issued, used and accepted by a country, which is not the case with bitcoin. Another problem with bitcoins is that not all the countries have legalized its use. For consumers, some countries as Australia, Canada, Finland and Germany have legalized its use and have made it clear to apply normal earned income rules on Bitcoin, while many countries have yet not made a clear statement with the legalization and use of bitcoin. On the other hand, Thailand has made the use of bitcoins illegal. The non-uniformity in the legalization of bitcoin in different countries is a major issue (Effect of Bitcoin, 2017). Few countries have accepted bitcoin and have decided to actually create laws that govern bitcoin transactions. The first country to completely accept bitcoin was Japan. India seems to be next in line to legalizing bitcoin, now that the government has agreed to regulate bitcoin. The Indian government has agreed that regulating bitcoin could be beneficial and is currently creating the laws to do so. The Reserve Bank of India is also considering using the block chain technology in banking. Only a few countries, six to be exact, have completely banned bitcoin, claiming it is very close to being a currency. One notable example is Iceland, which has the largest bitcoin mines worldwide but residents are not allowed to buy bitcoins. Surprisingly, one can own bitcoins by mining, but not

buy bitcoins from a foreign exchange. This is an attempt to prevent capital flight out of Iceland. The other five countries in this category are Bolivia, Ecuador, Bangladesh, Kyrgyzstan and Vietnam (India Bitcoin, 2018).

Several governments issued warnings to users and investors about the serious risks associated with digital currencies and some nations took a strong and hostile approach towards their use, such as China, Russia, and Saudi Arabia. In China, Bitcoin is prohibited in respect to financial institutions, but it allows people to make Bitcoin's investments however, they please without any limitations (Holcomb, 2016).

The United States, at the time of this writing, has no coherent direction on its cryptocurrency regulation other than that there will be some soon. The Securities and Exchange Commission (SEC) has warned investors of cryptocurrency investing risks, halted several ICOs and hinted at the need for greater cryptocurrency regulation (Andrew, 2016).

The Financial Consumer Agency in Canada does not consider cryptocurrencies to be "legal tender," excluding all but Canadian bank notes and coins from that definition. The True North, however, is not all harsh on its cryptocurrency regulatory stances. In fact, it appears to be the most transparent country in this list when it comes to understanding laws surrounding the digital currency industry (Andrew, 2016).

The United Kingdom has not issued any regulatory guidelines formally classifying Bitcoin, though The UK classifies Bitcoin as a currency, but it has some limitations. Her Majesty's Revenue and Customs Department (HMRC) exempted most Bitcoin related activities (trading, mining, etc.) from taxation On March 3, 2014. However, the UK class HMRC treats Bitcoin partially as a financial investment (Gullen, 2013).

Saudi Arabia did not ban Bitcoin and it is actually planning to regulate bitcoin but no series attempts have been made yet. And at first it was stated by the senior advisor at the Saudi Arabian Monetary Agency (SAMA) Abdulmalik Al-Sheikh, who mentions that cryptocurrencies needs more development and a bigger impact on the financial market to drive Saudi Arabia to regulate cryptocurrencies in general . Nonetheless, the Saudi Arabian Monetary Authority (SAMA) issued a warning on the high risk of dealing with Bitcoins and stated that its dealers will not be guaranteed any protection or rights (Arjun, 2017).

Specific Areas of Regulation of Bitcoin's

Dealing with bitcoin three, specific areas of regulation require consideration. These three areas include public law, civil law and consumer protections and the laws surrounding financial systems.

Public law

It is in the area of public law that countries have been able to cope with the emergence of Bitcoin. One of the objectives of research is to concentrates on the actions of countries to regulate Bitcoin in relation to with anti-money laundering and reporting. An immediate concern of regulators is the potential use of Bitcoin's anonymity by criminals to conduct untraceable transactions globally and with ease (Bryan, 2017).

Civil law

Bitcoin is a form of intangible, transferable private property. A bitcoin is a valuable asset to their current owner and can be transferred to another person if they accept this form of payment. Therefore, bitcoins are the circulation of valuable rights, but do not amount to a right to cash, rather it is a right to be transferred a valuable asset irrevocably and immediately. The two issues in the civil law to consider in regulating Bitcoin are the consequences of irreversibility and the possibilities of consumer protection (Bollen, 2016).

Consumer protection

Another risk to consumers is the lack of legal recourse and consistency amongst the exchanges that form a fundamental part of the Bitcoin ecosystem. Regulations that ensure exchanges comply with anti-money laundering and reporting requirements do not extend to the soundness and safety of these exchanges (Vallikappen, 2014).

CONCLUSIONS

In conclusion, the extent to which the regulation of cryptocurrency will parallel that of physical currencies remains uncertain. Bitcoin is difficult to regulate. To overcome Bitcoin's decentralization regulations should target Bitcoin exchanges and other intermediaries that provide the link between Bitcoin and the real. These exchanges are run by central authorities and can be the target of regulatory enforcement. The technology surrounding Bitcoin and other cryptocurrency is new and in its relative infancy. The intangible nature of cryptocurrency does not fit neatly within any particular current. Bitcoin has many current and potential uses that must be considered by regulators. To address this issue it is recommended that regulators look to the use of Bitcoin to consider specific regulations. Anyone who intends to transact with cryptocurrency should therefore do so with utmost caution. This will ensure the effectiveness of existing regulations is not undermined by the existence of unregulated Bitcoin based products and ensures regulations have taken into account the risks and specific concerns of that use. Lastly, to circumvent regulatory arbitrage and the undermining of a single country's regulatory efforts it is recommended as a desirable outcome that regulations, though focusing on action at a national level, be consistently adopted as standards worldwide.

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