

CHAPTER 10

BLOCKCHAIN AND ITS FINANCIAL ACTIVITIES¹

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INTRODUCTION

TCP/IP Internet network protocol was introduced in 1974 and it was like a revolution for the world, it basically says computers how to react with each other but since that time nothing much changed, the whole system is still based on same protocol. Now, blockchain technology is the new revolution (Keertikumar, 2015).

Internet was the first step for the digital revolution, it started new era for decentralization. Thanks to years of research, cryptography and decentralized system could be presented to the humanity, all this work brought the technology which is called blockchain technology. This technology changes how the world functions, it basically has the meaning of bringing unrelated people for a consensus without a controlling system. The blockchain is a shared database, in which the saved information can't be reversed, at the same time it can't be debauched.

Blockchain technology has really important function, it reduces (or completely invalidates) the need for the middleman. Annulling that need creates limitless amount of opportunities, most important benefit is the cost effectiveness. Apart from monetary help, it will also nullify the requirement of law and regulation, new kind of digital contracts can be demonstrated.

Blockchain technology has limitless number of benefits for the economic, political, humanitarian and legal systems. Blockchain technology has three different categories. Blockchain 1.0 is liquid money which can be used for transfer and payment purposes. Blockchain 2.0 is contracts can be used as stocks, bonds, mortgages etc. and finally Blockchain 3.0 is the rest of all possible usages, governments, science offices, companies, jurisdiction and all other places can use applications with regarding to blockchain technology (Swan, 2015).

¹ This study is evolved from Blockchain and Its Practices by M. EreK, 2018, International Journal of Innovative Research in Social and Natural Sciences.

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LITERATURE

Blockchain is an information preservation technique that makes it challenging, if not impossible, to alter the system through hacking or deception. Cryptocurrencies are powered by technology. It is a brand-new, practical technology that serves as an illustration of how innovations can significantly affect how organizations run and are crucial for corporate administration. Examining blockchain technology's current and future applications is the aim of this study. For this purpose, the findings of the literature review were investigated. According to study, blockchain technology can be used in the business, manufacturing, human resources, supply chain, marketing, tourist, public, health, agricultural, financial, accounting audit, energy, and entertainment sectors. The results show that blockchain is acknowledged as a technology that will bring about significant changes and advancements, particularly in banking, finance, auditing, and accounting (Özyurek, 2021).

The stock market has benefited from the financial onslaught on Bitcoin, and the emergence of numerous additional crypto currencies has caused the crypto currency market to expand into a new sector of the economy. Despite being the technical foundation of Bitcoin, blockchain technology is not as well recognized as the digital currency. Despite the fact that Blockchain was discovered in 1992, this had an impact on its 2008 launch. However, the Bitcoin system cannot function without Blockchain technology due to the way it functions. Bitcoin is appealing because users may conduct secure transactions without the involvement of a third party by connecting with one another directly on a platform. In the system, a statement is only accepted as true if it is agreed upon by more than half of the participants. This eliminated the requirement for a centralized authority and made it nearly hard for any hack to succeed. To ensure the survival of Bitcoin and other cryptographic currencies, blockchain technology must continue to advance. Although blockchain technology provides many advantages, there are also some issues that must be resolved. Some examples include throughput, processing time, size and bandwidth, a few security issues, resource waste while adding new blocks to chains, usability, and privacy. These issues and how they impact blockchain technology were discussed in this essay (Mendi, 2021).

The study's goal is to present blockchain technology, cryptocurrencies, and how to use them in travel and the travel economy. The study includes a literature review. Bitcoin and other cryptocurrencies were created for this purpose. It describes how blockchain technology works. The sample for the study is made up of travel companies that are responding to blockchain technology in the travel sector. Lodging providers can track visitors and food on the blockchain network, as

well as leverage score systems, digital IDs, airlines, and travel agencies. The study concludes with blockchain application recommendations (Uğur & Demir, 2020).

A blockchain system is one in which approval and verification procedures are carried out by computers linked to a network without the need for government authorisation. Although blockchain technology is employed in many other fields throughout the globe, it is strongly tied to crypto currency technology and hence payment systems. It has been seen that blockchain technology benefits various areas, particularly financial markets. In reality, several governments have begun to plan for the regional growth of Blockchain technology. The most significant benefit of the data in this system is that it cannot be modified or erased, and it is trustworthy in terms of secrecy. The main downside is the high energy consumption and the need for sophisticated computer systems. Although the Bitcoin pay-out per block has reduced from the beginning, it will definitely continue for many years. Blockchain payment techniques in global commerce will give substantial convenience and time savings to businesses (Gürsoy, 2021).

Modern information and communication technology have made considerable advancements. People now use the Internet as a tool in their daily lives thanks to the emergence of smartphones in particular, which is the result of significant improvements in communication technology. Numerous facets of life have changed as a result of these developments, including business practices that have moved online. Today, you can accomplish many transactions fast and effectively online, from banking to shopping. Although the internet offers many advantages, it also has security weaknesses, and data theft leads to a wide range of problems. Currently, blockchain technology provides solutions to many problems in today's economy as well as protection against security vulnerabilities and a system of encrypted data on a network. Today, a large number of platforms supported by the public or private sectors are seeking to create blockchain-based ecosystems. This study offers details on the technology that underpins Blockchain's architecture as well as the fields in which it may be used (Yavuz, 2019).

EFFORTS FOR LEGALIZATION

Whereas some efforts have been exerted for domestic legalization and regulation process, not any global endeavour has been taken for mentioned process. International Money Fund is responsible for international foreign exchange market. It was established in 1945 to eradicate negative effects of Great Depression.

Before establishment of IMF, the currencies were pegged to the gold, in 20's and following years, mostly because of financial crises, amount of gold wasn't suf-

ficient to meet international demand, thereafter gold standard crumbled. When IMF founded, to stabilize international exchange system, it created the structure which is called “Bretton Woods”.

At Bretton Woods system, the rates are set to U.S. Dollars and the Dollar is set to the gold. Until 1971, this way or that way the system could continue without any important hindrance but in 1971 the economic actions taken by U.S. put an end for the Bretton Woods.

In 1978, by an IMF Agreement countries were set free in terms of currency control. In today’s control, the agreement is still active.

As a responsible organization, the Fund is putting standards to prevent international financial crisis. Let’s think of an orchestra, there is a master of the musical group and all the performers have to obey the given instructions, otherwise a chaos would come into existence. IMF is master of the orchestra and giving directions to the countries except few of them, all the countries are taking the orders into consideration (Kapur, 1998).

Main purpose of IMF is to monitor exchange rates and make countries interact each other with currencies. One of the ways to make it possible to give loans to the countries. Thanks to this system, IMF is providing strong and robust financial and payment system.

Since IMF is just authorized organization for traditional money, not able to take decisions regarding to Bitcoin. An uncontrolled player would put IMF’s position into danger, for this reason, action must be taken. Unless a precaution would be adopted, serious attacks would be effective for global economic system.

Because supply of Bitcoin would finish after number of 21 million, since basic economy dictates that “rare” would be more expensive, trying to control Bitcoin later would cost more, for this reason IMF or other assigned office must perform as soon as possible.

It is possible to attack a currency by Bitcoin. To prevent this problem, a bank has two options; the first one is to have a hand from the central bank, for this case central bank must have enough reserves and the second option is to increase interest rates. Both the ways have several advantages and disadvantages, for example to have extra reserves means capital cost or to have higher interest rates means to dismiss investment project.

Extra capital cost means to miss ability to create another school or infrastructure project, for this reason, it is important to find a balance, likewise to have higher rates will create a “crowd-out”. But first option has an obstacle, how a cen-

tral bank or IMF would have Bitcoin? Since Bitcoin doesn't have any connection to any government, having a reserve would be illogical, that's why just the second option, so to adjust interest rates. It is hoped that in near future IMF would adopt a digital stock system against digital currency.

It can be thought that domestic regulation steps can be enough to stop negative effects of digital currency but soon after we can realize it is necessary to have global act. For various reasons, IMF is the perfect match to regulate Bitcoin; the first reason is that IMF is designed especially for this reason, and the second reason is that IMF has a such goal, but as long as Bitcoin doesn't have appropriate status (not being a national currency or not being organized by a central financial institution) it will hinder IMF to have such a position. Giving a membership status or changing the legal regime of IMF would be beneficial for mentioned problems.

Now let's consider regulation process both in Germany and United States. On March 2013, in U.S. Financial Crimes Enforcement Network stated that Bitcoin must be regarded as foreign exchange not as a tender money, it means that Bitcoin wouldn't hold illegal status. Companies or people who are having transaction over Bitcoin will be considered as foreign exchange users and will be subject to related law but apart from these, obtaining a good is matter of different law.

In Germany, there is another practice. According to German ritual, Bitcoin is such a financial instrument, so it can be used for tax and trading purposes unlike United States (Canellis, 2022).

When in November, 2013, Senate Committee of United States was discussing over Bitcoin, the currency value was soaring from 30 Dollars to 900 Dollars. It was seen government and FED officials stated that Bitcoin can carry value over long-term (Rushe 2013).

BLOCKCHAIN AND FINANCIAL PRACTICES

As stated before, blockchain technology has variety of practices. It can shift how we perceive the world, one example is financial market and its tools. Blockchain 2.0 is still in progress, scientists and all other stakeholders are looking for the possible opportunities, some of the methods are explicit and some others are in need of being developed. Blockchain 2.0 stands for transfer of assets whereas Blockchain 1.0 is for currency practices. Small list are composed of smart contracts, smart property, decentralized applications, decentralized autonomous organizations and decentralized autonomous corporations.

In today's world, we need to have regulated and organized markets for financial assets like bonds, equities, mutual funds, derivatives etc. and for this purpose,

high amount of cost occurs. To prevent that kind of deprivation, a system can be created upon Blockchain 2.0. For example a stock can be transferred to one investor to another investor and as result the economic welfare of the world will expands thanks to cost effectiveness.

FINANCIAL INDUSTRY

In last two years, financial market industry players started to have serious work for blockchain technology. Innovation labs were created, sponsored fintech companies and provided relationship with regulatory offices. For example, Nasdaq has begun to have operations with blockchain technology or Depository Trust and Clearing Corporation has pilot program with banks for blockchain technology (Daley 2019).

Ripple, which is one of the altcoins, is taking advantage of blockchain technology to support banking payment systems. Thanks to Ripple, local banks won't need large intermediary banks while they transfer an amount between themselves and can reduce important amount of cost.

Paypal is one of the different examples of payment systems, since it brought new perspective with regarding to payment methods. Recently Paypal declared that they create partnerships based on Bitcoin. The mentioned companies are BitPay, Coinbase and GoCoin (Da Ponte 2022).

CROWDFUNDING

Another possible area for blockchain technology is Crowdfunding. The main idea for Crowdfunding is gathering capital for an investment plan, most of the time the investment plan is having a for-profit startup but of course other kind of plans can be possible too for example an artistic or donation project. Crowdfunding projects can change according to their purpose or extent.

For example, two friends raised 306,944 USD in 37 days for their coffee warming product thanks to this platform. Owners of the idea came up with an innovative idea, they devised a plan for more lucrative image and finally convinced the investors.

Crowdfunding is a derived concept from crowdsourcing. Basically crowdsourcing is getting help from individuals across a network, so crowdfunding means bringing investor capital together for a purpose.

Blockchain technology is also applicable to Crowdfunding practices. Since blockchain technology stepped in, there wouldn't be need for middleman in the

process. Early birds who wish to invest in the crowdfunding project get cryptographic shares from the platform.

Let's mention Swarm here, it is one of the leading crowdfunding platforms. When an investor gets a cryptocurrency from the platform, he also acquires a chance to have dividends from prospective startup projects. Swarm possesses different applications like Swarmops or Judobaby, those applications perform different tasks, for example one of them is a management software platform and the other one is for gaming technologies. (Other platforms are Koinify, Lighthouse and bitFlyer (as a part of fundFlyer in Japan) deserve to be mentioned too Dotson, 2014).

An Initial Coin Offering is a campaign backed by blockchain crowdfunding. ICOs went mainstream in 2013 and created platforms like Nxt or Ethereum. They earned pretty high market prestige so far.

From a legal perspective, ICOs and other blockchain crowdfunding platforms stay unclear. They have common points with IPOs (as well as other traditional crowdfunding practices) but also some specific differences. The main difference so far is that the lawmaker hasn't positioned itself, on the other hand traditional IPOs have specific limits in terms of rules. Another key issue here, many ICO promoters claim that they don't have any responsibility.

By many ICOs can be seen as Ponzi schemes, which are gathering money from the public with a lavish image. When we look at the general profile, it can be understandable that most of the ICOs have a hidden intention of beguiling (U.S. Securities and Exchange Commission 2013).

It is easy to say that as long as an ICO has a specifically designed significant purpose with highly well-known promoters will get popular and expand over time.

SMART CONTRACTS

Smart contracts are agreements which can be completed on digital systems. The terms and conditions are nested in computer protocols. So a contract can be finalized just by one party or as completely self-enacting. Actually this concept is not a new idea in 1993, smart contracts were devised by Nick Szabo. The designer aims to attract strangers on the internet who wish to have business practices. The plan was also suitable for financial contracts (Szabo, 1997).

Smart contracts are basically removing the need for the trust between the parties. In today's world, without trust it is illogical to have business with somebody since it is so easy to get harm from a counterparty. Because it isn't facile to find a partner who provides reliance, world trade and business rates proceed below op-

timum levels. It could be thought that smart contracts would lessen requirement of trust and as a result world trade would expand faster than before.

There are certain benefits why blockchain technology must be used for smart contracts. It can be stated that smart contracts can be safer than contract law. Another possible help is cost effectiveness, since the middleman goes out of the equation, the cost is decreasing. The only possible flaw which can create disturbance is a potential oversight in the text, since computers don't have artificial intelligence for now, literal reading can create striking damage.

When one of the parties send the wrong smart contract or the one including mistakes, then it is impossible to reverse it and unfortunately there is no chance to go to the jurisdiction.

Betting or auctions are also other possible areas for smart contracts. Whenever a goal or midpoint is reached, the system will release the money from investor's account. If the goal isn't reached, the system won't take any action.

CONCLUSION

From the very beginning, existence of Bitcoin caught attention; press, governments, companies and public are the main parties. Although many different negative comments are received, the concept is growing solid among stakeholders and non-stakeholders.

After intensive discussions, Blockchain practices and Bitcoin have gained independence in many countries legally. Blockchain applications are thought to spread to whole society and every stage of life. Crowdfunding and Smart Contracts are thought to be the mainstays of these applications.

In the future, it is expected that these technologies will operate in every area of life, from health to legal fields. For example, the notion of registration and control on notaries or hospitals on this system will not be a dream. It will also accelerate to evolve from human operated systems to smart and even artificial intelligence systems.

It can be seen that Blockchain technology and its most important product Bitcoin has a lot of way to go but meanwhile it will encounter heavy assaults from policymakers and groups who are benefitting from traditional practices. Since this technology brings new ideas and practices, old patterns would take long stand to survive. Over time, there will be clearer image how it will proceed.

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