



BLOCKCHAIN
T Ü R K İ Y E

**BLOCKCHAIN REGULATIONS
AND PRACTICES IN THE WORLD**
COMPARISON REPORT

*Blockchain Turkey Platform, Law, Regulations and Government
Relations Working Group Report*

FEBRUARY 2019



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TÜRKİYE BİLİŞİM VAKFI

Turkish Informatics Foundation (TBV) was founded with the aim of transforming Turkey into an information society by contributing to the development of the required infrastructure and increasing the share of information technology in the country's economy by pursuing economic and social studies, undertaking scientific R&D, creating relevant projects and ensuring their application.



BLOCKCHAIN
TÜRKİYE

The Blockchain Turkey Platform was founded with the aim of creating a sustainable blockchain ecosystem in Turkey and alleviating the difficulties in the new modes of conducting business by creating a sharing platform, both led by the Turkish Informatics Foundation (TBV).

FOREWORD



Faruk Eczacıbaşı

Turkish Informatics
Foundation (TBV)
Chairman of the Board

When we founded Turkish Informatics Foundation (TBV) in 1995, it had a simple mission: Leverage information and communications technologies to increase the country's productivity. Call it Industry 4.0 or the information society, the world has entered a period of acceleration, forcing us to change our thinking.

Blockchain is likely to be one of the most transformative products of this new line of thinking and further experience is needed for it to be properly understood and applied. As in every new technology, blockchain needs to evolve from the experimental stage, which involves conceptual thinking, to the pilot stage and on to the final product.

Blockchain's dependence on collaboration, which manifests itself in settings such as inter-industry consortia and other platforms, sets it apart from other technologies. Blockchain gives prominence to ecosystems, especially those that create value through collaboration instead of comprising individual companies with their own products.

Accordingly, as Turkish Informatics Foundation, we took action on 8 June 2011. We launched the Blockchain Turkey Platform (BCTR) to increase the prevalence of, awareness about and usage of blockchain in Turkey and to identify blockchain's strategic priorities. BCTR is a sharing platform which aims to alleviate the difficulties in the new ways of conducting business by creating a sustainable blockchain ecosystem.

I sincerely hope that, as the world migrates from the "build and sell" business model - to which we've grown accustomed since the invention of the steam machine - to the "co-create & presume" way of thinking, this platform and its work are beneficial for our country.

CONTRIBUTING INSTITUTIONS



PREFACE



Dr. Soner Canko

Member of Executive
Board of Blockchain Turkey
Law, Regulations and
Public Relations Workgroup
Sponsor

In order to use the blockchain technology, which is expected to create a radical change in the business world in the very near future, as an added value in the business life, we believe that the impacts of this technology within the context of other social sciences such as law, philosophy etc. along with its technical aspects should be addressed.

Law is undoubtedly one of the critical social sciences in terms of integration of blockchain technology into business life. For this reason, important economies and institutions in the world have already started their enlightening efforts for legal regulations on this technology.

As Turkey, if we want to catch up with the possibility of a positive transition created by the blockchain technology at the rate and time with the rest of the world, we believe that we should be aware of the recent legal approaches and practices in the world while carrying out our activities regarding this technology.

With this thought in mind, we, as the “Law, Regulations and Public Relations Working Group”, are pleased to introduce our study that aims to give you, our precious readers, a global perspective specific to the blockchain technology regulations and application examples of regulating authorities in the world.

EXECUTIVE SUMMARY

Today, researchers and practitioners from various disciplines, from academics to non-governmental organizations and actors in the business world, address and discuss the rapid introduction and impact of blockchain technology on our lives; in general, they examine, evaluate and prepare action plans against existing and potential situations in order to be ready for what will be brought to human life by new technologies.

With this report comparatively prepared by Blockchain Turkey Platform, we present the world-wide regulations on blockchain technology to the attentions of our readers. Within the scope of the study, we have outlined the current legislative studies that are currently in preparation and completed in the world, together with their application areas that we encounter today. Ultimately, we, as Blockchain Turkey Platform, completed our study by presenting our opinions on the need for a regulation and policies that needs to be adopted, regarding the blockchain technology, to the attention of our readers.

While preparing this report, Turkish Informatics Foundation and members who submitted their contributions to the report aimed to benefit from many Turkish and foreign resources and put forth the most recent developments. In this regard, both the reports and statements issued by the regulatory and supervisory institutions and organizations of countries and public sources were utilized. Within the scope of the report, we examined the regulation activities related to blockchain technology exclusively, then the regulation activities related to blockchain applications, and finally the cooperation agreements of various institutions with a general approach.

As it is known, the blockchain technology that attracts attention with cryptocurrencies is also seen through digital IDs and smart contracts. When the regulation studies and approaches of other countries are examined, it is seen that they are trying to draw a legislative framework in order to protect the citizens and market against the risks, and to contribute to the growth of the market by providing a space for players, by acting through the blockchain applications rather than directly introducing regulations on the blockchain technology. Although a globally accepted regulation has not been introduced to the blockchain technology, there are encouraging co-operations between countries in order to achieve global cohesion.

The focus of regulatory activities is mostly on blockchain applications. At this point, the priority given to cryptocurrency applications is due to the security and tax aspects of the issue, this is why each country prefers to follow an approach that is appropriate to their socio-political order. For cryptocurrencies that bring along various risks and discussions in financial sector, countries warn their citizens due to security concerns, and some countries even prefer regulations that prevent or prohibit cryptocurrency activities. On the other hand, in countries where the principle of trust is dominant in financial transactions, it is seen that cryptocurrency activities are placed in a non-restrictive but regulatory legal framework. Regulatory activities of countries for cryptocurrency applications may vary even in the same geographical region around the world. For example; while the legal status of cryptocurrencies in the countries in the south of the American continent has not been fully clarified, it is seen that the North American countries approach to this issue differently and support cryptocurrency applications within a certain regulatory framework.

Although it has not made as much influence as cryptocurrencies, digital identity and smart contract powered applications, which are followed with curiosity by the regulatory authorities of the countries and relevant stakeholders, have not yet been fully involved in regulatory works. Particularly, the use of digital identity is being monitored with interest in the world, and digital identity activities are tried to be defined under a single regulation within the European Union.

When the world-wide legal developments regarding the blockchain are examined, it is safe to say that countries have two options ahead of them at this stage. The first of these is to regulate the blockchain technology directly under the existing legislation or to introduce a new regulatory framework to this technology. The second is to determine the regulatory needs by observing the reactions of the players to the blockchain technology and applications without regulating them directly. Despite the fact that both approaches are criticized for their positive and negative aspects, it is not possible for countries, particularly Turkey, to remain indifferent towards this new technology.

A INTRODUCTION

Blockchain technology has become the focus of many sectors in the recent years. Particularly cryptocurrencies such as “Bitcoin” being welcomed with great interest has attracted the attention to the blockchain technology namely underlying technology of cryptocurrencies. In the face of digitalization processes that develop in this way, it is unthinkable that the legal systems would remain indifferent. Therefore, precedent regulations have started to emerge gradually in the world. Turkey also has a long-term process ahead in terms of regulations on the blockchain technology.

With this report, the approaches regarding blockchain technology in the world are put forth, supported by application examples. *The comparison report titled Blockchain Regulations and Practices in the World* aims to introduce a research that can be a guide for regulatory efforts regarding blockchain technology in Turkey.

Within the scope of the report, it is aimed to draw a framework for regulation studies by introducing example practices as well as a regulatory benchmark. In this respect, first of all, worldwide regulations are addressed in the report. As the countries’ approaches to the subject differ from each other, regulations dealing directly with blockchain technology and special regulations related to the application areas of Blockchain technology (such as cryptocurrency, digital identity, smart contracts) have been examined. Finally, practices of blockchain technology which are included in regulatory studies have been encompassed, and the related study has been concluded.

B REGULATORY FIELDS OF BLOCKCHAIN TECHNOLOGY

Blockchain is a technology that is open for assessments and regulations made by countries with its decentralized, public and accessible to everyone structure. When we look at the countries’ approaches in terms of regulation, it is seen that as well as there are countries that show a distant stance towards Blockchain, there are also countries that make arrangements to evaluate this new technology in the best way and present it to their societies as a gain.

1. Regulatory Approaches of Blockchain Technology

Blockchain technology is still in the early stages of development but has a significant potential. The potential that it brings along concerns many areas of law. It is safe to say that the attitude of countries towards this issue is positive.

On the other hand, almost all of the concrete regulatory responses to date have been based on specific legal issues such as cryptocurrencies, know-

your-customer (“**KYC**”) principle and anti-money laundering (“**AML**”). In addition, there are no regulation studies to directly regulate the blockchain technology. Regulatory efforts of countries are not only focused on blockchain technology, but also on the application areas of this technology. It can be said that the responses of regulatory authorities to blockchain technology are complex and mostly immature.⁽¹⁾ Under this heading, the approaches of the countries are examined primarily towards the blockchain technology regulation studies, and practices of countries that are appropriate to each approach model are discussed.

Regulatory authorities of countries often consider the blockchain technology as a comprehensive business model. At the same time, these authorities seek to conceptualize and understand the potential and transformational effects of the blockchain on economies and societies. This approach is positive in terms of not making a hasty regulation without discussing the current practices. On the other hand, this approach does not meet the expectations of the players in the sector from the regulations in order to develop new business models in a timely manner. In this case, players in the market are refrained from developing new business models.

The continuous developments in technology bring along the possibility that the regulations to be made will not be able to meet the needs over time. Furthermore, in cases where an a regulation of a business is required, it is often regulated without understanding the nature of the business model, often with complex and therefore costly arrangements, thus hindering innovative initiatives. On the other side of the coin, without a unified global interpretation of blockchain technology which brings global effects, that brings about global effects, it might cause other complexities that countries make regulations on a local basis.

Taking into account the disadvantages of the possibilities described above, some countries have adopted the “sandbox” application as a third option on the grounds that it is too early for new regulations and the “wait and see” approach is risky. In sandbox approach, almost a simulation environment is created for the companies operating with blockchain technology. With this approach, regulatory authorities provide entrepreneurs with guidance on the compatibility of business models under their existing regulations and create virtual opportunities for new business models. Business models are thus allowed to develop on a controlled scale and under close supervision over a limited period of time. In 2017, the European Commission adopted this approach as a viable approach for the activities of financial technology companies.

⁽¹⁾ OECD, Blockchain Technology and Corporate Governance Report, 2018

1.1. Wait and See Approach

When the regulatory studies of the countries are reviewed, it is safe to say that the majority is based on the 'wait and see' approach. The European Union approach and countries such as Ireland and the British Virgin Islands can be shown as examples of this approach.

In a statement by the European Securities and Markets Authority ("**ESMA**"), it was addressed that blockchain technology had not yet developed sufficiently to require a regulatory activity, therefore, it would be more accurate to monitor developments at this stage.⁽²⁾ In the statement made by the authority, it is stated that this approach is not seen as a 'passive' approach, but on the contrary, it will be the right approach to see that blockchain technology provides the elements of 'stability', 'protection' and 'integration' which are three necessities of the securities market. Thus, ESMA will follow the developments and decide whether it is necessary to take a regulatory action or not.

The European Commission stated that they were following up-to-date developments in the blockchain technology⁽³⁾ and working groups had been established on this subject and pilot projects had been carried out.

Accordingly, in 2017, ESMA, which operates within the European Commission, published two reports on digital currencies and distributed ledger technologies. While the reports are drawing attention to the contribution of blockchain technology to business models and daily life, on the other hand, it is discussed in these reports how to find solutions to eliminate emerging problems.

1.2. Regulatory Approach

Although blockchain technology is still in development stage, many countries are working directly to enact new laws or secondary regulations. Therefore, the blockchain activities are tried to be gathered under the roof of a single regulation with the enactment of the new legislation.

Criticisms towards this approach mostly focus on the concern that the blockchain technology is still in development even in terms of terminology and that regulation activities would fall behind as no stable applications can be presented.

Malta can be given as the best example for this approach. Malta has regulated the blockchain technology, cryptocurrencies and distributed ledger technology by taking a bolder step than most countries, with 3 Laws having been passed by Parliament on July 4, 2018. If we take a short look at the regulatory framework introduced by Malta, it is seen that three separate institutions are implemented, and activities are organized by each law.

⁽²⁾ McDowell Hayley, *ESMA takes 'wait and see' and-see-regulatory-approach-to-blockchain/regulatory approach to Blockchain*, 2017 [https://www.thetradenews.com/esma-takes-wait-\(last accessed: 11.03.2019\)](https://www.thetradenews.com/esma-takes-wait-(last%20accessed:11.03.2019))

⁽³⁾ Luke Parker, *European Commission "Actively Monitoring" Blockchain Developments*, 2017, <https://bravenewcoin.com/insights/european-commission-actively-monitoring-blockchain-developments> (last accessed: 11.03.2019)

- i. **With the Malta Digital Innovation Authority Act (“MDIA”)**, a digital innovation authority was established to regulate the audit and certification processes of distributed ledger technology platforms. It is foreseen that there will be a cooperation relationship between the digital innovation authority established and national authorities. The board of MDIA consists of 1 president and 8 members, and it carries out its activities, being attached to a ministry that is responsible of digital economy of the country.
- ii. **Innovation Technologies and Services Act (“TAS”)**: Regulates the certification processes of distributed ledger technology platforms.
- iii. **Virtual Financial Assets Act (“VC”)**: Puts forth a regulatory framework for digital currency supply.

In the regulation activities carried out by the competent authorities in Malta, they address two important features that need to be addressed within the scope of blockchain technology; one of them is the private key, and the other is the presence of a comprehensive network. It was stated that the “public interest” should always be taken into consideration when following the innovative developments that will be brought especially by the blockchain technology.

In Malta, distributed ledger technologies and smart contracts are also defined under the title of “Technology Arrangements”. However, it was made possible to extend the scope of this title by the government anytime. For example; it is possible to include artificial intelligence in the scope of these definitions in line with the developments.

Another definition in Malta regulation is *“Technology Service Providers”*; *the service providers in question are divided into two as “Auditors of Technology Arrangements” and “Administration of Technology Arrangements”*. The first group is responsible for evaluating and analyzing the market activities according to predetermined criteria, while the second group is responsible for controlling and managing the operations of the market players.

2. Blockchain Practices and Regulations

As is known, the blockchain technology has become popular for the first time by the introduction of cryptocurrencies. Regardless of the discussions on the legality of cryptocurrency applications, we see that the decentralized and verifiable structure of blockchain technology can be seen in applications such as digital identity and smart contracts. Certainly, many applications based on blockchain technology will be seen in the course of time, however in this period where we are approaching the 2020s, it is considered that applications such as cryptocurrencies, digital identity and smart contracts will bring up the need for a regulation.

2.1. Regulations on Cryptocurrencies

With the digitalization process of money, blockchain technology has begun to gain more place in our lives. Whilst what makes the physical currencies valuable in the free-market activities today is the centralized structure, the cryptocurrencies, particularly Bitcoin, are made valuable by its underlying technology, blockchain technology.

Blockchain technology, which is accepted by some countries while other countries remain cautious, has gone through many stages has gone through many stages in establishing social trust and playing a role in the new monetary order.

Although 'Bitcoin' is considered to be the first cryptocurrency launched, there were other distributed ledger technology initiatives (for example b-money and bitgold) formulated between 1998-2009, which were not exactly developed but secured by encryption method.

By 2009, Bitcoin started emerging and the activities where new cryptocurrencies were created and transactions were recorded and verified on blockchain technology have accelerated. Not having been traded until 2010, Bitcoin started to increase in value by first buying/selling transactions in 2010. As Bitcoin attracted attention in this process and gained popularity due to its decentralized encryption structure, new rival cryptocurrencies began to emerge as of 2011.⁽⁴⁾ Approach to Bitcoin and other cryptocurrencies that have experienced fluctuations in value since 2013 and been subject to various criminal investigations differ from country to country around the world; some countries are working on incentive regulations, while others are still conducting investigation and review procedures.

Within the scope of the report, the place of blockchain technology among the countries is addressed, and it is aimed to reveal the regulation barriers faced by the cryptocurrency applications based on blockchain technology, especially Bitcoin.

Cryptocurrencies are one of the most popular applications of blockchain technology and give an important focus of power to people's hands in the market. On the other hand, while the blockchain technology is attractive for many people due to its features such as having a decentralized technology perception and being able to store transaction records permanently thanks to its nature of a distributed database, it does not have such an attractive impact on state systems and authorities.

⁽⁴⁾ Marr, Bernard "A short history of bitcoin and crypto currency everyone should read", 2017
<https://www.forbes.com/sites/bernardmarr/2017/12/06/a-short-history-of-bitcoin-and-crypto-currency-everyone-should-read/#33b59cb83f27> (last accessed: 11.03.2019)

2.1.1. Africa

While most countries in the region are still in the process of monitoring the status of blockchain technology and cryptocurrencies, the cryptocurrencies are generally not considered to be among circulating currencies.

COUNTRY	APPROACH	STATUS
South Africa	In accordance with national legislation, only currencies in physical form are accepted as legal payment instruments. Therefore, the transactions made with cryptocurrencies are not legally recognized, as cryptocurrencies are not recognized as lawful money. On the other hand, the Central Bank, in their report published ⁽⁵⁾ , recognized cryptocurrencies as an instrument of security, and stated that these can be used in buying/selling transactions and therefore can be transformed into a legal instrument of payment.	<ul style="list-style-type: none"> ✘ Asset storage tool ✘ Not regulated ✘ Not recognized as a legal instrument of payment.
Kenya	<p>In a public release published by the Central Bank⁽⁶⁾, it was stated that they possessed many risks due to not being subject to a regulation yet, and banks have been warned against providing banking services to cryptocurrency entrepreneurs.</p> <p>Despite this situation, however, cryptocurrency trade continues in the country and has accelerated in the last couple of years. On the other hand, the capital market authority of the country is working with fintech organizations and cryptocurrency entrepreneurs in order to establish appropriate regulations. In addition, the Kenyan government and the World Bank plan to use blockchain technology in the sale of government bonds.</p>	<ul style="list-style-type: none"> ✘ Not regulated ✘ Not recognized as a legal instrument of payment.
Nigeria	Warnings have been issued by the National Bank of Nigeria to alert citizens about the speculative nature of cryptocurrencies like Bitcoin. On the other hand, the Central Bank is working on publishing an official research report on blockchain technology and cryptocurrencies.	<ul style="list-style-type: none"> ✘ Not regulated ✘ Not recognized as a lawful money.

⁽⁵⁾ South African Reserve Bank, National Payment System Department Position Paper on Virtual Currencies, 2014 [https://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem\(NPS\)/Legal/Documents/Position%20Paper/Virtual%20Currencies%20Position%20Paper%20%20Final_02of2014.pdf](https://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/Virtual%20Currencies%20Position%20Paper%20%20Final_02of2014.pdf) (last accessed: 07.11.2018)

⁽⁶⁾ Central Bank of Kenya, Public Notice, 2015, https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf (last accessed: 07.11.2018)

2.1.2. America

While the legal status of cryptocurrencies in South American countries varies from country to country, it is seen that blockchain technology is appreciated more positively in North America.

COUNTRY	APPROACH	STATUS
Ecuador	In early 2018, when there were preparations in launching a state-backed cryptocurrency, the project was halted, all cryptocurrencies were publicly banned and regulation activities were ended. In a statement made by the Central Bank of Ecuador, it was emphasized that cryptocurrencies were not a reliable instrument of payment and were vulnerable to speculations. ⁽⁷⁾	<ul style="list-style-type: none"> ✘ Not regulated, ✘ Banned. ✘ Not recognized as a legal instrument of payment.
Argentina	Even though cryptocurrencies are widely demanded in the country, any regulation has been introduced. On the other hand, as they are not recognized by the Central Bank of Argentina, which is the official authority responsible of issuing the lawful money, cryptocurrencies are not recognized as a currency. According to the latest amendments in the tax regulation ⁽⁸⁾ , the earnings from digital currencies were qualified as an income, and it was regulated that such incomes would be taxed.	<ul style="list-style-type: none"> ✘ Not recognized as a legal instrument of payment.
Bolivia	Due to the concerns regarding criminal activities such as tax evasion and money laundering, use of cryptocurrencies has been banned. In a statement made by the Central Bank, it was stated there were concerns about a possible instability in the market as digital currencies are vulnerable to speculations. ⁽⁹⁾	<ul style="list-style-type: none"> ✘ Banned. ✘ Not recognized as a legal instrument of payment.

⁽⁷⁾ Central Bank of Ecuador, Official Announcement on Bitcoin Usage (*Comunicado Oficial Sobre El Uso Del Bitcoin*), 2018 <https://www.bce.fin.ec/index.php/boletines-de-prensa-archivo/item/1028-comunicado-oficial-sobre-el-uso-del-bitcoin> (last accessed: 07.11.2018)

⁽⁸⁾ Ley 27430 de Modificación del Impuesto a las Ganancias (Law 27430 Amending the Income Tax Law) art. 2, B.O. 2017, <http://www.telam.com.ar/notas/201702/180185-el-vacio-legal-del-bitcoin-es-o-no-es-dinero.html> (last accessed: 07.11.2018)

⁽⁹⁾ Comunicado, Banco Central Boliviai, 2017 https://www.bcb.gob.bo/webdocs/11_comunicados/04_2017_COMUNICADO_Uso_monedas.pdf (last accessed: 07.11.2018)

COUNTRY	APPROACH	STATUS
Brazil	<p>The Central Bank of Brazil carries out studies on the existing blockchain platforms. While the blockchain technology is viewed positively in the country, it is not possible to say the same for the approach to the use of cryptocurrencies.⁽¹⁰⁾</p> <p>They are recognized as commodities in the tax regulation of the country, and there is a 15 percent tax liability on the earnings exceeding a certain threshold. The Brazilian government has leased a company in order to teach their employees about cryptocurrencies and blockchain technology. The contract signed with the Blockchain Academy company would provide access for public employees to the special content regarding the matter.⁽¹¹⁾</p>	<ul style="list-style-type: none"> ✘ Not recognized as a legal instrument of payment. ✔ Recognized as a commodity.
United States of America	<p>There is a strong ecosystem of cryptocurrencies and blockchain. While the Securities Exchange Commission and the Commodity Futures Trading Commission approach this matter positively, there are differences in the definitions of cryptocurrency among government institutions. While they are classified as decentralized convertible virtual currencies by the Department of Treasury, the Securities Exchange Commission classifies them as commodities. The US Internal Revenue Service recognize cryptocurrencies as subject to the wealth tax. In a court decision made by a federal judge in 2016, cryptocurrencies were qualified as funds.</p>	<ul style="list-style-type: none"> ✔ Its legal status varies from state to state. ✔ Blockchain technology is promoted.
Canada	<p>The government gave green light to the first blockchain-based exchange traded fund plan. On the other hand, digital currencies are recognized as an instrument of exchange. In a statement made by the official finance authority of the country, it was stated that digital currencies were allowed in purchases of goods and services, and that they could be used for transactions on stock exchange platforms. However, it was also stated that they were not recognized as an instrument of payment.⁽¹²⁾</p>	<ul style="list-style-type: none"> ✘ Not recognized as a legal instrument of payment. ✔ Permitted in commerce.

⁽¹⁰⁾ Banco Central do Brasil (Brazilian Federal Reserve Bank) Comunicado No. 31,379, 2017, <http://www.bcb.gov.br/pre/normativos/busca/normativo.asp?numero=31379&tipo=Comunicado&data=16/11/2017> (last accessed: 07.11.2018)

⁽¹¹⁾ <https://tokenmantra.com/brazilian-government-hires-company-for-blockchain-courses/> (last accessed: 01.03.2019)

⁽¹²⁾ Financial Consumer Agency of Canada, Digital Currency, 2018 <https://www.canada.ca/en/financial-consumer-agency/services/payment/digital-currency.html> (last accessed: 07.11.2018)

2.1.3. Asia

A vast majority of the cryptocurrency trade is carried out through Asian countries. The legal status of cryptocurrencies and innovations regarding the blockchain technology may vary among the countries in the continent.

COUNTRY	APPROACH	STATUS
Russia	While the Russian government, in 2016, had stated that cryptocurrencies were not legal, the president of the Central Bank has made a statement in 2017 that they did not want to regulate cryptocurrencies as an instrument of payment. The Ministry of Finance has prepared the draft law regarding digital financial assets on January 20, 2018, and the draft law was put to the vote in the parliament on March 20, 2018. ⁽¹³⁾ In the bill, the ‘cryptocurrency mining’ and ‘smart contracts’ were defined, it was regulated that only licensed businesses could trade cryptocurrencies, and the cryptocurrencies were not recognized as a lawful money and included in the “commodity” class. In addition, there were regulations in order to bring a judicial protection and protect the rights of cryptocurrency owners by defining digital currencies in the Civil Law.	<ul style="list-style-type: none"> ✘ Not recognized as a legal instrument of payment. ✓ Regulation studies are carried out.
India	In a statement made by the Government in February 2018, it was emphasized that necessary steps would be taken in order to prevent cryptocurrencies from being used for financing criminal activities and terrorism and in order for digital currencies not to be a part of payment systems. ⁽¹⁴⁾ While the necessity of cryptocurrencies to be subject to regulations is frequently expressed in the country, in a court decision regarding a public prosecution made by the Supreme Court ⁽¹⁵⁾ , it was stated that there was a need for regulating the use of cryptocurrencies like Bitcoin and Litecoin. While the government and central bank remain distant to cryptocurrency trading, these parties agree to examine the blockchain technology deeper. Pilot projects related to blockchain technology are being developed in order to prevent corruption and to ensure relevant management.	<ul style="list-style-type: none"> ✓ Blockchain technology deemed to be of importance. ✘ Not recognized as a lawful money. ✘ Cryptocurrency trade is not recognized in terms of banking services.

⁽¹³⁾ Bill No. 424632-7, Federal Law of the Russian Federation on Amending Parts One, Two and Four of the Civil Code of the Russian Federation, 2018 [http://asozd2c.duma.gov.ru/addwork/scans.nsf/IDE426461949B66ACC4325825600217475/\\$FILE/419059-7_20032018_419059-7.PDF?OpenElement](http://asozd2c.duma.gov.ru/addwork/scans.nsf/IDE426461949B66ACC4325825600217475/$FILE/419059-7_20032018_419059-7.PDF?OpenElement) (last accessed: 07.11.2018).

⁽¹⁴⁾ P. Suchetana Ray, *Govt Plans to Bring in Law to Regulate Cryptocurrency Trade, Forms Panel*, Hindustan Times 2018 https://www.lexology.com/library/detail.aspx?g=4cc566a7-048b-449a-b535-9eb7b3626f78#_ftn1 (last accessed: 07.11.2018).

⁽¹⁵⁾ SS Rana & Co., *India: SC Asks Govt. to Regulate Crypto Currency*, Lexology, 2017 <https://www.lexology.com/library/detail.aspx?g=4cc566a7-048b-449a-b535-9eb7b3626f78> (last accessed: 07.11.2018).

COUNTRY	APPROACH	STATUS
China	<p>As a result of studies carried out by the Central Bank of China for almost three years, a 'Digital Currency Institute' within the Central Bank has been established.⁽¹⁶⁾ In 2017, in a joint statement made by banking, finance and capital market authorities of China, cryptocurrencies and cryptocurrency mining were officially banned. Financial institutions are officially prohibited from making transactions with cryptocurrency assets. While the status of cryptocurrencies remains unclear around the country, there is a huge interest in the blockchain technology. The Chinese government is one of the largest economies that have remained distant to Bitcoin for a long time. ICOs are banned in China; in the last weeks (March 2019), China has banned security token offerings (STO) as well.⁽¹⁷⁾</p>	<ul style="list-style-type: none"> ✘ Not recognized as a legal instrument of payment. ✓ Researches on blockchain technology continue.
Japan	<p>Blockchain technology and cryptocurrencies have acquired a legal ground in the country.⁽¹⁸⁾ While the financial authority of the country is carrying out very strict audits on cryptocurrency trade in terms of the fight against money laundering, it also supports the cryptocurrency activities in the meantime. However, as a consequence of recent cyberattacks on cryptocurrencies⁽¹⁹⁾, Japan regulatory authorities have put cryptocurrency trade under the scope more tightly, and there were even discussions on stopping its activities for a while. It can be said that as long as the players in the cryptocurrency sector act in accordance with the regulations for now, the cryptocurrency sector would grow rapidly.</p>	<ul style="list-style-type: none"> ✓ Recognized as a legal instrument of payment. ✓ There are legal regulations ✓ Blockchain technology is promoted.

⁽¹⁶⁾ Zhou Xiaochuan, 'Future Regulation on Virtual Currency Will Be Dynamic, Imprudent Products Shall Be Stopped for Now', Xinhuanet, 2018 http://www.xinhuanet.com/finance/2018-03/10/c_129826604.htm (last accessed: 07.11.2018)

⁽¹⁷⁾ <https://coin-turk.com/cin-hukumetine-bagli-medya-kanali-2019-beklentisini-acikladi> (last accessed: 01.03.2019)

⁽¹⁸⁾ In the Payment Services Act, there were amendments regarding cryptocurrencies in June 2016, and these amendments became effective as of April 1, 2017.

⁽¹⁹⁾ On January 26, 2018, the largest cryptocurrency trade platform, Coincheck, has experienced a large-scale cyberattack.

COUNTRY	APPROACH	STATUS
Singapore	<p>Legislative arrangements and activities in the cryptocurrency and blockchain technology market continue. A serious support is provided and funds are created by the government in order for the blockchain technology to gain place in especially financial services and corporate governance, for mainly the studies to be carried out on these subjects. In the regulation studies carried out since 2017, the scope of payment services activities has been extended and public authorities have expressed their opinion on the inclusion of digital currencies into this scope and the necessity of obtaining licenses for those who wish to trade cryptocurrencies. In particular, the Monetary Authority of Singapore, the authority responsible for regulating the monetary policies of Singapore, stated that, although the movements of the cryptocurrencies in the market are in the regulatory stage, these activities will be examined under the supervision of the Authority in any case.⁽²⁰⁾ In November 2017, a bill of law has been published, where the framework of the regulation has been sketched by the Institution. Within the scope of the regulation, the obligation to obtain licenses is imposed on the persons / organizations that trade cryptocurrency.⁽²¹⁾ On November 14, 2018, the Monetary Authority of Singapore (MAS) issued an advisory document on the creation of predefined virtual zones known as Sandbox Express to complement the existing FinTech Regulatory Sandbox launched in 2016.⁽²²⁾</p>	<ul style="list-style-type: none"> ✓ Legal regulations currently being carried out. ✓ Blockchain technology is promoted.

⁽²⁰⁾ Press release, 'MAS Launches Second Consultation on New Regulatory Framework for Payments', 2017
<http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MAS-Launches-Second-Consultation-on-New-Regulatory-Framework-for-Payments.aspx> (last accessed: 07.11.2018)

⁽²¹⁾ Minutes of the parliament congress dated 2 October 2017 where the regulation was discussed
<http://www.mas.gov.sg/News-and-Publications/Parliamentary-Replies/2017/Prevalence-use-of-cryptocurrency-in-Singapore.aspx>
 (last accessed: 11.03.2019)

⁽²²⁾ <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2018/MAS-Proposes-New-Regulatory-Sandbox-with-FastTrack-Approvals.aspx> (last accessed: 01.03.2019)

COUNTRY	APPROACH	STATUS
The Philippines	<p>In the guidelines issued by the Central Bank of the Philippines, it was stated that digital currencies are not supported by the central bank and financial authorities; therefore, they cannot be accepted as a legal instrument of payment. However, it was stated that firms using digital currencies as intermediaries in providing various financial services should notify the Central Bank and take necessary measures. In this respect, sanctions were also imposed on digital currency institutions operating without obtaining the authorization required by the Central Bank.⁽²³⁾ Studies are carried out for new regulations to be made for cryptocurrencies in the country. The new regulations made by the Cagayan Economic Zone Administration encompass all digital assets as well as protecting the cryptocurrency sector and investors. Together with the framework regulations, the issuers of cryptocurrencies must initially have proposal documents, expert advices and necessary certificates that provide detailed information about the project owner and the project. The issuers who have fulfilled the requirements will also be listed on the Offshore Virtual Exchange, which is a licensed stock exchange.⁽²⁴⁾</p>	<p>✓ Regulatory works are in progress for cryptocurrencies.</p>
South Korea	<p>As of 30 January 2018, South Korea introduced regulations to ensure that cryptocurrencies can only be traded through real person bank accounts in order to monitor the applicability of anti-money laundering and tax regulations. In this way, cryptocurrency trade through anonymous bank accounts has been banned. There is also an obligation for cryptocurrency issuers to make contracts with banks. Thanks to these obligatory agreements with banks, the identity and system security of cryptocurrency issuers can be questioned by banks during transactions. On the other hand, the new regulations introduced by South Korean financial regulatory authorities to control the transactions in the stock exchange have prevented the cryptocurrency exchanges from benefiting from the tax advantages offered to small businesses.⁽²⁵⁾</p>	<p>✓ Regulations being implemented regarding the cryptocurrency exchange and transactions.</p>

⁽²³⁾ Guidelines for Virtual Currency (VC) Exchanges, Circular No. 944, 2017, <http://www.bsp.gov.ph/downloads/regulations/attachments/2017/c944.pdf> (last accessed: 01.03.2019)

⁽²⁴⁾ New cryptocurrency regulations introduced in the Philippines, February 2019, <https://bctr.org/filipinlerde-yeni-kripto-para-duzenlemeleri-yapildi-7812/> (last accessed: 01.03.2019)

⁽²⁵⁾ Kim, Michael, Lee, Daniel, 'Cryptocurrency laws and regulations in South Korea', July 2018 <https://www.vantageasia.com/cryptocurrency-law-south-korea/> (last accessed: 01.03.2019)

2.1.4. Europe

Policy and regulation efforts for cryptocurrency trade and blockchain technology are in progress. On 12 February 2018, financial institutions of the European Union issued a warning to citizens due to the fact that virtual currencies are still not fully regulated and due to their risky nature. Apart from the benefits of Money Laundering Directive No. 4, the European Banking Authority emphasizes on the necessity of a separate regulation in order to minimize the risks posed by cryptocurrencies.

By March 8, 2018, the European Commission has prepared a “FinTech Action Plan”, which focuses on many innovations such as blockchain technology, artificial intelligence and cloud storage services in order to turn the technological developments in the financial sector into an advantage. With this plan, it can be said that the member states generally follow the approach of the European Court of Justice in the “Hedqvist” decision⁽²⁶⁾ dated 22 October 2015 numbered C-264/14. In this decision, the Court of Justice made assessments on the legal determination of Bitcoin.

The dispute subject to the lawsuit has arisen between the Swedish citizen, David Hedqvist who wanted to trade Bitcoin on the Internet, and the Swedish Tax Administration regarding whether the Bitcoin was subject to VAT or not. The European Court of Justice ruled that the purchase of Bitcoin in consideration of payment is exempted from VAT in accordance with Article 135 of the European Union Value Added Tax Directive. Similarly, it was decided that the increase in value during the subsequent conversion of Bitcoin would be exempt from VAT in all union countries and Bitcoin would be considered as a virtual currency.

⁽²⁶⁾ ‘Skatteverket v. David Hedqvist’ decision dated 22 October 2015 numbered C-264/14
<http://curia.europa.eu/juris/liste.jsf?num=C-264/14> (last accessed: 07.11.2018)

⁽²⁷⁾ Press release on the matter; Kanton Zug (Canton Zug), Handelsregisteramt Zug akzeptiert Kryptowährungen Bitcoin und Ether als Zahlungsmittel (Commercial Register Office Zug Accepts Cryptocurrencies Bitcoin and Ether as Means of Payment), 2017
<https://www.zg.ch/behoerden/volkswirtschaftsdirektion/handelsregisteramt/aktuell/handelsregisteramt-zugakzeptiert-kryptowaehrungen-bitcoin-und-ether-als-zahlungsmittel> (last accessed: 07.11.2018)

⁽²⁸⁾ Statement by the Ministry *Steuerliche Behandlung von Kryptowährungen (virtuelle Währungen)* [Tax Treatment of Cryptocurrencies (Virtual Currencies)], 2017
https://www.bmf.gv.at/steuern/kryptowaehrung_Besteuerung.html (last accessed: 07.11.2018).

⁽²⁹⁾ Statement by the Central Bank of Austria: *Sind virtuelle Währungen wie Bitcoin eine Alternative zu klassischen Währungen wie dem Euro? (Are Virtual Currencies Like Bitcoin an Alternative to Traditional Currencies Like the Euro?)*,
<https://www.oenb.at/FAQ/sonstiges.html> (last accessed: 07.11.2018).

⁽³⁰⁾ *Finanstilsynet, Advarsel mod virtuelle valutaer (bitcoin m.fl.) (Warnings Regarding Digital Currencies (Bitcoins etc.))*, 2013,
<https://perma.cc/UZ2E-G7S7> (last accessed: 11.03.2019)

Caffyn, Grace, *Denmark’s Authorities: Bitcoin is Not Regulated Here*, 2013,
<https://www.coindesk.com/denmarks-bitcoin-is-not-regulated-here> (last accessed: 11.03.2019)

⁽³¹⁾ News report regarding the warning; Stine Jacobsen, *Danish Central Bank Head Issues Stark Warning on “Deadly” Bitcoin*, Reuters, 2017 <https://in.reuters.com/article/bitcoin-denmark/danish-central-bank-head-issues-starkwarning-on-deadly-bitcoin-idINKBN1EC19R> (last accessed: 07.11.2018)

⁽³²⁾ *Gevinst og tab ved afståelse af bitcoins (Profit and Loss of Realized Bitcoins)*, SKM2018.104.SR, Case No. 17-1369067,
<https://skat.dk/skat.aspx?oid=2271294> (last accessed: 07.11.2018)

COUNTRY	APPROACH	STATUS
Switzerland	<p>Cryptocurrency activities in the country are subject to the anti-money laundering regulation. In the city of Zug, a cryptocurrency valley was established, which also attracted attention and hosted many blockchain entrepreneurs. Cryptocurrencies are accepted in many payment transactions, such as transportation fees around the city.⁽²⁷⁾ The guideline issued by the Swiss Financial Markets Supervisory Authority on 16 February 2018 states that each cryptocurrency must be subject to a separate case-by-case evaluation, as they are all designed in different ways. In the evaluations made by the Authority, cryptocurrencies are handled separately according to different purposes such as being used as a means of payment, being used in auxiliary services or being used to represent an asset.</p>	<ul style="list-style-type: none"> ✓ Can be recognized as a lawful money. ✓ Legal regulations currently being carried out. ✓ Blockchain technology is promoted.
Austria	<p>Cryptocurrencies are not considered as financial payment instruments by the Ministry of Finance but are classified as intangible items.⁽²⁸⁾ According to the Ministry, cryptocurrency mining and cryptocurrency platforms are a kind of commercial activity. The Austrian Central Bank does not consider Bitcoin as a monetary value, and it is stated that it cannot meet the expectations of the money used as a means of payment, due to its decentralized structure and tight restrictions on the market.⁽²⁹⁾ Therefore, regulations regarding cryptocurrencies are not included in the electronic money and payment services law in the country. On the other hand, the Austrian Financial Market Authority voiced the need for a regulation for ICOs, similar to securities, and stated that some business models in this market may require authorization from the Authority.</p>	<ul style="list-style-type: none"> ✗ Not recognized as a lawful money. ✗ No legal regulations.
Denmark	<p>Although there are no regulation efforts yet, there are many statements made by the official institutions of the country. In 2013, in a statement⁽³⁰⁾ by the competent financial supervision authority of the country, it was stated that cryptocurrency activities, including payment systems and electronic currency institutions, could not be regulated within financial services, and therefore it was not possible to regulate them under current financial regulation. While the ones who want to invest in Bitcoin have been warned⁽³¹⁾ against the possible risks in a statement by the Central Bank of Denmark in 2017, the Tax Commission of Denmark stated⁽³²⁾ in 2018 that the losses of individuals due to Bitcoin trade for investing purposes could be reduced from tax and the earnings obtained, on the other hand, could be subject to taxation.</p>	<ul style="list-style-type: none"> ✗ Not recognized as a legal instrument of payment. ✗ No legal regulations.

COUNTRY	APPROACH	STATUS
Gibraltar	It is an autonomous region where serious regulations took place, similar to Malta. The regulation on distributed ledger technologies by the Government was enacted under the Financial Services Law. ⁽³³⁾ Pursuant to the relevant regulation, companies wishing to provide services in distributed ledger technologies are required to apply for a license to the Financial Services Commission. Financial Services and Gaming Minister Albert Isola has also announced that some cryptocurrency companies would start to receive official licenses from the government.	<ul style="list-style-type: none"> ✓ Blockchain technology is encouraged. ✓ Regulation efforts continue.
Estonia	As well as the use of cryptocurrencies is not subject to any legal regulation, it is also not subject to any restrictions or supervisions. The current legal and tax regulations in the country allow entrepreneurs in the blockchain technology and cryptocurrency sectors to grow. “ESTcoin” expected to be launched as a state-backed cryptocurrency has been cancelled upon the statements and criticism of Mario Draghi, the President of the European Central Bank. In the related statement, it was stated that “No EU member countries is allowed to establish their own currencies; the currency of the Eurozone is Euro.” In addition, Siim Sikkut, the President of the Estonian Information System Authority, stated that Estcoin would be used in the transactions within the society of e-residency. In the amendments made to the anti-money laundering regulations on November 27, 2017, it was stated that cryptocurrencies are not a legal payment instrument and it is regulated that institutions offering cryptocurrency wallet and/or trading services must obtain licenses. ⁽³⁴⁾	<ul style="list-style-type: none"> ✓ Blockchain technology is encouraged by legal regulations.
France	Except for a few regulations on blockchain technology, cryptocurrencies have not yet been regulated. However, the French authorities continue to work on how to organize cryptocurrencies in the most effective way. In this respect, separate working commissions have been established regarding cryptocurrencies and blockchain technology. One of the regulations introduced for blockchain technology was introduced for certain zero coupon bonds in 2016 ⁽³⁵⁾ , while another regulation was approved in December 2017 for the use of blockchain technology for a wider scope of financial instruments.	<ul style="list-style-type: none"> ✗ No legal regulations. ✓ Blockchain technology is encouraged.

⁽³³⁾ Code of Financial Services, Schedule 3/10, ‘Providing distributed ledger technology services’ <https://www.gibraltarlaws.gov.gi/articles/1989-470.pdf> (last accessed: 08.02.2019)

⁽³⁴⁾ *Rahapesu Ja Terrorismi Rahastamise Tõkestamise Seadus* (Money Laundering and Terrorist Financing Prevention Act), Riigi Teataja [Official Gazette] RT I Nov. 17, 2017, § 3 <https://www.riigiteataja.ee/en/eli/517112017003/consolide>, archived at <https://perma.cc/TFF7-Z9FU> (last accessed: 07.11.2018)

⁽³⁵⁾ Ordinance No. 2016-520 of 28 April 2016 Regarding Zero Coupon Bonds, <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000032465520&categorieLien=id> (last accessed: 07.11.2018)

⁽³⁶⁾ Ordinance No. 2017-1674 of 8 December 2017 Regarding the Use of a Shared Electronic Registration Method for the Representation and Conveyance of Financial Instruments, <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000036171908& categorieLien=id> (last accessed: 07.11.2018)

COUNTRY	APPROACH	STATUS
Germany	<p>The German Federal Financial Services Supervisory Board describes cryptocurrencies as financial instruments.⁽³⁷⁾ Entrepreneurs and individuals engaged in commercial activities with cryptocurrencies or cryptocurrency platforms that provide intermediary services in cryptocurrency trading must obtain authorization from the Supervisory Board.⁽³⁸⁾ In addition, in the statement made by the German Ministry of Finance,⁽³⁹⁾ it was stated that payments made with cryptocurrencies, such as Bitcoin, may be treated in the same way as conventional payment methods, and therefore commercial transactions with cryptocurrencies are taxable.</p>	<p>✘ No legal regulations.</p>
Malta	<p>The Government of Malta explicitly encourages the development of cryptocurrencies and continues regulatory efforts to clarify market activities. In October 2017, the government of Malta issued a consultation document offering a regulatory framework for collective investment programs and cryptocurrency investments. As a result, the Malta Financial Services Authority issued a consultation document on 22 - 29 January 2018 proposing a regulatory framework regarding cryptocurrency investments.⁽⁴⁰⁾ Consequently, the Malta Financial Services Authority issued the terms on 22 - 29 January 2018 that apply to professional investor funds investing in cryptocurrencies. The report issued by the Maltese Government⁽⁴¹⁾ in November 2017 pointed out that some cryptocurrency units may be covered by existing financial services regulation, while others may be excluded and therefore not regulated. In January 2018, the Government of Malta issued a negotiation document regulating a framework in which some cryptocurrency platforms might be subject to certification in Malta.⁽⁴²⁾ Malta has introduced three laws that provide a regulatory framework for cryptocurrencies and it was aimed to prevent the ineffectiveness of regulations against technological developments by introducing specific principles in laws.</p>	<p>✓ Development of cryptocurrencies is encouraged.</p> <p>✓ Regulation efforts continue.</p>

⁽³⁷⁾ Gesetz über das Kreditwesen [KWG] [Banking Act], Sept. 9, 1998, Bundesgesetzblatt [BGBl.] [Federal Law Gazette] I at 2776, § 1, para. 11 https://www.bafin.de/SharedDocs/Downloads/EN/Aufsichtsrecht/dl_kwg_en.pdf?blob=publicationFile&v=3 (last accessed: 07.11.2018)

⁽³⁸⁾ Reference to the regulation of the article 32 of German Banking Law.

⁽³⁹⁾ German Ministry of Finance has published many QAs regarding the issue. *Federal Ministry of Finance Publishes Guidance on VAT Treatment of Virtual Currencies*, Global Legal Monitor, 2018 <https://www.loc.gov/law/foreign-news/article/germany-federal-ministry-of-finance-publishes-guidance-on-vattreatment-of-virtual-currencies/> (last accessed: 07.11.2018)

⁽⁴⁰⁾ Parliamentary Secretariat for Financial Services et al., Malta: A Leader in DLT Regulation 9, 2018 https://meae.gov.mt/en/Public_Consultations/OPM/Documents/PS%20FSDEI%20%20DLT%20Regulation%20Document%20OUTPUT.PDF (last accessed: 07.11.2018)

⁽⁴¹⁾ Related report <http://act.com.mt/media/images/active/downloads/DiscussionPaperVCs.pdf> (last accessed: 07.11.2018)

⁽⁴²⁾ Press release on the related regulation <https://www.gov.mt/en/Government/Press%20Releases/Pages/2017/November/29/pr172729.aspx> (last accessed: 07.11.2018) As the related press release is not accessible, we recommend the following source as an alternative to the content of the said document in Malta. *The Maltese government releases a consultation paper dedicated to DLT*, 2018, <https://maltablockchainsummit.com/news/the-maltese-government-releases-a-consultation-paper-dedicated-to-dlt/> (last accessed: 11.03.2019)

2.1.5. Australia

It is seen that cryptocurrency activities and blockchain technology are generally supported by the governments of the countries in the continent.

COUNTRY	APPROACH	STATUS
Australia	Australian government assumes a positive approach towards cryptocurrencies. The use and trade of cryptocurrencies and cryptocurrency mining are legal in the country, and taxing guidelines are guiding individuals through these processes. A law was drafted and its regulations were enacted on August 3, 2018 to cover the activities of digital currency providers within the regulations on money laundering and financing of terrorism. ⁽⁴³⁾ On the other hand, the Australian Tax Office issued various announcements and published guidelines to cover tax gaps in transactions with cryptocurrencies. ⁽⁴⁴⁾	✓ Regulation efforts continue.
New Zealand	The Financial Markets Authority (“FMA”) and taxation authority of the country have conducted numerous studies on the legal status of the cryptocurrencies. There are a number of reports published by the FMA, highlighting the risks of cryptocurrencies ⁽⁴⁵⁾ , and also discussing whether cryptocurrency activities (exchange and wallet services etc.) could be included in the current financial legislation. In the latest report issued by the FMA, it is stated that the activities carried out in the country regarding cryptocurrencies are obliged to comply with the Law on Financial Service Providers issued in 2008 and the legislation on anti-money laundering. ⁽⁴⁶⁾	✗ Not recognized as a legal instrument of payment.

⁽⁴³⁾ Announcement of Australian Transaction Reporting and Analysis Center; AUSTRAC, Digital Currency Exchange Providers, 2018, <http://www.austrac.gov.au/digital-currency-exchange-providers> (last accessed: 07.11.2018)

⁽⁴⁴⁾ Guidelines issued by Australian Taxation Office; Australian Taxation Office (ATO), Tax Treatment of Crypto-Currencies in Australia –Specifically Bitcoin, 2017 <https://www.ato.gov.au/general/gen/tax-treatment-of-crypto-currencies-in-australia---specifically-bitcoin/> (last accessed: 11.03.2019)
 The related guidelines is also available in PDF: <https://www.ato.gov.au/misc/downloads/pdf/qc42159.pdf>

⁽⁴⁵⁾ Announcement issued by FMA: &U\SWRFXUUHQFLHV <https://fma.govt.nz/investors/ways-to-invest/cryptocurrencies/> (last accessed: 05.11.2018)

⁽⁴⁶⁾ Statement by FMA: &U\SWRFXUUHQF\ 6HUULFHV, <https://fma.govt.nz/compliance/cryptocurrencies/cryptocurrency-services/> (last accessed: 05.11.2018)

2.1.6. Middle East and North Africa

Blockchain technology is welcomed by countries and researches continue their studies on regulations in many countries.

Especially after the declarations that the cryptocurrencies were halal in the fatwas given within the scope of Islamic Law, the sector started to heat up. Despite these statements, it is thought that the steps taken by the governments in the countries of the region will determine the state of the sector. In order to avoid the sanctions of the United States of America, cryptocurrencies are warmly welcomed by some countries.

COUNTRY	APPROACH	STATUS
Iran	<p>Due to the fact that VISA and Mastercard are not available in the country and the inflation rate is high, the value of the national currency also constantly change. Therefore, even though cryptocurrencies are being followed with interest by individuals all over the country, the Central Bank of Iran announced⁽⁴⁷⁾ on April 22, 2018 that the transactions with cryptocurrencies were prohibited on the grounds that they were used in criminal activities such as money laundering and financing terrorism. This ban causing disappointment for the ones who consider virtual currencies as an instrument for overcoming problems regarding the banking industry and international sanctions in Iran has been lifted recently, and the first draft regulation has been published in order to regulate cryptocurrency activities.⁽⁴⁸⁾ In addition, according to recent news, it was stated that a Riyal-backed national cryptocurrency for overcoming the economic sanctions carried out by the US President Trump.⁽⁴⁹⁾ Although the situation is not clear in the country regarding cryptocurrencies, blockchain technology attracts attention. For example, in August, the Iranian Ministry of Information and Communication Technologies and the National Library came together to use blockchain to digitize the archives in the country.</p>	<ul style="list-style-type: none"> ✓ Efforts regarding blockchain technology continue. ✓ A regulation effort regarding cryptocurrencies is carried out.

⁽⁴⁷⁾ Related news: *Financial Tribune, Iranian Financial Institutions Barred From Using Crypto-Currencies*, 2018
<https://financialtribune.com/articles/business-and-markets/85114/iranian-financial-institutionsbarred-from-using-crypto>
 (last accessed: 05.11.2018)

⁽⁴⁸⁾ Related news: *"Draft Cryptocurrency Regulations Issued by Central Bank of Iran"*, 2019
<https://blockonomi.com/cryptocurrency-regulations-iran/> (last accessed: 09.02.2019)

⁽⁴⁹⁾ Related news: *"Iran on the Track of Crypto-Riyal Lifts the Bitcoin Ban"*, 2019
<https://kriptoparhaber.com/iran-bitcoin-yasagini-kaldiriyor.html> (last accessed:09.02.2019)

COUNTRY	APPROACH	STATUS
<p>United Arab Emirates</p>	<p>It acted as an alarm that “All Virtual Currencies (and any related transactions) are banned” phrase took place in the section titled ‘D.7.3. Provisions for Digital Currencies’ of the Electronic Payment Systems draft published on January 1, 2017 by the Central Bank of UAE.</p> <p>Following the uncertainty in the extent of the ban, the Chairman of the UAE Central Bank issued a statement explaining that the regulations do not apply to basic technologies such as cryptocurrencies, crypto exchanges or blockchain technology, adding that the UAE government will review the virtual currencies and that the necessary legal arrangements will be revised at the appropriate time.⁽⁵¹⁾</p> <p>In the first half of 2019, the UAE Securities and Commodities Authority (“SCA”), which regulates and supervises the markets, announced that they will work together with the Abu Dhabi Stock Exchange and the Dubai Financial Market to create a new Initial Coin Offering token trading platform. SCA General Manager Obad Al Zaabi stated that FinTech Regulatory Sandbox Guideline was in force for the regulation of ICOs and that the necessary efforts were being made for the implementation of other regulations.⁽⁵²⁾ As outlined in the Guideline, Sandbox is a process-based structure that enables businesses to test their innovative products, services, solutions and business models in a comfortable regulatory environment but within a determined area and time.⁽⁵³⁾ In the relevant Guidelines, the SCA aims to create an attractive environment for capital markets by securing investors’ rights, encouraging implementations, using innovative systems and including cryptocurrencies and ICO processes.</p> <p>In the last few years, the United Arab Emirates (UAE) has implemented the above-mentioned regulations to become the central point of blockchain transactions; and took important steps in cryptocurrency and blockchain sector with the support of the UAE’s official authorities. This is why experts state that the UAE can become one of the popular cryptocurrency destinations such as Malta and Gibraltar.</p>	<ul style="list-style-type: none"> ✓ Efforts regarding blockchain technology continue. ✗ No regulations regarding cryptocurrencies.

⁽⁵⁰⁾ Related news: Capaccioli, Stefano UAE – Regulatory Framework For Stored Values and Electronic Payment Systems, January 2017, <https://www.coinlex.it/2017/01/24/uae-regulatory-framework-for-stored-values-and-electronic-payment-systems/?cn-reloaded=1> (last accessed: 08.02.2019)

⁽⁵¹⁾ Related news: Adil Shafi and Kajal Patel, Anjarwalla Collins & Haidermota, Cryptocurrency laws and regulations in UAE <https://www.vantageasia.com/cryptocurrency-law-uae/> (last accessed: 08.02.2019)

⁽⁵²⁾ Related news: United Arab Emirates Will Enact the ICO Regulation in the first half of 2019 <https://kriptokilavuz.com/birlesik-arap-emirlikleri-2019un-ilk-yarisinda-ico-duzenlemesini-uygulamaya-koyacak/> (last accessed: 08.02.2019)

⁽⁵³⁾ FinTech regulatory framework, 2018 <https://www.sca.gov.ae/Arabic/Documents/LatestRegulations/04-sept-2018.pdf> (last accessed: 08.02.2019)

COUNTRY	APPROACH	STATUS
Israel	Efforts regarding the definition of cryptocurrencies continue. The Bank of Israel and many regulatory authorities issued warnings about the risks involved in transactions with digital currencies. ⁽⁵⁴⁾ Although digital currencies are not accepted by the Bank of Israel as a valid currency, the Israeli Tax Authority, in a statement issued on January 1, 2018, suggested that the use of virtual currencies should be seen as a “virtual payment instrument” and subject to tax. ⁽⁵⁵⁾ On the other hand, according to the circular issued by the Israeli Tax Office (56), digital currencies are classified as assets and must be taxed according to the relevant transaction classifications.	<ul style="list-style-type: none"> ✓ Efforts regarding blockchain technology continue. ✓ Regulations made in tax legislation.
Lebanon	It was the first country in the region that issues a warning against the risks of cryptocurrency trade. ⁽⁵⁷⁾ The Central Bank of Lebanon announced in October 2017 that the institution would like to issue its own virtual currency ⁽⁵⁸⁾ but first there was a need for preparing the appropriate regulatory environment. In the statement, it was also addressed that the use of virtual currency, such as Bitcoin, constitutes a risk to consumers and payment systems for the moment.	<ul style="list-style-type: none"> ✗ No efforts regarding blockchain technology. ✗ Use of cryptocurrencies is unwanted.

⁽⁵⁴⁾ Related warning https://taxes.gov.il/English/About/SpokesmanAnnouncements/Pages/Ann_18022014.aspx (last accessed: 05.11.2018)

⁽⁵⁵⁾ Related warning; Reuters, Steven Scheer, Bitcoin Is an Asset, Not a Currency - Israel's Central Bank, 2018 <https://www.reuters.com/article/uk-bitcoin-israel/bitcoin-is-an-asset-not-a-currency-israels-centralbank-idUSKBN1EX18E> (last accessed: 05.11.2018)

⁽⁵⁶⁾ Circular issued by the Israel Tax Authority; Israel Tax Authority, Taxation of Activity by Means of Virtual Payment (Known as 'Virtual Currencies'), Israel Tax Authority Circular No. 05/2018 https://taxes.gov.il/incometax/documents/hozrim/hor_acc%2015.2.18.pdf https://taxes.gov.il/About/SpokesmanAnnouncements/Pages/Ann_190218_1.aspx (last accessed: 05.11.2018)

⁽⁵⁷⁾ Related press release: Notice No. 900, Banque du Liban, 2013 <http://www.bdl.gov.lb/news/more/5/111/65> (last accessed: 05.11.2018)

⁽⁵⁸⁾ Related news: The Daily Star, Brooke Anderson, Salameh: Central Bank to Launch Digital Currency, 2017 <http://www.dailystar.com.lb/Business/Local/2017/Oct-27/424064-salameh-central-bank-to-launchdigital-currency.ashx> (last accessed: 05.11.2018)

2.2. Regulations on Digital Identity Applications

The concept of “data” is right in the center of the digital life. It has become a must rather than a need that the processes regarding data processing are legally subject to regulations. Under this title, the necessity to regulate the “digital identity” concept, which is a data-based digitalization area, and efforts made by now are addressed.

Identity Regulations

The legal identity definitions that countries currently regulate for citizens are not sufficient to encompass our digital identity on a large scale. The fact that regulations remain at national level while digital identity is of international importance also brings along some problems.

The regulatory bodies continue to work to eliminate the legal gap regarding the digital identity.

Digital identities are on the way to terminating the use of traditional identities around the world and aim to provide services on a more systematic and secure basis by keeping the private data of the individuals that they possess for security, health and other special purposes within the framework of legal regulations.

When we look at the developments in Turkey, it is safe to say that the legislative efforts on Digital ID continue and the developments in the world are closely followed. Digital identity applications in Turkey have found a legal base with the enactment of Republic of Turkey ID Card Directive published on April 11, 2016. In accordance with the descriptive article no 4(b) of the directive; “Biometric data: Refers to the personal data obtained from finger prints, vein prints and palm prints that are taken in order to perform identification and authentication through electronic systems”.

Thereby, it must be noted that the new citizenship IDs created in Turkey are digital identities within this context and this has been realized by a legal regulation.

When we want to examine the legal regulations made on Digital IDs around the world, we first encounter with the Electronic Identification Authentication and Trust Services Regulation (“eIDAS Regulation”)⁽⁵⁹⁾ that has been accepted by the EU in 2014. National standards brought by the eIDAS Regulation regulate the legal identity applications and identity authentication based on electronic identity.

⁽⁵⁹⁾ Related regulation, ‘Regulation on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC’; eIDAS, 2014, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2014.257.01.0073.01.ENG

Given that identities are formed by different public authorities, it is very important that identities created under different identity systems are recognized by other systems in the global order. In this context, the eIDAS Regulation, which provides a legal framework for Europe, constitutes an example. This regulation aims to establish a single legal framework for the recognition of electronic signatures and identities in Europe.

EU citizens can establish online relations with public institutions and organizations with the eIDAS Regulation. Until 2018, in all public services in the European Union, it is important to establish an order to recognize the electronic identities (“eID”) of other member states.

On the other hand, we will see what the regulations should bring to the private sector in the next stage, but it was left to the member states to determine the conditions for access to eIDs that are within the scope of public institutions and organizations by the private sector during online authentication.

On the other hand, banks are also investigating how to use national eIDs in terms of cross-border electronic identity (eID) and know-your-customer functions. eIDAS regulations provide a strong tool for banks to create their standards regarding “industry leading identification” for their customers and authentication of their customers. Opening a new account for banks is perhaps the most time-consuming and costly phase of the customer acquisition process.

It means more time and cost, especially with corporate customers, to perform necessary checks in accordance with AML regulation by investigating all KYC documents and performing anti-money laundering audits, and to conduct audits regarding approved country connections through dozens of agencies. At this point, eIADS regulations are warmly welcomed by banks. Thanks to the authentication tools that are standardized in the whole Union, all these processes are realized in less time and with less cost. Another advantage is the additional security layers provided by the system. eIDAS mainly regulates the principles of ‘working together” in order for the public institutions and organizations within the Union to recognize national eID systems. It also promises to provide services based on trust within the European Union and recognizes different levels of assurance accordingly. Electronic authentication procedures, electronic stamps, electronic time stamps, electronic documents, electronic distribution services and website authentication can be given as examples of such services. Today, digital identities are widely used in private sector-based social media sites, e-commerce area and information and document sharing networks, and in government-based national ID cards. Digital identities are on the way to terminating the use of traditional identities around the world and aim to provide services on a more systematic and secure basis by keeping the special categories of personal data of the individuals that they possess for security, health and other specific purposes

within the framework of legal digital identities, which have been used in various countries for identity creation and verification, provide benefits in many areas such as shopping, health, education and financial services and improve the user experience under trust. There is an example in Estonia for the digital identity applications in government services. Estonian citizens use the Estonia ID as a national identity card, national health insurance and public transport ticket within the European Union.

One of the most important benefits of digital identity is the **electronic signature law**.

There are two basic models for electronic signatures adopted in regulatory efforts.

i. The first of these is the model of civil law, which is followed in most of European, Latin American and Asian countries and includes prescriptive and special laws on electronic signatures. Most of these countries have adopted the first international legislation on this issue, the Model Law on Electronic Signature⁽⁶⁰⁾ adopted in 2001.

The legislation in question describes the conditions under which electronic signature is required.

ii. The customary law model states that electronic signatures have the same legal validity as handwritten signatures, with a minimalist approach. This application model is seen in countries such as USA, Canada and England.

Another area of regulation related to identity is criminal law norms aiming to prevent activities such as identity fraud, phishing, taking over accounts. The regulation of digital identity through criminal laws is a national approach, and countries have different approaches in this regard.

In the international context, there is no legislation regulating digital identity crimes that can be applied at international level. The only international document that provides a global framework of international criminal law is the European Commission Convention on Cybercrime⁽⁶¹⁾, signed in 2001 and aimed at harmonizing national laws, improving research techniques, addressing internet and computer crimes, and including identity theft in the scope.

⁽⁶⁰⁾ UNCITRAL Model Law on Electronic Signatures with Guide to Enactment, 2001

⁽⁶¹⁾ European Commission, Convention on Cybercrime, 2001

When we examine the studies conducted in the USA, it can be said that the workshop held on January 14, 2016 with the participation of Identity Management Legal Task Force, Open Identity Exchange and World Bank is remarkable. Having a wide range of participants from sector leaders to politicians, the workshop addressed the main topics regarding the adoption of identity management regulation. Participants also included experts working for new identity regulations as well as the experts involved in the preparation of identity regulation enacted in the EU and Virginia State. The primary objective of the meeting was to evaluate recent developments in identity management regulation. For this reason, in their studies, they have scrutinized the identity management regulations which have recently been implemented

2.3. Regulations on Smart Contract Applications

The concept of smart contract was introduced in 1994 by Nick Szabo, both a lawyer and a computer scientist. Smart contracts that automate the stages of a contractual relationship between the parties leave each stage of the contractual relationship under the control of a computer program and differ from the contracts that we know in the classical sense. However, it is possible that smart contracts, which include the qualifications in accordance with contract law, are legally accepted as a contractual relationship in the classical sense.⁽⁶²⁾ With smart contracts, each step from the mutual obligations of the parties to sanctions can be optimized.

Nick Szabo, the father of the idea of smart contracts, in an article published in 1997, explains what can happen to a person leasing a car through smart contract and not making his/her payment is as follows:

“If the owner does not pay, the smart contract calls the foreclosure protocol, which gives the bank the control of the car keys.”⁽⁶³⁾

It is possible to find several examples of smart contracts that can be encountered in many fields such as notary public transactions, procurement, trade and transportation. While smart contract technology is currently seen in the Ethereum blockchain network, Bitcoin blockchain network also offers a simple smart contract support in payment services with features like multisign and check timelock.

Users using two smart contract platforms, such as Hyperledger and Ethereum, can easily create and use smart contracts.

⁽⁶²⁾ Belkis Vural Çelenk, *What is a Smart Contract?*, 2017 <https://startup hukuku.com/akilli-sozlesmeler-smart-contracts-nedir/> (last accessed: 05.11.2018)

⁽⁶³⁾ Nick Szabo, *Formalizing and Securing Relationship on Public Networks* <https://ojphi.org/ojs/index.php/fm/article/view/548/469> (last accessed: 06.11.2018)

For example, Nestle and Walmart, which have significant power in the world food market, have begun to work to minimize health problems and deaths caused by food products. Within the scope of these efforts, Nestle and Walmart developed a smart contract project to secure the products and nutrients they buy from food suppliers by having the power of the blockchain behind them. IoT (Internet of Things) technology also plays an important role in supervising the provisions of smart contracts concluded between suppliers and manufacturers within the “Global Food Suppliers Chain”, which is developed jointly with IBM. Another example is from the Netherlands; the Port of Rotterdam, which is very critical for European maritime trade, has integrated blockchain technology and smart contracts with marine logistics by the project it has started to develop, called “Smart Harbor”. In this way, the records held at the base of the blockchain can work with the smart contracts made between the relevant sender-transporter-receiver and the information of transported goods, transport conditions and arrival information can be presented to the relevant persons in a safe and fast manner.⁽⁶⁴⁾

When we consider smart contracts in the context of regulation, we face various questions. Can smart contract applications have the characteristics of contractual relationship before the legal system? Also, can the existing contract law regulations apply to smart contracts? When the regulation efforts in the world are examined, it is seen that the countries’ approaches are “to address the issue under the current regulations”, although these questions cannot be answered yet.

In order to be able to talk about a legally valid contract within the scope of the contract law, there must be a necessity and then a declaration of acceptance must be given. In order to be able to talk about a legally valid smart contract on the blockchain, the means of necessity and acceptance can be determined by the activities written on the code. The review conducted under the contractual law is aside; in the guidelines regarding smart contracts published by the US Commodity Futures Trading Commission (CFTC) in November 2018, it was stated that the smart contracts might be subject to existing regulations, including banking and anti-money laundering regulation, based on their procedures and principles of use.⁽⁶⁵⁾

⁽⁶⁴⁾ Mustafa Alperen Gezer, Akıllı Sözleşmeler ile Bizi Neler Bekliyor? (What will smart contracts bring to us?), 2018 <https://medium.com/d%C3%B6n%C3%BCm-noktas%C4%B1/ak%C4%B1ll%C4%B1-s%C3%B6zle%C5%9Fmeler-ile-bizi-neler-bekliyor-45429d21efc7> (last accessed: 06.11.2018)

⁽⁶⁵⁾ CFTC, A Primer of Smart Contracts, s. 25 2018, https://www.cftc.gov/sites/default/files/2018-11/LabCFTC_PrimerSmartContracts112718.pdf (last accessed: 21.01.2019)

In the UK, the Legal Commission, which was established under the British Parliament, has begun to work to bring a legal certainty to smart contracts.⁽⁶⁶⁾ According to the statement made by the Legal Commission, preliminary investigations were made on the existing legal arrangements that could be associated with smart contracts. In the studies, it is aimed that the regulations are flexible enough to apply in a globally digital context and the areas that need to be developed are determined. The report published by the Legal Commission states that the value and potential of smart contracts can be seen, and for this, the adaptation of the regulations with the existing ecosystem should be ensured in order to make the country more attractive for the enterprises. The works carried out by the Legal Commission are expected to be finalized in approximately one year.

3. Other Developments Regarding Blockchain Technology Regulations

Although there are currently no globally accepted regulations on blockchain technologies, there are some initiatives represented by some international associations to raise global awareness and promote blockchain projects due to the importance and rapid development of the issue. Taking into account the regulations on the basis of the countries mentioned above, it is very important to achieve a global compliance and thus to introduce global regulations in order to achieve the goal of the blockchain technology which is a decentralized database.

3.1. Declaration from G20 Summit

One of the globally initiated regulatory initiatives to implement blockchain technologies took place at the G20 summit in Buenos Aires on December 1, 2018. At the summit, G20 leaders signed a declaration (“G20 Leaders’ Declaration”) that had been on the agenda for some time.

G20 Leaders’ Declaration is expected to serve the purpose of establishing a regulatory framework for the cryptocurrencies and the digitization of global economy, in accordance with the Financial Action Task Force (“FATF”) standards. The G20 Leaders’ Declaration aims to achieve a sustainable global economic development that supports an open and flexible financial system in line with recognized international standards. In this context, it is aimed to prevent financial terrorism in accordance with FATF standards of crypto assets by minimizing risks by taking advantage of the potential benefits of technology.

⁽⁶⁶⁾ Finance Magnates, ‘Research for Reforms on Blockchain Smart Contract Laws Begins in UK’, 2018 <https://www.financemagnates.com/cryptocurrency/regulation/research-for-reforms-on-blockchain-smart-contract-laws-begins-in-uk/> (last accessed: 11.03.2019)

Another importance of the G20 Leaders' Declaration is related to the taxation of cryptocurrencies that the long-term crypto investors and traders have been expecting a clarification about. The G20 Leaders' Declaration aims to eliminate the problems occurring due to the digitization of global economy and the problems experienced in the taxation of cryptocurrencies in order to create a harmony in the taxation system. Since there has not been an officially signed taxation framework so far, it is important that the G20 Leaders' Declaration was signed.

3.2. European Union Initiatives

Another regulation on blockchain technologies, which aims the global validity and harmony), is the declaration ("EBP Declaration") signed on April 10, 2018 with the participation of 21 EU Countries and Norway in order to establish the European Blockchain Partnership ("EBP") In 2018, six other EU countries joined the EBP; and it reached 27 members as of January 2019.

The main objective of the EBP is to enable the use of blockchain technologies across Europe, which are fully compatible with European Union law, in cyber security, confidentiality, energy efficiency and cooperation. This will ensure secure access to the infrastructure of digital services created by actors from public sector, in the current situation, and private sector, in the future.

Another initiative launched by the European Union was in December 2018 under the leadership of Malta, which has a strong stance towards blockchain technologies and cryptocurrencies. Seven countries in total, including Malta, France, Italy, Cyprus, Portugal, Spain and Greece, have signed a declaration ("EU Declaration") to promote the use of Distributed Ledger Technology ("DLT") in the region.

The EU Declaration aims to provide easy access to public information in order to create a more transparent system of structure in every sense, which not only paves the way for the development of e-government services but also eliminates the administrative barriers. Blockchain is one of the distributed notebook technology(DLT) solutions. It is stated that, in this way, not only the privacy of individuals but also the bureaucratic procedures will be ensured to be more beneficial.

C CONCLUSION

Blockchain applications that change the perception of the traditional internet seem to gain more space in our lives, where blockchain technology is not only composed of cryptocurrencies but also brings along much more revolutionary applications.

When the regulation studies carried out by the countries both in the blockchain technology and in the application areas of this technology are examined, we see that the regulatory and supervisory authorities and state organs continue to work on the regulations that accelerate the adaptation of individuals and the business world to this technology. Developed countries, such as Switzerland, the United States and Canada, support the development of the markets in which blockchain technology is applied by providing players with a secure space with the regulations they have introduced. On the other hand, it is safe to say that the developing countries where we might also include Turkey try to introduce regulations focusing on determining the risks that are still posed by the applications and for preventing the misuse of the technology.

The most popular application of blockchain technology is cryptocurrencies. Cryptocurrencies have been associated with frauds or money laundering activities because of the fact that cryptocurrency transactions can be carried out anonymously by individuals, they do not have a central authority behind them and they contain an understanding that is destructive to traditional payment methods. We can say that the regulatory authorities approach the issue with a supervisory and preventive manner rather than a regulatory approach, as the issue gains sensitivity in this direction and, on the other hand, stands against centralized authority. It is seen that the issue is more addressed in a regulatory manner in countries where financial payment systems and legal systems are based on the 'trust among individuals', such as Canada, Austria and the US. In other countries, on the contrary, it can be said that minimizing the risks that may arise due to cryptocurrencies is the primary target.

Applications such as smart contracts and digital identities are among the important applications, in addition to cryptocurrencies, brought along by blockchain technology. It can be said that these applications, which have many focal points such as the execution of government transactions, the tracking logistics activities and sustainability, are found more favorable than cryptocurrencies. Another advantage of these applications in terms of regulation is that these applications can be developed under current regulations. At the moment, it is not possible to say that there are legislative efforts within the context of applications such as smart contracts and digital identity. However, countries continue to work to create an ecosystem within

their own regulatory frameworks and to ensure the adaptation of ecosystem activities.

It will not be wrong to reach the conclusion that personal data protection, cyber security, anti money laundering and counter terrorist financing have become common concerns around the world as the technology of blockchain has started to gain more place in our lives. Considering that the socio-cultural characteristics of the countries are guiding the regulation studies at some point, it seems to be inevitable that we will encounter different regulatory areas in the future.

In conclusion, in order for Turkey to be able to contribute to the blockchain trend on a global scale and, in the meantime, to benefit from this technology at maximum, it is necessary to make the current regulation analysis as specific to the blockchain technology, analyze the risks and determine the roadmap to be followed in regulation efforts. At this point, it will be beneficial to carry out the regulation efforts by taking into consideration the fact that technology continues to develop and that new business models may be avoided due to legal uncertainty, and by taking advantage of the existing international regulations as well. In order for a functioning ecosystem to be established and the legal framework to address the needs, the developing technology should be made a culture and internalized, and actions should be taken accordingly. This study, which examines the Blockchain Regulations and Practices in the World, is aimed to be a reference for the studies to be conducted in our country.

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BLOCKCHAIN

T Ü R K İ Y E



T Ü R K İ Y E B İ L İ Ő İ M V A K F I