

Cryptocurrency - Illusion vs Solution

Aida Wijaya¹, Mohd Haizam Saudi², Obsatar Sinaga³

¹Widyatama University, Indonesia

²Widyatama University, Indonesia

³Padjadjaran University

rafael.aida@widyatama.ac.id *

Article History: Received: 10 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 20 April 2021

Abstract: The pros and cons regarding the use of cryptocurrency in supporting or - in the extreme – replacing conventional currency (fiat) is still going on. More than 2 decades of its born, still there are more government in the cons position than in favor of the use of cryptocurrency. This paper explored the cryptocurrency as to be one of many aspects in deciding whether it would be positioned as an illusion or to be a solution for a nation's economy. This paper also portrait cryptocurrency from the accounting point of view. As the financial information provider, accounting is important for fundamental decisions in economy because of its nature to be conservative. The ultimate goal is that this could be one of many sources to help Indonesian government in deciding how to best deal with cryptocurrency.

Keywords: cryptocurrency, bitcoin, blockchain, financial asset, Indonesian economy.

1. Introduction

After more than 2 decades of its introductions, the increasing transaction using cryptocurrency is inevitable. Looks like the cryptocurrency is here to stay. Same as the usual old economy theory of supply and demand, the growing demand of cryptocurrency boost the growing supplies of this currency. Since it is something in the digital world, one can just create any types of this cryptocurrency. As long as it is based on the blockchain algorithms, it is liberally claim itself as a cryptocurrency.

The pros and cons regarding the use of this currency is still around, yet many governments could not retain its growth, despite the effort to restrain it with many kinds of regulations. Some still forbid the currency for any transactions, some open for the possibility of trading it as commodities (like in Indonesia), and some try to embrace it whole for any transactions; even to the extreme: to the possibility future replacing the fiat, such as what China is doing.

Make no mistake, embracing it whole does not necessarily mean whole-heartedly. It is merely a disguise to regulate something that all this time proudly stated itself as: decentralized, transparent and global. In other words: an independent currency. Just as South Koreans admitted when announcing to legalize the use of cryptocurrency in the country: it is better to embrace it when you can not get rid of it.

Despite the strong statement of the Coordinating Minister for Economic Affairs who emphasized that Indonesia still does not legalize the cryptocurrency as a means of payment in Indonesia (Pablo, 2019), the government took the first step to allow bitcoin as a commodity in the form of utility crypto or crypto backed asset with the legal statement from the Commodity Futures Trading Supervisory Agency - Bappebti regulation No. 5/2019 - in February 2019. By releasing a regulation regarding the cryptocurrency, Indonesia is entering the hall to slowly opens the main-gate for cryptocurrency.

In two years, came a statement that Indonesia would create its own digital currency. with hope that Indonesian digital currency would be more attractive to user and it would put an end to illegal cryptocurrency (namely: bitcoin) circulation in Indonesia. Apparently, Indonesian government feel the necessity to regulate the nations economy without other “ghost-currency” tampering with it (Redaksi Lokadata, 2021; Sorrentino et al., 2019). However, a “digital currency” is not necessarily the same as cryptocurrency.

The bold decision of any nation to begin to embrace the cryptocurrency was probably based on the fact that this digital currency is not the might-be-future currency, but it is the future currency. Digitalization had pushed every developing country – including Indonesia - to race in catching up with those who already in the lead since

decades ago. However, how long and how much it would cost to create a massive facility and integral strategy such as China had undergone since the early emerging of cryptocurrency?

According to a research by Wibowo (2018), Indonesian government should prepare the regulation to accommodate cryptocurrency as a legal monetary unit for transaction because basically cryptocurrency had fulfilled all the requirements of being a currency. The statement was very in favor to cryptocurrency. Research by Novianto, Wijaya & Gandhi (2020) also revealed that the respondents wish to have a security when using the cryptocurrency and hope that the government would set the regulation for it. Regarding factors that driven an individual to use cryptocurrency, the research also found that it was the understanding of the cryptocurrency which stimulate the intention to use it (Novianto, Wijaya & Gandhi, 2020). That means, when cryptocurrency becomes crystal-clear, it would not be difficult to urge people to use it.

Does cryptocurrency serve only as an illusion, a thing that as surreal as it is? Or could cryptocurrency serve as solution, as the wishful thinking of the creator of bitcoin – the first cryptocurrency? It is up to the government to decide. However, every decision should be taken into account all relevant aspects. Not to mention in the scale of a nation. Therefore, the problem regarding the cryptocurrency here is how to put it in the context of daily economy. Despite the digital or virtual things that all kind of cryptocurrency claim, how real is this abstract thing in reality?

This paper used exploratory (qualitative) research, that is to collect data from literature review, since there was still minimum quantitative research around this matter. The research was restricted only to the areas of exploring the capability of cryptocurrency with its characteristics and how it could influence its environment. This approach is to find fundamental aspects that could become a consideration factor in scenarios for authoritative parties in supporting their decision making, including cryptocurrency enthusiast.

These findings could help bring cryptocurrency enthusiast to understand the difficulties or complexities in some aspects that government has to face. This understanding hopefully would lead to the actions taken by private sectors to help the nation in fulfilling their many-hopes regarding cryptocurrency. Hopefully, this paper could help the Indonesian government in mapping the situation connecting to the pressure of legalizing cryptocurrency as a medium of exchange in Indonesia.

This exploratory research is a qualitative research since it is done by collecting data from literature review. The data collection came from the time of the invention of the first cryptocurrency (bitcoin) until recently, since it is a relatively new matter. It is a literature review, therefore, the researcher is the research instrument. All the data and information explored then reviewed to come to conclusions and suggestions.

2. Literature Review

The literature review started from the very fundamental description of cryptocurrency, along with some variation from different types of cryptocurrencies. Therefore, it can not avoid mentioning some label or specific name of cryptocurrency types, such as bitcoin, the first of the kind.

Cryptocurrency – by definitions

Accounting profession had derived a definition for cryptocurrency by first categorizing it into one of the four specific subsets of cryptographic assets, those are cryptocurrency, asset-backed token, utility token and security token. Cryptographic assets are designed to prohibit duplication as they served as a transferable digital representation (PWC, 2019). Once the cryptocurrency had been acknowledged as an asset, it make way for the acceptance in at least one category in it.

Defining by its purpose, cryptocurrency is stated as digital tokens or coins which is built on a blockchain technology for functioning as a medium of exchange with no authority running it (Leopold & Vollman, 2019), it does not bear any inherent value because the value would be based on supply and demand. That would be similar to the ancient trade system: barter, with no third-party system to govern the transaction simply based on “what you need compare to what I have”.

Other similar previous definition by Lansky (2018) described cryptocurrency as a medium of exchange using strong cryptographic codes to validate a transaction between parties. Nubika (2018) also defined cryptocurrency as a set of technology based on cryptography and algorithm which set codes and math signs to create virtual money.

More elaborate definition described it as an intangible digital token, which used a blockchain or an infrastructure to distribute ledger to record it. It has various rights of use, not only served as a medium of exchange, but it could be designed to provide the rights of using other kind of assets or services. (Strategic Business Reporting Team, 2020). Chohan (2017) added to that right of use as virtual currency, another kind of currency, or a commodity or assets. In other words, the cryptocurrency created could be anything the creator want it to be.

Cryptocurrency – the characteristics

When first introduced by the so-called Satoshi Nakamoto, bitcoin, the first cryptocurrency had some distinguish signature in it. First, the bitcoin is decentralized. That means no central bank, no government, no similar agency controlling it. Along with that, the holder of bitcoin can remain anonymous or pseudonymous. Those two characteristics are the most important and the most significantly different from any conventional currency. These probably the most interesting features that later on proven to be attract many users, including ones with bad intentions.

Other characteristic of bitcoin is that the security in preventing double-counting by using the mathematical algorithm to validate a transaction called the blockchain technology. This is a distributed ledger in the form of a node, where both parties have a copy of this ledger. Moreover, this verification process could be done by anyone around the world, the miner. This process strengthens the anonymous features, yet also strengthen the control process of the transaction, without involving any authoritative-centralized agency such as bank.

One weakness that the bitcoin has is that since no regulator could hold a grip on it, the value of it lays only on supply and demand factors. Nakamoto had considered this feature and had limit the supply of bitcoin within 21 million coins by 2140, which scenariod to give a value to bitcoin. Later then, someone in the bitcoin forum community posted the first value of bitcoin in US\$. He calculated based on the electricity charged for mining, one bitcoin was worth 0.08 of a cent (Vigna & Casey, 2016). Still, it could not help to reduce the volatility of this currency during these two decades.

Some research regarding factors that affected cryptocurrency value includes: the combination of US\$ properties and gold according to Dyherberg (Lansky, 2016, p121); market correction of previous unreasonable increase in cryptocurrency value, the mass selling of cryptocurrency, and also technology innovation and decentralized services demanden by users (Lansky, 2016, p131). Due to the many factors affecting its value, one thing important to be considered is the “birth” of the cryptocurrency thru a computer mathematical algorithm, not surprisingly, its value is significantly volatile compared to conventional currency which is definitely controlled by an authorized agency.

Accounting Sight of Cryptocurrency

Cryptocurrency has different characteristics compared to conventional currency, or probably closer described, it contains a different soul. Concerning its characteristics, accounting have much to say regarding how to record cryptocurrency transactions. Thus, scrutinizing these characteristics from accounting point of view would probably send some conservative thinking in reviewing it.

Not to mention the many forms (or specific terms) of cryptocurrency, accounting profession had difficulties in meeting the cryptocurrency into the predetermined standard. Some standards are scrutinized to meet - not only the definition but most importantly - the characteristics of cryptocurrency.

International Accounting Standards (IAS) 32 (IASB) could make a room for categorizing it into a financial asset (including cash or currency). The reason that cryptocurrency could fall into a financial asset category, first and foremost, is that because cryptocurrency is a medium for exchange in an economic transaction. Therefore, from the accounting point of views, those unit could serve as the “monetary” units for measuring and recognizing transaction in a financial statement. Maybe not for long until we could read a financial statement stated in bitcoin unit and not dollar. However, accountant still need a very careful judgement before considered cryptocurrency as cash or currency.

Other than that, to be clasiffied as a financial asset other than cash, apparently the profession could not accept that cryptocurrency could be classified into one without some warns. Despite the statement in IAS 32, that a financial asset could be in the form of a contractual right to receive cash or other kind of financial asset from another entity, apparently, the accounting profession could not entirely agree with the certainty of the inflow in the future, since no legal authority could back it up. That despite the fact that user of cryptocurrency treated it as a medium of exchange, and this financial exchange with other entity is also in a favorable condition for the entity

receiving the cryptocurrency (also within the grip of IAS 32). The profession then carefully permit cryptocurrency to be classified as a financial asset only if there is a high possibility that the holder has a right to cash (inflow) or another financial asset (inflow) in the future.

Albeit the reluctant of conventional banks to be involved with this transaction, nowadays, cryptocurrency becomes more and more real. It because the holder could exchange these cryptocurrencies into fiat at a cryptocurrency-changer, almost like what happen in a money changer. However, some limitation still occurs in comparing the cryptocurrency to the conventional currency (Silvia, 2020). Among all, first, the cryptocurrency is still not a widely accepted medium of exchange today compare to conventional currency.

Second, another imperfection in cryptocurrency to be called a currency is that it also still had to rely its value in comparison with the conventional currency - a conventional currency – for a more accurate pricing of the goods or services exchanged. Not to mention – third - the volatility of its value may deter many from using it, no sound individual would want to wake up being a miliarder in the morning and end up being a poor in the afternoon.

Accounting professions spare a room for cryptocurrency to be an inventory, since there is no argument that business in cryptocurrency trading exist. As IAS 2 does not require inventory to be in physical form, cryptocurrency held by trader could fit in it. The recognition in the inventory category has to be in line with the activities, those are the purchase, the sales, and the margin that comes with it. Therefore IAS 2 regarding commodity broker-trader can be used as the guidance (Leopold & Vollman, 2019).

As an intangible thing, the cryptocurrency fits with the IAS 38 characteristics of intangible asset. As an intangible asset, a cryptocurrency is indeed had no physical existence, however, it gives its holder the probability of gaining economic benefits in the future (the inflow) from the asset he controled. Cryptocurrency is not a cash, not a non-monetary asset, yet it is identifiable vby the node created and the fact that it is transferable to another party on its own (Leopold & Vollman, 2019).

3. Discussion

The Illusion of Cryptocurrency

We are facinated by the glamour of digitalization that had been carried forward almost for two decades. Certainly, it is not an awe anymore for the blockchain technology had been developed in a rapid rate during those periods. This magic cryptocurrency is too near to the conventional money once its “soul” is stripped away, as some nations is trying to do now.

To grasp the vision of the cryptocurrency, one should know how this cyrptocurrency was born in the first place. The first kind of this cryptocurrency, which gain a quite success for lingering more than two decades, is the bitcoin. It was not entirely a new idea nor new technology used back than to create the bitcoin in October 31, 2008, New York time (Vigna & Casey, 2016). However, when a paperwhite was sent to some cryptography enthusiasts explaining its characteristics, that was when the bitcoin was born. The most exciting figures probably the possibility to break free from authority financial cuffs. No one could ever again peek in your wallet and count how rich you are. It was a promising idea. But of course, with no one in charge, the liberty came hand in hand with the volatility of this bitcoin.

At first, there were no transactions, Nakamoto was the first to use it in the first transactions, and since there were noone in the house, the computer did all the transactions and to create bitcoin earned from validating them (mining) into Nakamoto’s wallet. Nakamoto declared that the software was ready. Hal Finney accepted the invitation on January 10, 2009 and he became the first person to receive bitcoin. Nakamoto gained the trust of his follower by offering them to put their trust not on people, who often failing us, but to mathematical algorithm in a machine. Also, by offering cryptocurrency - free money - to the miners, Nakamoto believed the program would be secured from “the bad guys” (Vigna & Casey, 2016).

Until that moment, we can say that all about this cryptocurrency was a bit like a deception, with no real commodity to back-up this cryptocurrency. But that is also one unique characteristic of this cryptocurrency. The foundation was only trust, in exchange to a financial freedom to exchange with anyone in the world without hesitation of not being paid, in a mere of seconds and without any additional fee that burdens the value of transactions. These capabilites back then – even now in many nations - was kind of a miracle in business transaction activity, since no conventional bank could do that back then.

Nakamoto's vision was to spread money and control of it in the hands of the owner, he also believed that money should be distributed to all. Therefore, he designed his program to allow anyone's PC (in low cost) to be able to earn bitcoin after completing the mining process, which is validating a transaction. That vision broke down when Laszo Hanyecz (Florida) built a software to do the mining task in his computer's graphics card GPU, which then brought many to follow his track. By then, the mining became something highly costly, since it would require a sophisticated and top speed computer to do that.

What Hanyecz did also made him the owner of approximately half of the total bitcoin mined. Nothing to do with only about 230 members in the forum, except spending it. He offered 10,000 bitcoins for a couple of pizzas. From London came the answer, one member paid for the pizza using credit card and 3 days later the pizza was delivered from a pizza stall in Florida. That was the first real-world transaction using a cryptocurrency (Vigna & Casey, 2016).

But then, with all its "exceptional capabilities", in real world the cryptocurrency served only as a medium of payment, and later on, as a commodity, but still a commodity with other real-world asset to back it up. Therefore, what is so special about this cryptocurrency and this blockchain technology nowadays? Because, when you put it there as it is, there is no significant value in it compared to fiat nor digital money.

Something to Learn from Bitcoin History

There were some "superior" features that embedded in the blockchain technology of the bitcoins, as follows:

1. Improbability of double-counting because of the mathematical algorithm would not let it.
2. Low-cost fee for bookkeeping
3. Low cost of mining
4. Equal opportunity for all to have bitcoins easily by mining
5. The system keeps the process to be decentralized
6. The encrypted program keeps the anonymity

Some weakness had shown during the history of bitcoin (Vigna & Casey), such as:

1. Low cost of mining is now has been overridden, since the day Hanyecz let his GPU to do the task, the opportunity to get the bitcoin had been accumulated to a small group who has a sophisticated fast PC.
2. With the increase of mining, there goes the equal opportunity for having bitcoins easily. Only the haves could have the bitcoin.
3. With the equal opportunity tumbling down, also part of decentralization. Now the mining process circulates only among the powerful. At the end of the day, the powerful would become the rich and eventually would be the ruler of the system. Same difference with the conventional currency today.

Then, is the encrypted program would a hundred percent unbreachable? With a lot of illegal transaction using cryptocurrency, no wonder if the many governments pursue and with all the abundant resources they got, ultimately would catch up with all those encrypted programs. The anonymity would be ruled out.

Thus, with so many supreme sophisticated computers running around the globe, with hacker race to be the greatest, would the mathematical algorithm keep intact? Would ever one hacker succeed in duplicating the node?

As long as money is concerned, many things could happen. Albeit the noble vision of the first cryptocurrency creator Satoshi Nakamoto dreamt of, many factors could push cryptocurrency to thrive and many more factors could crush it.

Some Considerations of How to Put Cryptocurrency as A Solution

Recently the urgency to legalize cryptocurrency as a medium of exchange in Indonesia quite rapidly increase. Cryptocurrency enthusiasts seemed to wish that the government would take a big leap such as other neighboring countries: South Korea, China, Thailand. The big question is, would cryptocurrency solve many problems faced by the nation's economy? Instead, the government seemed to be reluctant and very cautious by continuously warn the society that it is illegal to trade using cryptocurrency in Indonesia.

Nevertheless, the government announced they are preparing to launch digital money in hope to cut cryptocurrency circulation as the media of exchange. The technical term of digital money certainly is wider than cryptocurrency. Therefore, combating them face to face seemed to be not quite appropriate. Unless, the digital money was prepared with all the features of cryptocurrency has, such as the blockchain technology.

With the urgency of quickly catching up in the digital era, in some years to come, blockchain technology would not be as sophisticated as it is now for Indonesia. With the latest technology, whether the superiority of this blockchain technology would be still the same as it is today is remain to be observed. Therefore, in designing the digital money the government should leap to the far future. With that, come considerations of the facility and the human resources, along with the fund to finance it.

When observing China that recently seemed to be hastily plunged into the age of cryptocurrency, make no mistake, despite the fact China forbid its banks from handling cryptocurrency related transaction some 5 years ago, they had prepared for it at least 6 years ago, if not before. Building massive facility for mining the yuan cryptocurrency, setting up strategy of how to spread the money via lottery scheme, not to mention the effort to uplift its usage internationally by collaborating with neighboring countries, China now starting his role exactly as Nakamoto when he first rolled the bitcoin dice. With no one in the house and massive mining facility set up, where the majority of the cryptocurrency would go one can guess right.

Indonesia had similar condition with China in some ways, such as the vast geographical area and the hundreds of million of population - majority in middle to low level of prosperity. With vast geographical area, one problem to face is to distribute the facility needed for the internet, the backbone of digitalization. Being an archipelago state, Indonesia faces more difficulties in building the internet facilities, despite some undersea cable and satellites that the government have had, it still needs much improvement in its capacity to meet the needs.

Second condition, considering the low level of prosperity in the population, the government have to prepare for subsidy strategy for those majority group of the population. Those specific population have to be able to access and harness the benefits of the digital currency, especially to boost their economic condition. That would be one of the Nakamoto's spirit of decentralization, that is to spread the ownership of the cryptocurrency, to prevent some small group in control of the majority of it. Could a government force the equal economy condition among its population without being accused as a communist?

The technology provided also should be able to withstand the common problem in the computer technology, such as how to prevent hacker, how to prevent the system from crashing that would put the macro economy in chaos, or even to deal with "downtime" period such as the condition today. First and foremost, for security reason, the government has to built its own platform from scratch and do not buy the platform from any other nations. Who knows any virus could be embedded somewhere in the program.

Shifting from technology issue to politics would be very much different. The first idea of Nakamoto in designing the cryptocurrency was the decentralization, that is to place the authorization upon money back to society, not in the hands of a government or any regulatory agency. Considering how much fund a government had to bail out big banks or strategic company to prevent them from bankruptcy in economic recession, the idea of decentralization is not incoherent at all. This decentralization idea could shift some burden from the central bank.

The question is how much the government would release the balance to be back to nature: the supply and demand. Stated otherwise, the problem is how to control the volatility of the cryptocurrency. The situation could be similar to when the Indonesian government withdraw the petrol subsidy some years ago. Bit by bit to prevent volatility. Along with that, considering the view of accounting profession, the digital currency has to be back up with something real to be considered as financial asset. Otherwise, it can not be recognized in the book, it is an illusion.

4. Conclusion & Suggestions

The nearness of cryptocurrency and conventional money is too narrow. Once we decided how the features of the cryptocurrency we want to be, probably we only end up with a conventional money system embedded in a high-tech feature.

Therefore, the government had to be careful as to what terms a cryptocurrency should have. All factors should be considered without forgetting the soul of cryptocurrency creation, that is to distribute wealth to many (by mining), spread the authority of money circulation back to its nature: the supply and demand, not entirely in the hand of the central bank.

Sometimes a government should make a decision based on the Pareto Optimality: as long as no one is harmed, for the best of some, the decision should be made (Hendriksen & van Breda, 1995)

5. Acknowledgment

Thank you for Prof. Mohd Haizam bin Saudi to see about this paper to be published. Also, thank you Robertus Ary Novianto for his encouragement to dig deeper on cryptocurrency.

References

1. Bappebti. (2019). Peraturan Badan Pengawas Perdagangan Berjangka Komoditi Nomor 5 Tahun 2019 Tentang Ketentuan Teknis Penyelenggaraan Pasar Fisik Aset Kripto (Crypto Asset) Di Bursa Berjangka Retrieved from: http://bappebti.go.id/resources/docs/peraturan/sk_kep_kepala_bappebti/sk_kep_kepala_bappebti_2019_02_01_w9i365pf_id.pdf. March 8, 2021
2. Chohan, Usman W. (2017). Cryptocurrencies: A Brief Thematic Review, *Economics of Networks Journal. Social Science Research Network, SSRN-id3024330*, 3. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3024330
3. Pablo, Samuel. (2020). 'Bitcoin Legal di RI, Tapi Tak Boleh Jadi Alat Bayar!'. February 15, 2019. Retrieved From: <https://www.cnbcindonesia.com/tech/20190215142005-37-55756/bitcoin-legal-di-ri-tapi-tak-boleh-jadi-alat-bayar>
4. Hendriksen, Eldon S., Michael van Breda. (1995). Accounting Theory, 5th Edition, ,205 Irwin, Homewood, IL, Boston
5. International Accounting Standard Board. (2007). International Accounting Standard No. 32. Retrieved from: <https://www.iasplus.com/en/standards/ias/ias32>. March 7, 2021
6. Lansky, Jan (2016). Analysis of Cryptocurrencies Price Development. *Acta Informatica Pragensia, 2016, Vol 5 No.2.*, 121, 128, 131. DOI: 10.18267/j.aip.89
7. Lansky, Jan. (2018). Possible State Approaches to Cryptocurrencies. *Journal Of Systems Integration, 2018(1)*, 19. DOI: 10.20470/jsi.v9i1.335
8. Novianto, Robertus Ary, Aida Wijaya, Adrian Gandhi. (2020). Is it Understanding or Behaviour that Influence People to Use Cryptocurrency?. *International Journal of Psychosocial Rehabilitation, ISSN:1475-7192, Volume 24 Issue 2, February 2020, DOI:10.37200/IJPR/V24I2/PR2024338*. Retrieved from: <https://www.psychosocial.com/article/PR2024338/18298/>. September 2020.
9. Nubika, Ibrahim. (2018). *Bitcoin; Mengenal Cara Baru Berinvestasi Generasi Millenial*. Yogyakarta, DIY: Genesis Learning
10. Leopold, Ryan, Pascal Vollman. (2019). In depth - A look at current financial reporting issues. Cryptographic assets and related transactions: accounting considerations under IFRS. December 2019 No. 2019-05. Price Waterhouse Coopers. Retrieved from: <https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-16/cryptographic-assets-related-transactions-accounting-considerations-ifrs-pwc-in-depth.pdf>. October, 2020.
11. Scott, Brett. (2016). How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?, 5, 8. Retrieved from: [http://www.unrisd.org/80256B3C005BCCF9/\(httpAuxPages\)/196AEF663B617144C1257F550057887C/\\$file/Brett%20Scott.pdf](http://www.unrisd.org/80256B3C005BCCF9/(httpAuxPages)/196AEF663B617144C1257F550057887C/$file/Brett%20Scott.pdf)
12. Sorrentino, A., Baldry, A. C., Farrington, D. P., & Blaya, C. (2019). Epidemiology of cyberbullying across Europe: Differences between countries and genders. *Educational Sciences: Theory & Practice, 19(2)*.
13. Silvia. (2020). How to Account for Cryptocurrencies in line with IFRS. Retrieved from: <https://www.ifrsbox.com/accounting-cryptocurrencies-ifrs/> March 8, 2021.
14. Strategic Business Reporting Examining Team. (2020). Accounting for Cryptocurrencies. Retrieved from: <https://www.accaglobal.com/gb/en/student/exam-support-resources/professional-exams-study-resources/strategic-business-reporting/technical-articles/cryptocurrencies.html#:~:text=Cryptocurrency%20is%20not%20a%20debt,for%20as%20a%20financial%20asset>. March 7, 2021
15. Wibowo, Dwi Permadi Satrio, (2018), Penggunaan Cryptocurrency Sebagai alat Pembayaran di Indonesia, Fakultas Pascasarjana Universitas Mercu Buana, Jakarta. Retrieved from: https://www.academia.edu/36591665/PENGGUNAAN_CRYPTOCURRENCY_SEBAGAI_ALAT_PEMBAYARAN_DI_INDONESIA. October 8, 2020.