

Crypto-engineering of SCA for Indonesian SMEs in Facing Pandemic Covid-19: A Perspectives Analysis

SUDARYANTO S., SE.MBA., Ph.D¹.

¹Associate Professor in Marketing and Entrepreneurship, Faculty of Economics and Business, Universitas Jember, Jl. Kalimantan No.37, Jember, East Java 68121 Indonesia

Corresponding Author: sudaryanto@unej.ac.id

ABSTRACT: Cryptocurrencies have recently received much attention in the business sector, especially in the era of the Covid-19 pandemic. Financial technology has designed customer propositions and utilizes technology to provide efficient and attractive SME services in Indonesia. Meta analyzes from various sources and uses some relevant studies in compiling this article. Secondary data qualitative information from the literature review becomes material for further analysis. The concept of Sustainable Competitive Advantage (SCA) following SWOT analysis uses in this study aims to map the benefits and disadvantages of using Cryptocurrency - a type of digital money programmed with cryptography. As a result, Cryptocurrency is a sophisticated fintech technology that has become a valuable item for transaction facilities but has a high volatility market. Therefore, the Indonesian government launched a digital currency engaged in SMEs, namely QRIS. So any cryptocurrency is still a perspective for the development of the Indonesian economy from Small and Medium Enterprises (SMEs).

KEYWORDS: digital economy, new media, media technology; information; communication economy; digital revolution.

Date of Submission: 08-05-2021

Date of Acceptance: 22-05-2021

I. INTRODUCTION

Financial technology activities that affect the payment system involve various payment systems service providers such as banks, financial institutions other than banks, and even individuals. Along with technological developments, the payment system has also undergone a development from an original cash-based payment instrument to a non-cash-based instrument and continues to experience a sophisticated development from being paper-based initially to paperless. One of the newest paperless payment instruments is virtual money (Bank Indonesia, 2008).

The recent attention paid to Bitcoin and, in general, to Cryptocurrency shows that many consumers are turning their attention to new ways of trading to simplify their financial lives. Online purchases made with Cryptocurrency are anonymous, faster, and simpler than purchases made with traditional credit cards (Cocco, Concas, and Marchesi, 2014). However, in the global economic market, all types of currencies, including USD, have challenges in the global economic environment. However, as long as no other credible currency is an alternative, the USD will remain the world's preferred reserve currency (Redžović and Novaković, 2016).

The data on the increase in cryptocurrency transactions between 2018 and 2020 tends to decline due to the Covid-19 pandemic in 2020. However, the decline in transactions was not significant even in the middle of the Covid-19 pandemic, which caused economies worldwide to weaken. Indodax CEO Oscar Darmawan explained that cryptocurrency is different from other investment products; other investment products are very much influenced by economic conditions and government policies when the Coronavirus occurs. However, one of the cryptocurrencies, namely Bitcoin, has become the top transaction in Asia to buy supercars (<https://www.cnbcindonesia.com/tech/20210429145844-37-241912/ini-pria-pertama-di-asia-buy-lamborghini-use-bitcoin>). Developing countries may avoid Bitcoin's volatility market because people have a risk aversion tendency (Sudaryanto et al., 2021). In contrast, a stable crypto-like currency - backed by legal currencies such as the US \$ and the Euro - has a more prospective market for SMEs in developing countries.

Data shows that SMEs have become the backbone of Indonesia and ASEAN, with 88.8% to 99.9% of businesses in ASEAN being micro, small and medium enterprises. In 2014-2016, data from the Ministry of MSMEs in Indonesia reached 57,900,000 units, and in 2017, it reached 59,000,000 units then proliferated to 64.19 million businesses. Meanwhile, based on the Ministry of Finance's interest report data, until 2017, MSMEs could absorb 98% of the workforce (Indonesian Central Statistic, 2017).

The number of business units that are overgrowing has logical consequences for financial transaction activities. Government support through Bank Indonesia is constructive for innovative creativity to increase the productivity of MSMEs. Through Law No. 20 of 2008 concerning MSMEs that the government reduces the tax tariff from 1% to 0.5%, then supported by Government Regulation No. 23 of 2018, namely for a maximum turnover of 4.8 billion Rupiah as far as it is known as a substitute for Government Regulation No. 46 of 2013. Previously, the government also issued various policies to support MSMEs include providing export financing, interest subsidy facilities through the Indonesian Export Financing Agency (LPEI), and the People's Business Credit (KUR) program, which has low-interest rates from 22-23% to 12% and only 4 to 5% in 2019. The government has also prepared a stimulus of Rp. 695.2 trillion through assistance for SME players of Rp. 2.4 million. In addition, Government Finance Authority also offers public capital funding through security crowdfunding (SCF). Later, through the SCF scheme, MSMEs can get business capital from the community. However, with the COVID-19 pandemic, SMEs are significantly affected in carrying out their business activities.

IMF 2020 data for the global economy experienced a decline of 3% in the 2nd quarter (Q2), and Indonesia experienced a 5.23% decline (Indonesian Central Statistic, 2020). Furthermore, the second quarter of 2019 to the second quarter of 2020 contracted 5.32% (year -on-year), the Indonesian economy in the second quarter of 2020 contracted against the previous quarter's growth of 4.19% (q-to-q), and the Indonesian economy semester I-2020 against semester I-2019 contracted 1.26% (c-to-c). This condition impacts aggregate demand and supply as demand decreases due to decreased purchasing power due to a large number of layoffs.

SMEs are very vulnerable to business disruptions because they often have direct contact with tourism, transportation, and the culinary industry, which requires fast suppliers, all of which have been significantly affected by Covid-19 (OECD, 2020). This condition is getting worse with the large-scale social restrictions distance to feel safer staying at home. All the Sustainable Competitive Activities (SCA), such as the uniqueness of particular business items or activities have fallen. SMEs still lack resilience and flexibility in facing this pandemic due to several things such as the low level of digitalization, difficulties in accessing technology, and a lack of understanding of survival strategies in business (OECD, 2020). This condition is possible for the government to be present in order to save the national economy. Governor of the Indonesian Central Bank, Perry Warjiyo, is optimistic and encourages SMEs to use QIRS (Quick Indonesia Responsible Standard) with a target of 12 million SMEs. QRIS is one of the quick implementations (quick wins) of the 2025 Indonesian Payment System Blueprint (IPSB). Several visions are to be achieved in the blueprint, namely supporting the digital economy financial system, interlinking fintech, and banking to minimize shadow banking, and balance between innovation and consumer protection (consumer protection. In its development, a cryptocurrency is an alternative option whose scope is more global for MSMEs.

The problems that arise from the study are: (1) how do we determine the SCA by adopting cryptocurrency by MSMEs in Indonesia during the Covid -19 pandemic? (2) What are the real benefit and losses of adopting cryptocurrency in Indonesian SMEs during the Covid -19 Pandemic?

II. METHODOLOGY

This study uses a meta-analysis design with a literature study method. The literature study was written by looking for reference theory relevant to the influence of cryptocurrency (i.e., focused on Bitcoin) on the global economic market. This study was written based on conducted previous studies sourced from relevant research journals and supporting textbooks. Following is the proposed conceptual framework for how to develop SCA

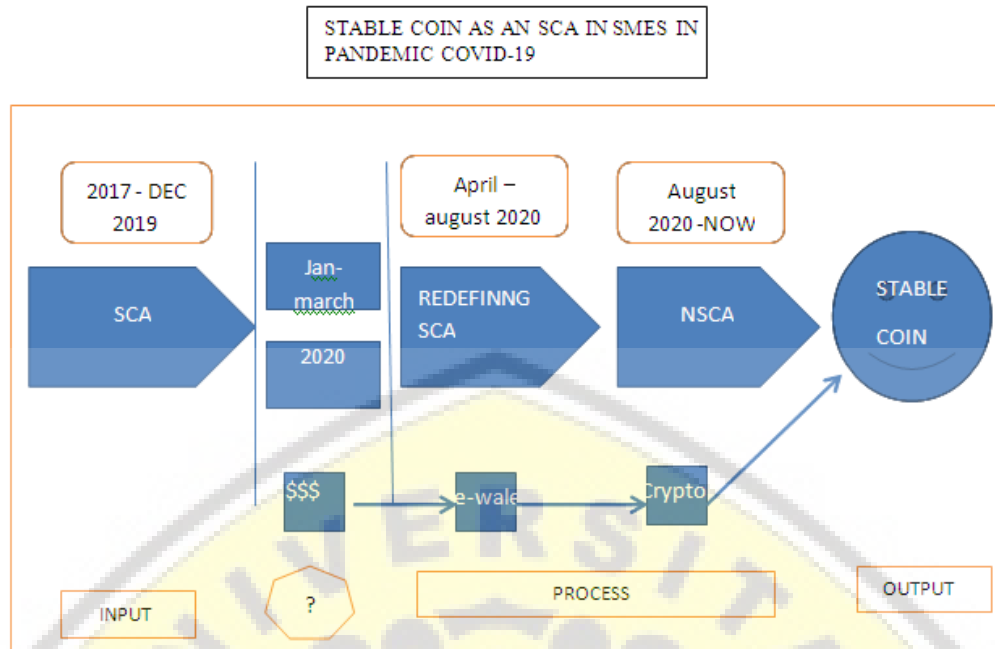


Figure 1. The crypto-engineering of SCA

Figure 1 proposes the conceptual framework of SCA development on Indonesian SMEs during pandemic Covid-19 era based on (Jay B. Barney, 1991). There are three initial stages of SCA development with digital bases; input, process and output. In initial stage as the input explains that up to December 2019, every business had settled their SCA with their own uniqueness either on services or products. No matter of transactional process by using real money. At the process stage, however, when the Covid-19 starts to attack the business, some of the payment methods were still using real money. Following a month with social distancing rules, the e-wallet became the safe option of payment. In this period, businesses started redefining their own SCA. Started from August 2021 up to now, crypto is then booming. The expected output is the Stable coin of transaction means.

This proposed concept is designed to conduct the research both in quantitative and qualitative method. Content analysis would analyse the qualitative data, while the quantitative research can be conducted by developing questionnaire and distributed to the selected sample of SMEs in the area of research population. Exploratory Factor Analysis (EFA) becomes the priority statistical analysis due to the similar research has never been conducted. EFA would reduce the indicators and develop variables potential of the loading factors.

III. DISCUSSION

Cryptocurrency can be a virtual currency based on electronic communication which with the aim as a medium for transactions using cryptography to prevent counterfeiting and fraudulent transactions (İçellioglu, and Öner: 2019). Sihombing, Nawir, and Mulyantini (2020) explain cryptocurrency as a cryptographic and algorithm-based technological instrument structured to form a virtual currency. The word "cryptocurrency" comes from a combination of two words, namely "cryptography," which means a secret code, and "currency," which means currency. Cryptocurrency in its operation uses blockchain technology so that every data someone has will be connected to data owned by other people in the cryptocurrency system user environment (Bhiantara: 2019).

A blockchain is computer software that consists of a database and functions as a transaction recording system distributed across computer networks peer-to-peer so that the blockchain system records all transactions made in a series of blocks (Ausop and Aulia). : 2020). In general, data storage in cryptocurrency is the same as other digital data storage. All transaction data and other data keeps in the electronic device used, so if the file system is damaged or accidentally deleted, the file will be lost. In addition, the potential risk of cyber-attacks, fraud, and money laundering that may occur is also undeniable because cryptocurrencies use digital as a means to carry out economic transactions.

Bitcoin as a Cryptocurrency

Before Bitcoin was famous, virtual currencies existed. However, its use is only in the scope of gambling, betting, and video games which are generally to buy items in it. Because Bitcoin has advantages other than securing a significant presence in online market transactions, it can also survive. Bitcoin is the first virtual currency to gain the trust of its users. (Redžović, and Novaković, 2016).

Hundreds of digital currencies have emerged as an entirely new form of money since Nakamoto's seminal white paper (Nakamoto, 2008; Plassaras, 2013). Currently, digital currencies, which have become very popular in funding rounds of start-up companies, are not used much for conventional payments (so-called Initial Coin Offerings; Kastelein, (2017)). In contrast to generally circulating currencies, Bitcoin is not issued by central banks (such as banknotes) or by commercial banks (such as deposit accounts) such as generally circulating currencies. Software protocols issue digital currencies in the form of digital tokens (Heller, 2017). The cryptocurrency supported and used by most wallets, exchanges, and payment service providers are Bitcoin. Therefore, this study focuses on the discussion of Bitcoin even though another cryptocurrency is also relevant for research.

In Bitcoin, a "miner" verifies the integrity, authenticity, and correctness of a database by distributing the database — which then spreads to nodes from a peer-to-peer (P2P) network — to the transaction journal. In particular, instead of mining one transaction, the miners bundled several transactions waiting for the network processing in a unit called "block." As soon as it is finished processing (or validation), the miner will immediately advertise blocks throughout the network to claim the mining prize. After most miners on the network verify this block, the system then distributes the block into a public ledger called "blockchain." When the blockchain is successful, the miner who mines the block can receive the prize (Conti, et al., 2017; Farrell, 2015). The Bitcoin blockchain shows that distributed ledgers can work in harsh environments of little, or even negative, trust. That is why Blockchain Bitcoin is essential in Bitcoin transactions.

Until now, there are 1595 types of cryptocurrency with 5 types of cryptocurrency in coinmarketcap.com. The top position in sequence from the lowest position to the highest is EOS, BitcoinCash, Ripples, Ethereum, and Bitcoin. Bitcoin controls market dominance among all the cryptocurrencies with a market capitalization of \$158,928,514,570 for \$9,334.83 for 1 Bitcoin (BTC).

The Sustainable Competitive Advantage (SCA)

Several decades post World War II is a period of expansion of national companies into global markets. Now, global marketing is crucial, not just to realize the total potential success but even to survive a business. A company that fails to penetrate the global market will face the danger of losing the domestic market from its competitors, global corporations with lower costs, more experience, better goods, and overall, more valuable in the eyes of consumers (Keegan, 1995)..

One of the exciting things about global economic markets is that the products they sent would back to their own countries as imported goods. For example, Texas Instrument is the most competitive memory chip manufacturer in Japan, not a local product such as Hitachi or NEC. Nevertheless, more than 50 percent of Texas Instrument's annual production returns to the United States through assembly operations in Singapore. Looking at the facts above, the statistical figures on bilateral trade relations between countries will be confusing. The illustrations above are just examples of the complicated global economic dynamics, which are not sufficiently explained only by the tools of economic analysis (Ohmae, 1991). In order to make a global economic persistence in the Covid-19 era, businesses must employ all their resources under the SCA with entrepreneurial strategy (Barney et al., 2001; Barney & Clark, 2007)

Barney (Barney, 1991) in "Firm Resources and Sustained Competitive Advantage (SCA) " Resource-Based View (RBV) is an organizational framework used to determine the strategic resources a firm can exploit to achieve sustainable competitive advantage. The SCA developed from RBV is explained in the following Figure 2.

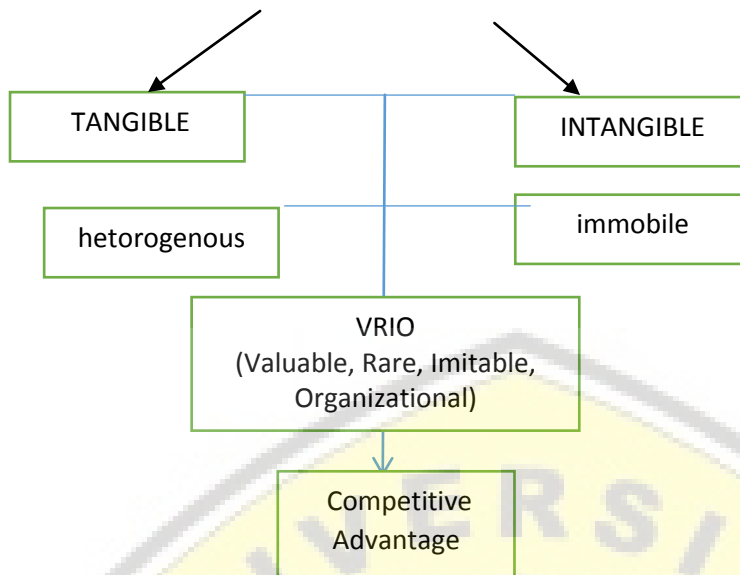


Figure 2. The RBV derives SCA (Barney, 1991)

Tangible	Physical	Equipment, building, location
	Financial	Equity or third party, budget
Intangible	Human	Training, skills, tacit knowledge, entrepreneurship, experiences
	Technological	Systems, patents, innovations
	Organizational	Management, culture, marketing, internal process, quality control, planning, information
	Reputational	Relationships, brand, image, reputation

Source: Barney (2001)

All those resources will support creating SCA in Indonesian SMEs, mainly supporting infrastructure of system and innovation. The current financial technology system in Indonesia is under the control of the finance Authority (OJK). Therefore, it is safe for investors and consumers to do business under cryptocurrency.

However, some intangible assets needs to compromise. The human resources with entrepreneurship and tacit knowledge are mainly the focus of concern in developing SCA. Technologically, the innovation, system security and the patents would be supported by the government authority. In particular organizational; the management, culture, marketing and internal process, quality control, planning, information needs concurrently exploited to support SCA. The cultural factor might become the crucial action to be conducted in the organization. The reputational of the SMEs is also such a bidding decision that potentially disregards to the brand image and reputation of te stake holders.

IV. FINDINGS

The world of financial services is changing so fast. Even though SMEstransaction modes remainfollows the government rules in eliminating the virus Covid-19. E-wallet becomes the safer option of payment instead of the physical transaction. On the other hand, as the first of the modern-day cryptocurrencies, Bitcoin users can send and receive native tokens while collectively validating the transactions because Bitcoin transactions decentralize in a digital ledger called the blockchain.

With this blockchain technology and increasingly sophisticated technological growth, more and more businesses operate online, reducing the need for physical outlets. Bitcoin has the opportunity to become one of the digital currencies that allow users to make transactions faster.However, the developer must remain cautious, and the technology itself is measured. That is why investment, government support, and needs technology costs drive innovation in financial services in this cryptocurrency market (Gulamhuseinwala, Bull, and Lewis, 2015). Cryptocurrency has strengths, weaknesses, opportunities, and threats. The table below presents a SWOT analysis of the Bitcoincryptocurrency in Indonesia's global economic market financial services.

Table 1: SWOT analysis

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. The payment system without intermediaries allows to be more free and secure, faster and efficient. 2. As a paperless currency it provide paper shift. 3. Reduce significant transaction cost. 4. Cryptocurrency can make transactions easier, especially cross-country because it is a global exchange rate. 5. The total cryptocurrency market capitalization shows a significant increase of up to \$ 24 billion in March 2017. (Garrich and Rauch, 2017) 6. Indonesian SMEs has strong fight from economic crisis 	<ol style="list-style-type: none"> 1. The Government of Indonesia through Bank Indonesia Regulation Number 14/40 / PBI / 2016 concerning the Procurement of Payment Transaction Processing, Article 34 has prohibited the use of virtual currency as a legal payment instrument. 2. Costly process: Development country as Indonesia has no sufficient investment funds yet. 3. Not all regions have been able to access the internet properly. 4. Must be supported by sophisticated technology because Bitcoin requires network system. (Chuen and Teo, 2015) 5. The decentralization system cannot be controlled by the government or banking even though it looks easy and profitable.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Develop sophisticated technology to support requires network system. 2. Provide potential blockchain system for uses in developing countries, where the governments. and monetary policies are frequently unstable. 3. Sophisticated technology of cryptocurrencies unlock the door to a whole new economy of sharing and financial inclusion(Chuen and Teo, 2015) 4. The millennial generation is closely related to the technology that exists today so that it likes to do things faster and instantly. 5. The IMF (2018) states that digitalization, globalization of globalization is a positive development and allows new payment services to be developed in the future. 6. Social media, has massive support of application for SMEs 	<ol style="list-style-type: none"> 1. The blockchain system might be attacked by thefts and fraud. 2. Government has to sosialize cryptocurrency in many cuture that might be refused it. 3. Human resources of SMEs mostly has illiterate of ICT 4. The growing of marketplace mostly dominated by rich people with rooted network 5. Indonesian Law: the valid currency applicable in Indonesia must be issued and produced by Indonesia Bank and have to fullfil conditions according to the Act of Indonesia.

Based upon the SWOT analysis, SMEs in Indonesia needs to hard-rock strategy with chasing into the hearth of the business characteristics, where they have lack behind technological literation and capital shortages. The law of currency has written in Act No. 7 of 2011 concerning currencies in article 1 paragraph (1) explained that the currency is money issued by the unitary State of Republic of Indonesia referred to as Rupiah. In Act No. 7 of the year 2011 concerning currency, Article 11 stated that Bank Indonesia is the only institution authorized to do the conduct expenditure distribution and the revocation and withdrawal of Rupiah to issue and circulate Rupiah and destroyed the money intended from circulation. According to Indonesia Law, CryptocurrenciespeciallyBitcoinis a not legal as main transaction, therefore users in Indonesia would not get law protection from the government (Yohandi, Trihastuti, and Hartono, 2017).

V. CONCLUSION

Pandemic Covid-19 triggers the payment system in SMEs using digital currency (e-walet). The other things, a cryptocurrency (Bitcoin) without intermediaries allows users to be more free and secure and faster and more efficient. So that can accelerate the transaction of SMEs to support the global economic growth. But to become the world's currency, Bitcoin must be supported by sophisticated technology because Bitcoin is a cryptocurrency that requires network system. Bitcoin requires enormous investment, especially in developing Indonesia to legalize the use of Bitcoin as a whole. But in fact the technology in the world is still uneven, so not all countries can use technology to access Bitcoin. Government regulations on support cryptocurrency should also exist to make the existence of cryptocurrency can be legal. However, not all states accept cryptocurrency because of the negative side that may be caused. As in Indonesia which has been stipulated in the law that the valid currency applicable in Indonesia must be issued and produced by Indonesia Bank and have to fulfill conditions according to the Act of Indonesia. More theoretical foundation such as diffusion of innovation (DOI) by Rogers (2003) would bridge the research objectives with the field research would track the research findings.

REFERENCES

- [1]. Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625–641. <https://doi.org/10.1177/014920630102700601>
- [2]. Jay B. Barney. (1991). *Firm Resources and Sustained Competitive Advantage.pdf*.
- [3]. Jay B. Barney, & Clark, D. (2007). *Resource-based Theory: Creating and Sustaining Competitive Advantage*. Title. Oxford University Press,.

- [4]. Sudaryanto, Suroso, I., Pansiri, J., Umama, T. L., & Hanim, A. (2021). Impact of culture, brand image and price on buying decisions: Evidence from East Java, Indonesia. *Innovative Marketing*, 17(1), 130–142. [https://doi.org/10.21511/im.17\(1\).2021.11](https://doi.org/10.21511/im.17(1).2021.11)
- [5]. Bhalla, S. S. (2011). Euro and the Yuan: Different Peas in The Same Pod. *Comparative Economic Studies*, 53(3), 355-381. Available online at <https://doi.org/10.1057/ces.2011.20>
- [6]. Chance, G. (2014). Will The People's Currency Become The Global Currency?. *Corporate Finance Review*, 19(3), 6
- [7]. Chuen, David L. K., and Ernie G.S Teo. 2015. Emergence of FinTech and the LASIC principles. *The Journal of Financial Perspectives: FinTech*.
- [8]. Cocco, Luisanna, Concas, Giulio and Michele Marchesi. 2014. Using an Artificial Financial Market for studying a Cryptocurrency Market. University of Cagliari, Italy.
- [9]. CoinMarketCap, Crypto-Currency Market Capitalizations, <http://coinmarketcap.com/> accessed on Mei 10th 2018.
- [10]. Conti, Mauro, et al. 2017. A Survey on Security and Privacy Issues of Bitcoin.
- [11]. Available online at <https://arxiv.org/pdf/1706.00916.pdf>
- [12]. ElBahrawy, Abeer, et al.. 2017. Evolutionary Dynamics of TheCryptocurrency Market. *Royal Society Open Science*, 4: 170623. Available online at <http://dx.doi.org/10.1098/rsos.170623>
- [13]. Farrell, Ryan. 2015. An Analysis of the Cryptocurrency Industry. *Wharton Research Scholars*. 130.
- [14]. Gulamhuseinwala, I, Bull, Thomas, and Steven Lewis. 2015. Fintech is Gaining Traction and Young, High-Income Users are He Early Adopters.
- [15]. Heller, Daniel. 2017. The Implications of Digital Currencies For Monetary Policy. European Parliament: Directorate General For Internal Policies – Policy Department A: Economic And Scientific Policy.
- [16]. Hileman, Garrick and Michel Rauchs. 2017. GLOBAL CRYPTOCURRENCY BENCHMARKING STUDY. University of Cambridge, United Kingdom.
- [17]. Indonesia Bank. 2008. Payment System and Money Circulation Report.
- [18]. Indonesian Bank Regulation Number 14/40/PBI/2016 concerning Organizing Payment Transaction Processing. Available online at https://www.bi.go.id/id/peraturan/sistem_pembayaran/Pages/pbi_184016.aspx
- [19]. International Monetary Fund. 2018. Money Transformed: The Future of Currency in Digital World. Finance and Development.
- [20]. Available online at <https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/170618.pdf>
- [21]. Kastelein, Richard. 2017. What Initial Coin Offerings are, and Why VC Firms Care. *Harvard Business Review* 17/3. Available online at <https://hbr.org/2017/03/whatinitial-coin-offerings-are-and-why-vc-firms-care>
- [22]. Keegan, W. J., 1995. *Global Marketing Management*, Prentice-Hall Inc., New Jersey.
- [23]. Nakamoto, Satoshi (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Available online at <https://bitcoin.org/bitcoin.pdf>
- [24]. Nasution, B. J. 2008. *Research Methods of Law Science*. Bandung: MandarMaju, 174.
- [25]. Ohmae, K. 1991. *Dunia Tanpa Batas*. BinarupaAksara, Jakarta.
- [26]. Plassaras, Nicholas A. 2013. Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF. *Chicago Journal of International Law Vol 14, Number 1, Article 12*
- [27]. Redžović, Mirela, and Novaković, Jelena. 2016. The Impact of Virtual Money on E-Commerce. Singidunum University, Serbia. *International Scientific Conference OnIct And E-Business Related Research*.
- [28]. Seetharaman, A., et al. 2017. Impact of Bitcoin as a World Currency. *Journal of Accounting and Finance Research*. Available online at <https://doi.org/10.5430/afr.v6n2p230>
- [29]. Turpin, J. 2014. Bitcoin: The Economic Case for a Global, Virtual Currency Operating in an Unexplored Legal Framework. *Indiana Journal of Global Legal Studies*, 21(1)
- [30]. Yohandi, Axel, Trihastuti, Nanik, and Darminto Hartono. 2017. Juridical Implications of Use of Bitcoin Virtual Currency as a Payment Instrument in Commercial Transactions (Comparative Study between Indonesia and Singapore). *Diponegoro Law Journal*.
- [31]. Sudaryanto, S., Suroso, I., Pansiri, J., Umama, T. L., & Hanim, A. (2021). Impact of culture, brand image and price on buying decisions: Evidence from East Java, Indonesia. *Innovative Marketing*, 17(1), 130–142. [https://doi.org/10.21511/im.17\(1\).2021.11](https://doi.org/10.21511/im.17(1).2021.11) (Sudaryanto et al., 2021)
- [32]. Rogers, Everett (16 August 2003). *Diffusion of Innovations, 5th Edition*. Simon and Schuster. ISBN 978-0-7432-5823-4.