

Criminal Acts Of Fraud In Buying And Selling Crypto

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ABSTRACT

The aim of this research is to identify legal loopholes that can be exploited by criminals to commit fraud through cryptocurrency media. This study employs a normative research approach, incorporating a legal perspective. A normative study is a legal research approach that examines doctrinal studies of law. The findings of this research include several case studies and literature that support the argument that cryptocurrency provides opportunities for illegal transactions or other negative activities. Strong speculation suggests that digital currencies are highly vulnerable to being used as a medium for fraud and other abuses, such as financing terrorism, arms and drug trafficking, and various other crimes. This vulnerability arises due to the blockchain-based encryption system of cryptocurrencies, which offers a high level of security, complexity, and anonymity. Furthermore, there are ongoing efforts to establish cryptocurrency as a recognized currency in Indonesia, as evidenced by its increasing use and the emergence of regulations regarding its legality. Therefore, this research highlights the importance of legal oversight in preventing the misuse of cryptocurrency in criminal activities.

Keywords: Cryptocurrency, Fraud, Legal Loopholes

INTRODUCTION

The development of technology and information is increasingly able to support human life, ranging from transportation, meeting daily needs, paying various bills to meeting tertiary needs such as buying concert tickets, sports events and others. Thanks to technological advancements, this can only be done with one controlled app, just with your finger on the smartphone button in your hand. This is certainly an encouraging phenomenon, because discoveries like this help us a lot in terms of time and energy efficiency.¹ With technology, everything feels easier, including in the economic aspect. Technological developments related to economic aspects that are relevant to this problem are the emergence of new payments in commercial transactions.

This technology offers many payment options on the Internet such as: e-commerce, e-wallets or other methods aimed at payments through online systems (networks). The advantage of transactions through the online system is that payments can

¹ Nasution, D.M.A. (2018). Tinjauan hukum atas layanan transaksi dan Transportasi berbasis aplikasi online. Review UU RESAM. Oke zona. (2018).

be processed easily, quickly and cheaply. One of the payment methods that has emerged due to the development of technology and information is digital currency, or by another name also called cryptocurrency. This digital currency uses a fairly complex cryptographic system, so it cannot be transferred to people who do not have access and the amount cannot be duplicated. This type of currency was launched with an independent image whose circulation is not regulated by any body in the world, not even the government or banks. Among the world's dominant digital currencies, their presence has become a phenomenon in itself.²

There are also other digital currencies such as Peercoin, Ripple, Auroracoin, Litecoin, Auroracoin and Dogecoin. These cryptocurrencies generally use a blockchain system. A system network consists of several computers running software that records every transaction made in the system.³

This record is called a "blockchain". It is an entire ledger or balance sheet that records every transaction made using the blockchain. This ledger is public and public, so any transactions that use it are publicly known, although the addresses of the person making the transaction may not be known to the public directly. It attracts the world's attention due to several factors, including because it is not controlled by any party, easy to use, relatively cheap transaction fees, and its value can go up and down significantly, making it a promising investment vehicle and often called digital gold

A fantastic increase was found to occur in just a few months. At the beginning of 2020 it was sold for around Rp 1 million, but due to the impact of the Corona virus it dropped to Rp 65 million in March 2020, then slowly rose until it finally reached the highest level. At the time of writing this article, the price was around Rp 700 million. In the current era of the Industrial Revolution 4.0, many people who use cryptocurrencies as investments have even become legal tender in some developed countries in the world. However, cryptocurrencies are also often associated with attractive investments, as the exchange rate of cryptocurrencies has increased in relative percentage over the current period. However, from a legal point of view, Bank Indonesia in Indonesia refuses to accept legal payments related to cryptocurrencies that cannot be used as a medium of exchange for goods or services.⁴

In addition, according to Bank Indonesia, it is also vulnerable to crypto-related hacking attacks and triggers related to fraud and terrorist financing. In Indonesia itself, it is still unclear whether it includes currency or not and there are no specific regulations regarding its use.⁵ This lack of clarity causes the content of regulations and other cryptocurrencies to become unclear in the eyes of the law, so the law cannot regulate them comprehensively. It is therefore very easy to abuse the practice of use. With blockchain systems prioritizing the validity of network-based data, anonymous transactions and irregular fluctuations in value make misuse extremely risky. It is likely that the public will use it as a means to commit fraudulent crimes.

² Ilyasa, RMA (2019). Legalitas transaksi bisnis di Indonesia. *Lex Scientia Tinjauan Hukum*, 3(2), 115-128. <https://doi.org/10.15294/lesrev.v3i2.35394>

³ Nugraha, A. C. (2020). Penerapan Teknologi Blockchain dalam Lingkungan Pendidikan: Studi Kasus Jurusan Teknik Komputer dan Informatika POLBAN. *Produktif: Jurnal Ilmiah Pendidikan Teknologi Informasi*, 4(1), 302-307.

⁴ Sajidin, S. (2021). Legalitas penggunaan cryptocurrency sebagai alat pembayaran di Indonesia. *Arena Hukum*, 14(2), 245-267.

⁵ Heradhyaksa, B. (2023). Peningkatan Pemahaman Hukum Investasi Mata Uang Kripto di Indonesia. *Abdimas Singkerru*, 3(1), 6-16.

It is important to know that despite all its advantages, it also has drawbacks that can be taken advantage of because it has many factors that favor fraud. Therefore, it seems necessary to conduct this research because the author wants to see how the use of cryptocurrencies has the potential to be a criminal act of fraud and also to find out the factors that affect the use of cryptocurrencies as a means of fraud. It is important to conduct research on this topic because, at the time of writing this article, there is no legal framework for the use of cryptocurrencies. Therefore, it is important to know how to conduct and justify research

According to Roscoe Pound with his theory, law is an instrument to form or renew society (law as a technical instrument), protecting interests that need to be protected by law, including public, social, and private interests.

METHOD

This study uses a normative research approach. Normative legal research methods with legal regulation approaches and case approaches. Secondary sources of law are law books and legal journals. Soerjono Soekanto stated that legal research is a scientific activity based on certain methods, systematics, and ways of thinking, which aims to study one or several specific legal phenomena and analyze them. Furthermore, also conduct an in-depth study of legal facts and then try to find solutions or problems arising from these legal.

DISCUSSION

The commodity market refers to the supply and demand of basic commodities such as cryptocurrencies. Cryptocurrencies are included in digital investments and the one who oversees the implementation of their use is the Commodity Futures Trading Supervisory Agency (Bappebti), which is regulated by Law (UU) no. 32 of 1997 concerning Commodity Futures Trading. The ease gained by investors has led to the emergence of scammers. The provisions regarding the crime of fraud are contained in article 378 of the Criminal Code and ITE Law n. 11, Article 28 paragraph (1) of 2008. The definition of fraud is almost the same in both articles, namely fraud such as the creation of false names, dignity or false information for personal gain. According to the ITE Law, fraud through electronic transactions is threatened with a maximum prison sentence of 6 years and/or a maximum fine of IDR 1,000,000,000 (one billion rupees).⁶

Law enforcement against illegal investment scams involving cryptocurrencies in the commodity market. Research results and opinions of legal experts. As well as data collection based on literature and practice, especially through interviews. The legal provisions are contained in Bappebti Regulation Number 5. Article 1 Number 7 of 2019 concerning Technical Provisions for the Implementation of the Physical Market for Cryptocurrency and the Application of Criminal Law Against Fraudsters Related to Illegal Investment is regulated in Law Number 30 of 1999 concerning Arbitration and

⁶ Trozze, A., Kamps, J., Akartuna, E. A., Hetzel, F. J., Kleinberg, B., Davies, T., & Johnson, S. D. (2022). Cryptocurrencies and future financial crime. *Crime science*, 11, 1-35.

alternative settlement of agreements that arise, such as mediation, consultation, negotiation, conciliation and arbitration.⁷

Cryptocurrency is a term for a system that uses cryptographic technology and is decentralized, meaning that there are no intermediaries when the process of transferring and exchanging data and digital currencies is carried out end-to-end through a peer-to-peer network.⁸ All Bitcoin transactions are recorded on the blockchain, which processes and stores information between bank and investor transactions, making transactions publicly available. The value of cryptocurrency assets can be accessed at any time because they can be traded at any time, with the consequence of rapid price changes. Cryptocurrency investing was invented in the 1980s by a computer scientist and mathematician named David Chaum by combining an algorithm that became digital currency cryptography under the name Digicash.

Bank Indonesia and the Financial Services Authority (OJK) are the highest financial institutions that regulate all buying and selling transactions in Indonesia. The use of cryptocurrencies is not an official means of payment in Indonesia. This prohibition was stipulated by Bank Indonesia through Bank Indonesia Regulation Number 18 of 2016 concerning the Implementation of Payment Provisions, but this prohibition does not exclude economic actors from e-commerce technology.

To monitor and eradicate allegations of illegal fundraising, the government established the Investment Alert Task Force (SWI) based on the Decree of the Board of Commissioners of the Financial Services Authority (OJK) Number 1.01/KDK.01/2016. This task force acts as a place to record reports related to alleged problems in collecting public funds. In addition, SWI also functions as a locus of control over investment management that has the potential to harm the company as well as a control over illegal fundraising practices. Furthermore, this Task Force is tasked with conducting inspections and supervision in the context of eradicating unlawful acts in accordance with the role of each group of task force members. In addition, SWI is also a joint research forum that focuses on raising community funds through a virtual portal.⁹

Although cryptocurrencies are considered illegal transactions, the Indonesian government has made it commonplace. To regulate cryptocurrency products, the Ministry of Trade issued a regulation, namely Government Regulation Number 1.99 of 2018 concerning the General Policy for the Implementation of Cryptocurrency Futures Trading.

The proceeds of crimes related to cryptocurrencies, with all the advantages offered in their storage and transaction systems, are invaluable as a means to commit crimes such as fraud, terrorism financing, the purchase and sale of drugs and weapons, fraud, and other types. Crime at Risk.¹⁰

On economy.okezone, Bank Indonesia said that the system is very rigid because it uses algorithms so that only the owner can access it, and the anonymous transaction system itself makes it difficult for the authorities to monitor the flow of the transaction.

⁷ Cherniei, V., Cherniavskiy, S., Babanina, V., & Tykho, O. (2021). Criminal liability for cryptocurrency transactions: Global experience. *European Journal of Sustainable Development*, 10(4), 304-304.

⁸ Gowda, N., & Chakravorty, C. (2021). Comparative study on cryptocurrency transaction and banking transaction. *Global Transitions Proceedings*, 2(2), 530-534.

⁹ Kutera, M. (2022). Cryptocurrencies as a subject of financial fraud. *Journal of Entrepreneurship, Management and Innovation*, 18(4), 45-77.

¹⁰ Utami, G., & Astuti, P. (2022). Analisis Yuridis Penggunaan Cryptocurrency (Bitcoin) Sebagai Sarana Tindak Pidana Pencucian Uang. *Novum: Jurnal Hukum*, 144-158.

Thus, the risks associated with their presence are related to the financing of terrorist acts. In 2015, a hacker group called the "Ghosts Security Group" revealed that some financial accounts belonging to the Islamic State terrorist network had equivalent denominations in the transaction network. of \$4.1 billion.

The Ghosts Security Group, part of the hacker group Anonymous, claims the funds were used to finance ISIS activities in France. Then, on Tuesday, December 8, 2020, a French judge sentenced Alexandre Vinnik, 41, a Russian citizen, as the founder of the company, to 5 (five) years in prison and a fine of 000 euros (equivalent to Rp 1.8 billion).). The BTC-e cryptocurrency exchange platform has become a scam platform for cybercriminals. U.S. authorities say Vinnik operated BTC-e as a guise company for fraudulent operations, knowingly receiving funds from hackers and other forms of cybercrime, and helping criminals transfer stolen funds into physical currency ¹¹

As cybercriminals like ransomware gangs know, after taking company data hostage, they often demand a ransom in the form of an untraceable trace. To convert it into physical money, they exchange it through BTC-e on cryptocurrency exchanges. Based on the results of brief interviews, statements from relevant parties, as well as national and international news, the author concludes that there is strong speculation that it is very vulnerable to being used as a means of fraud or other abuses, such as terrorist financing, weapons. - and drug trafficking and in various other forms.

Therefore, based on the results of existing criminal cases, the author argues that transactions carried out through this form of cryptocurrency system have a high probability of becoming a criminal offense. 2. Technology as a legal means of payment The definition of currency is contained in law no. 7 of 2011 concerning Coins as legal means of payment, and some other cryptocurrencies are still not considered legal means of payment, but only as a medium of exchange. However, in practice, this is gradually accepted and legal. This is regulated in regulation no. 2 of 2019 of the Commodity Futures Trading Supervisory Agency (Bappebti) concerning the Implementation of Physical Markets on the Futures Exchange, based on Bappebti Regulation No. 3 of 2019 concerning Commodities Subject to Futures Contracts, Sharia Derivative Contracts, and so on. is the basis and/or other derivative contracts traded on the futures exchange, Bappebti Regulation No. 4 of 2019 concerning Technical Provisions for the Implementation of the Physical Digital Gold Market on the Futures Exchange, Bappebti Regulation Number 1. 5 Year 2019 on Technical Reserves for the Implementation of Cryptocurrency in the Form of Physical Gold (Cryptocurrency) on the Futures Exchange. ¹²

Especially the law on the use of coins, namely Law No. 7 of 2011 concerning currency. Talking about finance in Indonesia is certainly inseparable from the role of Bank Indonesia as a financial authority. Regarding cryptocurrencies, in BI Regulation no. 18/40/PBI/2016 of 2016 concerning the Implementation of Payment Transaction Processing, Bank Indonesia stipulates in Article 34 paragraph (1), that virtual money means digital currency issued by another party issued by the relevant monetary authority obtained from mining, buying or transferring gifts, including Blackcoin, Dash, Dogecoin, Litecoin, Namecoin, Nxt, Peercoin, Primecoin, Ripple, and Ven.

¹¹ Nolasco Braaten, C., & Vaughn, M. S. (2021). Convenience theory of cryptocurrency crime: A content analysis of US federal court decisions. *Deviant Behavior*, 42(8), 958-978.

¹² Cassella, S. (2024). Cryptocurrency and crime: old crimes committed in new ways, or a new order of challenges for law enforcement?. *Journal of Financial Crime*, 31(5), 1049-1051.

Bank Indonesia said in a press release that cryptocurrencies and other virtual currencies are not legal tender or means of payment in Indonesia. The public is advised to be cautious with these and other virtual currencies. Any risks associated with ownership/use are solely borne by the owner/user and other virtual currencies. Furthermore, based on article 34 letter (a) of BI Regulation no. 18 of 2016, Bank Indonesia prohibits payment system service providers from processing virtual currency transactions, including

Contrary to Bank Indonesia's opinion, social engineering efforts are being undertaken to identify the possibility of becoming a legal currency. The technical systems used by exchanges over time have modified several transaction technology systems to use electronic money systems. This technology allows for the circulation of large amounts of money. It has been implemented in the system in such a way that a limited amount makes it valuable. This is in accordance with the law of supply and demand in economic theory.¹³

The biggest challenge in using cryptocurrencies is the potential for fraud, as the fraud mechanism of the system is very complicated.¹⁴ This also makes it a very suitable means to channel the proceeds of crime. This complexity gives criminals an advantage in hiding illegal money. Use Hashcash as proof of work in mining units. The smallest value, called satoshi, is a numerical multiple of 1×10^{-8} ; 1×10^{-3} is called μ BTC (Microcoin), 1×10^{-3} is called mBTC (Millicoin), and 1 is called BTC.

There are several cryptographic techniques that can be relied upon, namely asymmetric key cryptography, hash functions, and hashcash as proof of work. The first is asymmetric key cryptography, each linked to the Elliptical Curve Digital Signature Algorithm (ECDSA) public key. When sent, a transaction message is created containing the recipient's public key, the number of coins and the sender's signature (using the private key); to then be published/transmitted to each protocol user to verify the validity of the holder based on the sender's signature and the value of the sender's balance. A complete transaction history is stored for all users so that anyone can verify ownership.¹⁵

Complete transaction records are stored in the form of a blockchain, which is a series of transaction records called blocks. The result of the blockchain hash is combined, the nonce is also added, and then the value of the message digest is obtained. The essence of the message that makes up the blockchain must meet the criteria, so additional opportunity value is required. In other words, the formation of blockchain is the application of Hashcash. This transaction will also pose a problem for miners who need to find the right time to form a blockchain and receive a reward of 25 BTC for doing so; For every 210,000 BTC spent, the reward will be doubled. To ensure regulation, the difficulty level (the number of digits "0" that starts the message summary) is determined so that exactly 1 block is formed every 10 minutes.¹⁶

¹³ Kethineni, S., & Cao, Y. (2020). The rise in popularity of cryptocurrency and associated criminal activity. *International Criminal Justice Review*, 30(3), 325-344.

¹⁴ Santoso, S., Janwari, Y., Jubaedah, D., Kusumah, N. R., & Muharni, Y. (2024). Penggunaan mata uang kripto pada ekosistem keuangan sosial islam ditinjau dari perspektif pemikiran uang Al-Ghazali: PENGGUNAAN MATA UANG KRIPTO PADA EKOSISTEM KEUANGAN SOSIAL ISLAM DITINJAU DARI PEMIKIRAN UANG AL-GHAZALI. *JOURNAL ISLAMIC ECONOMICS AD DIWAN*, 4(1), 19-35.

¹⁵ Pratama, F. P. (2024). *Investasi Cryptocurrency dalam Aplikasi Binance Menurut Hukum Islam* (Doctoral dissertation, Universitas Islam Indonesia).

¹⁶ Huang, S. (2021). Cryptocurrency and crime. In *FinTech, Artificial Intelligence and the Law* (pp. 125-143). Routledge.

If the perpetrator wants to commit fraud using digital currency, he must exchange his fiat currency for altcoins – digital currencies other than . Altcoins can only be purchased with. Today, many altcoins are popping up that offer much better anonymity than, for example, Monero, Dash, and Zcash. These altcoins are often used for illegal transactions, including fraud. According to ChiperTrace, a data security company, money laundering through cryptocurrencies amounted to \$761 million in 2018, equivalent to around Rp 11 billion. Altcoins are designed to ensure transaction privacy by implementing "zero-proof technology." This technology eliminates the audit trail on the blockchain's ledger, making tracking difficult. The first digital currency to implement this technology is Zcash. This mode is generally combined with another mode, namely the "corner mixer". Coin Mixer is a paid service that guarantees the privacy of transactions or altcoins by "mixing" our digital currencies with other users' currencies to eliminate traces of the origin of funds.¹⁷

Shuffling of coins is also known as tumbling, tumbling or laundering of coins. From all the above aspects, it seems that the existing cryptocurrency system has the potential to become a container of fraud. Due to the complexity of the system, hard-to-hack encryption, and the implementation of a high level of anonymity, it will be difficult for perpetrators who use cryptocurrency media to be prosecuted. However, sufficient knowledge and knowledge is required to commit cryptocurrency scams. This is in accordance with the theory of differential associations in the field of criminology which emphasizes the process of learning a person so that crimes, like other human behaviors, can be studied.

The supervisory authority for buying and selling cryptocurrencies and digital gold is the Commodity Futures Trading Supervisory Agency (Bappebti). Bappebti is regulated in law no. 32 of 1997 concerning Commodity Futures Trading. Apart from being a regulator, it also has a mission to produce effective and transparent price information that can be a reference for investors and brokers in investing. 7 Ministry of Trade through the Commodity Futures Trading Supervisory Agency (Bappebti). reserves the right to block websites or legal requirements without having a license to operate as a futures broker.

The blocking of illegal websites or applications is also carried out in collaboration with the Ministry of Communication and Information in accordance with the Regulation of the Head of Bappebti Number 83/BAPPEBTI/Per/06/2010 concerning the Implementation of,¹⁸ Promotional activities or promotions, training and meetings in the field of commodity futures trading. Based on foreign exchange licensing regulations, futures clearing houses, futures brokers, futures consultants, or futures fund center managers are not allowed to conduct futures trading activities in Indonesia. When a futures broker or an application that is officially declared by a commodity futures institution has a futures contract. Futures contracts are agreements that bind the buyers and sellers of commodity assets traded on the futures market.

Manipulative actions are included in the violation of fraud. This is as referred to in Article 378 of the Criminal Code: 10 "Whoever with the intention of obtaining unjust benefits for himself or for others, by using a false name or false dignity, because of a

¹⁷ Trozze, A., Davies, T., & Kleinberg, B. (2023). Explaining prosecution outcomes for cryptocurrency-based financial crimes. *Journal of Money Laundering Control*, 26(1), 172-188.

¹⁸ Ramadhan, M. C., & Kartika, A. (2023). *Penegakan Hukum Pidana Terhadap Pelaku Tindak Pidana Penipuan Investasi Ilegal Dengan Cryptocurrency Pada Pasar Komoditi* (Doctoral dissertation, Universitas Medan Area).

mistake or because of a series of lies, encourages another. » Anyone who gives him something, contracts a debt, or cancels a debt, is threatened with fraud for up to four years. Regarding the fulfillment of the elements of Article 378 of the Criminal Code, namely:

1. Objective elements:
 - a. Encourage others
 - b. Receiving an item/money,
 - c. concession or cancellation of debt,
 - d. Using fake names and false dignity.
2. Subjective elements:
 - a. To
 - b. Efforts to seek profit individually or collectively,
Acting against the law

CONCLUSION

To monitor and eradicate allegations of illegal fundraising, the government established the Investment Alert Task Force (SWI) based on the Decree of the Board of Commissioners of the Financial Services Authority (OJK) Number 1.01/KDK.01/2016. This task force acts as a place to record reports related to alleged problems in collecting public funds. In addition, SWI also functions as a locus of control over investment management that has the potential to harm the company as well as a control over illegal fundraising practices. Furthermore, this Task Force is tasked with conducting inspections and supervision in the context of eradicating unlawful acts in accordance with the role of each group of task force members. In addition, SWI is also a forum for joint research that focuses on raising community funds through virtual portals.

REFERENCES

- Ardiano, C. dan Rochaeti, N. (2022). Analisis hukum kriminologi penggunaan mata uang elektronik sebagai sarana penipuan kriminal. *hukum Diponegoro Jurnal*, 11(1), <https://jom.unri.ac.id/index.php/JOMFHUKUM/article/view/263>
- Aurélia, B. (2021). Legalitas menurut hukum Indonesia. *Hukumonline* online. <https://www.Hukumonline.com/klinik/a/legalitas--menrut-LawnetIndonesia5a1e13e9c9fc4/>
- Cassella, S. (2024). Cryptocurrency and crime: old crimes committed in new ways, or a new order of challenges for law enforcement?. *Journal of Financial Crime*, 31(5), 1049-1051.
- Cherniei, V., Cherniavskyi, S., Babanina, V., & Tykho, O. (2021). Criminal liability for cryptocurrency transactions: Global experience. *European Journal of Sustainable Development*, 10(4), 304-304.
- Gowda, N., & Chakravorty, C. (2021). Comparative study on cryptocurrency transaction and banking transaction. *Global Transitions Proceedings*, 2(2), 530-534.
- Heradhyaksa, B. (2023). Peningkatan Pemahaman Hukum Investasi Mata Uang Kripto di Indonesia. *Abdimas Singkerru*, 3(1), 6-16.
- Hermawan, H., Yasmirah, Saragih, M. dan Aspan, H. (2022). Penggunaan mata uang virtual sebagai alat pembayaran dilihat dari sudut perlindungan hukum Konsumen. *Jurnal Rektal*, 4(2), 451-459.

- Huang, S. (2021). Cryptocurrency and crime. In *FinTech, Artificial Intelligence and the Law* (pp. 125-143). Routledge.
- Ilyasa, RMA (2019). Legalitas transaksi bisnis di Indonesia. *Lex Scientia Tinjauan Hukum*, 3(2), 115-128. <https://doi.org/10.15294/lesrev.v3i2.35394>
- Ilyasa, RMA (2019). Legalitas transaksi bisnis di Indonesia. *Lex Scientia Tinjauan Hukum*, 3(2), 115-128. <https://doi.org/10.15294/lesrev.v3i2.35394>
- Kethineni, S., & Cao, Y. (2020). The rise in popularity of cryptocurrency and associated criminal activity. *International Criminal Justice Review*, 30(3), 325-344.
- Kutera, M. (2022). Cryptocurrencies as a subject of financial fraud. *Journal of Entrepreneurship, Management and Innovation*, 18(4), 45-77.
- Murizqy, MA dan Dirkareshza, R. (2022). Pemeriksaan aspek keamanan dan Perlindungan hukum bagi investor cryptocurrency. *catatan harian Ius Konstituen*, 7(2), 277. <https://doi.org/10.26623/jic.v7i2.4067>
- Nasution, D.M.A. (2018). Tinjauan hukum atas layanan transaksi dan Transportasi berbasis aplikasi online. *Review UU RESAM. Oke zona*. (2018).
- Nasution, D.M.A. (2018). Tinjauan hukum atas layanan transaksi dan Transportasi berbasis aplikasi online. *Review UU RESAM. Oke zona*. (2018).
- Nolasco Braaten, C., & Vaughn, M. S. (2021). Convenience theory of cryptocurrency crime: A content analysis of US federal court decisions. *Deviant Behavior*, 42(8), 958-978.
- Nugraha, A. C. (2020). Penerapan Teknologi Blockchain dalam Lingkungan Pendidikan: Studi Kasus Jurusan Teknik Komputer dan Informatika POLBAN. *Produktif: Jurnal Ilmiah Pendidikan Teknologi Informasi*, 4(1), 302-307.
- Pratama, F. P. (2024). *Investasi Cryptocurrency dalam Aplikasi Binance Menurut Hukum Islam* (Doctoral dissertation, Universitas Islam Indonesia).
- Ramadhan, M. C., & Kartika, A. (2023). *Penegakan Hukum Pidana Terhadap Pelaku Tindak Pidana Penipuan Investasi Ilegal Dengan Cryptocurrency Pada Pasar Komoditi* (Doctoral dissertation, Universitas Medan Area).
- Sajidin, S. (2021). Legalitas penggunaan cryptocurrency sebagai alat pembayaran di Indonesia. *Arena Hukum*, 14(2), 245-267.
- Santoso, S., Janwari, Y., Jubaedah, D., Kusumah, N. R., & Muharni, Y. (2024). Penggunaan mata uang kripto pada ekosistem keuangan sosial islam ditinjau dari perspektif pemikiran uang Al-Ghazali: PENGGUNAAN MATA UANG KRIPTO PADA EKOSISTEM KEUANGAN SOSIAL ISLAM DITINJAU DARI PEMIKIRAN UANG AL-GHAZALI. *JOURNAL ISLAMIC ECONOMICS AD DIWAN*, 4(1), 19-35.
- Trozze, A., Davies, T., & Kleinberg, B. (2023). Explaining prosecution outcomes for cryptocurrency-based financial crimes. *Journal of Money Laundering Control*, 26(1), 172-188.
- Trozze, A., Kamps, J., Akartuna, E. A., Hetzel, F. J., Kleinberg, B., Davies, T., & Johnson, S. D. (2022). Cryptocurrencies and future financial crime. *Crime science*, 11, 1-35.
- Utami, G., & Astuti, P. (2022). Analisis Yuridis Penggunaan Cryptocurrency (Bitcoin) Sebagai Sarana Tindak Pidana Pencucian Uang. *Novum: Jurnal Hukum*, 144-158..