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Proving of Crypto Assets in the Crime of Money Laundering

Mohammad Rachman Asa[1*], Tashya Panji Nugraha[2]

[1,2]Fakultas Hukum dan Ilmu Politik, Universitas Muhammadiyah Surakarta, Jl. A. Yani, Kab. Sukoharjo, Jawa Tengah
rachmanasa2@gmail.com

Abstract

The development of crypto assets as digital instruments presents new challenges, particularly in proving money laundry. The pseudonymous, cross -border nature of crypto assets, and their use of blockchain technology, complicates the evidentiary process for law enforcement. This study aims to analyze the evidence base for crypto assets in money laundering cases. The approach used in this study is statutory regulatory approaches. The data used in this study is secondary data sourced from primary and secondary legal materials. This study utilizes a literature review. The data analysis the method in this study is guided by qualitative methods to generate descriptive analytical information. The results show that proving crypto assets in money laundering crimes can be achieved through crypto assets tracking technology, which can be achieved through digital forensics, on-chain tracking, blockchain explorers, machine unsupervised learning clustering methods, and deep learning. Proving crypto assets in money laundering crimes can be done by reverse proof as regulated in Law Number 8 of 2010 concerning the Prevention and Eradication of Money Laundering Crimes, specifically Articles 77 and 78, and Law Number 20 of 2001 concerning the Eradication of Corruption Crimes, namely Articles 37 and 38. Article 235 paragraph (1) of Law Number 20 of 2025 concerning the Criminal Procedure Code regarding evidence. Article 5 of the Electronic Information and Transactions Law regarding evidence . In cases of money laundering crimes through crypto assets, the burden of proof carried out by the prosecutor and by the defendant must be carried out equally. Cooperation between institutions including Indonesian Financial Transaction Reports and Analysis Center, Authority Service Finance, Commission Eradication Corruption, Commodity Futures Trading Regulatory, Police Agency Republic of Indonesia, and the Prosecutor's Office, plays an important role in eradicating money laundering crime through crypto assets.
Keywords: Proof, Crypto Assets, Money Laundering.

Abstrak

Perkembangan aset kripto sebagai instrumen digital menghadirkan tantangan baru, khususnya dalam pembuktian pencucian uang. Sifat pseudonim dan lintas batas aset kripto, serta penggunaan teknologi blockchain, mempersulit proses pembuktian bagi penegak hukum. Studi ini bertujuan untuk menganalisis basis bukti aset kripto dalam kasus pencucian uang. Pendekatan yang digunakan dalam studi ini adalah pendekatan regulasi hukum. Data yang digunakan dalam studi ini adalah data sekunder yang bersumber dari materi hukum primer dan sekunder. Studi ini menggunakan tinjauan pustaka. Analisis data dalam studi ini dipandu oleh metode kualitatif untuk menghasilkan informasi analitis deskriptif. Hasil menunjukkan bahwa pembuktian aset kripto dalam kejahatan pencucian uang dapat dicapai melalui teknologi pelacakan aset kripto, yang dapat dicapai melalui forensik digital, pelacakan on-chain, penjelajah blockchain, metode pengelompokan pembelajaran mesin tanpa pengawasan, dan pembelajaran mendalam. Pembuktian aset kripto dalam tindak pidana pencucian uang dapat dilakukan dengan pembuktian terbalik sebagaimana diatur dalam Undang-Undang Nomor 8 Tahun 2010 tentang Pencegahan dan Pemberantasan Tindak Pidana Pencucian Uang, khususnya Pasal 77 dan 78, dan Undang-Undang Nomor 20 Tahun 2001 tentang Pemberantasan Tindak Pidana Korupsi, yaitu Pasal 37 dan 38. Pasal 235 ayat (1) Undang-Undang Nomor 20 Tahun 2025 tentang Kitab Hukum Acara Pidana tentang bukti. Pasal 5 Undang-Undang Informasi dan Transaksi Elektronik tentang bukti. Dalam kasus tindak pidana pencucian uang melalui aset kripto, beban pembuktian yang dilakukan oleh jaksa dan terdakwa harus dilakukan secara setara. Kerja sama antar lembaga termasuk Pusat Pelaporan dan Analisis Transaksi Keuangan Indonesia, Otoritas Jasa Keuangan, Komisi Pemberantasan Korupsi, Badan Pengawas Perdagangan Berjangka Komoditas, Kepolisian Republik Indonesia, dan Kejaksaan, memainkan peran penting dalam memberantas tindak pidana pencucian uang melalui aset kripto.
Kata kunci: Bukti, Aset Kripto, Pencucian Uang.

🖂 Corresponding author: Mohammad Rachman Asa
Email Address: rachmanasa2@gmail.com (Jl. A. Yani, Kab. Sukoharjo, Jawa Tengah)
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INTRODUCTION

Cryptocurrency is an innovation in the financial sector that has been gaining popularity since 2009, when it became widely traded (cf. Financial Action Task Force, 2021). Crypto uses a cryptographic system that allows for the easy transfer of assets between users without intermediaries. This characteristic is also exploited in criminal activities, particularly to conceal the proceeds of crime because the identity of the perpetrator and the flow of transactions are difficult to trace (cf. Adrian, 2019). The digital currency phenomenon has actually developed through electronic payment systems, but crypto offers a direct payment mechanism based on blockchain technology that works with a distributed concept ledger technology (DLT). This technology enables transactions to take place quickly, across borders, efficiently, and with a high level of privacy, making it a key innovation in modern payment systems (cf. Hardle, 2020).

Transaction crypto done through blockchain with system encryption that only can accessed by the transacting parties. The level of confidentiality the increase risk abuse, including money laundering, because no existence institution finances that are direct take notes transaction suspicious. The Bank for International Settlements estimates that about 1.1% of all over transaction crypto worth around USD 11 billion is transaction illegal (cf. Harvey, 2017). In Indonesia, the regulation asset crypto has formed through Law Number 4 of 2023 concerning Development and Strengthening Sector Finance, Minister of Trade Regulation Number 99 of 2018, as well as with Regulation Commodity Futures Trading Regulatory Agency Number 11 of 2022. Regulation the put asset crypto as digital commodities that are traded on physical markets and are under state supervision. Although Commodity Futures Trading Regulatory Agency has establish 851 assets crypto that can traded assets crypto Not yet recognized as tool valid payment by Bank Indonesia. However, the amount users crypto in Indonesia continues increase every year (cf. Coelho, 2021).

Problems proof asset crypto in action criminal money laundering is visible in disguise results action criminal corruption, but enforcer law Still experience difficulty get tool sufficient evidence Because not yet there is regulatory instruments proof ownership and transaction asset crypto in a way comprehensive (cf. Rahma, 2025). Based on Law Number 8 of 2010 concerning the Prevention and Eradication of the Crime of Money Laundering , every purposeful actions hide or disguise origin treasure results action criminal is action criminal money laundering as arranged in Article 3, Article 4, and Article 5. Article 69 of the Law Prevention and Eradication of the Crime of Money Laundering also emphasized that investigation action criminal money laundering can done without wait proof action criminal origin, a principled that have been strengthened through decision Court Constitution (cf. medistira, 2025).

Development technology digital transactions are also followed with confession tool proof electronic through Article 5 paragraph (1) of Law Number 1 of 2024, so that information electronics, documents electronics, and results print own strength valid proof. Although thus, the use of system encryption on assets crypto still make things difficult search cash flow and proof ownership in case money laundering. Regulation about use asset crypto in action criminal money laundering also not yet arranged in a way details in law Indonesian criminal law so that cause obstacle in cyber laundering handling based on crypto (cf. Lazuardi, 2029).

METHOD

Study This use method approach juridical normative with examine rules, norms and regulations related legislation with proof asset crypto in action criminal money laundering, as well as study application and interpretation norm the in a way systematic (cf. Soekanto, 2007). Type of data used is secondary data consisting on material primary law in the form of regulation legislation that regulates action criminal money laundering, assets crypto, and information as well as transaction electronics, as well as material law secondary in the form of books, journals, articles scientific, and other relevant sources as support research (cf. Mamudji, 2005). Data collection was carried out through studies literature with study, read, note and analyze various literature as well as related documents with object research. Data analysis was carried out in a way qualitative with approach descriptive analytical for study connection between development technology asset crypto and systems proof in law criminal as well as evaluate effectiveness applicable settings in countermeasures action criminal digital- based money laundering.

RESULTS AND DISCUSSION

Use asset crypto as means action criminal money laundering facing various obstacles that come from aspect technical, regulatory, capacity enforcer law, until mechanism proof. Characteristics asset blockchain-based crypto provides transparency to history transactions, but identity users still protected through system pseudo-anonymity. All transaction can trace use blockchain analysis, address clustering, and tracking cash flow, but identity new wallet owner can reveal if associated with Know Your Customer (KYC) data on the exchange or provider service asset crypto. Conditions This make anonymity crypto no nature absolute, but still complicate the identification process perpetrator without data support from provider service.

Besides pseudo-anonymity, perpetrator utilise various technology obfuscation for cut off footstep transaction. The mode used includes mixing or tumblers that mix illegal funds with other funds, chain hopping that moves asset in a way fast between blockchain, usage privacy coin like monero that hides identity and values transactions, utilization blockchain system that is decentralization and cross- border, as well as storage asset in cold wallet that only can access use private key. Characteristics the causing the process of tracking, freezing, or foreclosure asset crypto become Far more complex compared to asset finance conventional.

Obstacles also come from aspect laws and regulations. Assets crypto in Indonesia is still classified as digital commodities, not tool legitimate payment, while the Criminal Procedure Code and Constitution action criminal money laundering yet arrange in a way special procedure tracking, seizure, security and execution asset crypto. Emptiness law the aggravated with Not yet existence guidelines technical about foreclosure assets in non- custodial wallets (self-custody wallets) as well slow blocking process transactions on the trading platform. In practice, the perpetrator often move asset to abroad or to another wallet before action enforcement law done so that effectiveness foreclosure become reduced (cf. Kholil, 2026).

Capacity apparatus enforcer law also becomes constraint important. Blockchain analysis requires ability technical, device digital forensics, and applications analysis special ones that haven't been owned in a way evenly distributed throughout apparatus enforcer law (cf. De Filippi, 2018). Investigator Still face difficulty in read pattern blockchain transactions, identifying wallet addresses, and prove connection between address wallet with identity perpetrators, especially when perpetrator use service anonymous, non-custodial wallet, mixing service, or privacy coin. Difference jurisdiction between countries also complicates the process of obtaining user data. so that required improvement capacity source power people, digital infrastructure, and work the same international.

Study this also shows that enforcement law to action criminal money laundering through asset crypto has own base sufficiently normative wide. Article 3, Article 4, and Article 5 of the Law Number 8 of 2010 regulates actions place, transfer, divert, hide, disguise, receive, or control treasure wealth that comes from action criminal provisions the supported by recognition information electronic as tool valid evidence in the information and transactions law electronics, Financial Services Authority and Commodity Futures Trading Regulatory Agency in supervision asset crypto through implementation principle Know Your Customer (KYC), obligations organizer system electronic store transaction data, as well as provision proof backwards in Article 69, Article 77, and Article 78 of the Criminal Procedure Code Criminal Money Laundering that strengthens proof to asset results action criminal.

Research result show that proof action criminal money laundering through asset crypto supported by various doctrine law and technology. Blockchain as a distributed ledger that produces permanent digital audit trail so that can used for browse flow asset crypto. Blockchain only pseudonymous because identity users still can connected with KYC data, IP address, bank account, etc device electronics (cf. Mokodompit, 2010). Information and documents electronic as tool valid evidence throughout integrity the data guaranteed. Approach follows the money through blockchain analysis, wallet tracking, transaction clustering, identification exchange and conversion digital assets as method main prove money laundering (cf. Philippians, 2026). Overall doctrine the show that although asset crypto own complex characteristics, proof criminal still can done if supported technology digital forensics, tools proof electronics, as well as coordination inter-institutional enforcer law.

Proof asset crypto as means action criminal money laundering in Indonesia requires a more approach comprehensive compared to proof to asset conventional. Characteristics asset cryptocurrency based blockchain, is pseudonymous, decentralized, and can moved across countries in time short cause proof no Again only relying on tools proof conventional, but also necessary support digital technology, proof upside down, and coordination inter-institutional enforcer law. Approach the become important

Because transaction asset crypto leave permanent digital footprint that can analyzed for browse cash flow, identifying pattern transactions, and prove connection between results action criminal with perpetrator (cf. Putra, 2025). Effective proof must blend ability digital forensics techniques with implementation provision criminal procedure law and provisions special in Constitution Action Criminal Money Laundering so that the enforcement process law can walk more optimal.

Tracking asset crypto in case action criminal washing money done through digital forensics and blockchain analysis that allows investigator reconstruct all over history transactions on the blockchain network. Analysis done to wallet address, transaction grape, pattern displacement assets, up to connection inter-wallet through blockchain explorer which is capable of display transaction data in real time (cf. Fu, 2022). In additions that, investigator can identify use of intermediary wallet, mixing services, and displacement asset cross blockchain (cross-chain transfer) which is often utilized perpetrator for cut off footstep transactions. Development technology also strengthens the investigation process through implementation machine learning, graph convolutional network (GCN), explainable artificial intelligence (XAI), unsupervised clustering, and deep learning that are capable of detect abnormal transactions, grouping wallets that are related to each other related, identifying phishing activities and money laundering , as well as give explanation about reason something transaction categorized as activity suspicious (cf. Zhang, 2024). Technology integration the show that development intelligence artificial has become instrument important in support proof action criminal money laundering based on asset crypto without remove principles protection privacy users blockchain.

Besides utilization technology, proof action criminal money laundering through asset crypto strengthened with mechanism reversal burden proof as arranged in Article 77 and Article 78 of the Law Number 8 of 2010 concerning Prevention and Eradication Action Criminal Money Laundering. Provisions the obligatory defendant prove that treasure related wealth with case No originate from action criminal law. Regulations This is exception to system proof in the Procedural Law Book Criminal law in principle charge proof to prosecutor general. Implementation proof backwards viewed as policy law criminal acts of a criminal nature special Because action criminal money laundering is crime follow up crime which aims to disguise results action criminal origin (cf. Coelho, 2021). Although thus, the mechanism the no deletes obligation prosecutor for prove elements action the crime charged so that proof still implemented in a way balanced between prosecutor general and defendant.

Draft reversal burden proof in action criminal money laundering also has similarities with arrangement in Constitution Eradication Action Criminal Corruption, in particular Article 37, Article 37A, and Article 38B which provide right at a time obligation to defendant for explain origin wealth. The system implemented in Indonesia is not is proof backwards in a way absolute, but rather proof limited and balanced reverse burden of proof (cf. Medistiara, 2025). Prosecutor general still obliged prove all over element action criminal, whereas defendant given chance prove that treasure his wealth obtained in a way valid. In context action criminal money laundering through asset crypto, mechanism This become the more important Because characteristics digital assets enable perpetrator disguise ownership through multiple wallets, various trading platforms, and transaction across countries, so that proof about legality origin asset need done in a way together by the prosecutor and the defendant for give certainty law.

Effectiveness proof action criminal money laundering through asset crypto also relies on coordination inter-institutional enforcer law and regulators. Indonesian Financial Transaction Reports and Analysis Center play a role do analysis transaction finance suspicious and compiling intelligence finance as base investigation (cf. Yanuar, 2022). Financial Services Authority do supervision to institution service finances and ensure implementation anti- money laundering principles and Know Your Customer (KYC), whereas commission eradication corruption own authority investigate and confiscate asset related cryptocurrencies with action criminal corruption through utilization blockchain analysis. Commodities Futures Trading Regulatory Agency supervise trading asset crypto as commodities at a time ensure all over trader asset crypto apply system reporting transaction suspicious. Police The Republic of Indonesia carries out function investigation through digital forensics and seizure assets , while Prosecutor's Office The Republic of Indonesia is developing a strategy for providing evidence in court. with utiliy results analysis digital transactions obtained during investigation. Synergy authority the form system mutual proof complete in reveal action criminal money laundering based on asset crypto .

Handling action criminal money laundering through asset crypto No can released from Work The same international Because transaction blockchain nature cross limits and no limits know state jurisdiction. Indonesia through Indonesian Financial Transactions Reports and Analysis Center, Police, and Prosecutor's Office Work The same with the Financial Action Task Force (FATF), Interpol, and the Financial Intelligence Units (FIUs) of other countries to exchange information intelligence, tracking cash flow, freeze assets, and identify actors who utilize trading platforms crypto in various countries. The FATF stipulates standard international about implementation Know Your Customer (KYC), Customer Due Diligence (CDD), as well as anti- money laundering policy for provider service virtual assets. Interpol supports tracking transaction through development digital technology and coordination cross jurisdiction, while the FIU analyzes report transaction suspicious that becomes base investigation (cf. Wattie, 2015). Work The same national and international the show that proof action criminal money laundering through asset crypto no only need device adequate law, but also support technology, exchange information and coordination between agencies so that the tracking process, confiscation, and proof asset results crime can done in a way effective.

CONCLUSION

Proof asset crypto as means action criminal money laundering in Indonesia is facing challenges that originate from characteristics asset crypto which is pseudonymous, decentralized, cross limits, as well as supported various technique blurring transaction like mixing, chain hopping, privacy coins, and cold wallets complicate the tracking and identification process. perpetrators, as well as foreclosure assets. Constraints the exacerbated by not yet existence comprehensive settings about mechanism confiscation and management asset crypto in criminal procedure law, limitations capacity technical apparatus enforcer law, as well as the need strengthening digital infrastructure and work the same international. Although thus, Indonesia has own base adequate law through Constitution Number 8 of 2010 concerning Prevention and Eradication Action Criminal Money Laundering, Law Information and Transactions Electronics, as well as various regulations sector financial support use tool proof electronics, applications principle Know Your Customer (KYC), and mechanisms proof upside down. Effectiveness proof action criminal money laundering through asset crypto need integration between digital forensics technology, blockchain analysis, machine learning, and approaches follow the money with system proof supported laws coordination inter-institutional, such as Indonesian Financial Transactions Reports and Analysis Center, Financial Services Authority, Commission Eradication Corruption, Commodity Futures Trading Regulatory Agency, Police, and Prosecutor's Office, as well as Work The same international through FATF, Interpol, and Financial Intelligence Units (FIUs). Synergy between strengthening regulation, improvement capacity enforcer law, utilization technology digital forensics, and collaboration cross institution become factor main for realize effective proof, providing certainty law, as well as increase success enforcement law to action criminal money laundering that exploits asset crypto as means disguise results crime

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