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REVIEW



Legal Governance of Digital Currencies in Malaysia

Gobierno Legal de las monedas digitales en Malasia

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ABSTRACT

Amid the global surge of digital currencies, Malaysia, as a key Asian economy, is actively exploring legal regulatory frameworks for their governance. This article reviews the global development of digital currencies such as Bitcoin and Digital RMB, and analyzes Malaysia's current regulatory landscape, including the "Digital Assets Guideline", the Anti-Money Laundering Act, and capital market regulations. Despite Malaysia's open stance, existing regulations face challenges such as definitional gaps, limited public trust, insufficient technological infrastructure, payment system incompatibility, and financial crime risks. By comparing regulatory approaches in the United States, China, and Singapore, the study identifies differences and shared challenges. It further proposes policy recommendations for Malaysia, including introducing the "Digital Ringgit", enhancing public awareness, fostering financial innovation, improving regulatory frameworks, and engaging in international standard-setting. Ultimately, Malaysia must balance innovation and regulation to promote healthy digital currency development and financial modernization.

Keywords: Digital Currency; Legal Regulation; Financial Innovation; Cross-Border Payments; Anti-Money Laundering and Counter-Terrorism Financing.

RESUMEN

En medio del auge global de las monedas digitales, Malasia, como economía asiática clave, está explorando activamente marcos regulatorios legales para su gobernanza. Este artículo revisa el desarrollo global de monedas digitales como el Bitcoin y el RMB digital, y analiza el panorama regulatorio actual de Malasia, incluyendo la "guía de activos digitales ", la ley contra el lavado de dinero y regulaciones del mercado de capitales. A pesar de la postura abierta de Malasia, las regulaciones existentes enfrentan desafíos como brechas de definición, confianza pública limitada, infraestructura tecnológica insuficiente, incompatibilidad del sistema de pago y riesgos de delitos financieros. Al comparar enfoques regulatorios en los Estados Unidos, China y Singapur, el estudio identifica diferencias y desafíos compartidos. Además, propone recomendaciones de políticas para Malasia, incluyendo la introducción del "Ringgit Digital", mejorar la conciencia pública, fomentar la innovación financiera, mejorar los marcos regulatorios y participar en el establecimiento de normas internacionales. En última instancia, Malasia debe equilibrar la innovación y la regulación para promover el desarrollo de una moneda digital saludable y la modernización financiera.

Palabras clave: Moneda Digital; Regulación Legal; Innovación Financiera; Los Pagos Transfronterizos; Lucha Contra el Blanqueo de Capitales y Financiación Antiterrorista.

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INTRODUCTION

Since the emergence of virtual currencies, particularly the application of Bitcoin in the US market, to the issuance of China's digital currency (namely, Digital RMB), and even the permission for tourists in Singapore to conduct transactions using Digital RMB, this series of events indicates the acceptance and exploration of new currency forms by countries worldwide. At present, as the demand for cross-border trade keeps increasing, the cross-border payment system has evolved into a crucial node in international trade finance, constituting the bedrock of the global financial system. Undoubtedly, the rise of digital currencies will become a significant force promoting the transformation of payment methods in the process of global economic integration.⁽¹⁾

Malaysia, functioning as a hub of the Asian economy, assumes a pivotal role in the logistics transportation and transshipment within international economic trade. It is actively exploring effective regulatory routes for digital currencies, with the anticipation of facilitating its economic advancement through this means. (2) Notably, the G20 Summit held in India in 2023 emphasized the significance of adapting to the development trends of the technological era and advocated for innovative international payment service models, with the aim of injecting new impetus into global economic development. (3) This summit not only drew attention to cross-border payments as a significant challenge in the international financial domain, but also expressed the anticipation of presenting a solution to the cross-border payment conundrum at the next summit.

At present, Malaysia's cross-border payment network confronts numerous predicaments. Among them, a considerable number of individuals rely on digital wallets offered by private companies for cross-border transactions, while multinational enterprises have numerous concerns regarding cross-border payments, and the existing payment system is hard-pressed to meet their complex business requirements. Hence, how to achieve a direct point-to-point transmission model and effectively deal with issues such as high costs and payment delays has become the key point of current research and practice, and these efforts are mainly concentrated on governance and improvement at the domestic level.

As the business demand of multinational corporations in the Malaysian market keeps escalating, their cumulative transaction volume has surpassed the historical peak. Nevertheless, in the domain of cross-border payment, these enterprises commonly encounter predicaments, manifested as exorbitant processing fees and protracted payment cycles. This stands in stark contrast to the rapid development of the technological era and appears particularly laggard. At present, the Malaysian government adopts an open stance towards digital currencies and has not yet imposed separate legislative supervision on the diversified digital currencies. Nonetheless, the Malaysian government attaches significant importance to the development of international economic and trade.

In this context, the Malaysian Securities Commission timely introduced the "Digital Asset Guidelines," supported by regulations such as the "Anti-Money Laundering Act" and the "Anti-Terrorism Financing Act." However, these existing regulations have proven inadequate in addressing the demands of the current digital era. Given the urgent international financial need for digital currencies, the Malaysian government should work on establishing a more comprehensive legal regulatory framework to ensure orderly market operations and to adapt to the evolving global landscape of economic integration and the rule of law.

Malaysia Digital Currency Overview

Digital currency, emerging as a new form of currency in the context of the digital age, exists in a digital format and is widely used, reflecting the need for innovation in the monetary system driven by advancements in digital technology. Unlike traditional paper money or coins, digital currency is equivalent in value to ordinary currency but is fundamentally different from the latter, which relies on physical form. Moreover, it surpasses the concept of electronic wallets, which are often seen as a form of electronic money but do not possess all the attributes of currency itself. Additionally, the operation of electronic wallets often depends on traditional financial tools such as bank cards. The core of this type of currency is that it is constructed through data encryption and network technology, aiming to achieve efficient circulation and transactions worldwide. Currently, among the diverse forms of digital currencies, cryptocurrencies are especially notable, such as Bitcoin and Ethereum. They employ advanced cryptography techniques to guarantee the security and anonymity of transactions, presenting decentralized characteristics and mostly being issued by private institutions. Their legality varies across different countries and regions.

In contrast, although electronic wallets provide transactional convenience and mitigate the inconvenience of carrying cash, they have relatively high transaction fees and are also privately issued, lacking official endorsement. Whereas digital RMB, as a digital currency formally issued by the People's Bank of China, not only holds the same legal status and value as common currency but also possesses the potential for global circulation due to its issuance and supervision by the national government. Its transaction costs are relatively low, and its transaction efficiency is significantly enhanced. (5)

From the perspective of the issuer, digital currencies can be categorized into three major types: those issued by national governments, those issued by companies, and those issued by private individuals. Digital

currencies issued by national governments, such as Digital RMB, typically have advantages like low costs, high efficiency, and wide acceptance due to their official legitimacy. Digital currencies issued by multinational companies might have higher transaction fees due to cross-border transactions and confront greater legal and regulatory risks. Their legitimacy is often subject to questioning. As for digital currencies issued privately, they are frequently targeted at reaping substantial profits, have a limited application range, poor liquidity, and are often accompanied by illegal trading activities aimed at appreciation, lacking legal safeguards. Hence, the regulation and standardization of digital currencies have emerged as the key to ensuring the stability of the financial market and promoting the healthy development of the economy. (5)

In October 2018, the High Court of Malaysia delivered a landmark verdict in a case related to cryptocurrency, explicitly delineating the legal status of cryptocurrency in the country: namely, cryptocurrency is not regarded as legal tender in Malaysia, yet the legitimacy of cryptocurrency transactions per se is acknowledged. This court judgment categorizes cryptocurrency as a commodity on the grounds that the act of purchasing cryptocurrency with legal tender essentially constitutes a commodity transaction, and as a result, cryptocurrency possesses commodity value.⁽⁶⁾

Building on this foundation, the Malaysian government has adopted an open yet regulated approach, allowing approved crypto assets to circulate in the market while requiring all cryptocurrency exchanges to comply with relevant regulations set forth by the Securities Commission Malaysia (SC) and ensuring that their operations adhere to local legal frameworks. To further regulate the market, Malaysia enacted the Capital Markets and Services (Prescription of Securities) (Digital Currency and Digital Token) Order 2019 (hereafter referred to as the "2019 Order"). (5,7,8,9) Under the provisions of the 2019 Order, any digital currencies and digital tokens that meet the standards set by this legislation are permitted to circulate in the Malaysian securities market. (10) This regulation defines the specific scope of crypto assets and digital currencies allowed into the market. However, the SC has clearly stated that crypto assets are not equivalent to legal tender and, therefore, are not under the direct supervision of Bank Negara Malaysia (BNM). Subsequently, in 2020, the Malaysian government issued the Digital Asset Guidelines, which further relaxed restrictions on the issuance of digital tokens and fundraising activities, and recognized the role of exchanges in providing services such as the storage, safekeeping, holding, or custody of digital assets for others. The guidelines also emphasized the responsibility of exchanges to manage their platforms autonomously, thus providing legal support for the more flexible application of digital currencies and digital assets in the Malaysian market. This series of initiatives not only promoted the healthy development of Malaysia's digital currency market but also enhanced the confidence and compliance awareness of market participants. (11,12)

Status of Legal Regulation of Digital Currencies in Malaysia

In 2018, Malaysia made significant amendments to the core of its financial legal system—the "Central Bank of Malaysia Act 2009" (Bank Negara Malaysia Act). These amendments explicitly defined the legal concept of "digital currency" and made detailed distinctions between different types of digital currencies. (13,14) The revised "Central Bank Act" has since become the cornerstone of legal regulation in the field of digital currencies, providing the fundamental basis for all related regulatory measures. It clarifies the rights and obligations that digital currencies hold within Malaysia's legal framework.

Under the amended law, Bank Negara Malaysia (BNM) is granted broad powers to regulate financial markets and systems, particularly in the field of digital currencies. The central bank assumes the critical responsibility of formulating policies and rules related to digital currency transactions and Initial Coin Offerings (ICOs) to ensure the orderly operation and healthy development of the market. Additionally, the law places significant emphasis on comprehensive protection provisions for consumers and service providers involved in digital currency transactions. Specifically, the law imposes strict requirements on trading platforms, stressing the need for transparency and fairness in their operations while ensuring robust consumer protection mechanisms. These measures are designed to enhance market stability and safeguard consumer rights, effectively reducing market volatility and protecting investors from potential risks. (15,16) By doing so, the law aims to promote the sustainable development of the digital currency market and build public trust.

In 2018, the Malaysian government made significant amendments to the "Anti-Money Laundering and Anti-Terrorism Financing Act 2001" (commonly known as AMLATFA), specifically extending its regulatory scope to include digital currency transactions and cryptocurrency service providers. The revised legal provisions specifically address the use of digital currencies for money laundering and terrorism financing, aiming to strengthen legal oversight in this emerging sector. Under the amendments, digital currency exchanges are required to implement strict customer due diligence procedures and enforce necessary identity verification measures to ensure the accuracy and authenticity of customer identification information, which must also be registered and confirmed. Furthermore, the law mandates that all transaction records be properly maintained to allow for subsequent audits and investigations, thereby ensuring the transparency and traceability of transactions. The primary objective of these legal amendments is to effectively prevent criminal activities

within the digital currency space by establishing a robust regulatory framework, deterring the misuse of digital currencies as tools to disrupt the financial market, and preventing the illegal outflow of large sums of money abroad. This is intended to safeguard the stability of the domestic financial system. These initiatives not only reflect the Malaysian government's strong focus on regulating the digital currency sector but also underscore its firm commitment to maintaining national financial security and stability.

Bank Negara Malaysia issued a regulation known as the "Financial Services Act", whose core function is to provide comprehensive oversight of banks, insurance institutions, and other financial service entities. Although its primary focus is on regulating traditional financial sectors, its scope also extends to digital currency activities that fall within the financial services domain, particularly in relation to the operations of financial service providers and trading platforms. Notably, while the "Financial Services Act" does not explicitly detail the circulation and usage of digital currencies, it offers a reference framework for the rights and responsibilities of trading platform companies. This framework lays the legal foundation for the effective governance of merchant platforms involved in financial services. (18,19)

Building on this foundation, in 2019, Bank Negara Malaysia further issued the "Digital Currency and Electronic Token Regulations" (Regulations on Electronic Money and Initial Coin Offerings). Officially promulgated by the central bank, this regulation clearly defines digital currencies and electronic tokens, outlines the corresponding regulatory requirements, and specifies the obligations of market participants. More importantly, the regulation mandates that any business engaged in digital currency-related activities must obtain official approval and strictly adhere to established regulatory standards to ensure the orderly operation of the market and the protection of investors' rights. This series of initiatives not only reflects Bank Negara Malaysia's proactive stance in the regulation of digital currencies but also provides a solid legal foundation for promoting the healthy development of the industry. (20,21)

In 2019, the Securities Commission Malaysia (SC) officially issued the "Digital Asset Market Guidelines". (13) These guidelines establish a comprehensive regulatory framework for market activities related to digital currencies and electronic tokens. According to the guidelines, all users participating in digital asset transactions must complete a registration process and obtain explicit approval from the Securities Commission before engaging in trading activities. Additionally, the guidelines clearly define the behavioral norms for digital currencies within the securities market, aiming to ensure the effective protection of investors' legal rights. To achieve this, the guidelines detail risk prevention measures that should be taken during transactions to safeguard investors from potential market risks. In summary, by issuing the "Digital Asset Market Guidelines", the Securities Commission Malaysia not only provides clear regulatory guidance for the healthy development of the digital asset market but also lays a solid foundation for protecting investor rights and maintaining market stability.

Status of Digital Currency Regulation in Major Currency Countries of the World America

In the United States, the regulation of digital currencies adopts a decentralized system, which encompasses multiple federal agencies and exhibits diverse regulatory stipulations due to the variances in legal systems among state governments. Specifically, agencies such as the U.S. Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), and the Financial Crimes Enforcement Network (FinCEN) under the U.S. Department of the Treasury implement supervision over the national securities market within their respective purviews. Notably, the SEC is inclined to regulate digital currencies as securities, while the CFTC is mainly responsible for supervising futures and derivatives transactions involving cryptocurrencies, treating and trading cryptocurrencies as commodities. (22)

Additionally, the United States has a well-developed system of digital laws and regulations, including key legislation such as the "Electronic Fund Transfer Act", the "Uniform Commercial Code", the "Gramm-Leach-Bliley Act", and the "Uniform Money Services Act". These laws play a critical role in the regulation of digital currencies. The "Electronic Fund Transfer Act" primarily governs smaller payment amounts, while the other laws focus on the management and use of larger sums of money. (23) The construction of this legal framework provides a solid legal foundation for the legitimate and regulated use of digital currencies in the U.S. Overall, the U.S. regulates digital currencies through a functional regulatory approach, determining the appropriate regulatory bodies and legal requirements based on the specific functions and applications of digital currencies. Therefore, digital currency payment activities must strictly comply with the relevant legal and regulatory provisions to ensure market stability and protect investor rights.

In actuality, the United States has manifested a relatively amicable stance towards the regulatory regime of digital currencies, permitting private individuals and corporate entities to freely engage in the usage and trading of cryptocurrencies within specific frameworks. Nevertheless, in recent years, the regulatory trend in the cryptocurrency domain in the United States has gradually inclined towards stringency, particularly being conspicuously evident in aspects such as anti-money laundering operations and tax compliance. For instance, in

2019, the Financial Crimes Enforcement Network (FinCEN) introduced a series of rigorous regulations for digital currency service providers. These stipulations mandate that service providers must scrupulously adhere to the relevant clauses and have significantly intensified the supervision and control over cross-border digital currency transactions. This initiative is designed to enhance financial transparency and effectively curb illegal capital flows conducted through the utilization of cryptocurrencies. (24,25)

Concurrently, the Internal Revenue Service (IRS) of the United States has explicitly stipulated the declaration and taxation requirements for cryptocurrencies held by individuals and enterprises. This regulation implies that whether it is individual investors or business entities, while reaping the economic benefits brought by cryptocurrencies, they must also undertake the corresponding tax obligations, thereby ensuring the fairness and integrity of the tax system. (26)

To sum up, despite the United States maintaining an open attitude towards digital currencies, its regulatory framework is progressively tightening, particularly in the domains of anti-money laundering and tax compliance. This series of measures not only manifests the US government's emphasis on the healthy development of the digital currency market but also reflects its endeavors in balancing innovation and regulation.

China

In contrast to Malaysia, China has adopted more rigorous policy measures in the realm of digital currency regulation. Given China's large population, the wide variety of cryptocurrencies, and the gradual escalation of the crime rate in the circulation market, the Chinese government decided to enforce more stringent supervision on digital currencies. For instance, the People's Bank of China explicitly declared in 2017 that all trading activities of cryptocurrencies were illegal and subsequently shut down all domestic digital currency exchanges. Thereafter, the Chinese government also imposed restrictions on the cryptocurrency mining industry, with the aim of curbing related criminal issues by controlling the usage and circulation of digital currencies. The fundamental objective of this series of measures lies in promoting the development of digital RMB and establishing a new cross-border transaction payment system, not only ensuring the stable development of China's financial market in the current digital economy backdrop but also effectively protecting people's property security. (26,27,28,29)

The features of China's regulatory system are mainly manifested in the following aspects: Firstly, the "E-commerce Law" explicitly stipulates the rights and obligations of users, providing a legal foundation for the application of digital currencies in the e-commerce domain. Secondly, in terms of judicial interpretation and policy regulation, the Supreme People's Court and the Supreme People's Procuratorate have interpreted and applied the legal provisions regarding illegal transactions of digital currencies, ensuring the uniformity and authority of law enforcement. Lastly, the People's Bank of China, as the main body of policy regulation, not only supervises the definition of cryptocurrencies and the usage of accounts for user purchases, but is also responsible for formulating relevant policies and interpreting cryptocurrencies. (30)

Nowadays, China has issued and piloted the digital RMB to meet people's demands for electronic payment. Unlike other countries that view digital currencies as decentralized assets, the digital RMB is entirely controlled by the People's Bank of China and is a currency with legal status. Through this approach, China endeavors to seize the initiative in the global digital economy while ensuring the stability and security of the financial system.

Singaporean

Singapore, as one of the globally renowned financial centers, has implemented an open yet effective regulatory strategy for digital currencies, leveraging its leading position in the financial domain. (31,32) In this context, the Monetary Authority of Singapore (MAS) promulgated the Payment Services Act (PSA), which systematically and explicitly categorized and regulated all cryptocurrencies, laying a solid legal foundation for the sound development of the industry. (33) Since January 2020, when the PSA officially came into force, it mandates that all providers engaged in digital currency payment services must complete the registration process with MAS and strictly adhere to regulatory requirements such as anti-money laundering (AML) and know-your-customer (KYC). (34,35) This initiative not only enhances the transparency of the industry but also effectively protects the legitimate rights and interests of market participants.

Furthermore, Singapore holds an open attitude towards initial coin offerings (ICO), but stipulates that they must comply with the relevant regulations of securities laws. MAS has demonstrated a distinct supportive stance in actively promoting the innovative applications of digital currencies and blockchain technology, dedicated to facilitating continuous advancement and development in the field of fintech. Nevertheless, MAS also attaches significant importance to the significance of risk management, emphasizing that digital currencies must not be utilized for illegal activities such as money laundering and terrorist financing, thereby maintaining the stability and security of the financial market.^(34,35)

In conclusion, through the formulation and implementation of the PSA, the regulation of ICO, and the support

for fintech innovation, Singapore has showcased its advanced concepts and practices in the realm of digital currency regulation, offering beneficial references and models for other countries and regions worldwide.

Challenges Facing Malaysia's Virtual Currency Regulatory System

Malaysia has adopted a cautious and balanced attitude towards the regulation of digital currencies, supporting innovative development while emphasizing the prevention of potential risks. In contrast to the regulatory frameworks of the United States, China, and Singapore, Malaysia's system demonstrates relative equilibrium: it differs from China's outright prohibition, and is distinct from the United States' highly open approach and Singapore's inclusive regulation. (36) Nevertheless, with the rapid advancement of digital currencies and blockchain technology, the current regulatory system in Malaysia has gradually revealed its lag, presenting difficulties in responding to the new changes in the digital currency domain. This is specifically manifested in the following aspects:

No legal tender for the time being

The Malaysian government's regulation of digital currencies is confined to the legal and policy dimensions and has yet to facilitate their circulation and application within the economic system to actualize the growth potential of the digital economy. Given that the rapid advancement of the digital era inevitably propels the in-depth development of global economic integration, the issuance and circulation of digital currencies have emerged as a significant trend in the evolution of the global currency system. Digital currencies, by virtue of their convenience and cross-border payment capabilities, effectively mitigate numerous obstacles in transactions. Hence, the Malaysian government ought to be proactive and ensure the legal status of digital currencies through legislative means, and actively contemplate issuing the country's own digital currency. (37)

Currently, numerous countries have successively introduced legal digital currencies, a move that will undoubtedly exert an influence on Malaysia's reliance pattern on currency circulation. For instance, Russia is in the process of preparing to issue digital rubles. Once they are in circulation in Malaysia, their regulation will have to adhere to the existing framework for traditional currencies. Nevertheless, the traditional currency regulatory mechanism exhibits evident loopholes and inadequacies when dealing with digital currencies, manifested as regulatory lags and inadaptability.

In this backdrop, if Malaysia can successfully issue digital ringgit, it will not only be capable of implementing efficient supervision over the circulation and use of domestic and foreign legal digital currencies by leveraging advanced technology but will also directly confront the core challenge faced by Malaysia in the domain of digital currencies, namely how to strike a balance between safeguarding financial security and promoting technological innovation, thereby occupying a favorable position in the global competition of digital currencies.

Lack of trust in digital currencies

Malaysia lags behind in its technological infrastructure, specifically with high costs of internet usage and sparse distribution of basic communication base stations, which together limit the public's understanding and depth of digital currencies. Currently, although mobile wallets as a payment tool have become popular, most of the public are limited to its convenience, while lacking understanding of basic concepts of digital currencies, cryptocurrencies, and virtual currencies. What's more, some members of the public mistakenly equate electronic payment tools such as Alipay and TNG with digital currencies, which significantly reduces the overall level of awareness and trust in digital currencies in Malaysian society, thereby hindering the country's integration with the international digitalization process. (38)

In contrast, neighboring Singapore has taken steps to accept the use of China's digital RMB and is expected to issue its own digital new currency in the near future. In light of this, the Malaysian government urgently needs to adjust and optimize its policy communication strategy for the central bank, by increasing publicity efforts to clearly distinguish and explain the concepts of legal digital currencies, illegal cryptocurrencies, and virtual currencies, with the aim of enhancing the public's clear understanding. This not only helps promote the public's correct understanding of digital currencies but also serves as an important means to prevent telecommunications fraud and money laundering crimes, thereby enhancing the financial system's security.

Therefore, raising awareness and trust in digital currencies is a crucial step in laying a solid foundation for the future issuance and widespread use of digital currencies in Malaysia, which is of great significance in driving the country's economic digital transformation.

Lack of scientific and technical facilities to support

The foundation of digital currency lies in blockchain technology, although this technology has been widely used globally, its core principles, whether based on blockchain technology itself or distributed ledger technology (DLT), are still in the early stages of exploration and learning in Malaysia. Currently, Malaysia does not have the ability to independently use such technologies and needs to rely on foreign technical support. The fundamental

reason for this phenomenon is that sovereign states that have satellite launch systems can operate and manage their networks independently, thereby reducing their dependence on technology at the technological level and providing a significant boost to in-depth research into blockchain technology. (39)

However, the network system of blockchain technology adopted by digital currency also comes with a series of unresolved problems, including but not limited to payment speed, system scalability, and internal resource consumption. For Malaysia, due to a lack of sufficient technical accumulation and solutions, facing the challenges brought about by blockchain technology is particularly difficult. Therefore, it can be said that Malaysia's development status in the blockchain technology field constitutes a major obstacle to its promotion of digital currency applications, and urgently needs to achieve technological breakthroughs and improvements in this field.

In summary, Malaysia must face and solve the challenges brought about by blockchain technology in its efforts to promote the development of digital currency. By strengthening technological research and international cooperation, gradually enhancing its independent innovation capacity, it hopes to better integrate and benefit from the global digital currency development trend in the future.

Multi-currency payment systems are not compatible

The smooth circulation of legal digital currencies demands seamless integration with the extant national payment system. Despite Malaysia currently possessing relatively advanced payment systems, such as the Real-time Payments (RTP) system, the ability of these systems to effectively surmount the technical obstacles in digital currency transactions remains subject to in-depth assessment and verification. In light of the current status of Malaysia's payment system, which is dominated by wallet payments and highly reliant on traditional currency payment systems, the construction of a payment system based on innovative technologies to accommodate the efficient circulation and payment requirements of modern digital currencies is especially urgent.

Specifically, achieving the immediacy and security of cross-border payments, as well as the effective integration and management of digital currency transactions within the existing payment system, entail complex technological innovations and system reconfigurations. This encompasses, but is not limited to, ensuring transaction speeds, reducing transaction costs, enhancing system security, and addressing compatibility issues among different digital currencies. Regrettably, when confronted with these technical challenges, the response measures of the Malaysian government have been inadequate. (39,40,41)

Moreover, given that different types of digital currencies might adopt diverse encryption standards, regulatory requirements, and usage norms, the Malaysian government is obligated to embark on exploration and formulate a unified digital currency protocol and standard from a top-level design perspective. This not only pertains to the rapid conversion and interoperability among different currencies but is also a key factor in safeguarding national financial security and promoting the healthy development of the digital economy. Hence, the Malaysian government should augment its investment in the technological research and development and standard formulation of digital currencies, actively collaborate with the international community, and jointly confront the technical challenges in the circulation of digital currencies, thereby laying a solid foundation for the extensive application of digital currencies.

Insufficient challenge to the potential risks of financial crime

Currently, the application of digital currency in Malaysia is primarily concentrated in the securities and investment sectors. However, significant challenges arise in identifying criminal activities related to the source of investment funds. Since the circulation of digital currencies began, Malaysia has yet to encounter cases of money laundering or tax evasion directly linked to digital currencies. (42,43,44,45) This phenomenon reflects the difficulty in identifying financial crimes related to digital currencies and the high level of concealment in this field. (46,47) The following is an in-depth analysis from three perspectives:

Firstly, there is a conflict between privacy protection and crime detection in digital currency. The digital currencies circulating in the Malaysian market are issued and sold by various exchanges, and users purchase them using traditional currencies through digital wallets or bank cards. During this process, exchanges and regulatory bodies adopt a non-intervention approach toward the legitimacy of funds and potential criminal issues, primarily out of respect for user privacy. However, this protection of privacy allows illegal funds to remain hidden. Often, by the time victims report an incident and trace it to the related accounts, the funds have already been transferred abroad through legitimate transactions. This phenomenon, frequently seen in Malaysia, complicates the government's investigation of financial cases and contributes to the rising crime rate related to digital currencies.

Secondly, the complexity and concealment of cross-border financial crimes have increased. With the rapid development of digital financial technology, digital currencies have become a new tool for cross-border financial crimes, characterized by variety, involvement of international organizations, and significant sums of money. The anonymity and decentralization of digital currency transactions provide channels for criminals to

transfer funds across borders, making it difficult for traditional financial regulators to track these activities. Furthermore, the use of blockchain technology has increased the efficiency of cross-border fund transfers while facilitating criminal activities. Although many countries recognize the seriousness of cross-border financial crimes, international cooperation is hindered by differences in laws, policies, and national interests. Some countries may have lax financial regulation or be unwilling to share sensitive financial data for economic reasons. Additionally, the lengthy and complex processes of international judicial cooperation allow cross-border criminals to exploit legal differences and evade law enforcement.

Finally, the professionalism and organization of cross-border crimes have intensified. Many cross-border financial crimes are backed by highly organized criminal groups that operate internationally, possessing deep financial knowledge and technical means. For example, money laundering organizations may set up shell companies in multiple countries, constructing complex transaction networks to transfer funds and using false contracts and transfer pricing to hide the origins of criminal proceeds. These organizations are often large and capable of countering international financial regulators. Cross-border financial crimes primarily focus on money laundering, terrorist financing, and tax evasion, with criminals laundering illegal gains through multinational financial institutions' accounts, eventually reintegrating the funds into the legitimate economy. The cross-border nature of money laundering increases the difficulty for law enforcement agencies to track funds, while terrorist groups use cross-border financial networks to raise funds, and some multinational corporations and wealthy individuals use complex cross-border financial operations to evade taxes. These criminal members possess advanced professional skills, and the Malaysian government still faces many challenges in dealing with such specialized crimes.

Complexity of cross-border coordination

The rapid development of digital currencies (including blockchain and cryptocurrencies) has brought unprecedented challenges to Malaysia's financial regulatory system. The most prominent challenge is the complex and volatile situation abroad, which has become the primary obstacle to regulatory enforcement. Criminals commonly use digital currency financial (DeFi) platforms and anonymous transactions to efficiently transfer illicit funds globally, which greatly increases the regulatory difficulty. (40)

The dilemma faced by Malaysian regulatory authorities in this context is that their technical capabilities and foresight are insufficient to quickly adapt and respond to these emerging financial risks. This lag not only undermines Malaysia's effectiveness in global financial crime governance but also limits its potential to play a more proactive role.⁽⁴⁷⁾

Coordination and cooperation in cross-border regulation are further hindered by international political and diplomatic pressure. (48,49) Malaysia often faces geopolitical constraints when engaging in cross-border regulatory cooperation with specific countries, leading to slow progress in cooperation. For example, efforts to cooperate with certain major powers in financial innovation and law enforcement may be impeded by differences in foreign policy and incompatible domestic legal systems, making it difficult for Malaysia to seek comprehensive support globally and affecting the overall efficiency of its cross-border regulation.

Moreover, there are also shortcomings in regional organizational coordination. Although Malaysia, as a member of ASEAN, has participated in various cooperative and coordinated efforts to combat cross-border crime under the ASEAN framework, the cross-border regulatory cooperation mechanisms within ASEAN have not fully met the practical needs of handling cases. Significant differences in how member states prioritize the fight against financial crime, build their legal frameworks, and enforce laws have resulted in inefficient cross-border cooperation. Specifically, while anti-money laundering and financial intelligence-sharing mechanisms have been established within the ASEAN region, the actual implementation process faces numerous challenges in terms of information flow and coordinated actions. This further highlights the limitations of regional cooperation in addressing financial crimes related to digital currencies.

Recommendations and ideas

Facilitating the landing of digital currencies in Malaysia

With the ongoing acceleration of the global digitalization process, digital currencies have emerged as a crucial direction for the transformation and upgrading of financial systems across nations. Against this backdrop, Malaysia urgently needs to delve deeply into the domain of digital currencies and contemplate introducing a new currency form named "Digital Ringgit", with the Central Bank of Malaysia being the sole issuer, serving as the electronic extension of the existing legal tender.

The introduction of Digital Ringgit is not merely an essential component of financial technological innovation but will also exert far-reaching economic and international influences. Specifically, its issuance will significantly propel the modernization process of Malaysia's financial system. In contrast to the high costs, long duration of cross-border payments, and hefty transaction fees associated with traditional currency management, Digital Ringgit achieves seamless integration with conventional currencies through digital means, enabling Malaysia

to better integrate into the wave of rapid global economic development. Additionally, given that numerous current payment methods still rely on digital wallets operated by private companies, entailing high costs and potential risks, Digital Ringgit, as an intermediary-free payment tool, can directly facilitate peer-to-peer transactions, effectively reducing transaction costs and enhancing transaction efficiency.

Furthermore, the implementation of the Central Bank Digital Currency (CBDC), namely the Digital Ringgit, is conducive to enhancing the execution efficiency of the monetary policy of the Central Bank of Malaysia. (38) Traditional monetary policy tools, such as adjustments in interest rates and variations in the deposit reserve ratio, often encounter issues of lagging transmission effects and limited efficacy when dealing with sudden economic crises or rapidly changing economic situations. The introduction of the Digital Ringgit will enable the central bank to regulate the money supply and liquidity more directly. Meanwhile, the data extracted from Digital Ringgit transactions can also offer strong references for the formulation of monetary policies.

In the aspect of the payment system, the implementation of Digital Ringgit will notably enhance payment efficiency and security. Despite the relative maturity of the existing payment system, challenges such as long processing time, high costs, and information security still exist in cross-border payments and large-value transactions. ⁽³⁶⁾ By adopting distributed ledger technologies (such as blockchain), Digital Ringgit can enhance the transparency of the payment system, accelerate transaction speed, and improve security. Transactions conducted with Digital Ringgit can achieve instant settlement, reducing delays caused by third-party clearings. Compared to electronic wallet payments, Digital Ringgit, relying on advanced technological safeguards, can ensure the privacy and security of users and prevent transaction records from being tampered with, thereby enhancing public trust in digital currencies and reducing the risks posed by technical loopholes or cyber attacks.

Ultimately, the implementation of a legal digital currency will vigorously promote financial inclusion, a goal that the Malaysian government has been committed to achieving for a long time. By guaranteeing that all social groups, particularly those with low incomes, have equitable access to digital financial services, the Digital Ringgit will make up for the deficiencies of traditional banking services and payment systems in meeting the demands of modern technological development, and facilitate the better integration of low-income groups into the digital technology service system.

Strengthening digital currency awareness and promoting trust in digital currencies

The issuance and dissemination of a legal digital currency is a gradual process, within which enhancing public trust is a crucial factor in shortening this cycle. To effectively enhance the public's trust in Malaysia's legal digital currency, the national bank needs to assume a core role and implement comprehensive and in-depth publicity and promotion strategies. This strategy should encompass a wide range of groups, from community residents to business entities, and from remote rural areas to prosperous urban areas, to ensure comprehensive information penetration.⁽³⁾

Specifically, the national bank can rely on its banking business network to conduct efficient explanations and promotions, particularly targeting high-end customer groups for precise positioning. Through long-term guidance and endorsement, it not only ensures the effective dissemination of the digital currency but also broadens the scope of banking business, achieving a win-win situation. Additionally, the publicity of legislative guarantees for digital currencies is of equal significance. Legislation serves as the legal cornerstone for the usage and circulation of digital currencies. The public's understanding of legislative content helps alleviate doubts. The national authority and coercive force inherent in legislation provide a solid backing for digital currencies, further strengthening public trust.

In conclusion, through the vigorous publicity and promotion efforts of the national bank, combined with the popularization of legislative guarantees for digital currencies, the trust and willingness to use Malaysia's legal digital currency among the majority can be effectively enhanced. This process not only promotes the extensive application of digital currencies but also infuses new vitality into Malaysia's economic development. Therefore, strengthening publicity, enhancing trust, and increasing usage are the key approaches to driving the successful dissemination and economic development of Malaysia's legal digital currency.

Promoting financial innovation and technology

Cultivate scientific and technological talents and promote technological innovation

The ultimate goal of digital currency is to realise financial innovation and technological progress, and the cornerstone of this process lies in the continuous promotion of the underlying technology, especially blockchain technology. The continuous updating and enhancement of technology is the key driving force to promote financial innovation. Therefore, Malaysia should take steps to moderately encourage technological innovation and actively tap into fintech talent. To this end, it is recommended to establish a national pool of technology talent and effectively control the brain drain by increasing financial investment to lay a solid foundation for the sustainable development of fintech. (2)

At the same time, active support should be given at the legislative level to promote the research,

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development and application of blockchain technology in finance, supply chain management, public services and other fields. Such a legislative environment will provide a strong guarantee for the development of digital currencies and blockchain technology, which will in turn enhance Malaysia's competitiveness in the field of fintech and contribute to the prosperity of the global digital currency market.

Enhancing the application of technology techniques and blockchain

The core technologies of digital currencies lie in decentralisation and blockchain, and these technologies have become the main driving force behind the development of digital currencies. Blockchain technology not only has a wide range of applications, but has also penetrated into several fields, such as supply chain management, medical and scientific data management, and electronic intellectual property rights. For the Malaysian government, the development of digital currency inevitably requires the enhancement of science and technology, and blockchain technology is an important way to achieve this goal. Through in-depth research and application of blockchain technology, Malaysia will not only be able to promote the development of digital currencies, but also facilitate the synergistic progress of multiple industries.

Integration of Artificial Intelligence and Big Data to Enhance Science and Technology

A large amount of data resources are generated during the transaction and use of digital currencies. These data provide a valuable foundation for the integration and application of artificial intelligence and big data technology. By analysing trading data, market dynamics and other information in real time, AI can help investors make more accurate decisions. At the same time, fintech companies can also make use of data analytics to predict market trends and detect abnormal trading behaviours, so as to further optimise service quality and risk management strategies. Therefore, the vigorous development of the integration of AI and big data is of great significance in upgrading Malaysia's technology and promoting the healthy development of digital currencies.

Improvement of the system for combating financial crime and prevention

Improvement of Digital Currency Related Legislation and Regulatory System

Given that the anonymity of digital currencies and the convenience of cross-border payments may facilitate illegal activities such as money laundering and terrorist financing, the Malaysian government needs to improve the regulation of the digital ringgit at the legislative level in order to effectively combat such offences. This legislative objective should be in line with the international anti-money laundering (AML) and counter-terrorist financing (CFT) legislative objectives to ensure the legal and safe use of digital currencies.

In addition, in response to the high volatility of the digital currency market, the legislation should establish an effective risk control mechanism. For example, a market meltdown mechanism could be established to suspend trading when market volatility exceeds a certain threshold to protect investors from extreme market conditions. At the same time, an emergency regulatory policy should be formulated to ensure that all digital currencies are adequately regulated, both to promote economic development and to effectively prevent financial risks.

Establishment of an Inter-Agency Regulatory Framework

The regulatory complexity in the field of digital currencies is not only reflected at the technical level but also involves multiple sectors such as finance, technology, judiciary, and security. Hence, when perfecting the digital currency legislative system, Malaysia should contemplate establishing an inter-agency regulatory framework composed of multiple departments. This framework could be led by the Bank Negara Malaysia (BNM) and the Securities Commission (SC), in conjunction with departments such as finance, taxation, and information security, jointly participating in the supervision and management of digital currencies to ensure the comprehensiveness and effectiveness of regulation. (20)

Clarifying the Responsibilities of Regulatory Authorities and Protecting Rights

The responsibilities of regulatory authorities in the digital currency sector should include, but are not limited to: the approval and supervision of users, merchant companies, and trading platforms; risk control measures aimed at combating money laundering and terrorist financing; ensuring market fairness and transparency; and protecting the rights of investors and consumers. At the same time, the regulatory framework should encourage innovation within the digital currency sector, avoiding excessive regulation that could stifle technological and financial innovation.

To safeguard the legitimate rights of stakeholders, legislation should include clear warning provisions that inform market participants of the inherent risks associated with digital currencies. Financial institutions must provide comprehensive risk education and disclosure services, ensuring that investors are fully aware of both the risks and potential returns associated with digital currency investments.

Specify the Operating Standards of Digital Currency Trading Platforms

The legislation should also explicitly stipulate the operating standards of digital currency trading platforms, encompassing the secure storage of platform funds, the security of technical systems, and the handling mechanisms for trading disputes. Investors should be entitled to pursue the platform's liability through legal channels in cases of technical malfunctions, fraud, or other acts that infringe upon investor rights, in order to guarantee the fairness, transparency, and stability of the digital currency trading market.

Consultations on international harmonization and ensuring secure cross-border payments

In the exploration of Malaysia's integration into global economic integration, the establishment of international digital currency standards assumes a core role. Particularly in domains such as the prevention and control of financial crimes, the protection of consumer rights and interests, and the promotion of financial innovation, the clarification of international standards is of paramount significance for Malaysia. Prestigious international organizations like the Financial Action Task Force (FATF) and the Bank for International Settlements (BIS) have offered highly valuable guidance and suggestions on the construction of international digital currency standards. Through active participation in these international organizations, Malaysia can not only draw on international cutting-edge experiences but also ensure that its digital currency market conforms to global norms, thereby attracting the inflow of international capital and technological cooperation.

Cross-border payment, as a key link in international trade, often confronts challenges such as high transaction fees, lengthy processing periods, and exchange rate fluctuations in traditional payment methods. In response to this, the Digital Ringgit introduced by Malaysia aims to offer an efficient and low-cost cross-border payment solution to facilitate the development of its international trade. Particularly when the Digital Ringgit achieves interconnection with the digital currency systems of other countries, it will significantly enhance the speed and efficiency of cross-border payments and settlements. For a trade-dependent economy like Malaysia, this move holds profound strategic significance, especially within the ASEAN region. Through the digital currency cross-border payment solution, it can further deepen economic cooperation with neighboring countries and accelerate the regional integration process.

However, the implementation of cross-border payment using the Digital Ringgit confronts dual challenges in terms of technology and legal regulation. Technologically, it is necessary to ensure that the Digital Ringgit is constructed based on advanced blockchain technology to address potential technical difficulties. In terms of law and regulation, given the risks such as money laundering and terrorist financing that may arise from the anonymity of digital currencies, Malaysia must establish a strict anti-money laundering (AML) and counterterrorist financing (CTF) mechanism to guarantee the legal and compliant use of digital currencies.

Furthermore, in order to dispel the public's doubts about digital currencies, Bank Negara Malaysia needs to enhance the publicity and education of digital currencies, increase public trust and awareness of the Digital Ringgit. Through the formal support and extensive promotion of the state, the popularization and acceptance of the Digital Ringgit can be facilitated, ensuring its effective application in the field of cross-border payments.

CONCLUSION

In the exploration of the legal governance path of digital currencies, Malaysia has exhibited an attitude that emphasizes both openness and prudence. Through the continuous improvement of laws and regulations, the strengthening of technological innovation and international cooperation, Malaysia aims to strike a balance between the financial innovation brought about by digital currencies and the potential risks. Despite the current challenges such as low public trust and insufficient support from technological infrastructure, the Malaysian government is actively promoting the implementation of legal digital currencies, expecting to drive the modernization and internationalization of the economic and financial system through the extensive application of digital currencies. Simultaneously, it is enhancing regulatory measures against money laundering and terrorist financing to ensure the healthy and orderly development of the digital currency market, in order to gain an advantage for Malaysia in the global digital currency competition. With the increasing frequency of cross-border payments, Malaysia still needs to further negotiate international standards to ensure the safety and efficiency of cross-border circulation of digital currencies, so as to consolidate its significant position in international trade.

REFERENCES

- 1. Somasundaram N. China's use of digital currency accelerates in trial program. Nikkei Asia. 2020. Disponible en: https://asia.nikkei.com/Business/Markets/Currencies/China-s-use-of-digital-currency-accelerates-in-trial-program
- 2. Zhang X. The impact of digital currency on the global economic order. Knowledge Economy. 2019;(22). Renmin University of China.

- 4. The "Digital Asset Act" and "Digital Asset Guidelines" of Malaysia.
- 5. Tan J. Research on legal regulatory issues of electronic payments: A perspective based on digital currency. Electronic Intellectual Property Journal. 2022;(11).
- 6. D'Cruz R. Regulation of digital banking and cryptocurrencies in Malaysia. Asia Business Law Journal. 2021 Dec 28. Disponible en: https://law.asia/zh-hans
- 7. Pang D. The value, challenges, and institutional construction of developing cross-border transactions of digital RMB. Shanghai Law Journal. 2022;5.
- 8. Teoh Teng Tenk M, Wong Siew Chin W, Yap Kiew Heong A, Saleh Z. The regulatory framework of digital currencies in Malaysia: A conceptual paper. Proceedings of the International Conference on Humanities. 2019.
 - 9. Tan ZH, Wu K. Crypto law in Malaysia. Kevin Wu & Associates. 2022 Nov 4.
 - 10. The Malaysian Securities Act (Amendment) 2019.
 - 11. The Malaysian Capital Markets and Services Act Digital Currency and Digital Token.
- 12. Meaning J, Dyson B, Barker J, Clayton E. Broadening narrow money: monetary policy with a central bank digital currency. 2018.
 - 13. The Malaysian Digital Asset Guidelines.
 - 14. The Malaysian Central Bank Act.
 - 15. The Malaysian Central Bank Act (Amendment) 2019.
- 16. Hybrid Capital. Malaysian Cryptocurrency Market Research Report. Tech Flow Post. 2024 Jan 2. Disponible en: https://www.techflowpost.com/article/detail_15431.html
 - 17. The Malaysian Anti-Money Laundering and Anti-Terrorism Financing Act (Amendment) 2018.
 - 18. The Malaysian Financial Services Act.
 - 19. The Malaysian Digital Currency and Digital Token Regulations.
- 20. Kaur D. Malaysias central bank blazes own path in digital currencies. Tech Wire Asia. 2021. Disponible en: https://techwireasia.com/2021/06/malaysias-central-bank-blazes-own-path-in-digital-currencies/
- 21. Brainard L. Cryptocurrencies, digital currencies, and distributed ledger technologies: What are we learning. In: Decoding Digital Currency Conference. San Francisco: Federal Reserve Bank; 2018 May.
- 22. Dodev V. On the (un)feasibility of Fedcoin: Implementing a central bank-backed digital currency in the United States. 2018.
 - 23. Interpretation of the U.S. Electronic Fund Transfer Act, Part 2: Limitation of Consumer Liability.
- 24. Yap Kiew Heong A, Wong Siew Chin W, Teoh Teng Tenk M, Saleh Z. Digital currency perception: Preliminary evidence from Malaysia. In: Proceedings of the ICH 2019 International Conference on Humanities. E-ISSN: 2357-1330.
- 25. Irwin N. Should the Fed create 'FedCoin' to rival Bitcoin? A former top official says 'maybe.' The New York Times. 2018 May 4.
 - 26. The New York Times. Should the Fed create 'FedCoin' to rival Bitcoin? Disponible en: https://www.

nytimes.com/2018/05/04/upshot/should-the-fed-create-fedcoin-to-rival-bitcoin-a-former-top-official-saysmayb e.html

- 27. China creates its own digital currency, a first for major economy. The Wall Street Journal. 2021. Disponible en: https://www.wsj.com/articles/china-creates-its-own-digital-currency-a-first-for-major-economy-11617634118
- 28. Han M. A study on the regulatory issues of Chinese digital trading platforms [Master's thesis]. Henan University; 2017.
- 29. Zhou Q, Xu J. The role mechanism, practical challenges, and optimization paths of the compliance regulatory system for the internationalization of digital RMB. Finance and Economy. 2024 Jun.
 - 30. Interpretation of Money Laundering Crimes in "A Complete Guide to Criminal Law".
 - 31. Chainalysis. Singapore bolsters new cryptocurrency regulations with guidance for businesses. 2020 Sep 2.
- 32. Chainalysis. Singapore bolsters new cryptocurrency regulations with guidance for businesses. Disponible en: https://www.chainalysis.com/blog/singapore-cryptocurrency-regulation-payment-services-act/
 - 33. Part 2 of the Payment Services Act: Provisions on the Licensing System.
- 34. John A. Future of money: Australia, Malaysia, Singapore, and South Africa launch central bank digital currency scheme. Reuters. 2021.
- 35. Reuters. Future of money: Australia, Malaysia, Singapore, and South Africa launch central bank digital currency scheme. Disponible en: https://www.reuters.com/business/finance/australia-singapore-south-africatest-cross-border-cbank-digital-payments-2021-09-02/
- 36. Abu NA, Kedah Z, Rahardja U, Sibarani BE, Kosasi S, Dewi S, Fadli IS. Digital Ringgit: A New Digital Currency with Traditional Attributes. In: 2023 11th International Conference on Cyber and IT Service Management (CITSM). IEEE; 2023 Nov. p. 1-6.
- 37. Ahmat N, Bashir S. Central bank digital currency: A monetary policy perspective. Bank Negara Malaysia Central Bank of Malaysia Staff Insights. 2017;1-7.
- 38. Razimi MSA, Sisdianto E, Suprianingsih O. Central Bank Digital Currency (CBDC): An Innovation in E-Payment for Socio-Entrepreneurship. PaperASIA. 2024;40(2b):93-104.
- 39. Nawang NI, Abd Ghani Azmi IM. Cryptocurrency: An insight into the Malaysian regulatory approach. Hamdard Islamicus. 2020;43(S2):262-71.
- 40. Elliptic. DeFi: From regulatory challenges to the threat of criminal exploitation. Elliptic. 2023. Disponible en: https://www.elliptic.co
- 41. Tenk MTT, Chin WS, Heong AYK, Saleh Z. The Regulatory Framework of Digital Currencies in Malaysia: A Conceptual Paper. European Proceedings of Social and Behavioural Sciences. 2019.
 - 42. Barrdear J, Kumhof M. The macroeconomics of central bank issued digital currencies. 2016.
- 43. Mukhopadhyay M. Ethereum Smart Contract Development: Build blockchain-based decentralized applications using solidity. Packt Publishing Ltd; 2018.
- 44. del Aguila JR, Alva-Arévalo A, Cárdenas-García Ángel. Impact of E-Commerce on Business Competitiveness and Customer Satisfaction. Diginomics. 2024;3:134
- 45. Daisy Lilith Saldaña Ríos DLSR, Cárdenas García Ángel. Impact of Digital Marketing on the Consumer's Purchase Decision. Diginomics. 2024;3:103.

- 46. Helms K. Cryptocurrency trading surges in Malaysia as lockdown cripples economy. Bitcoin News. 2020. Disponible en: https://news.bitcoin.com/cryptocurrency-malaysia-economy/
- 47. Viñuela C, Sapena J, Wandosell G. The future of money and the central bank digital currency dilemma. Sustainability. 2020;12(22):9697.
- 48. FATF. Updated guidance for a risk-based approach to virtual assets and virtual asset service providers. 2021. Disponible en: https://www.fatf-gafi.org/en/publications/Fatfrecommendations/Guidance-rba-virtual-assets-2021.html
- 49. Bank for International Settlements. CPMI and IOSCO publish final guidance on stablecoin arrangements confirming application of principles for financial market infrastructures. 2022. Disponible en: https://www.bis.org/press/p220713.htm

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