Cryptocurrencies: A Systematic Review of Shariah, Regulatory and Societal Dimensions

Rahman Ullah Khan, Karim Ullah

Institute of Management Sciences, Peshawar

Received: May 29, 2025
Last Revised: October 21, 2025
Accepted: December 09, 2025

Abstract

The conceptualization of money has experienced profound evolution over the course of history, transitioning from physical commodities such as cowrie shells and salt to intangible digital representations, most notably cryptocurrencies. Emerging in response to the global financial crisis of 2007, cryptocurrency represents a decentralized, cryptographically secured form of virtual currency underpinned by blockchain technology. It functions as a form of private money, operating independently of traditional financial authorities such as central banks and governments. This study undertakes a systematic literature review (SLR) to explore the multifaceted challenges and debates surrounding cryptocurrencies, with a focus on four principal themes: regulatory frameworks, Sharīʿah compliance, the ontological nature of cryptocurrencies, and associated social implications. The findings reveal that the absence of regulatory oversight in many jurisdictions contributes to high volatility and opens avenues for misuse, including illicit transactions and tax evasion. These regulatory gaps, coupled with uncertainties in intrinsic value and market behaviour, have led to divergent Sharīʿah opinions regarding the permissibility of cryptocurrencies. Notably, Sharīʿah scholars with a technical understanding of blockchain are more inclined to issue favorable rulings compared to those with solely traditional jurisprudential training. Several scholars have linked the volatility, potential use in illicit transactions, lack of legal recognition, and decentralized nature of cryptocurrencies to the prohibitive elements of riba (usury), gharar (excessive uncertainty), and maysir (gambling) in Sharīʿah.

10(2), 2025.pp 1-41

Conversely, other researchers contend that these characteristics are not intrinsic to cryptocurrencies themselves but rather arise from external contextual factors—conditions that, if similarly applied to fiat currencies, would also render them non-compliant with Sharīʿah principles. This underscores the importance of technological literacy in contemporary Islamic legal deliberation. In addition to theological and legal concerns, social dimensions such as limited public awareness, cybersecurity risks, usability challenges, and environmental degradation linked to energy-intensive mining processes are also critically examined. Despite these concerns, the review identifies promising use cases in Islamic social finance—particularly in zakāt distribution, waqf management, financial inclusion, and Sustainable Development Goals (SDG) initiatives. Greater engagement between Sharīʿah scholars and technology experts is essential for articulating a coherent Islamic position on cryptocurrencies and harnessing their potential within Sharīʿah-compliant financial ecosystems.

Keywords: Cryptocurrency; Systematic Literature Review; Islamic Finance; Regulatory issues, Shariah issues; Social issues; Islamic Social Finance.

Corresponding author: Rahman Ullah Khan, email: rahmanullah.khan@gmail.com

1. Introduction

1.1 Background of the Study

The nature and function of money have continuously evolved in response to social, technological, and institutional developments. From commodity money such as cowrie shells and gold to fiat currencies and digital payment systems, each innovation has reshaped the economic and financial landscape (Battilossi et al., 2020; Davies, 1994). A significant and transformative development in recent years has been the emergence of cryptocurrencies, which began with the publication of the Bitcoin whitepaper by Nakamoto (2008). Cryptocurrencies are decentralized digital assets underpinned by blockchain technology, facilitating peer-to-peer (P2P) transactions without the need for traditional financial intermediaries. They operate through cryptographic consensus mechanisms and algorithmically controlled supply structures, independent of central banks or state authorities (Yermack, 2015). Their technological foundation offers increased transparency, cost-efficiency, and security, making them increasingly popular in both developed and developing economies.

Despite these advantages, cryptocurrencies pose multifaceted challenges in areas of regulation, Sharīʿah compliance, and social acceptance. Regulatory bodies across the

world have responded inconsistently, with some jurisdictions embracing cryptocurrencies as innovative assets and others imposing strict bans due to concerns over money laundering, tax evasion, and speculative bubbles (Khan et al., 2024; Zetzsche, Buckley et al., 2017). The issue is further exacerbated in Muslim societies where adherence to Shariah stipulations is required. Shariah principles mandate that financial instruments must avoid elements of gharar (excessive uncertainty), riba (interest), and maysir (gambling), thereby raising questions regarding the permissibility of cryptocurrencies under Islamic law (Elasrag, 2019; Kirchner, 2021). Although certain scholars argue that cryptocurrencies can be classified as māl (property) and deemed Sharīʿah-compliant under specific conditions, others express reservations, primarily due to concerns regarding their extreme price volatility, absence of intrinsic value, and speculative characteristics. Furthermore, socio-cultural factors—including prevailing cultural values, religious principles, levels of digital literacy, and environmental implications of cryptocurrency mining—significantly influence the adoption and acceptance of cryptocurrencies (Ayedh et al., 2020; De Vries, 2021; Corbet and Yaravoya, 2020; Ajzen, 1991; Elasrag, 2019). The alignment of cryptocurrencies with Islamic social finance instruments, including waqf, zakat, and charitable initiatives, and their contribution to achieving sustainable development goals (SDGs) through transparent processes, has attracted considerable academic interest (Polas, Tahiya, Kabit, Sohel-Uz-Zaman & Biswas, 2025). Although the existing body of literature on cryptocurrencies is expanding, significant gaps remain in scholarly inquiry, particularly concerning the regulatory, Sharīʿah, and socio-cultural dimensions of their adoption and governance. The majority of existing studies are narrative or thematic in nature, lacking the methodological depth and rigor typical of systematic reviews.

Considering the intricate and interdisciplinary nature of these discussions, conducting a systematic literature review (SLR) is crucial for thoroughly mapping the current knowledge landscape. This SLR rigorously analyzes the regulatory, Sharīʿah, and socio-cultural aspects of cryptocurrencies by integrating diverse scholarly viewpoints. A review of this nature is imperative given the fragmented and rapidly evolving discourse surrounding digital currencies. This dynamic landscape necessitates a systematic synthesis of existing research to inform policy formulation, religious deliberations, and the direction of future scholarly inquiry. Accordingly, this study seeks to provide a comprehensive examination of the multifaceted challenges associated with cryptocurrency adoption and governance, with particular attention to contexts where Islamic financial principles and cultural norms play a significant role. Hence, the study endeavors to pose the following questions:

Question 1: How are cryptocurrencies classified under Shariah law as mal or currency?
Question 2: What regulatory challenges affecting cryptocurrency adoption are reported in the literature, and how do these challenges vary across jurisdictions?
Question 3: What socio-cultural factors hinder cryptocurrency adoption, and how are these factors characterized across different social contexts?

1.2 Structure of the Paper

The structure of the paper is organized as follows: The first section offers an introduction to the study, setting the context and outlining the research questions. The second section provides a comprehensive review of the relevant literature, establishing the theoretical and empirical foundations. The third section elaborates on the research methodology employed. The fourth section presents the key findings, along with a discussion of the study's contributions and practical implications. The final section concludes the paper, summarizing the main insights and suggesting directions for future research.

2. Literature Review

Literature review is an essential component of the study in order to review the accumulated knowledge related to one's research question. It is necessary to look out for what others have already discovered about an issue prior to addressing it on your own so as not to waste efforts ad time (Neuman, 2011). The review is conducted with a purpose that scientific research is a collective endeavour where many researchers contribute and disseminate their results with others. Current studies are built on previous studies with a view to learn from them, compare with them, replicate or even criticize them (Neuman, 2011; Cressewell & Cresswell, 2018). Therefore, the current study is a systematic review cryptocurrency from the perspective of regulatory, normative (Shariah) and cultural cognitive (social) dimensions in Pakistan.

Table 2.1: Key Findings from Literature

Main Themes	Sub-Themes as Questions	Contributors	No. of papers Cited
Shariah Issues	Shariah status of innovation such as crypto; Elements of justice and social fairness in digital currencies; is there any *Maslahah* (human welfare) and compliance with *Maqasid-e- Shariah*; Can blockchain and crypto eliminate *riba*, *gharar*, *maysir*; Stance of Fiqh (Islamic jurisprudence) about crypto; Shariah status of crypto future and option contracts; Social acceptance (*Urf aam*) of crypto; international consensus of Shariah scholars community; link of Fatwa issuing with economic and finance and social impact of cryptos; crypto as property (*mal*), money (*thamaniyyah*), foreign exchange, commodity; Govt. recognition of crypto; price instability; intrinsic value; fatwa analysis.	Kirchner (2020); Habib (2021); Asif (2018); Evans (2015); Nur Rizi & Febriandika (2018); Bergstra (2015); Kahf (2017); Rabbani, Khan & Thalassinos (2020);Mohd Noh Shahid Mohd & Abu Bakar Syakir Mohamed, (2020); Shovkhalov & Idrisov, (2021); Yuneline, (2019); Imam al-Ghazali, (1993); Islahi, (2001); Gapur Oziev, (2018); Muhammad Taqi Uthmani, (1998); Zulkhibri, (2019); Bubandt, (2009); Arbouna, (2018); Paracha, (2018); Rosele et al., (2022); Amri & Mohammed (2019); Adam (2019).	22

Regulatory and Legal Issues	Applicability of existing commercial and contract laws to digital assets; the role of regulation; integration of cryptocurrencies into the formal financial system; Cryptos use in tax evasion and illicit activities; Financial Action Task Force (FATF) guidelines; decentralized and pseudonymous nature of blockchain technology ; absence of a unified regulatory framework; forgery; double-spending; inflationary pressures; price volatility; capacity of central banks to manage or supervise cryptocurrencies; economic instability; international sanctions fuel crypto adoption; Central Bank Digital Currencies (CBDCs) for control; banks themselves are increasingly investing in cryptocurrency portfolios; the regulatory, legal, and economic implications of cryptocurrency adoption	Rabbani, Khan & Thalassinos (2020); Bollen (2016); Ibrahim (2019); Afzal & Asif (2020); Kfir (2020); Pedrosa-Gracia & Almeida (2018); J Lee (2020); Noreen, Ahmad, Alfirm & Alhomoudi (2021); Alam & Zameni (2019); (Guadamuz & Marsden, 2015); (Pravdiuk M, 2021); (Blandin et al., 2019); (Rico Shirakawa et al., 2019); (Jerry Brito et al., 2014); Shovkhalov and Idrisov (2021); (Huang, 2021); Corbet, Lucey, Urquhart & Yaravaya (2019); Afzal & Asif (2020); Kahf (2017); Arbouna (2018); Siswantoro, Handika & Mita (2020); Lovell, 2018; Mahdavieh (2022); Riley, (2021); Hassan and Azhar, (2022); Memon (2022); Uddin (2022); Bhimani, Hausken and Arif (2022); Jain, Sharma & Hawaldar, (2024); Siron & Paesano (2022); Auer, Faraq, Lewrick, Orazem and Zoss (2022); Nabilou (2019).	32

Nature of Cryptocurrencies	Cryptos as property or medium of exchange, commodity, investment, financial asset,; can cryptos and especially bitcoin become customary money; Are cryptos speculative assets or stable in value; intrinsic value in cryptos; volatility.	Kirchner (2020); Habib (2021); Arbouna (2018); Ammous (2018); Abubakar, Hassan & Haruna (2019); Noreen, Ahmad, Alfirm & Alhomoudi (2021); (Zlatko Bezhovski et al., 2021); (Beat Weber, 2014); (Glaser et al., 2014);(Jamal Bouoiyour & Refk Selmi, 2015); (Jumde & Cho, 2020); (Kirkby, 2018) ; (Yuneline, 2019); (Sifat & Mohamad, 2018); (Hoffman, 2017); (Yano, 2020); (Sapovadia, 2018); (Nakamoto, 2008); (Othman et al., 2019); (Quest, 2018); (Karafiloski & Mishev, 2017); (Antonopoulos, 2014); (Richmond, 2018); (Olimpiev et al., 2021); (Kepli & Zulhuda, 2019); (Law library of Congress, 2018); (Scott, 2016); (Cryptonews.com, 2020); Tskhadadze, Amashukeli and Macecek, (2022).	32
Training and Awareness for Stakeholders	Pakistan and other countries need to training staff about AML, ATF and tax evasion, curb on illicit activities of cryptos; public awareness.	Ibrahim (2019); Kfir (2020).	2

Social issues	Ease of use; subjective norms; compatibility; trust; facilitating condition; awareness and basic knowledge of cryptos; use in social financing such as charities, zakat, waqf, remittances, clean water projects; environmental pollution; use of more energy; PoW consumes more energy and is more polluting than POS and POR; Mining process is more energy intensive than minting process and gold mining; socio economics benefits, crypto as new mode of payment; crypto adoption intention due to financial gain, third party influence etc; use of POS instead of POW; ease of micropayments; Crypto illiteracy.	Ayedh et al., 2020; De Vries, 2021; Corbet and Yaravoya, 2020; Abu Bakar et al., 2017; Ajzen, 1991; Gazali et al., 2018; Baur et al., 2015; Elasrag, 2019; Beik Zaenal et al., 2019; Beik and Nurzaman et al., 2019; Bedoui and Robbana, 2019; Scott, 2016; Castro et al., 2022; Ibrahimi & Arifi, 2022; Steinmetz, Meduna, Ante and Fielder 2021; Auer & David, 2021; Kshetri & Voas, 2022; Pos (2022); Qaroush, Zakarneh & Dawabsheh (2022); Memon (2022); Holtfort, Horsch & Schwarz (2022); Resch, Schroeder, Pourmovahed & Brouwer (2022); Jain, Sharma & Hawaldar, (2024); Seitz & Hummel (2022); Dabbous, Sayegh & Barakat (2022); Balutel, Felt, Nicholls & Voia (2022); Parilla & Abadilla (2022); (Nadeem, Liu, Pitafi, Younis & Xu, 2021); Oliva, Borondo and Clavero (2019); (Ji-Xi, Salamzadeh & Teoh, 2020); Alaklabi & Kang (2021).	31

Table 2.1 presents a synthesized overview of the key thematic areas identified through a comprehensive analysis of the existing literature on cryptocurrencies. The predominant themes center on Shariah compliance and regulatory challenges, reflecting emerging and critical concerns within the field. Additionally, less extensively explored topics include the fundamental nature of cryptocurrencies, the extent of governmental consensus regarding their classification, stakeholder education, and social implications. Notably, the literature reveals a significant gap in addressing social issues associated with cryptocurrencies, indicating an area in need of further scholarly attention.

2.1 Emerging Themes from Systematic Literature Review

The various themes identified through the systematic literature review, as summarized in Table 1.4, are examined and discussed in the subsequent sections.

2.1.1 Nature of Cryptocurrency

Cryptocurrencies are digital assets governed by cryptographic protocols that operate on decentralized and distributed networks, maintained by computer programmers rather than centralized authorities. Functioning as algorithmic money, their supply and issuance follow predetermined rules and growth rates defined by mathematical algorithms. Unlike traditional currencies, cryptocurrencies are neither issued nor controlled by governments or central banks (Yermack, 2015a). Unlike private, secure payment networks such as Visa, cryptocurrencies rely on a decentralized, publicly accessible digital ledger—commonly referred to as the blockchain—which requires internet connectivity for the transfer and receipt of funds. Transactions on this ledger are validated and recorded by participants known as miners, who expend computational power and resources to verify transactions and, in return, receive cryptocurrency rewards along with transaction fees. The underlying mechanisms of cryptocurrencies stem from extensive research in distributed computing, cryptography, and digital cash systems (Evans, 2014; Bashir, 2018). As peer-to-peer (P2P) digital currencies, cryptocurrencies operate through open-source client software that users can install on various devices, enabling a distributed currency system independent of any central issuing authority, wherein value is generated collectively by the user community (Guadamuz & Marsden, 2015).

The COVID-19 pandemic has significantly impacted the global financial landscape, including the utilization and perception of cryptocurrencies. Derivative (2020) reports that cryptocurrency prices initially plummeted to approximately \$3,780 in mid-March

2020 due to the pandemic but subsequently rebounded to around $13,400, highlighting the inherent volatility of this market. Similarly, Demir et al. (2020) argue that the imposition of government restrictions and lockdown measures during the COVID-19 outbreak contributed to an increased demand for alternative assets such as cryptocurrencies. These assets offer the advantages of ease in payment and money transfer and have demonstrated their utility as a hedge against the uncertainty generated by the pandemic. Furthermore, the use of digital currencies has risen amid concerns over the safety of physical cash, which may carry viral transmission risks. Consequently, the pandemic is anticipated to drive the increased value and broader acceptance of Bitcoin, extending its application beyond everyday transactions to potentially more advanced and innovative uses yet to be realized (Axelrod, 2020; Uddin, 2022).

2.1.2 Money and Cryptocurrency

Money is distinct from currency in that it encompasses broader functions, serving as a store of value, a unit of account, and a medium of exchange, whereas currency specifically refers to government-issued notes and coins (Yuneline, 2019). Islamic scholar Imam al-Ghazali notably highlighted money's roles as a medium of exchange and a measure of value within economic transactions (Imam al-Ghazali, 1993; Islahi, 2001). Ibn Taimiyah noted that Shariah doesn't specifically define money as dirham or dinars, leaving it to social customs (Islahi, 2001), thus achieving general acceptance (Urf Aam) (Oziev & Yandive, 2017). Muhammad Taqi Uthmani (1998) states that currency must serve as a medium for debt settlement and have legal recognition. Historically, items like sea-shells, ivory, tea, rice served as money due to general acceptance (Sifat & Mohamad, 2018; Zulkhibri, 2019; Paracha, 2018). Early Islamic Arabia used Sassanid silver and Byzantine gold coins, followed by Umayyad coins in the seventh century (Uslu, 2014; as cited in Egri & Orhan, 2021).

In fiqh literature, money is termed as mal (plural: amwal), while in Arabic, it's called "naqd." Mal satisfies needs directly whereas naqd satisfies indirectly. Money's definition isn't explicit in nas but is specified by circumstances (Egri & Orhan, 2021), and society's consensus (Urf) can affirm something as thaman. Social acceptance outweighs intrinsic value and legislative decree, supported by Malik bin Anas's view that society determines money (Bubandt, 2009; Sifat & Mohamad, 2018). Islamic scholars consider social acceptance as the major currency determiner (Arbouna, 2018). According to Adam (2018), value emerges from social concurrence based on attraction (Mayl). Cryptocurrency possesses Mayl due to masses' inclination (Paracha, 2018). Paracha (2018) concludes that cryptocurrency has necessary thaman attributes: It is mal,

valuable, and Shariah-compliant. Society's acceptance of cryptocurrency enables its Shariah legitimacy (Zulkhibri, 2019; Paracha, 2018). Rosele et al. (2022) notes Shariah's neutrality about currency types and considers bitcoin as alternative currency. Bitcoin fulfills virtual currency features and has people's acceptance (Urf aam). Currency serves as exchange medium, with Shariah permitting exchange under specific conditions (Islahi, 2001; Zulkhibri, 2019). While cryptocurrency lacks legal authority backing, its acceptance by merchants and government recognition indicates support from normative institutions in the form of urf.

2.1.3 Cryptocurrency: History and Classification through its Features

The 2007-2008 financial crisis led to eroding trust in banks and cryptocurrency's creation. Cryptocurrency was introduced by Satoshi Nakamoto in 2008 through the proposal of a decentralized trust system (Nakamoto, 2008; Othman et al., 2019). Bitcoin, as the pioneering cryptocurrency, also introduced the underlying blockchain technology that enables its secure and transparent operation. Bashir (2018) notes bitcoin aimed for an e-cash system without trusted third parties, ensuring anonymity. However, KYC compliance could reduce its appeal due to centralization.

Cryptocurrency combines "crypto" (hidden/private) and currency (value transfer object). In digital form, it becomes code. Cryptography secures information with ciphering algorithms, making data unusable without decryption keys (Hoffman, 2017). Cryptography enhances security with symmetric key cryptography, hash functions, and digital signatures, providing confidentiality, integrity, authentication, non-repudiation, and accountability (Bashir, 2018).

2.1.4 Classifications through its Functions and Roles

Literature classifies cryptocurrencies as commodity, money, sukuks, barter contract and digital asset (Kirchner, 2020). Arbouna (2018) states crypto lacks customary practice due to limited circulation. Febriandika and Sukamana (2018) document bitcoin is neither financial asset, money nor commodity due to Riba, maysir, gharar elements. Ammous (2018) considers bitcoin as medium of exchange based on supply certainty. Abubakar, Hassan and Haruna (2019) suggest bitcoin-denominated banking may emerge due to decentralization. Bezhovski et al. (2021) note crypto's 1% share in e-commerce. Weber (2014) reports bitcoin suits speculative assets. Pedrosa-Garcia and Almeida (2018) argue cryptocurrencies remain risky investments. Glaser et al. (2014) find users buy bitcoin for speculation based on rumours. Bouoiyour and Selmi (2015) notes that Bitcoin is often characterized as a speculative asset. Jumde and Cho (2020)

highlight a preference for fiat money, attributing it to its relative stability in contrast to the inherent volatility observed in cryptocurrencies. Tskhadadze, Amashukeli and Macecek (2022) highlight crypto's decentralization benefits. Kirkby (2018) reports bitcoin functions as digital gold for speculation or hedging. Crypto's adoption as transaction medium remains unlikely near-term. The study indicates a shift toward digital fiat currency. Asif (2021) states cryptocurrency's value concept shares features with fiat money. This literature review is presented in Table 1.2.

Table 2.2*:* Nature of Crypto

What is Nature of Crypto	**Contributors**
Crypto as Money/Medium of Exchange	Ammous (2018); Weber, (2014); Habib (2021); Gapur Oziev (2018); Maierbrugger (2017); Amalin (2018); Bakar (2018); Asif (2018); Bergstra (2015); Yuneline (2019); Sadiq & Akbar (2022).
Crypto as Asset/Digital Gold/Mal	Arbouna (2018); Kirkby (2018); Habib (2021); Kirchner (2020); Abubakar, Ogunbado & Saidi (2018)
Crypto as Speculative Investment/ asset	Weber, (2014); Pedrosa-Garcia & Almeida (2018); Glaser et al., (2014); Bouoiyour & Selmi (2015); Jumde & Cho (2020); Tskhadadze, Amashukeli & Macecek (2022)
Crypto as financial system	Abubakar, Hassan & Haruna (2019)
Crypto as Urf Aam	Habib (2021); Egri & Orhan, 2021; Rosele et al. (2022); Zulkhibri, (2019); Paracha, (2018)

Source: Author

2.1.5 The Varieties of Cryptocurrencies

The growth of bitcoin and blockchain has led to hundreds of other cryptocurrencies called alt-coins (alternative coins to bitcoin). These altcoins have become a new global industry (Quest, 2018). Table 1.3 shows top 10 cryptocurrencies with their market capitalization. The total market capitalization stand at $3.32 trillion as of May 13, 2025.

Table 2.3: Top 10 Cryptocurrencies

Rank	**Name**	**Symbol**	**Price**	**Market Cap**
1	Bitcoin	BTC	$ 103,389	$2,053,990,344,282
2	Ethereum	ETH	$2479	$299,410,398,822
3	Tether	USDT	$ 1.00	$ 150,070,561,401
4	XRP	XRP	$ 2.55	$ 149,366,507,825

5	BNB	BNB	$ 650	$ 91,649,464,608
6	Solana	SOL	$ 173.85	$ 90,308,820,653
7	USDC	USDC	$ 0.9999	$ 60,783,804,456
8	Dogecoin	DOGE	$ 0.2269	$ 33,867,758,836
9	Cardano	ADA	$ 0.7983	$ 28,193,572,658
10	TRON	TRX	$ 0.2644	$25,093,688,502

Source: CoinMarketCap.com

Table 2.3 shows bitcoin having highest market capitalization, followed by Ether, Tether, with TRON ranked 10th. About 9785 cryptocurrencies trade on 815 exchanges (Coinmarketcap.com, May 13, 2025). This volatile industry has sustained some cryptocurrencies whereas others disappeared and still some new ones emerging. These cryptocurrencies operate as decentralized networks without government involvement, requiring proper institutionalization due to lack of risk protection (Kfir, 2020; Afzal & Asif, 2019; Corbet et al., 2019). Bitcoin, a pioneer cryptocurrency, enables peer-to-peer digital currency creation and usage. Bitcoin (capitalized) refers to the software, while bitcoin (lowercase) refers to the cryptocurrency (Bashir, 2018). Bitcoin uses blockchain to record transactions anonymously, with each transaction linked to previous ones through metadata and hash value (Karafiloski & Mishev, 2017). Transactions are validated by network nodes, with miners creating blocks through proof of work (POW) (Antonopoulos, 2014). Cryptocurrencies address traditional financial system problems through speed and efficiency via automated blockchain networks (Richmond, 2018). They eliminate processing fees except minimal miner fees. Trust is ensured through mathematical functions with visible ledger transactions, while cryptographic techniques provide security through multiple user verification (Richmond, 2018; Bashir, 2018).

2.2 Regulatory Issues in Cryptocurrencies

Cryptocurrencies face legal issues requiring proper regulation. Money laundering and black-market concerns can be controlled through regulation. Lack of regulatory framework necessitates regulatory institutionalization, with central banks developing collaborative mechanisms for crypto trading (Alam & Zameni, 2019). Cryptocurrencies face stability issues due to inflexible supply (Ammous, 2018). Only government-backed fiat currency is legal tender (Kahf, 2017), while lack of governing authority remains an obstacle (Norren, Ahmad, Alfirm & Alhomoudi, 2021; Siron & Paesano 2022). Crypto's decentralized nature enables illicit activities, requiring money laundering and KYC laws (J Lee, 2020; Alhihi, 2019). Major regulatory challenges include cross-border operations, cryptos' definition consensus, and digital currencies' nascent stage (Rabbani, Khan & Thalassinos, 2020; Bollen, 2016; Auer & Claessens, 2018). Market volatility remains a permanent challenge (Bhowmik, 2022). These issues are shown in

Table 2.4. Cryptocurrency regulation will build trust and protect customer funds. Guadamuz and Marsden (2015) suggest regulations will emerge as the market expands. Unregulated markets stifle innovation and enable exploitation (Zameni & Alam, 2021). Shestak, Kiseleva and Kolesnikov (2021) suggest governments regulate crypto to expand tax revenues. Banks need crypto exposure for financial inclusion (Auer, Faraq, Lewrick, Orazem & Zoss 2022). Developed economies adopt favorable crypto regulations (Pravdiuk M, 2021), while countries with corruption adopt cryptocurrencies to avoid scrutiny (Mahdavieh, 2022). Education and network readiness promote cryptocurrency adoption (Bhimani, Hausken and Arif 2022). Regulations should be flexible while protecting consumers (Brito et al., 2014). The public and private sectors are urged to collaborate in establishing a cohesive global cryptocurrency network (Siron & Paesano, 2022). Present regulatory frameworks primarily emphasize Know Your Customer (KYC), Anti-Money Laundering (AML), and consumer protection measures, whereas forthcoming regulations are expected to focus more on securities and derivatives markets. Riley (2021) highlights that despite China's prohibition of cryptocurrencies, its cryptography law seeks to foster blockchain development while retaining governmental control. China's regulatory stance exerts significant influence on global cryptocurrency markets. Additionally, multiple jurisdictions are actively pursuing the introduction of Central Bank Digital Currencies (CBDCs), including Russia's "CryptoRuble," China's "digital Yuan," Tunisia's "Edinar," Venezuela's "Petro," Estonia's "Estcoins," Japan's "Jcoins," and Sweden's "Ekrona" (Hassan & Azhar, 2022). These CBDCs represent digital forms of fiat currency secured by cryptographic techniques but do not embody the principles of decentralization or anonymity characteristic of cryptocurrencies. Table 1.4 provides a detailed overview of the existing regulatory gaps in this domain.

Table 2.4. Constraints to Crypto Regulations

Constraints	**Contributors**
Small market	Guadamuz & Marsden (2015)
Volatility/Use in Illegal activities/Decentralized nature	Singh & Shukla (2022); Alam & Zameni (2019); Norren, Ahmad, Alfirm & Alhomoudi (2021); Siron & Paesano (2022); J Lee (2020); Alhihi (2019); Bhowmik (2022); Helland & Saether (2018); Kirchner (2020); Kahf (2017); Kaminskaya & Kurbanova (2018); Rahuf & Maknickiene (2022);
Lack of Governmental/Central banks competence (non-	Masiah (2022);

availability of technology and skills)	
Poor developed economic and governance systems	Pravdiuk M (2021); Novak (2020); Shirkawa et al., (2019); Bhimani, Hausken & Arif (2022); Horban (2020);
Lack of consensus on basic understanding and definition of cryptos	(Rabbani, Khan & Thalassinos, 2020; Bollen, 2016; Auer & Claessens, 2018; Dumchikov et al., 2020; Siron & Paesano 2022);

Source: Author

2.2.1 Regulatory Typologies

Blandin et al. (2019) identify four distinct regulatory approaches to governing cryptoassets. These include the application of existing regulations supplemented by official guidance, as exemplified by Australia's INFO 225; the adaptation of current legal frameworks through specific amendments, such as Estonia's revisions to its Money Laundering Act; the development of bespoke legal instruments tailored to cryptoassets, illustrated by Malta's Virtual Financial Assets Act; and the establishment of entirely separate regulatory regimes, as seen in Mexico's Law to Regulate Financial Technology Institutions. Huang (2021) advocates amending crypto regulations to address blockchain innovations and prevent illicit activities. Lovell (2018) proposes either banning cryptocurrency or reclassifying it as foreign currency following Japan's model. Nabilou (2019) suggests a "semi-decentralized regulatory model" focusing on application layers through indirect regulation of crypto gatekeepers like payment providers and exchanges.

2.2.2 Legal Status of cryptocurrency in Various Countries

A cryptocurrency's absence of explicit ban doesn't make it legal, nor does taxation imply legality (Sapovadia, 2015). Cryptocurrencies are liable to taxation under various categories, including wealth tax, transaction tax, income tax, and capital gains tax (Sapovadia, 2015; Olimpiev et al., 2021). Jurisdictions vary - some allow cryptocurrencies, others ban them, while some are deliberating (Kepli & Zulhuda, 2019; Siron & Paesano 2022). Legal status predictors include freedom of expression, government accountability, and electricity access for mining (Stolbov & Shchepeleva, 2020). Given this novel technological phenomenon's uncertain legal status and potential benefits, institutionalizing a regulatory framework for digital currency is essential. Cryptos are increasingly used by individuals, businesses and banks for payments and

investments. This necessitates cross-country cooperation to develop a global regulatory framework for cryptocurrencies (World Economic Forum, 2021).

2.3 Shariah Issues in Cryptocurrencies

Table 2.4 presents Shariah questions. Scholars classify cryptocurrency as mal (property) (Habib, 2021; Kirchner, 2020). According to Rahmani (2010), mal's features are: Shariah allowance (mutaqawwam), possession, benefits, and urf (custom) consideration. Shaykh Al Zuhayli (2010) defines mutaqawwam as "something stored and permissible". Abu-Bakar (2018) divides money into natural and customary types. Natural money serves as exchange medium with monetary value, like gold and silver. Imam al-ghazali states, "Allah (SWT) created gold and silver to circulate among people and become the standard for assets". Customary money gains status through acceptance, lacking intrinsic purpose. Customary money includes commodity money and fiat money (Abu-Bakar, 2018). Adam (2018) notes bitcoin has wider acceptance (Urf-aam) while some cryptocurrencies have network-specific acceptance (Al-Urf al-Khas). Habib (2021) classifies bitcoin as valid asset and customary money, considering Islamic law. Kirchner (2020) states cryptocurrencies can be treated as commodity or money for payments when valued intrinsically or nominally. For money treatment, currency exchange rules apply, prohibiting delayed payments due to interest. Cryptocurrency future contracts are forbidden as trade of debts (Kirchner, 2020).

2.3.1 Proponents of Crypto

Some scholars consider cryptocurrency compatible with Shariah. Maierbrugger (2017) argues cryptocurrencies are permissible in Islam due to absence of debt and blockchain's risk-sharing nature. Oziev and Yandiev (2018) state that while crypto doesn't violate Shariah spirits, certain conditions may contradict it. Bitcoin for saving is prohibited due to volatility (gharar) and speculation (maysir), but its use as medium of exchange is allowed. Mining for payments is permissible, but mining for savings is prohibited. Amalin (2018) states crypto adheres to Islamic banking law as it lacks riba, though lack of regulation creates gharar. Adam (2018) considers bitcoin as Urf-aam, while some cryptocurrencies are Al-Urf al-Khas. Habib (2021) classifies bitcoin as valid asset and customary money. Asif (2018) reports cryptocurrencies are Halal but contain both Halal and Haram elements. Evans (2015) argues bitcoin can be Shariah compliant by eliminating riba and following Maslahah principles. Bergstra (2015) suggests bitcoin suits Islamic Banking compared to fiat currency, though mining contains gambling elements. Yuneline (2019) notes bitcoin lacks government backing

and has price volatility. Hassan et al. (2021) find metal-backed cryptos can be Shariah compliant. Adam (2018) notes bitcoin transactions are positive-sum unlike gambling, while gharar involves deceptive activities in asset transactions.

2.3.2 Opponents of Crypto

Arbouna (2018) argues cryptocurrencies don't fulfill customary (Urf) practices due to limited community use. Being digital assets issued by private entities, cryptocurrencies serve profit over exchange. He suggests crypto can become sale contract with currencies and barter for real assets. Diyanet (2017), Turkey's Directorate of Religious Affairs, ruled cryptocurrencies violate religious teachings due to speculation and lack of state oversight. Egypt's Grand Mufti (2018) forbade bitcoin, comparing it to gambling risks. Siswantoro et al. (2020) notes Shariah requires money for exchange with stable value - features which bitcoin lacks. Febriandika and Sukmana (2018) argue bitcoin cannot be classified as financial asset or money, as it involves Riba, maysir and gharar. Kahf (2017) states only government-backed currency is legal, though cryptocurrencies could become money if declared legal tender. Amri and Mohammed (2019) analyzed crypto through Maqasid-e-Shariah. Limited supply causes price fluctuations without government control. Crypto protocols face transparency issues and manipulation risks. Crypto trading through speculation violates Shariah principles. Only governments should issue currency, while private crypto entities risk public harm. Mining requirements and high costs create hardship for masses, conflicting with Shariah.

2.3.3 Harms (Mafasids) of Cryptos

Cryptocurrencies face legal and Shariah issues including tax evasion, money laundering, terrorist financing, environmental pollution, hacking, and Shariah violations like Gharar, Maysir, Riba, and volatility, affecting customer confidence (Alam & Zameni, 2019; Siswantoro, Handika & Mita, 2020; Wagner, Keller & Seiler, 2019; Febriandika & Sukmana, 2018; Bergstra, 2015; J Lee, 2020). Mohd and Mohamed (2020) found cryptocurrency Mafasid exceed Masalih regarding Maqasid-e-Shariah. Saleh et al. (2020) found cryptocurrencies reasonable from Shariah perspective, noting their role in reducing transfer costs. Billah et al., (2019) states Shariah compliant cryptocurrency frameworks must follow Shariah standards and Maqasid-e-Shariah guidelines. While cryptocurrencies face mixed views on Shariah compliance, resistance stems from crypto's evolution and scholars' limited blockchain knowledge (Bakar, 2018). Dahdal et al., (2021) notes scholars often reject

cryptocurrencies due to insufficient technical knowledge. Adam (2019) explains that conflicting fatwa reflects Mufti's subjective understanding, contributing to eventual consensus through Ijtihad.

2.4 Training and Awareness for Stakeholders

Studies recommend training for government officials, regulators, and law enforcement agencies since crypto is evolving. Ibrahim (2019) suggests Pakistan needs investment in cryptocurrency R&D and training for law enforcement on AML and ATF activities. Kfir (2020) emphasizes training law enforcement and public to understand cryptocurrencies and recognize scams. Alam and Zameni (2019) note that awareness and training can help control crypto-related crimes. Lee (2020) and Memon (2022) document that increased awareness helps protect consumers and enables society to benefit from crypto adoption.

2.5 Social Issues

Society adopts currency based on trust and ease of use (Ayedh et al., 2020). Society favors environmentally-friendly cryptocurrency (Corbet & Yarovoya, 2020; De Vries 2021). Cryptocurrency users are predominantly younger, well-educated males who tend to have relatively higher income levels (Steinmetz, Meduna, Ante & Fielder, 2021; Balutel, Felt, Nicholls & Voia (2022). Cryptocurrency enabled transparent charity donations during Covid-19 (Rangone & Busolli, 2021). It facilitates efficient fund transfers at 0-1% cost versus 17% through traditional services, reducing poverty (Dierksmeier & Seele, 2018). Developing countries gain from cryptocurrency through financial inclusion and transparent tracking (Sandner, 2020). However, drawbacks include illegal activities, volatility, and theft risks (Dierksmeier & Seele, 2018). Price uncertainty limits adoption, though widespread use could replace fiat currency (Hairudin et al., 2020). Crypto may become an alternate payment system (Holtfort, Horsch & Schwarz 2022).

2.5.1 Ease of Processing and Use Perception

Society trusts government-backed currency (Abu Bakar et al., 2017) but cryptocurrency is decentralized and managed by anonymous networks using cryptographic security (Ayedh et al., 2017). Subjective norms, defined as "the perceived social pressure to perform or not to perform the behaviour" (Ajzen, 1991, p.188), influence crypto perception. People seek advice from relatives and social media due to crypto's novelty

(Gazali et al., 2018). For Islamic finance, cryptos must follow Shariah principles (Abu Bakar et al., 2017, Habib, 2021; Kirchner 2020). While young users handle cryptocurrency easily, all ages can trade with training (Ayedh et al., 2020; Baur et al., 2015). Economic conditions and regulations promote cryptocurrency adoption (Ajzen, 1991; Ayedh et al., 2020). Awareness reduces uncertainty (gharar) (Ayedh et al., 2020). Cultural values and investment experiences affect adoption (Ayedh et al., 2020). Seitz and Hummel (2022) found 30% intend to use cryptos, 12% use in payments, while 20% want crypto salaries. Bank of Canada reports bitcoin owners hold it for investment. Non-owners cite lack of blockchain knowledge and distrust (Balutel, Felt, Nicholls & Voia, 2022). Filipino students understand crypto but hesitate due to volatility (Parilla & Abadilla, 2022). Chinese users adopt crypto for transaction ease despite security concerns (Nadeem, Liu, Pitafi, Younis & Xu, 2021). Spanish and Malaysian students' adoption is driven by facilitating conditions and performance expectations (Oliva, Borondo and Clavero, 2019; Ji-Xi, Salamzadeh & Teoh, 2020). Saudi Arabians' adoption depends on security and utility (Alaklabi & Kang (2021).

2.5.2 Use in Social Financing

Cryptocurrency, using blockchain infrastructure, facilitates remittances, zakat, charities, and waqf proceeds (Elasrag, 2019). The blockchain ensures transparency and accountability (Beik, Zaenal, et al., 2019). Beik, Nurzaman et al., (2019) notes blockchain's transparency helps prevent zakat fund misuse. Cryptocurrencies can support Sustainable Development Goals (Bedoui & Robbana, 2019), with examples like Clean Water Coin serving social purposes (Scott, 2016 as seen in Bedoui & Robbana, 2019).

2.5.3 Environmental Issues

Cryptocurrency mining has significant environmental impacts through energy consumption and hardware requirements. Mining causes electricity consumption, e-waste from obsolete machinery, and increased carbon emissions (Digiconomist.com, 2021; Kshetri & Voas, 2022). Bitcoin price increases generate 90.2 million metric tons of CO2 (De Vries, 2021; Corbet & Yarovaya, 2020), with energy use exceeding copper mining fourfold (Stoll et al., 2019). Solutions include renewable energy adoption (Gallersdörfer et al., 2020), mining regulations (De Vries, 2021), and shifting to surplus energy regions (Kshetri & Voas, 2022). Transitioning to POS techniques and renewable energy shows environmental responsibility (Resch, Schroeder, Pourmovahed &

Brouwer 2022; Packard, Singh & Oguntoye, 2022). Users should trade only environment-friendly cryptocurrencies.

2.5.4 Socio-economic Effects

Cryptocurrency enables financial inclusion as a payment method, particularly benefiting high-inflation countries (Castro et al., 2022). The system promotes transparency in crowdfunding (Lopez, Garcia & Alcaide, 2019). Pos (2022) identifies financial gain, ideology, and utility as crypto adoption drivers. Qaroush, Zakarneh and Dawabsheh (2022) and Memon (2022) note benefits like confidentiality and low fees, alongside disadvantages including technical barriers and volatility. Crypto serves as an inflation hedge, with FinTech awareness driving youth adoption (Dabbous, Sayegh & Barakat 2022). Major companies are accepting cryptos as payment (Resch, Schroeder, Pourmovahed & Brouwer 2022). Users value crypto for anonymity and free international transactions (Jain, Sharma & Hawaldar, 2024). Burke's (2022) study on El Salvador's bitcoin adoption shows benefits for wealthy classes while disadvantaging citizens. Crypto's unregulated nature enables criminal activities (Ibrahimi & Arifi, 2022).

3. Methodology

3.1 Systematic Literature Review Approach

This study adopts a Systematic Literature Review (SLR) approach to guide its examination of the existing body of knowledge. The rationale for employing this method lies in the foundational academic principle that scholarly research must be grounded in, and contribute to, the established literature. However, the increasing complexity of this task—driven by the rapid expansion of academic publications and the inherently fragmented and interdisciplinary nature of the field—has made traditional review methods insufficient. Consequently, a systematic review offers a rigorous and structured means to synthesize diverse sources, ensuring a comprehensive and coherent understanding of the research landscape (Snyder, 2019).

According to Petticrew and Roberts (2006), systematic reviews are “literature reviews that adhere closely to a set of scientific methods that explicitly aim to limit systematic error (bias), mainly by attempting to identify, appraise and synthesize all relevant studies (of whatever design) in order to answer a particular question (or set of questions)” (P.09). Another feature of SLR offered by Tranfield, Denyer and Smart, (2003) is that it “provide[s] collective insights through theoretical synthesis” (p.220).

In view of the significance of SLR, this study tries to answer the question 'what are regulatory, Shariah and social (culture-cognitive) issues in Cryptocurrencies in the context of Pakistan?'

This study has followed six steps process adapted from Petticrew (2001) that is explained as under.

Step 1: Identification and Location of Publications. In this step, documents were searched through specified key words in various databases. These key words are; "Cryptocurrencies" AND "Shariah", "Cryptocurrencies" AND "Islam", "Cryptocurrencies" AND "Islamic finance", "Cryptocurrencies" AND "Shariah" or "Islam" or "Islamic Finance", "Cryptocurrencies" AND "Islamic banking", "Cryptocurrency" AND "laws*rules*regulation", "Cryptocurrency" AND "Social issues", "Cryptocurrency" AND "Environmental issues".

Step 2: Focus on Research Documents. The studies extracted as a result of step 1 were exported to Mendeley where some overlapping studies were deleted. This step culminated in 117 documents as shown in Table 1.3.

Step 3: Refinement of Publications. The key words search in various databases resulted in huge number of documents as shown in Table 1.1. In the process of reading the title, abstract and key words, it was found that all documents are not related to the study, therefore, unrelated documents were removed from the collection.

Step 4: Completeness Check. A sound systematic review encompasses all the pertinent studies (Petticrew, 2001; Tranfield et al., 2003). For ensuring this thoroughness, reference search of the relevant studies was carried out which resulted in addition of 14 more documents and total documents reached 118 as shown in Table 1.3.

Step 5: Focus on Cryptocurrency and Shariah, Regulatory and Social Issues. Here in this step, the retrieved documents were read in detail and only those studies were selected which explicitly discussed Shariah, Regulatory and Social issues related to cryptocurrency. This step was helpful in eliminating many irrelevant studies. Besides, the author has created google scholar alerts related to cryptocurrency since January 2021 and through this process, 41 more documents were obtained and included in the study till December 31, 2024 and the number of total documents reached 120.

Step 6: Analysis of the Selected Studies. The 120 documents were studies in depth in order to identity the various issues attached to cryptocurrency with a particular focus on Shariah, regulatory and social (culture-cognitive) issues. As a result of these efforts, various themes such as Shariah, regulatory and legal, nature of cryptocurrencies, consensus and cooperation among governments, crypto friendly policies, training for stakeholders and social issues are identified. All these issues are shown in Preferred

Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) as shown in Table 3.1.

Table 3.1: PRISMA Flow Diagram for Screening And Selection Process

Field	Value	Notes
Records identified from databases	n = 29	Sum of Springer (8), Emerald (9), Elsevier (8), JSTOR (1), Taylor & Francis (1), Wiley (1), Proquest (1)
Records identified from other sources	n = 91	Google Scholar search (36), Reference search (14), Google Scholar Alerts (41)
Total records identified	n = 123	Provided in manuscript
Duplicates removed (before screening)	n = 3	Inferred from '117 documents' after Mendeley deduplication
Records after removal	n = 120	Provided / inferred after deduplication
Records screened (title & abstract)	n = 120	Assumed equal to records after deduplication
Full-text assessed for eligibility	120	Manuscript describes detailed full-text review
Full-text excluded (with reasons)	n = Not reported	Reasons mentioned qualitatively
Studies included (final qualitative synthesis)	n = 120	Manuscript states 120 documents were studied in depth and themes extracted
Studies in meta-analysis (if any)	n = N/A	No meta-analysis reported

Table 3.1 clearly illustrates that the majority of documents were retrieved from Google Scholar, indicating its prominence as a primary source of academic literature. This was followed by Google Scholar Alerts, Emerald Insight (9 documents), and Springer Link (8 documents). Additionally, a reference search yielded 14 documents. Other sources, including JSTOR, Taylor and Francis, Wiley Online Library, and ProQuest, each contributed one document to the total collection.

3.1.2 Inclusion and Exclusion Criteria

The selected time frame for this study spans from 2009 to December 2024, reflecting the period beginning with the introduction of the first cryptocurrency—Bitcoin—by Satoshi Nakamoto in 2009. Scholarly interest in this domain initially progressed at a slow pace until 2015, after which research activity began to

accelerate significantly, as illustrated in Table 1.2. The review incorporates literature in both English and Urdu languages and includes a diverse range of sources such as peer-reviewed journal articles, book chapters, working papers, conference proceedings, in-press articles, research theses, and grey literature. Grey literature was identified through the reference lists of relevant documents and systematic searches using Google Scholar. Furthermore, to ensure the inclusion of recent developments, Google Scholar alerts were set up from January 2021 onward, which yielded an additional 41 documents for review.

With respect to the literature cited in the present study, the majority of the sources were identified through manual searches and by reviewing reference lists, owing to the limited accessibility of Scopus and Web of Science databases within Pakistan.

Table 1.6: Time Wise Distribution of Literature

Publication Year		**Types of Papers**		
2009-2015	08		2009-15	2016-2024
		Qualitative	06	54
2016-2024*	112	Quantitative	12	48
Total	**120**			

*December 31, 2024

Table 1.6 reveals a significant increase in scholarly attention toward the cryptocurrency phenomenon over time. Between 2009 and 2015, only eight publications were recorded, six of which employed qualitative methodologies. In contrast, the period from 2016 to 2024 witnessed a substantial rise, with a total of 112 publications—54 of which were qualitative, and the remainder quantitative. This notable growth, particularly evident from 2016 onward and peaking around 2018, reflects a growing academic interest in cryptocurrencies. It suggests heightened awareness, increased recognition of their relevance, and a clear indication of the need for further scholarly investigation into this emerging phenomenon. As an exclusion criterion, non-English and non-Urdu languages articles are not considered due to time and cost constraints.

As a methodological limitation, the authors acknowledge that this study primarily relied on Google Scholar and other open-access databases due to the unavailability of access to subscription-based databases such as Scopus and Web of Science.

4. Findings

The key findings of this study are summarized in Figure 1.1, which categorizes the institutional challenges of cryptocurrency adoption in Pakistan through the lens of Scott's (2014) three-pillar framework of institutional theory—the regulative, normative, and cultural-cognitive dimensions. This framework provides a deeper understanding of how institutional forces collectively shape the legitimacy and institutionalization of cryptocurrencies within an Islamic financial context.

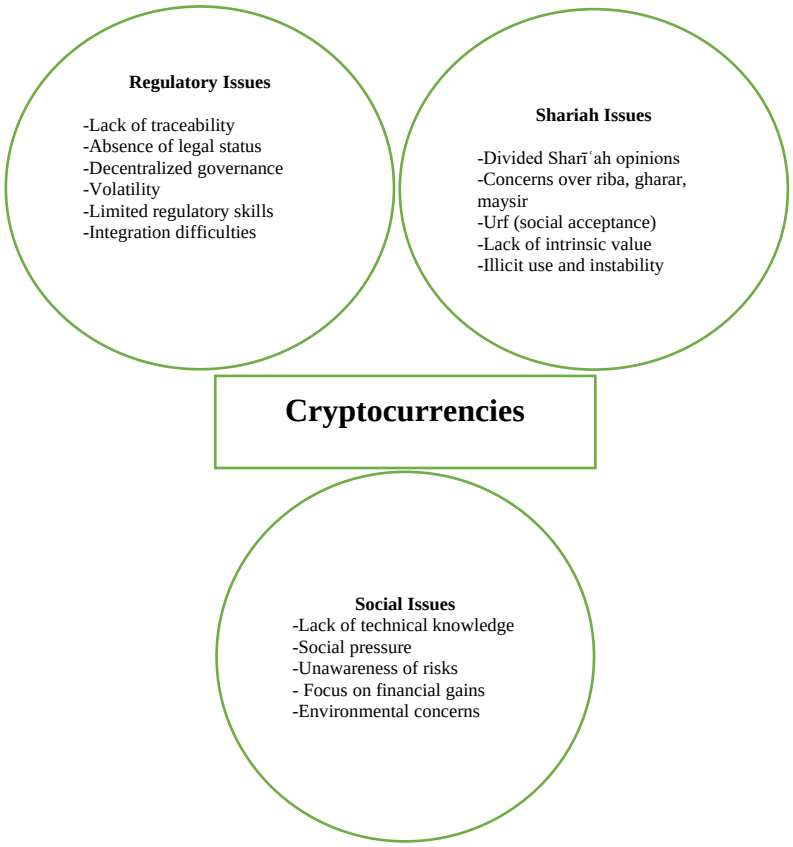
From the regulative pillar, several challenges emerge, including the absence of a comprehensive legal framework, limited regulatory capacity, lack of traceability and consumer protection mechanisms, and difficulties in integrating cryptocurrencies into the formal financial system. These reflect the weak institutional enforcement mechanisms and the ambiguity surrounding state authority in governing decentralized financial technologies. The lack of clear rules and supervisory structures constrains institutional legitimacy, reflecting Scott's view that robust regulative mechanisms are foundational for organizational conformity and societal acceptance.

The normative pillar, reflecting Sharīʿah-based ethical and moral expectations, reveals deep jurisprudential contestations among Islamic scholars regarding the permissibility of cryptocurrencies. Concerns persist about the presence of riba, gharar, and maysir, the absence of intrinsic value, and the potential misuse of cryptocurrencies in illicit activities. Divergent fiqh interpretations and the evolving ʿurf (customary practice) surrounding digital assets underscore the normative ambiguity in aligning emerging financial innovations with Sharīʿah objectives (maqāṣid al-Sharīʿah). This pillar highlights that institutional legitimacy in Islamic finance is not solely regulatory but is contingent upon normative endorsement by Sharīʿah authorities and religious communities.

The cultural-cognitive pillar exposes social and perceptual barriers that inhibit broader institutionalization. These include a lack of public understanding and technical literacy, peer and social pressures to engage in speculative trading, and the dominance of profit-oriented motives rather than the use of cryptocurrencies as a genuine medium of exchange. Additionally, environmental concerns surrounding crypto mining reflect a growing societal awareness of sustainability—an emerging cultural value influencing financial behavior. These cognitive patterns shape how individuals internalize and interpret the legitimacy of cryptocurrencies, reinforcing Scott's argument that

institutionalization depends not only on formal rules or moral norms but also on shared meanings and taken-for-granted beliefs.

Figure 1.1 Main Findings



4.1 Discussion

This systematic literature review synthesizes scholarly discourse surrounding the Sharīʿah compliance, regulatory constraints, and socio-cultural acceptance of cryptocurrencies. Across the reviewed studies, a broad consensus emerges that cryptocurrencies challenge the conventional architecture of financial intermediation by decentralizing trust and authority. Yet, this transformation generates profound jurisprudential, regulatory, and ethical tensions within Islamic finance. The literature converges on recognizing the dual nature of cryptocurrencies: as innovative financial instruments promoting inclusion and autonomy, and as volatile, speculative assets that

may contravene Sharīʿah objectives of justice, transparency, and socio-economic stability.

A key synthesis from the literature concerns the Sharīʿah characterization of cryptocurrencies as māl (property or wealth). While some jurists deny their classification as legitimate māl due to the absence of intrinsic or tangible value, others argue that digital scarcity, computational effort, and widespread market acceptance constitute a contemporary form of value recognized by ʿurf (customary practice). This evolving ʿurf, reflecting the digitalization of commerce, may serve as a valid basis for treating cryptocurrencies as valuable assets under Sharīʿah law. However, consensus remains elusive regarding their function as thaman (medium of exchange), as their price volatility undermines stability and public trust — two attributes central to the maqāṣid principle of ḥifẓ al-māl (protection of wealth).

The review also identifies an emerging jurisprudential divide over the maqāṣid al-Sharīʿah framework. Some scholars contend that cryptocurrencies can advance maqāṣid objectives—particularly financial inclusion, transparency, and efficient zakāt and waqf management—by enabling low-cost, borderless transactions. Conversely, others caution that excessive speculation (gharar and maysir) and environmental externalities contradict the maqāṣid ideals of adl (justice) and istiṣlāḥ (public welfare). The absence of Sharīʿah-aligned regulatory oversight is frequently cited as the root cause of these ethical tensions, rather than the technology itself. Hence, there is a growing call for Sharīʿah-sensitive regulatory models that integrate risk mitigation with innovation, bridging the gap between permissibility and practical governance.

From a regulatory standpoint, the literature converges on the need for harmonized frameworks that address compliance and anti-money-laundering concerns without stifling technological advancement. Yet, a significant research gap remains in understanding how Islamic legal authorities and standard-setting bodies (e.g., AAOIFI, IIFA) operationalize these frameworks in light of evolving jurisprudential interpretations. Moreover, socio-cultural studies on Muslim consumer perceptions remain fragmented, lacking longitudinal and cross-jurisdictional analysis. Future research could integrate *fiqh al-muʿāmalāt* principles with empirical data to explore how Sharīʿah governance mechanisms can foster trust and legitimacy in digital financial ecosystems.

From the socio-cultural perspective, cryptocurrency usage is predominantly observed among young, educated males with high income levels. During the COVID-19

pandemic, the utilization of cryptocurrencies for charitable donations increased, attributed to their low transaction costs and rapid transfer capabilities. This trend has the potential to enhance financial inclusion in developing countries. The ease of cryptocurrency use is influenced by social norms, recommendations from friends and relatives, and adherence to religious principles. However, a comprehensive understanding of blockchain technology and cryptocurrencies is essential for widespread adoption. The application of cryptocurrencies in social financing, such as zakat payments and the achievement of Sustainable Development Goals (SDGs), is also on the rise due to the transparent nature of blockchain technology. Nevertheless, cryptocurrency mining has been criticized for contributing to environmental pollution through excessive electricity consumption and electronic waste. Conversely, some argue that the adoption of clean energy, regulatory measures for mining, and the use of Proof of Stake (PoS) techniques instead of Proof of Work (PoW) could mitigate environmental pollution.

The study makes several contributions to the literature. Firstly, it advances institutional theory by employing Scott's (2014) framework to examine cryptocurrency discourse across regulatory, normative, and cultural-cognitive dimensions. Secondly, it evaluates the Sharīʿah compliance of cryptocurrencies, emphasizing the significance of intrinsic value, medium of exchange, property, volatility, and social acceptance (urf). Thirdly, the study proposes Sharīʿah-based regulatory reforms for policymakers to ensure the legitimacy of cryptocurrencies.

This study has key policy implications for cryptocurrency regulation in Muslim-majority contexts. Policymakers should develop frameworks integrating Islamic jurisprudence with financial standards to ensure Sharīʿah compliance and stability. Governments should promote renewable energy in crypto mining while limiting carbon-intensive practices. Sharīʿah scholars require training in blockchain technology for informed religious rulings. Cryptocurrencies' cross-border functionality can improve financial inclusion, while blockchain applications enhance zakāt and waqf distribution efficiency. Social acceptance will depend on alignment with cultural values, supported through digital literacy programs.

5. Conclusion

This systematic literature review examined the discourse on cryptocurrencies through the lenses of Sharīʿah compliance, regulatory governance, and socio-cultural

acceptance, synthesizing findings across Islamic and conventional perspectives. The analysis reveals that cryptocurrencies represent a paradigmatic shift in financial intermediation, emerging as decentralized, algorithmically governed systems that operate independently of state or central authority. Their rise—triggered by the 2008 Global Financial Crisis and accelerated by the COVID-19 pandemic—reflects a broader societal pursuit of financial autonomy and technological trust.

From an economic and legal standpoint, cryptocurrencies function effectively as a medium of exchange, yet their role as a store of value and unit of account remains constrained by volatility and dependence on fiat-based valuation. The persistent absence of comprehensive legal frameworks and regulatory clarity continues to hinder their institutional legitimacy. Within the Sharīʿah context, scholarly opinions remain divided. While many jurists classify cryptocurrencies as māl (property) on the basis of ʿurf (prevailing custom) and technological effort as a source of value, concerns about riba (usury), gharar (uncertainty), and maysir (speculation) remain central to ongoing jurisprudential debates. Achieving normative consensus among Sharīʿah scholars thus represents a critical step toward institutionalization within Islamic financial systems.

On the social dimension, findings indicate increasing public awareness and acceptance, particularly where cryptocurrencies are employed for socially beneficial purposessuch as zakat disbursement, waqf administration, and advancing the Sustainable Development Goals (SDGs). These applications align with the maqāṣid al-Sharīʿah objective of promoting transparency, efficiency, and social welfare. Nonetheless, social adoption is mediated by users' technical literacy, perceived ease of use, and religious assurance of compliance. Environmental sustainability, however, remains a legitimate concern due to the energy-intensive nature of crypto mining and related e-waste. Emerging innovations in green blockchain technologies and renewable energy use offer promising directions to reconcile technological progress with ecological responsibility. Future studies should move beyond descriptive analysis and consider empirical, theoretical and comparative integration to link institutional theory with Islamic jurisprudence to build morally sound and sustainable cryptocurrency ecosystem.

Declaration

The authors have used ChatGPT for rephrasing and grammar correction to improve the readability of the paper.

References

Abu-Bakar, M. (2018). Shariah Analysis of Bitcoin, Cryptocurrency and Blockchain. *Blossom Finance*. https://blossomfinance.com/bitcoin-working-paper

Abubakar, M., Hassan, M. K., & Haruna, M. A. (2019). Cryptocurrency Tide and Islamic Finance Development: Any Issue? In *International Finance Review* (Vol. 20, pp. 189–200). Emerald Group Publishing Ltd. https://doi.org/10.1108/S1569-376720190000020019.

Adam, F. (2019). Fatawa Analysis of Bitcoin. In *Halal Cryptocurrency Management* (pp. 133–147). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_9

Afzal, A. and Asif, A. (2019), "Cryptocurrencies, blockchain and regulation: a review", *The Lahore Journal of Economics*, Vol. 24 No. 1, pp. 103-130.

Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alaklabi, S., & Kang, K. (2021). Perceptions towards cryptocurrency adoption: A case of Saudi Arabian citizens. *IBIMA Business Review, 2021*. https://doi.org/10.5171/2021.110411

Alam, N., & Zameni, A. (2019). Existing Regulatory Frameworks of Cryptocurrency and the Shari'ah Alternative. In *Halal Cryptocurrency Management* (pp. 179–194). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_12

Al-Zuhayli, (2010). *Wahbah, and Abdul Hayyie Al-Kattani*. Fiqih Islam wa adillatuhu. Gema Insani.

Amalin, G. (2018). The Legality of Cryptocurrency Trade in accordance with the Principles of Islamic Banking Law.
https://dspace.uii.ac.id/handle/123456789/11715

Ammous, S. (2018). Can Cryptocurrencies Fulfil the Functions of Money? *Quarterly Review of Economics and Finance*, *70*, 38–51. https://doi.org/10.1016/j.qref.2018.05.010.

Amri, M. C. El, & Mohammed, M. O. (2019). The Analysis of Cryptocurrency Based on Maqasid al-Shari'ah. In *Halal Cryptocurrency Management* (pp. 119–131). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_8.

Antonopoulos, A. M. (2014). *Mastering Bitcoin*. O'Reilly Media. https://www.oreilly.com/library/view/mastering-bitcoin/9781491902639/

Arbouna, M. B. (2018). The Legality of Cryptocurrency Trade in accordance with the Principles of Islamic Banking Law. *The Role of Standardization for the Future of Islamic Finance*, 1–20.

Asif, S. (2018). The Halal and Haram Aspects of Cryptocurrencies in Islam. *Journal of Islamic Banking & Finance*, *35*(July No. 2), 91–102. https://doi.org/10.13140/RG.2.2.29593.52326

Auer, R., & Claessens, S. (2018). Regulating Cryptocurrencies: Assessing Market Reactions. In *BIS Quarterly Review*. https://www.bis.org/publ/qtrpdf/r_qt1809f.htm

Auer, R., Farag, M., Lewrick, U., Orazem, L., & Zoss, M. (2022). Banking in the shadow of Bitcoin? The institutional adoption of cryptocurrencies. In *BIS Working Papers* (No. 1013). Bank for International Settlements. https://ideas.repec.org/p/bis/biswps/1013.html.

Axelrod, A. (2020). *COVID-19 Outbreak and Crypto Market*. FineXtra. https://www.finextra.com/blogposting/18638/covid-19-outbreak-and-crypto-market

Ayedh, A., Echchabi, A., Battour, M., & Omar, M. (2020). Malaysian Muslim investors' behaviour towards the blockchain-based Bitcoin cryptocurrency market. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-04-2019-0081

Balutel, D., Felt, M.-H., Nicholls, G., & Voia, M. C. (2022). Bitcoin Awareness, Ownership and Use: 2016–20 (Staff Discussion Paper). Bank of Canada. https://doi.org/10.34989/SDP-2022-10

Bashir, I. (2018). Mastering Blockchain Second Edition. In *Birmingham: Packt Publishing* (2nd ed.). Packt Publishing. www.packtpub.com

Battilossi, S., Cassis, Y., & Yago, K. (2020). *Handbook of the History of Money and Currency*. Springer Nature Singapore Pte Ltd. 2020. https://doi.org/10.1007/978-981-13-0596-2

Baur, A. W., Bühler, J., Bick, M., & Bonorden, C. S. (2015). Cryptocurrencies as a Disruption? Empirical Findings on User Adoption and Future Potential of Bitcoin and Co. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *9373*, 63–80. https://doi.org/10.1007/978-3-319-25013-7_6.

Bedoui, H. eddine, & Robbana, A. (2019). Islamic Social Financing Through Cryptocurrency. In *Halal Cryptocurrency Management* (pp. 259–274). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-10749-9_16

Beik, I. S., Nurzaman, M. S., & Sari, A. P. (2019). Zakat Standard Framework of Halal Cryptocurrency. In *Halal Cryptocurrency Management* (pp. 275–284). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_17.

Beik, I. S., Zaenal, M. H., & Rizkiningsih, P. (2019). Waqf Led Halal Cryptocurrency Model. In *Halal Cryptocurrency Management* (pp. 285–298). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_18.

Bergstra, J. A. (2015). Bitcoin and Islamic Finance. *Informatics Institute, University of Amsterdam*, 1–19. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1028.1609&rep=rep1&type=pdf.

Bezhovski, Zlatko, Ljupco Davcev, & Mila Mitreva (2021). Current Adoption State of Cryptocurrencies as an Electronic Payment. *Management Research and Practice*, *13*(1). https://eprints.ugd.edu.mk/27898/.

Bhimani, A., Hausken, K., & Arif, S. (2022). Do national development factors affect cryptocurrency adoption? *Technological Forecasting and Social Change*, *181*, 121739. https://doi.org/10.1016/J.TECHFORE.2022.121739.

Bhowmik, D. (2022). Crypto-Currency: Trends and Determinants. *Saudi Journal of Economics and Finance*, *6*(2). https://doi.org/10.36348/sjef.2022.v06i02.001.

Billah, M. M., Halim, A. H. A., & Mahpop, A. (2019). Standard Shari'ah Regulatory Frameworks of Cryptocurrency. In *Halal Cryptocurrency Management* (pp. 165–177). Springer International Publishing. https://doi.org/10.1007/978-3-030-10749-9_11.

Blandin, A., Cloots, A. S., Hussain, H., Rauchs, M., Saleuddin, R., Allen, J. G., Zhang, B., & Cloud, K. (2019). The Global Cryptoasset Regulatory Landscape Study. https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-04-ccaf-global-cryptoasset-regulatory-landscape-study.pdf.

Bollen, R. (2016). The Legal Status of Online Currencies Are Bitcoins the Future? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2736021.

Bouoiyour, Jamal & Refk Selmi. (2015). What Does Bitcoin Look Like? *Annals of Economics And Finance*, *16*(2). https://www.researchgate.net/publication/283676718_What_Does_Bitcoin_Look_Like.

Brito, Jerry., Houman Shadab, & Andrea Castillo. (2014). Bitcoin Financial Regulation: Securities, Derivatives, Prediction Markets, and Gambling. *The Columbia Science & Technology Law Review*, *XVI*. http://www.stlr.org/cite.cgi?volume=16&.

Bubandt, N. (2009). Gold for a Golden Age: Sacred Money and Islamic Freedom in a Global Sufi Order. *Social Analysis*, *53*(1), 103–122. https://doi.org/10.3167/SA.2009.530107.

Burke, Q. (2022). The Great Bitcoin Experiment: A Social Analysis of Cryptocurrency in El Salvador. *Senior Scholar Papers*. https://digitalcommons.colby.edu/seniorscholars/567.

Buterin, V. (2013). A Next Generation Smart Contract & Decentralized Application Platform (2013) Whitepaper. In *Ethereum Foundation*.

Castro, A. M., Castro, J. M., Valdiviezo, N. V., & Suqilanda, E. M. (2022). Cyptocurrencies: development and impact on the world economy. *Journal of Business and Entrepreneurial Studie*, *6*(3). https://doi.org/10.37956/JBES.V6I3.296.

Corbet, S., & Yarovaya, L. (2020). The Environmental Effects of Cryptocurrencies. In *Cryptocurrency and Blockchain Technology* (pp. 149–184). De Gruyter. https://doi.org/10.1515/9783110660807-009/HTML.

Corbet, S., Lucey, B., Urquhart, A., & Yarovaya, L. (2019). Cryptocurrencies as a Financial Asset: A systematic analysis. *International Review of Financial Analysis*, *62*, 182–199. https://doi.org/10.1016/j.irfa.2018.09.003.

Creswell, J. W and Creswell J David. (2018*). Qualitative, Quantitative and Mixed Methods Approaches*, 5th Edition. Sage Publications, Inc.

Dabbous, A., Merhej Sayegh, M., & Aoun Barakat, K. (2022). Understanding the adoption of cryptocurrencies for financial transactions within a high-risk context. *Journal of Risk Finance*, *23*(4), 349–367. https://doi.org/10.1108/JRF-10-2021-0169/FULL/PDF.

Dahdal, A. M., Truby, J. M., & Ismailov, O. (2021). *The Role and Potential of Blockchain Technology in Islamic Finance* (No. 2021/002; Working Paper). https://papers.ssrn.com/abstract=3804257.

De Vries, A. (2018). Bitcoin's Growing Energy Problem. In *Joule* (Vol. 2, Issue 5, pp. 801–805). Cell Press. https://doi.org/10.1016/j.joule.2018.04.016.

Demir, E., Bilgin, M. H., Karabulut, G., & Doker, A. C. (2020). The Relationship between Cryptocurrencies and COVID-19 Pandemic. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3585147.

Derivative, F. (2020). The Impact of Coronovirus on Cryptocurrency and its Future. *Finance Derivative*. https://www.financederivative.com/the-impact-of-coronavirus-on-cryptocurrency-and-its-future/.

Dierksmeier, C., & Seele, P. (2018). Cryptocurrencies and business ethics. Journal of business ethics, 152, 1-14.

Digiconomist.com. (2021, November 18). Bitcoin May Consume as Much Energy as All Data Centers Globally -https://digiconomist.net/bitcoin-may-consume-as-much-energy-as-all-data-centers-globally.

Diyanet. (2017). Bitcoin “not compatible with Islam”, Turkey’s religious authorities say | *Euronews*. Euronews. https://www.euronews.com/2017/11/28/bitcoin-is-not-compatible-with-islam-turkeys-religious-authorities-say.

Egri, T., & Orhan, Z. H. (2021). Islamic monetary economics finance and banking in contemporary Muslim economies preface. Islamic Monetary Economics: Finance and Banking in Contemporary Muslim Economies.

Elasrag, H. (2019). Blockchains for Islamic Finance: Obstacles & Challenges.

Evans, C. W. (2015). Bitcoin in Islamic Banking and Finance. *Journal of Islamic Banking and Finance*, *3*(1), 1–11. https://doi.org/10.15640/jibf.v3n1a1.

Evans, D. S. (2014). Economic Aspects of Bitcoin and Other Decentralized Public-Ledger Currency Platforms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2424516.

Febriandika, Nur Rizqi,. Sukama, R., (2018). Cryptocurrency Position in Islamic Financial System: A Case Study of Bitcoin. *In Proceedings of the 2nd International Conference Postgraduate School (ICPS 2018)*. https://doi.org/10.5220/0007539401590163.

Gallersdörfer, U., Klaaßen, L., & Stoll, C. (2020). Energy Consumption of Cryptocurrencies Beyond Bitcoin. *Joule*, *4*(9), 1843–1846. https://doi.org/10.1016/J.JOULE.2020.07.013.

Gazali, H. M., Ismail, C. M. H. B. C., & Amboala, T. (2018). Exploring the Intention to Invest in Cryptocurrency: The Case of Bitcoin. *Proceedings - International Conference on Information and Communication Technology for the Muslim World 2018, ICT4M 2018*, 64–68. https://doi.org/10.1109/ICT4M.2018.0002.

Glaser, F., Zimmermann, K., Haferkorn, M., Weber, M. C., & Siering, M. (2014). Bitcoin-asset or currency? Revealing users' hidden intentions. Revealing Users' Hidden Intentions (April 15, 2014). ECIS.

Glyn Davies. (1994). A History of Money: From Ancient times to the Present Day. In *Choice Reviews Online* (3rd ed., Vol. 32, Issue 03). UNIVERSITY OF WALES PRESS CARDIFF. https://doi.org/10.5860/choice.32-1632.

Guadamuz, A., & Marsden, C. (2015). Blockchains and Bitcoin: Regulatory responses to cryptocurrencies. *First Monday*, *20*(12). https://doi.org/10.5210/fm.v20i12.6198.

Habib, F. (2021). A Critical Analysis of Bitcoin from an Islamic Legal Perspective. In *Fintech, Digital Currency and the Future of Islamic Finance* (pp. 9–29). Springer International Publishing. https://doi.org/10.1007/978-3-030-49248-9_2.

Hairudin, A., Sifat, I. M., Mohamad, A., & Yusof, Y. (2020). Cryptocurrencies: A survey on acceptance, governance and market dynamics. *International Journal of Finance & Economics*. https://doi.org/10.1002/ijfe.2392.

Hassan Kabir, M., Muneeza, D. A., Abubakar, D. M., & Haruna, D. M. A. (2021). Application of Precious Metal Backed Cryptocurrency in Islamic Finance. *JOIFA*, *5*(1).

Hassan, S., Azhar, T., (2022). Current Challenges of Cryptocurrencies Faced by Governments. *Journal of Research and Reviews in Social Sciences Pakistan*, *5*(1), 2022–1484. https://www.researchgate.net/publication/361760068.

Hoffman, N. (2017). Cryptocurrency: The Ultimate Guide to The World of Cryptocurrency and How I Became a Crypto Millionaire in 6 Months. CreateSpace Independent Publishing Platform. https://www.amazon.com/Cryptocurrency-Ultimate-Became-Crypto-Millionaire/dp/1977942830.

Holtfort, T., Horsch, A., & Schwarz, J. (2022). Economic, Technological and Social Drivers of Cryptocurrency Market Evolution and its Managerial Impact. Econstor (Freiberger Arbeitspapiere No. 2022/01). https://www.econstor.eu/handle/10419/260544.

Huang, S. S. (2021). Crypto Assets Regulation in the UK: an Assessment of the Regulatory Effectiveness and Consistency. *Journal of Financial Regulation and Compliance*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/jfrc-06-2020-0062.

Ibrahimi, A., & Arifi, B. (2022). Corruption and Cryptocurrency: Blockchain as Corruption Tools. *Academicus International Scientific Journal*, *26*. http://dspace.epoka.edu.al/handle/1/2224.

Imam al-Ghazali. (1993). *Ihya Ulum-Ud-Din:* The Revival of Religious Learnings. *Translated by Fazl-ul-Karim*. Darul-Ishaat, Karachi.

Islahi, A. A. (2001). An Analytical Study of al-Ghazali's Thought on Money and Interest. In *MPRA* (No. 41438).

J Lee, F. L'heureux. (2020). A Regulatory Framework for Cryptocurrency. *European Business Law Review*, *31*(3), 423–446. https://ore.exeter.ac.uk/repository/handle/10871/120627.

Jain, M., Sharma, H. P., & Hawaldar, I. T. (2024). Transforming Finance: Exploring the Potential of Decentralized Business Models Enabled by Blockchain Technology. In Applications of Block Chain technology and Artificial Intelligence: Lead-ins in

Banking, Finance, and Capital Market (pp. 105-116). Cham: Springer International Publishing.

Ji-Xi, Ter ., J., Salamzadeh, Y., & Teoh, A. P. (2021). Behavioural intention to use cryptocurrency in Malaysia: an empirical study. *Bottom Line*, *34*(2), 170–197. https://doi.org/10.1108/BL-08-2020-0053/FULL/PDF.

Jumde, A., & Cho, B. Y. (2020). Can Cryptocurrencies Overtake the Fiat Money? *International Journal of Business Performance Management*, *21*(1/2), 6–20. https://ideas.repec.org/a/ids/ijbpma/v21y2020i1-2p6-20.html.

Kahf, M. (2017). Fatwa on Bitcoin. *Light upon Light*. http://lightuponlight.com/blog/fatwa-on-bitcoin-by-monzer-kahf/.

Karafiloski, E., & Mishev, A. (2017, July). Blockchain solutions for big data challenges: A literature review. In IEEE EUROCON 2017-17th International Conference on Smart Technologies (pp. 763-768). IEEE.

Kepli, M. Y. bin Z., & Zulhuda, S. (2019). Cryptocurrencies and Anti-money Laundering Laws: The Need for an Integrated Approach. In *Emerging Issues in Islamic Finance Law and Practice in Malaysia* (pp. 247–263). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78973-545-120191020.

Kfir, I. (2020). "Cryptocurrencies, national security, crime and terrorism", Comparative Strategy, 39 (2), pp. 113-127, doi: 10.1080/01495933.2020.1718983.

Khan, R. U., Ullah, K., & Atiq, M. (2024). Regulatory constraints, responsibilities and consultation (CRC) for legal institutionalization of cryptocurrencies in Pakistan. Qualitative Research in Financial Markets, 16(4), 680-708.

Kirchner, I. K. F. (2020). Are Cryptocurrencies ḥalāl? On the Sharia-Compliancy of Blockchain-Based Fintech. *Islamic Law and Society*, *28*(1–2), 76–112. https://doi.org/10.1163/15685195-bja10005.

Kirkby, R. (2018). Cryptocurrencies and Digital Fiat Currencies. *Australian Economic Review*, *51*(4), 527–539. https://doi.org/10.1111/1467-8462.12307.

Kshetri, N., & Voas, J. (2022). Blockchain's Carbon and Environmental Footprints. *Computer*, *55*(8), 89–94. https://doi.org/10.1109/MC.2022.3176989.

Lopez, B. S., García, D. I., & Alcaide, A. V. (2019). Blockchain Technology Facing Socioeconomic Challenges. Promise versus Probability. *Socio Economic Challenges*, *3*(4), 13–24. https://doi.org/10.21272/SEC.3(4).13-24.2019.

Lovell, A. M. (2018). Avoiding Liability: Changing the Regulatory Structure of Cryptocurrencies to Better Ensure Legal Use. *Iowa Law Review*, *104*. Retrieved from https://heinonline.org/HOL/Page?handle=hein.journals/ilr104&id=941&div=&collection.

Mahdavieh, R. (2022). State Adoption of Cryptocurrency: A Case Study Analysis of Iran, Russia, and Venezuela. *American Jouranl of Undergraduate Research*. https://doi.org/10.33697/ajur.2022.055.

Maierbrugger, A. (2017). Islamic finance and digital currencies: The halal aspect. *Gulf Times*. https://www.gulf-times.com/story/532032/Islamic-finance-and-digital-currencies-The-halal-a?utm_source=Eloqua&utm_medium=email&utm_campaign=Newsletter_IslamicFinanceWeekly&utm_content=Newsletter_IslamicFinanceWeekly_12Feb17.

Memon, S. (2022). Cryptocurrencies: Review of Economics and Policy in *PIDE Working Paper*: 2022:7. https://www.pide.org.pk/wp-content/uploads/wp-0217-cryptocurrencies-review-of-economics-and-policy.pdf.

Mohd Noh Shahid Mohd, & Abu Bakar Syakir Mohamed. (2020). Cryptocurrency as A Main Currency: A Maqasidic Approach. *Al-Uqud: Journal of Islamic Economics*, *4*(1). https://doi.org/10.26740/al-uqud.v4n1.p115-132.

Mufti, E. G. (2018). Egypt's Grand Mufti Bans Bitcoin Trading. *About Islam*. https://aboutislam.net/muslim-issues/middle-east/egypts-grand-mufti-bans-bitcoin-trading/.

Muhammad Taqi Uthmani. (1998). Buhuth fi Qadhaya Fiqhiyyah Mu`asirah. Dar al-Qalam, Syria. https://alkitab.com/16699.html.

Nabilou, H. (2019). How to regulate bitcoin? Decentralized regulation for a decentralized cryptocurrency. *International Journal of Law and Information Technology*, *27*(3), 266–291. https://doi.org/10.1093/IJLIT/EAZ008.

Nadeem, M. A., Liu, Z., Pitafi, A. H., Younis, A., & Xu, Y. (2021). Investigating the Adoption Factors of Cryptocurrencies—A Case of Bitcoin: Empirical Evidence From China. *Sage Open*, *11*(1). https://doi.org/10.1177/2158244021998704.

Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. www.bitcoin.org

Neuman, W. L. (2011). Social Research Methods: Qualitative and Quantitative Approach (7th ed.). Pearson. https://www.pearson.com/us/higher-education/program/Neuman-Social-Research-Methods-Qualitative-and-Quantitative-Approaches-7th-Edition/PGM74573.html.

Noreen, U., Ahmad, Z., Alfirm, O. S. M., & Alhomoudi, N. A. H. (2021). Any luck with bitcoin in Saudi Arabia? Fintech, Digital Currency and the Future of Islamic Finance: Strategic, Regulatory and Adoption Issues in the Gulf Cooperation Council, 209-222.

Olimpiev, A. Y., Rouiller, N., & Strelnikov, I. A. (2021). Crypto Currencies: Current Realities, Philosophical Principles and Legal Mechanisms. In *Lecture Notes in*

Networks and Systems (Vol. 155, pp. 28–39). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-030-59126-7_4.

Oliva, Arias., M., Pelegrín-Borondo, J., & Matías-Clavero, G. (2019). Variables influencing cryptocurrency use: A technology acceptance model in Spain. *Frontiers in Psychology*, *10*(MAR), 475. https://doi.org/10.3389/FPSYG.2019.00475/XML/NLM.

Othman, A. H. A., Alhabshi, S. M., Haron, R., & Noor, A. B. M. (2019). The Future of the Banking System under the Dominance and Development of the Cryptocurrency Industry: Empirical Evidence from Cointegration Analysis. *The Journal of Wealth Management*, *22*(2), 109–127. https://doi.org/10.3905/JWM.2019.1.075.

Oziev, Gapur,. Yandiev, M,. (2017). Cryptocurrency from Shariah Perspective. *Papers.Ssrn.Com*. https://doi.org/10.2139/ssrn.3101981.

Packard, Lauren., Ariana Kiran Singh, O. O. (2022). View of Crypto has an emissions challenge: Here's what leaders can do about it. *Future Technology*, *1*(3). https://doi.org/10.55670/fpll.futech.1.3.3.

Paracha, Muhammad Owais. (2018). *Virtual Currencies Ki Shari Haisiyat.* Darul Iftah, Jamia Rashid, Karachi. Retrieved from (pdfbooksfree.pk).

Parilla, E. S., & Abadilla, M. E. M. (2022). Cryptocurrencies: Business Students' Awareness and Universities' Adoption Readiness and Compatibility of Use Considering the Mediation of Attitudes. *Applied Quantitative Analysis*, *2*(1), 10–21. https://doi.org/10.31098/QUANT.898.

Pedrosa-Garcia, J. A., & Almeida, Y. W. D. A. C. (2018). Regulation of Cryptocurrencies: Evidence from Asia and the Pacific. In *MPDD Working Paper Series* (Vol. 03). United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). https://ideas.repec.org/p/unt/wpmpdd/wp-18-03.html.

Petticrew, M. (2001), Systematic Reviews from Astronomy to Zoology: Myths and Misconceptions.*British Medical Journal*, Vol. 322 No. 7278, pp. 98-101.

Petticrew, M., & Roberts, H. (2006). Systematic Reviews in the Social Sciences A Practical Guide. In *Systematic Reviews in the Social Sciences*. Blackwell Publishing. https://doi.org/10.1002/9780470754887.

Petticrew, Mark., H. R. (2006). Systematic Reviews in the Social Sciences: A Practical Guide. Wiley-Blackwell. https://www.wiley.com/en-us/Systematic+Reviews+in+the+Social+Sciences%3A+A+Practical+Guide-p-9781405121101.

Polas, M. R. H., Tahiya, N. M., Kabir, A. I., Sohel-Uz-Zaman, A. S. M., & Biswas, R. (2025). Islamic Finance, Islamic Fintech, and Digital Currency in the Digital

Transformation Era: The Role of Blockchain Technology in Industry 4.0. In Digitalization of Islamic Finance (pp. 77-116). IGI Global Scientific Publishing.

Pos, D. (2022). Motivations of young people in The Netherlands to invest in cryptocurrencies. In *MS Thesis University of Twente*. http://essay.utwente.nl/91384/

Pravdiuk M. (2021). International Experience of Cryptocurrency Regulation. *Norwegian Journal of Development of the International Science*, *53*. https://cyberleninka.ru/article/n/international-experience-of-cryptocurrency-regulation.

Qaroush, Z., Zakarneh, S., & Dawabsheh, A. (2022). Cryptocurrencies Advantages and Disadvantages: A Review. *International Journal of Applied Sciences and Smart Technologies*, *4*(1), 1–20. https://doi.org/10.24071/IJASST.V4I1.4610.

Quest, M. (2018). Cryptocurrency Master: Everything You Need To Know About Cryptocurrency and Bitcoin Trading, Mining, Investing, Ethereum, ICOs, and the Blockchain. https://www.amazon.com/Cryptocurrency-Master-Bundle-Everything-Blockchain-ebook/dp/B07DVGXSCK/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=&sr=.

Rabbani, M. R., Khan, S., & Thalassinos, E. (2020). Fintech, blockchain and islamic finance: an extensive literature review. International Journal of Economics and Business Administration, VIII (Issue 2), 65-86. https://doi.org/10.35808/ijeba/444.

Rahmani, K. S. (2010). *Jadeed Fighi Masail*. Zam Zam Publisher, Karachi. https://pdfbooksfree.pk/jadeed-fiqhi-masail-complete-5-volumes-by-maulana-khalid-saif-ullah-rahmani/.

Rangone, A., & Busolli, L. (2021). Managing charity 4.0 with Blockchain: a case study at the time of Covid-19. International review on public and nonprofit marketing, 18(4), 491-521.

Resch, P., Schroeder, C., Pourmovahed, A., & Brinker Brouwer, K. (2022). Cryptocurrency and its Effect on the Electric Grid. *Renewable Energy and Power Quality Journal*, *20*.

Richmond, F. (2018). The Crypto Crash Course: The Ultimate Cryptocurrency Guide for Beginners! A Thorough Introduction to Cryptocurrency Mining, Investing and Trading, Blockchain, Bitcoin and Digital Coins, and More... Amazon.com Services LLC. https://www.amazon.ae/Crypto-Crash-Course-Cryptocurrency-Introduction/dp/1728780268.

Riley, J. (2021). The current status of cryptocurrency regulation in China and its effect around the world. *China and WTO Review*, *7*(1), 135–152. https://doi.org/10.14330/CWR.2021.7.1.06.

Rosele, M. I., Muneem, A., Seman, A. B. C., Abdullah, L. B. H., Rahman, N. N. B. A., Sukor, M. E. B. A., & Ali, A. K. Bin. (2022). The Concept of Wealth (māl) in the Sharīʿah and Its Relation to Digital Assets: *Https://Doi.Org/10.1177/21582440221102424*, *12*(2), 215824402211024. https://doi.org/10.1177/21582440221102424.

Saleh, A. H. A. I., Ibrahim, A. A., Noordin, M. F., & Mohadis, H. M. (2020). Factors influencing adoption of cryptocurrency-based transaction from an Islamic perspective. Global Journal of Computer Science and Technology, 20(4), 21-32.

Sandner, P., Gross, J., & Richter, R. (2020). Convergence of blockchain, IoT, and AI. Frontiers in Blockchain, 3, 522600.

Sapovadia, V. (2015). Legal Issues in Cryptocurrency. In *Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data* (pp. 253–266). Elsevier Inc. https://doi.org/10.1016/B978-0-12-802117-0.00013-8.

Sapovadia, V. (2018). Financial Inclusion, Digital Currency, and Mobile Technology. In *Handbook of Blockchain, Digital Finance, and Inclusion* (Vol. 2, pp. 361–385). Elsevier Inc. https://doi.org/10.1016/B978-0-12-812282-2.00014-0.

Scott, A. (2016). These are the World's Top 10 Bitcoin-Friendly Countries – *News Bitcoin News*. https://news.bitcoin.com/worlds-top-10-bitcoin-friendly-countries/

Seitz, J., & Hummel, D. (2022). Illiteracy in the context of cryptocurrencies. *BSU Electronic Library*. https://doi.org/978-985-881-271-3.

Shestak, V., Kiseleva, A., & Kolesnikov, Y. (2021). Taxation Issues for Digital Financial Assets: *Https://Doi.Org/10.1177/08944393211003919*.

Shovkhalov, S., & Idrisov, H. (2021). Economic and Legal Analysis of Cryptocurrency: Scientific Views from Russia and the Muslim World. *Laws*, *10*(2), 32. https://doi.org/10.3390/laws10020032.

Sifat, I. M., & Mohamad, A. (2018). From Metal to Paper: Validating Paper Money From Islamic Perspective. *International Journal of Ethics and Systems*, *34*(1), 2–19. https://doi.org/10.1108/IJOES-06-2017-0090.

Siron, D. , Paesano, F., (2022). Cryptocurrencies in Asia and beyond: law, regulation and enforcement. In *Basel Institute on Governance Working Papers* (No. 38). University of Basel. https://doi.org/10.12685/BIGWP.2022.38.1-69.

Siswantoro, D., Handika, R., & Mita, A. F. (2020). The Requirements of Cryptocurrency for Money, an Islamic View. *Elsevier*, *6*(1), e03235. https://doi.org/10.1016/j.heliyon.2020.e03235.

Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039.

Steinmetz, F., von Meduna, M., Ante, L., & Fiedler, I. (2021). Ownership, uses and perceptions of cryptocurrency: Results from a population survey. *Technological Forecasting and Social Change*, *173*, 121073. https://doi.org/10.1016/J.TECHFORE.2021.121073.

Stolbov, M., & Shchepeleva, M. (2020). What Predicts the Legal Status of Cryptocurrencies? *Economic Analysis and Policy*, *67*, 273–291. https://doi.org/10.1016/j.eap.2020.07.011.

Stoll, C., Klaaßen, L., & Gallersdörfer, U. (2019). The Carbon Footprint of Bitcoin. *Joule*, *3*(7), 1647–1661. https://doi.org/10.1016/J.JOULE.2019.05.012.

The Law Library of Congress (2019). Regulatory Approaches to Cryptoassets. https://www.loc.gov/law/help/cryptoassets/index.php.

The Law Library of Congress (2021). Regulation of Cryptocurrency in Selected Jurisdictions, (Issue November).http://www.law.gov.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. British journal of management, 14(3), 207-222.

Tskhadadze, Keti, M. A., & Macecek, D. (2022). Cryptocurrencies Perspectives and Challenges in the Global Market. *Ecoforum Journal*, *11*(2). http://ecoforumjournal.ro/index.php/eco/article/view/1311.

Uddin, K. M. N. (2022). On Cryptocurrencies: An Assessment of Bitcoin's Prospect As Legal Medium of Exchange. *Advances in Management & Applied Economics*, *12*(5), 1–17. https://doi.org/10.47260/amae/1251.

Wagner, K., Keller, T., & Seiler, R. (2019). A comparative analysis of cryptocurrency consensus algorithms. In Proceedings of the 16th International Conference on Applied Computing (Vol. 2019).

Weber, Beat. (2014). Can Bitcoin Compete With Money? *Journal of Peer Production*, *4*.https://www.researchgate.net/publication/261911570_Can_Bitcoin_compete_with_money.

World Economic Forum. (2021). Navigating Cryptocurrency Regulation: An Industry Perspective on the Insights and Tools Needed to Shape Balanced Crypto Regulation (Community Paper).

https://www3.weforum.org/docs/WEF_Navigating_Cryptocurrency_Regulation_2021.pdf.

Yano, M. (2020). Theory of Money: From Ancient Japanese Copper Coins to Virtual Currencies. In *Economics, Law, and Institutions in Asia Pacific* (pp. 59–75). Springer. https://doi.org/10.1007/978-981-15-3376-1_4.

Yermack, D. (2015a). Is Bitcoin a Real Currency? An Economic Appraisal. In *Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data* (pp. 31–43). Elsevier Inc. https://doi.org/10.1016/B978-0-12-802117-0.00002-3.

Yuneline, M. H. (2019). Analysis of Cryptocurrency's Characteristics in Four Perspectives. *Journal of Asian Business and Economic Studies*, *26*(2), 206–219. https://doi.org/10.1108/jabes-12-2018-0107.

Zameni, A., & Alam, N. (2021). Regulatory Issues in Cryptocurrency Usage. In *Fintech, Digital Currency and the Future of Islamic Finance* (pp. 127–146). Springer International Publishing. https://doi.org/10.1007/978-3-030-49248-9_7

Zetzsche, D. A., Buckley, R. P., Arner, D. W., & Föhr, L. (2017). The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators. University of Luxembourg Law Working Paper, (11), 17-83.

Zulkhibri, M. (2019). Halal Cryptocurrency and Financial Stability. In *Halal Cryptocurrency Management* (pp. 35–49). Palgrave Macmillan, Cha