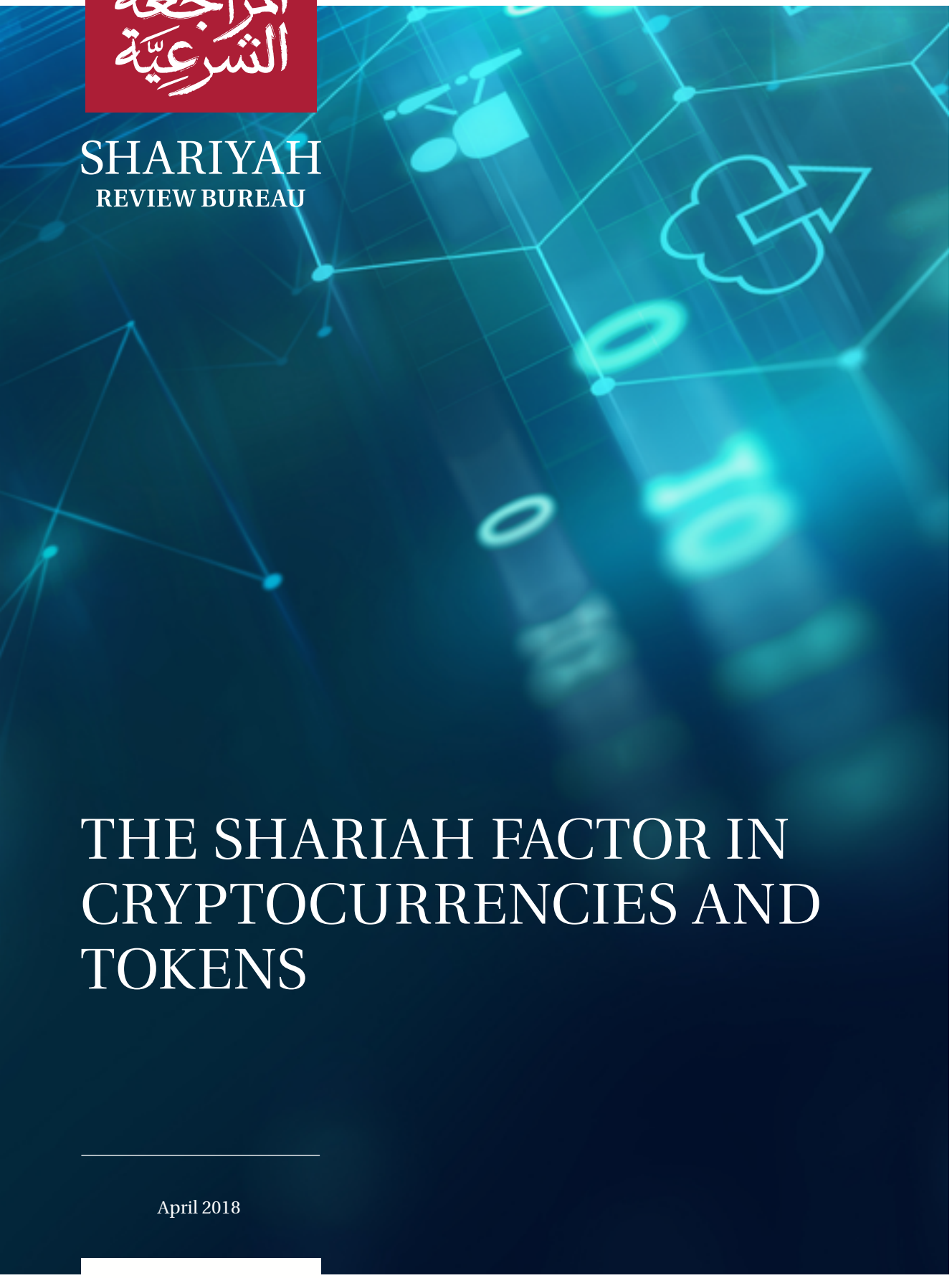

SHARIYAH
REVIEW BUREAU

THE SHARIAH FACTOR IN CRYPTOCURRENCIES AND TOKENS

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THE CENTRAL BANK OF BAHRAIN

Summary

Cryptocurrencies have become a buzzword across the world. The potential financial returns from cryptocurrencies have attracted Muslim investors, whilst the opportunity to raise funds by issuing tokens has attracted Muslim entrepreneurs and developers. The key question which is continuously being asked is the Shariah compliance of cryptocurrencies and token sales. This research analyses the nature of cryptocurrencies and tokens from a Shariah perspective. The research finds that there are different types of cryptocurrencies and tokens. It would be inaccurate to give one ruling for all cryptocurrencies when tokens sales and projects on blockchains can be structures in various ways. The issued tokens can vary widely in their design and function. Some of the common types of tokens include: work tokens, utility tokens, asset-backed tokens, revenue tokens, equity tokens, buy-back tokens. In theory, a token holder can gain a share in equity, have rights to access as service or utility, have a claim on an asset or have entitlement to cash flow. It is concluded that some tokens are actual trading of rights (Huquq), whilst other tokens – equity tokens - are similar to trading shares. Asset-backed tokens are like Sukuk structures and include trading an asset or a share of an asset. In conclusion, tokens possess an innovative way to raise capital and can be Shariah compliant if structured correctly.

WHAT IS A CRYPTOCURRENCY?

A cryptocurrency is a form of virtual currency uses cryptography to verify that any person who attempts to spend some of the currency is the person entitled to do so.

Cryptocurrencies typically use a decentralised peer-to-peer network to verify transactions and to record them on a decentralised public ledger (which is commonly known as a blockchain)[1].

At their core, cryptocurrencies are really protocols that facilitate transactions between two unrelated parties over the Internet in a manner that gives them confidence that value has been safely transferred from one party to the other. Transactions are recorded in a public ledger and verified through cryptography by a network of decentralized computers. Because no single entity controls these computers, this technology eliminates the need for traditional financial intermediaries and enables the use of cryptocurrencies as a new direct payment option for consumers and merchants. Similar to fiat currencies, cryptocurrencies can be traded on exchanges, managed in wallets, and spent via payment processors. However, unlike other forms of electronic payment, cryptocurrency transactions cannot be forcibly reversed.

HOW CRYPTOCURRENCIES WORK IN PRACTICE

Transactions using a cryptocurrency are typically made over a decentralised peer-to-peer network without recourse to a bank or central authority. Each transaction is recorded on a public ledger (or blockchain) that is publicly available to all users. A user wishing to make a payment, issues payment instructions, which are disseminated across the network. Cryptographic techniques are then used to enable the network to verify that the transaction is valid (i.e. that the would-be payer owns the currency in question). This contrasts to a traditional bank deposit where the relevant bank will hold a digital record of transactions and is trusted to ensure the validity of that record.

Commonly, cryptocurrency networks use a cryptographic mechanism known as key pair cryptography to enable its users to transact with each other. 'Key pair' cryptography gives each user a two-part cryptographic key (known as a 'key pair'). One part of the key pair is known to its owner only (the 'private key') while the public key is used for the purpose of communicating with the wider public. Key pair cryptography can be used to encrypt messages or to authenticate them, or both at the same time. In cryptocurrencies, key pair cryptography is typically used to authenticate (rather than to encrypt) payment instructions. The payer digitally 'signs' the payment instruction using their private key and the recipient verifies the authenticity of the payment instruction using the payer's public key.

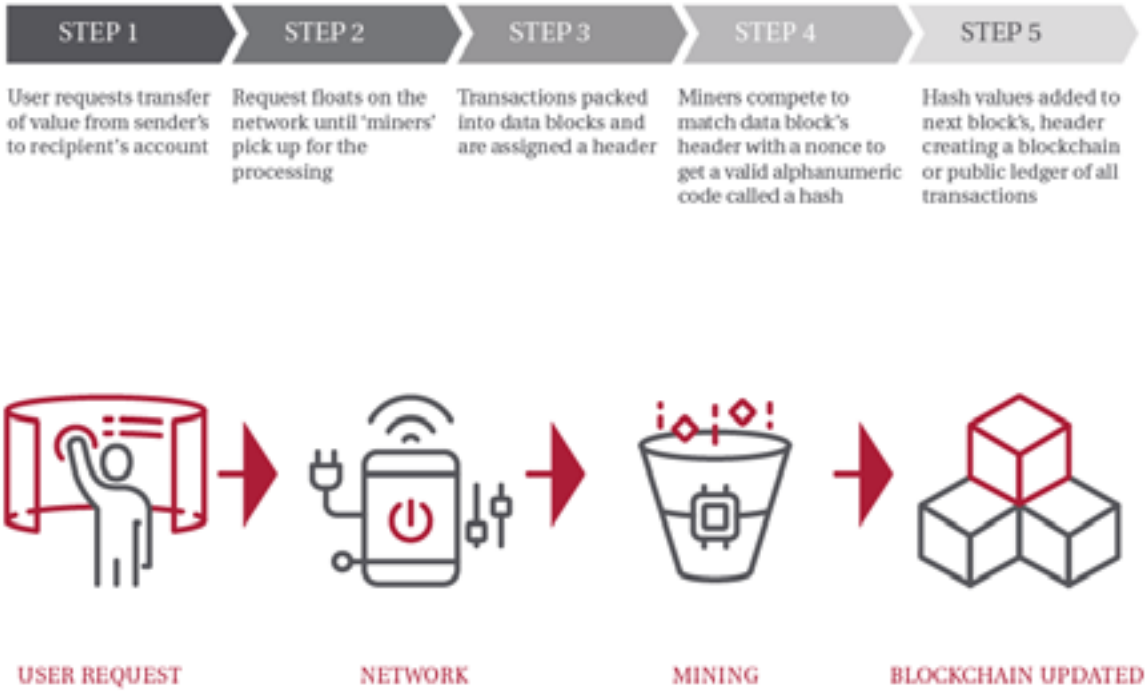
In its simplest form, once a 'spend' has been made, a message is sent to the network requesting that the relevant amount be deducted from the payer's wallet and added to the recipient's wallet. The request remains on the network while 'miners' compete to process blocks of transactions and update the blockchain accordingly.

It is the point at which the blockchain is updated that the transaction is deemed to be confirmed and irreversible. This process can take a period of time, which is on average anywhere from ten seconds to ten minutes depending on the cryptocurrency in question.

1 Norton Rose Fullbright (2017), Deciphering Cryptocurrencies [online],

Cryptocurrencies typically use 'miners' to process and verify transactions broadcast upon the relevant decentralised network. When a transaction occurs, it is packed into a data block which is assigned a header. The miners then compete to match the data block's header with a nonce - an arbitrary number used only once - to get a valid alphanumerical code called a hash. The hash values are then added to the next block's header updating the blockchain accordingly. On many networks (for example Bitcoin) miners have to deploy very considerable computing power in order to update the relevant blockchain. This computing power has a cost associated with it. Therefore, miners are usually rewarded for updating the blockchain either through the issuance to them of new cryptocurrency units or in the form of a transaction fee.

The process for updating the blockchain



Source: Nortion Rose Fullbirght (2015), Deciphering cryptocurrencies

COINS AND TOKENS

It's important to distinguish between coins and tokens, as the two terms are often interchanged in media coverage. A coin is a unit of value native to a blockchain. It is a means of exchange within the blockchain to incentivise the network of participants to use the blockchain. The sole purpose of a coin is to exchange value, and it has limited functionality beyond that. Cryptocurrencies like Bitcoin, Ether, Ripple, and Litecoin are all examples of native coins. In the Bitcoin network, the coin is bitcoin [BTC], in the Ethereum network, it is Ether [ETH]. Typically, there are only two things that can be done with a coin: (i) to send it to someone else and (ii) to pay for transaction fees in the system. If it can do more, it is a token[2]. The above discussion on what cryptocurrencies are, primarily relates to coins.

Tokens are a result of the Ethereum blockchain. The Ethereum protocol's currency, Ether, functions as a coin for that blockchain. However, the Ethereum protocol has been widely lauded for its additional smart contract functionality. This functionality allows logic to be coded into the blockchain, creating the ability to replicate, for example, business processes that execute automatically. Smart contracts additionally allow the developer to create a token on top of the protocol. The token can have a functionality beyond an exchange of value - it can represent any asset or functionality desired by the developer. When one creates a token in Ethereum, it is created as a smart contract, with each token being governed by a single, unique governing contract. It is this governing token contract that manages the transfer and tracking of each token's value. This is different than a coin, where the transfer and tracking of the coin is managed by the blockchain protocol directly. When you buy, sell or exchange tokens, the transaction fee to have the transaction processed on the blockchain is in Ether.

Start-ups and mature companies have taken advantage of Ethereum's smart contract functionality by building decentralised applications (Dapps) on top of Ethereum and creating their own unique tokens. Over time, a token standard called ERC-20 has been adopted which enables interoperability of tokens on the Ethereum network. The token standard governs a set of functions for each token, which in essence creates a template by which other ERC-20 compliant tokens can be cloned in a relatively simple manner. Companies that create tokens using the ERC-20 standard benefit by being able to interface easily with other tokens (for example, exchanging one token for another).

In turn, this network effect increases the value of individual Dapp tokens. The majority of Initial Coin Offerings in the market today are the sale of tokens per the ERC-20 token standard for an Ethereum based Dapp[3].

2 Hillebrand,M. (2017), An Introduction to Initial Coin Offerings in Project Finance, Baden-Wuerttemberg Coperative State University Villingen-Schwenningen, Available from: https://www.aparecium.de/app/download/5810645565/An+Introduction+to+Initial+Coin+Offerings+in+Project+Finance_V1.0.pdf

3 Deloitte (2017), Initial Coin Offering – A new paradigm [online], Available from: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-cons-new-paradigm.pdf

DIFFERENT TYPES OF TOKENS

Tokens vary widely in their design and function. Usually they represent a (prepaid) entitlement to the service to be developed, which may be a reward, or even have no value whatsoever. It may also be that they give entitlement to a share in a project[4]. Different tokens have different functions and purposes. They represent and give access to different things. Some of the common types of tokens are as follows[5]:

1. Work tokens

Work tokens give owners permission to contribute, govern, and/or "do work" on a blockchain. An example would be Maker (MKR), which gives owners the ability to govern an organisation that manages the stability of an underlying coin (DAI)[6].

2. Utility tokens

The utility tokens are rights to services or units of services that can be purchased. These tokens can be compared to API keys, used to access the service[7].

3. Asset-backed tokens

The asset-back token represents a claim on an underlying asset, and to claim the underlying one sends the token to the issuer.

4. Revenue Tokens

Token issued under the promise of participation in future revenues, even though there typically is no legal obligation for companies to honour such promises.

5. Equity Tokens

Tokens said to represent equity in the issuing company, giving token holders votes as shareholders, participation in future dividends reflecting some form of ownership in the project as well.

6. Buy-back Tokens

Tokens issued under the promise of appreciation backed by promises from the company to repurchase and destroy tokens once sustainable revenue materializes.

4 AFM (2017), Initial Coin Offerings (ICOs): serious risks [online], [last accessed 30th January 2018], Available from: https://www.iosco.org/library/ico-statements/Netherlands%20-%20AFM%20-%20Initial%20Coin%20Offerings%20Serious%20Risks.pdf

5 Kruger, A. (2017), An Overview of Cryptocurrencies for the Savvy Investor [online], Available from: https://hackernoon.com/all-you-need-to-know-about-cryptocurrencies-an-overview-for-the-savvy-investor-bdc035b14982

6 Little, W. (2017), A Primer on Blockchains, Protocols, and Token Sales, Available from: https://hackernoon.com/a-primer-on-blockchains-protocols-and-token-sales-9ebe117b5759

7 Benoliel, M. (2017), Understanding the difference between coins, utility tokens and tokenised securities [online], Available from: https://medium.com/startup-grind/understanding-the-difference-between-coins-utility-tokens-and-tokenized-securities-a6522655fb91

WHAT DOES A TOKEN HOLDER GET?

A token represents rights and obligations. A token on its own has often no value outside the system it is used in[8]. The tokens under an Initial Coin Offering (ICO) will typically entitle holders to a right derived from the underlying asset or business arrangement, for example:

- The right to a profit or asset (such as the distribution of actual profits or through the repurchase and the virtual destruction (termed 'burning') of repurchased tokens which theoretically reduces supply, so increasing the token price).

- A right of use (say of a system or particular service offered by the issuer).

- Voting rights (for example, as a participant of a decentralised currency exchange operated by the issuer)[9].

In a token sale, the company has a unique technology and business value proposition that relies on the token as a core part of its future operating model. Most companies have developed a Dapp where the custom token provides a unique utility in using the company's product. The company sells tokens to gain stakeholders in the product ecosystem, and the stakeholders use the tokens to interact with the product.

The key difference here is that the token provides utility to any purchaser in the token sale. The token is sold as a way to incentivise new product users, participate with the ecosystem and augment the utility of their technology. When a token is sold, the company gains working capital from the sale of tokens.

The purchaser, on the other hand, gains product value – not necessarily cash value – by being able to "spend" their purchased token. Other than those subject to a "lock up," tokens are exchanged freely using the Ethereum protocol so users also have the ability to trade them in for other cryptocurrencies or fiat if they choose.

ISLAMIC LEGAL CLASSIFICATION OF THINGS

Things which are subject to trade usually fall into one of the following:

1. Māl (property)
2. Manfa'ah (usufruct)
3. Haqq (right)
4. Dayn (Debt)
5. None of the above

If we consider the understanding of Hanafi jurists, the main differences between the above is: Manfa'ah or Dayn.

- *MĀL* is that which people have an inclination to and is storable, retrievable for future use. The benefits derived from Māl are regarded as Manfa'ah.

- The *Manfa'ah* is derived from Māl based on the utility provided by the Māl. A Haqq gives right to Māl,

- A *Haqq* is a means and not an end; it is an intermediary to something. Haqq permits you to do something.

- *Dayn* is a liability and debt owed to another which rests on a person's dhimmah (individual's legal personality).

8 Hillebrand,M. (2017), An Introduction to Initial Coin Offerings in Project Finance, Baden-Wuerttemberg Coperative State University Villingen-Schwenningen, Available from: https://www.aparecium.de/app/download/5810645565/An+Introduction+to+Initial+Coin+Offerings+in+Project+Finance_V1.0.pdf

9 Clifford Chance (2017), Initial Coin Offerings – Asking the Right Regulatory Questions [online], Available from: https://talkingtech.cliffordchance.com/content/micro-cctech/en/fintech/initial-coin-offerings/_jcr_content/text/parsysthumb/download/file.res/Initial%20Coin%20Offerings.pdf

When the term Haqq is used, attention is paid to the person who is entitled to it and the right due. In the case of Manfa'ah, attention is paid to the benefit received. A car is Māl, riding in a car is the benefit (Manfa'ah) which is derived from using the car, while the capability and authority of riding in a car is a Haqq (right) which is conferred to the person who is entitled to it.

1. Māl

Linguistically, Māl in the Arabic language refers to anything which can be acquired and possessed; whether it is corporeal ('ayn) or usufruct (manfa'ah); examples of this include gold, silver, animals, plants and the benefit derived from assets such as living in homes, riding vehicles etc[10]. After the codification of Islamic law, the term Māl was coined to denote different technical meanings and concepts. Thus, jurists from different schools differed in their understanding of Māl. The Hanafi jurists have differed from the majority in their understanding of Māl. Some of the common definitions among the Hanafi jurists are:

1) Māl is what human instinct inclines to and is capable of being stored for the time of necessity.

2) Māl is that which has been created for the goodness of human beings. Māl brings with it scarcity and stinginess[11].

3) Māl is that which is normally desired and can be stored up for the time of need[12].

The definitions denote that the two key criteria for defining Māl in the Hanafis' view are "desirability" and "storability". Although some Hanafi jurists have stated that Māl must be a physical entity, Mufti Muhammad Taqi Uthmani dispels this argument and states that the Quran and Sunnah have not explicitly defined Māl, rather, Shariah has left it to the understanding of people. Furthermore, he argues that some Furû' (substantive laws) in the Hanafi school describe intangibles as Māl.

The Shafi'i jurists have included usufruct in the definition of Māl. Imam al-Zarkashi states that, "Māl is what gives benefit, i.e. prepared to give benefit", and he continues to say that Māl can be material objects or usufructs[13]. Imam al-Suyuti states: "The terminology Māl should not be construed except as to what has value with which it is exchangeable; and the destructor of it would be made liable to pay compensation; and what the people would not usually throw away or disown, such as money, and the likes."

From among the Hanbali jurists, Imam al-Khiraqi states that Māl is something in which there exists a lawful benefit. Imam al-Buhuti elaborates on this definition and states that something in which there is not benefit in essence, such as insects, or where there is benefit but it is unlawful in Islam, such as wine, cannot be considered as Māl.

The jurists have negated a grain of wheat to be Māl. This seems to be because people do not have any inclination to a grain of wheat. Otherwise, it can be argued that a grain of wheat can be benefitted from and used today in different ways.

10 Wohidul Islam, M. (1999), Al-Mal: The Concept of Property in Islamic Legal Thought in Arab Law Quarterly 14 (3), pp. 361-368, Brill

11 Uthmani, T. (2014), Fiqh al-Buyu, Karachi: Maktabah Ma'arif al-Qur'an

12 Hayder, A. (2003), Durar al-Hukkam Sharh Majallah al-Ahkam, Beirut: Dar alam al-Kutub

13 al-Zarkashi, (n.d.), Al Manthur fi al-Qawa'id al-Shari'yyah, Beirut: Dar al-Kutub

2. Manfa'ah (usufruct)

The Hanafi jurists have differed in their understanding of Manfa'ah. Hanafi legal theory does not recognise Manfa'ah as Māl. They argue that usufruct is not something that exists independently; it is only derived with use and consumption of Māl. Hence, Manfa'ah have the following characteristics which distinguish it from Māl:

a) Intangibility
Manfa'ah cannot be stored. Manfa'ah is derived and consumed from the use of something.

b) Variability
There will be variability in each service even if minute. 100% consistency in the quality of service to the consumer is not guaranteed.

c) Inseparability
Service provision and service provider are inseparable. The service provision and service receipt take place simultaneously. For example, a tenant receives the benefit of the living in a house simultaneously to the leased asset providing the benefit.

The majority of jurists from beyond the Hanafi school have defined Manfa'ah as Māl. They argue that the usufruct is the objective from property. In addition, in an Ijarah (lease), Manfa'ah is considered as Māl when in lieu of consideration.

3. Haqq

The term 'Haqq' is a broad concept which incorporates property rights (Haqq Mālī) and non-property rights[14]. A Haqq Mālī is that right which is connected to property (Māl), usufruct (Manfa'ah) or debt (Dayn). There are two types of Haqq Mālī:

a) al-Haqq al-Shakhsi (personal right)
b) al-Haqq al-'Ayni (real right)

Al-Haqq al-Shakhsi is that right which emanates as a result of a contractual relationship between counter-parties, whereby one has an obligation to perform in favour of the other, or must abstain from an unfavourable act to the other. Hence, the right is due to another person. This is also referred to iltizam in Islamic law.

Al-Haqq al-'Ayni refers to the right in relation to an item or service. This incorporates the classical rights discussed by the jurists such as the right of passage (Haqq al-murūr); the right to flow of water (Haqq al-Tasyil); the right to water (Haqq al-shirb) etc. It is such rights which Mufti Muhammad Taqi Uthmani refers to al-Huquq al-'Urfiyyah (customary rights).

As opposed to al-Huquq al-'Urfiyyah, rights granted by the Shariah which are not subject to analogical reasoning (Qiyas) and custom ('Urf) are known as al-Huquq al-Shar'iyyah (Islamic legal rights). Such rights cannot be traded. Examples of such rights are: Haqq al-Shuf'a (right of pre-emption), Haqq al-Wirāthah (right to inherit), Haqq al-Qisās (right of retribution), Haqq al-Talāq (right to divorce). Huquq al-Shari'yyah comprise of rights which are established explicitly in Shariah to ward off harm or to grant a right to a specific person.

These rights are specific to the person due to specific circumstances to that individual. As a result, these Huquq are specific to the right holder and cannot be transferred in lieu of a payment[15]. Rights which are not primarily granted by Shariah but are based on custom and practice, are regarded as al-Huquq al-'Urfiyyah (customary rights).

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14 Zarqa, M.A. (1999), al-Madkhal ila Nazariyyat al-Iltizam al-Aammah, Damascus: Dar al-Qalam

The ruling of all such rights are based on customary practice (‘Urf). Those rights which are not traded are not considered to be Māl. As a result, they do not possesse economic value which warrant a consideration. The jurists only permitted a fee for relinquishing (Tanāzul) such rights and not a fee to purchase. Because the right is not Māl, the right cannot transfer to another party in lieu of a fee, instead, the right holder will be merely relinquishing and waiving his right. Rights which have a customary economic value and are sought by people, are Māl, based on the customary practice. Many such rights today are documented, registered and legally recognised as assets. As a result, they are easily tradable[16].

SHARIAH ANALYSIS OF CRYPTOCURRENCIES

1. Currency coins:

Currency coins refer to cryptocurrencies like Bitcoin, Litecoin, Ripple, etc. that are recorded in transactions on blockchains indicating only a change in a numerical value[17]. They act as online currencies and are used as a peer-to-peer payment system without any other function.

In currency coins, there are two types: coins which are accepted by merchants and those coins which are not accepted by high street merchants and companies beyond the network.

Bitcoin is beginning to be accepted in a number of countries, websites and stores as a means of payment. Multinational companies such as Microsoft, Subway, Reddit, Virgin Galactic, Expedia and many other stores have begun accepting payment in Bitcoin[18].

Coins such as Litecoin and Ripple are not accepted as a means of payment by multinationals. Instead, they function within their networks as a medium of exchange and means of settlement.

From a Shariah perspective, since both types of currency coins were launched to serve as a peer-to-peer payment system and have been regarded as a payment system, they will be currencies. The Ta’amul (common usage) and Istilah (social concurrence) among users of these coins is that of a currency and medium of exchange.

The only difference is, Bitcoin has a wider acceptance as opposed to Litecoin and Ripple. Bitcoin has become a currency as a result based on ‘Urf ‘aam (widespread custom). Currency coins which are only a means of payment in their networks are currencies due to al-‘Urf al-Khās (exclusive custom). Al-‘Urf al-Khās (exclusive custom) refers to a practice or understanding exclusive to specific people. This specificity can be a result of location, profession, membership or agreement among a group of people. Shaykh Mustafa al-Zarqa argues that this type of ‘Urf is innumerable as the needs of people and their interests (Masalih) are innumerable across time and space[19]. Thus, it is plausible to assume the formation of an exclusive custom built on a blockchain.

15 Uthmani, T. (2014), Fiqh al-Buyu, Karachi: Maktabah Ma’arif al-Qur’an
16 Uthmani, T. (2014), Fiqh al-Buyu, Karachi: Maktabah Ma’arif al-Qur’an
17 Little, W. (2017), ‘A Primer on Blockchains, Protocols, and Token Sales, Available from: https://hackernoon.com/a-primer-on-blockchains-protocols-and-token-sales-9ebe117b5759
18 Chokun, J. (2018), Who Accepts Bitcoin as Payment?, Available from: https://99bitcoins.com/who-accepts-bitcoins-payment-companies-stores-take-bitcoins/
19 Zarqa, M.A. (2004), al-Madkhal al-Fiqhi al-‘□m, Damascus: Dar al-Qalam

2. Work tokens

Work tokens give owners permission to contribute, govern, and/or "do work" on a blockchain. An example would be Maker (MKR), which gives owners the ability to govern an organisation that manages the stability of an underlying coin (DAI)[20].

These types of tokens are like licences and permits to certain performances on a blockchain. Thus, they are in the ruling of al-Huquq al-'Urfiyyah and are similar to right of passage (Haqq al-murūr). Therefore, just as Haqq al-murūr were permitted to be bought and sold according to the majority of scholars, work tokens can also be sold on a secondary market. Thus, the trading work tokens is Shariah compliant.

3. Utility tokens

The utility tokens are rights to services or units of services that can be purchased. These tokens can be compared to API keys, used to access the service[21].

These tokens are also regarded as Huquq. Just like work tokens, these tokens give the holder a right, and fall within the category of al-Huquq al-'Urfiyyah. Therefore, it is permissible to trade such tokens on a secondary market provided that the project is Shariah compliant and has passed the Shariah screening for ICOs.

4. Asset-backed tokens

The asset-backed token represents a claim on an underlying asset, and to claim the underlying one sends the token to the issuer.

These tokens are similar to Sukuk al-Ijarah and Sukuk al-Murabahah in the sense that the tokens represents a beneficial ownership and interest in the underlying asset. Constructive possession (Qabd) of the underlying asset is realised by the possession of the token in one's digital wallet. This is based on the AAOIFI Shari'ah Standard No.18 on possession which states:

"3/5 The possession of documents, like bills of lading and warehouse receipts, issued in the name of the possessor or acknowledging his interest therein is deemed constructive possession of what the documents represent if the ascertainment of commodities, goods and appliances is attained through them along with ability of the possessor to undertake transactions in them."

20 Little, W. (2017), A Primer on Blockchains, Protocols, and Token Sales, Available from: https://hackernoon.com/a-primer-on-blockchains-protocols-and-token-sales-9ebe117b5759

21 Benoliel, M. (2017), Understanding the difference between coins, utility tokens and tokenised securities [online], Available from: https://medium.com/startup-grind/understanding-the-difference-between-coins-utility-tokens-and-tokenized-securities-a6522655fb91

5. Revenue Tokens

These are tokens issued under the promise of participation in future revenues, even though there typically is no legal obligation for companies to honour such promises.

The interpretation of such tokens from a Shariah perspective will depend on the structure in place and the risk assumed by the investor. It is possible to structure such tokens in a Shariah compliant manner by giving investors equity and risk sharing opportunity. In such a scenario, a Shariah screening of the core business activity and the financials must be carried out like the screening methodology of shares.

6. Equity Tokens

Equity tokens are said to represent equity in the issuing company, giving token holders votes as shareholders, participation in future dividends, and a beneficial interest in the company. These tokens are similar to purchasing shares in a company. Before investing in such tokens, a Shariah screening of the core business activity and the financials must be carried out like the screening methodology of shares.

7. Buy-back Tokens

Tokens issued under the promise of appreciation backed by promises from the company to repurchase and destroy tokens once sustainable revenue materializes.

These tokens may represent rights, equity or assets. The buy-back tokens can be Shariah compliant depending on the structure and agreement of such tokens. However, if the second sale is contingent on the initial sales contract and is agreed upon in one contract then there could be an element of contract combination which potentially could risk non-Shariah compliance.

EXISTENCE OF CRYPTOCURRENCIES AND TOKENS

Some scholars argue that there is nothing in existence when considering cryptocurrencies. They state that there is no underlying asset or entity. The notion of some 'thing' being there even if not tangible has been overlooked. The fact that your money is exchanged into a 'thing' which can be used to purchase fiat currencies, items and services negates the assumption that there is nothing there. There is a conversion; something else comes into your ownership and possession and you lose your ownership of your fiat currencies. Thus, there is a reality to this phenomenon.

The existence of something needs not be established by pointing to it or physically outlining it; a number of things exist and are accepted among people which are not tangible, for example emotions, thoughts, oxygen in the atmosphere. The existence of such things is known through their consequences (thamarāt) and features even though there is no defined body. What makes cryptocurrencies different to these concepts is that the above is not stored nor retrievable in their original state; they are passing, spontaneous things. Whereas, cryptocurrencies can be accessed when required through one's wallet. They have a form in the guise of digits which represent a value that can be used and exchanged for something of value.

Therefore, at present, they have some monetary use and people have assigned 'a value' to these cryptocurrencies. A 'value' is envisaged by the people as they purchase, sell, accept, and exchange the cryptocurrency for the underpinning notional value.

The philosophy of value needs reconsideration. The technological developments in the last century have reshaped and redefined our way of life. For example, value is represented today by mere digits on mobile banking applications on smartphones. Society gives value to digits displayed in their bank balances because of the system and acceptability of these digits among people. If an alternative system was created which gave a certain degree of trust, security, ease of use and similar features, why can't the digits on that system be considered to be digits representing value? A system which is acceptable among people is sufficient to establish a currency in Shariah.

Value is a concept; something people have social concurrence on. Value is something which attracts Mayl (inclination). This value is the meaning and notion which underpins cryptocurrency digits. The value in the cryptocurrency is there due to the practices and inclinations of the people. The digits shown as a balance in digital wallets and on the public ledgers represent a value in the minds of people. People have an economic inclination to it and have economic benefit from these cryptocurrencies. All other issues with regards to volatility, laundering, black markets etc. are all external matters which need controls and regulation to address them.

Conclusion

Tokens have great potential to raise funds. Tokens can be structured in a Shariah compliant manner. Some of the common types of tokens include: work tokens, utility tokens, asset-backed tokens, revenue tokens, equity tokens, buy-back tokens. In theory, a token holder can gain a share in equity, can have rights to access and utility, have a claim on an asset or have entitlement to cash flows. Some tokens are actual trading of rights (Huquq), whilst 'equity tokens' are similar to trading shares. Asset-backed tokens are like Sukuk structures and include trading an asset or a share of an asset. In conclusion, tokens possess an innovative way to raise capital and can be Shariah compliant if structured correctly. An investor should only invest in tokens which have gone through a Shariah screening which will determine whether the core business activity of the project is Shariah compliant and whether the financial ratios are Shariah compliant. Thereafter, the Shariah screening will examine what the tokens represent to see the Shariah compliancy of the tokens.

ABOUT SRB

Since our humble beginnings more than 13 years ago we've grown to include more than 100 companies across a host of industries, thousands of transactional programs, multi-disciplinary teams and a combined scholarly workforce of 35 Shariah Scholars from 19 countries. And we're not done yet: our Shariah Advisory and Shariah Audit services will continue to improve—serving local and international businesses to help them maintain and manage Shariah compliance.

We've been preparing our clients for a new world in which Shariah Advisory rapidly becomes the currency of choice. From faster Certification programs, to direct Shariah Supervisory access, and perhaps most critically, navigating through the economic structures of clients offerings within a matter of days. We've have been working hard to help clients like you capitalize on opportunities in global Islamic financial markets.

Today, scores of institutions across nations, covering public and private businesses, commercial and corporate funds, Sukuks and Islamic equity markets, IPO's and Investment Banking Practices rely on us to run their companies, funds and transactions.

The future of Shariah Advisory and Audit is exciting and we are very lucky to be a part of this business!

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Disclaimer

This is a preliminary Shariah research on cryptocurrencies and is by no means a definitive conclusion or fatwa. This paper was written to develop knowledge and research on this complex subject from a Shariah perspective. We hope that this paper will prompt and engage global Islamic finance bodies, Shariah scholars and Muslim economists to analyse, comment and build upon the arguments expressed.