



Zaryah X

GREEN PAPER

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INTRODUCTION

ZaryahX aims to be the world's first Shari'ah compliant exchange for providing end to end services and products as a one stop halal platform, eventually ZaryahX has a vision to grow into world's first Neo Islamic bank ^[1] on blockchain technology.

The Islamic Finance sector is valued at more than US \$4 trillion' which is currently 25x the Total Value Locked in DeFi market. Nearly zero of this Islamic 'liquidity' is active or 'locked' in the DeFi sector representing both an extraordinary growth catalyst for the entire DeFi community and ZRX token holders (Hold On For Dear Life - HODL)

ISLAMIC FINTECH

We may define Islamic Fintech is the use of financial technologies in delivering products and services that are Shari'ah-compliant through digital platforms with innovative user experiences and user interfaces. Islamic Fintech has the ability to enable greater access to Islamic financial services with cost efficiency, thereby providing more opportunities for financing, payments, and investments aligned with Shari'ah objectives and principles.

Islamic Fintech In The Islamic Economy

Where does Islamic Fintech fit in within the wider Islamic economic framework and sector? To locate Islamic Fintech, it is worthwhile mapping the entire Islamic economy. The sectors of Islamic Economy from the business perspective have been Halal food, Halal travel and tourism, Halal pharmaceuticals, Halal cosmetics, Islamic finance, Halal media and recreation, modest fashion.

Crypto-based assets or decentralized financial systems will come under Islamic economics and finance and the same Shari'ah principles are applicable to those products, services and practices will be used for Crypto based assets and decentralized financial system. Adherence to Shari'ah principles constitutes an integral pillar of modern Islamic decentralized or crypto-based financial architecture.

ZaryahX aims to provide a comprehensive Shari'ah-compliant solution in the crypto space as well as in the Blockchain ecosystem; the relevant Shari'ah rules and principles are applicable to it too. The next section of this ZRX Green paper document provides a complete guide on how the Shari'ah compliance is attained and maintained in the ZRX halal DeFi ecosystem

Concept Of Maal And Earning Wealth In Shari'ah

Maal¹ in the Arabic language refers to anything which can be acquired and possessed²; whether it is corporeal and tangible ('ayn) like wealth, property, assets, etc, or intangible.

Maal has been described by scholars as something that are desirability, storability and have lawful (halal) usufruct. From a Shari'ah perspective, wealth needs to be created by proper utilization of resources in line with the prescription of the primary sources of Shari'ah and through halal means, mechanisms and modes.

يَا أَيُّهَا الَّذِينَ ءَامَنُوا لَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِّنْكُمْ ³

"O you who believe, do not devour each other's property by false means, unless it is trade conducted with your mutual consent"

In brief, the Maal shall have the following characteristics⁴:

- (1) It has to be naturally desired by man. In modern terminology, it must have commercial value;
- (2) It must be capable of being owned and possessed;
- (3) It must be capable of being stored;
- (4) It must be beneficial in the eyes of the Shari'ah; and
- (5) The ownership of the thing must be assignable and transferable.

¹ Ibn Manzur, 2003, v. 14, p.152.

² Ibn Abidin, 2003, v. 7, p.10

³ Quran, Al Nisa, 4:29.

⁴ Ibn Abidin, 2003, v. 7, p.10. Al Kasani, 2003, v. 5, p.515-516

Shari'ah Compliant Wealth Earning

The five major goals of the Sharia are the protection of sound religious practice, life, sanity, the family, and personal and communal wealth. Shari'ah injunctions and prescriptions as a whole aim to bring ease and peace by removing hardship from the masses.

أن الشريعة جاءت لجلب المنافع، ودرء المفاسد ⁵ الأصل

"The principle is that Shari'ah has come to bring benefits and ward off evils".

Shari'ah has a particular focus on earning wealth through halal means. The Quran says:

يَا أَيُّهَا الَّذِينَ ءَامَنُوا لَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ ⁶

"O you who believe, do not devour each other's property by false means,"

The Islamic framework of earning and generating wealth covers three key dimensions:

1. The wealth to be earned or the subject matter of a transaction⁷.
2. The adopted mechanisms of earning or the underlying contract⁸, and
3. The transaction parties.⁹

Ethics can be viewed as a set of guidelines, principles or rules which help to determine one's conduct. Any financial or economic system centralized or decentralized requires rules or a belief system to guide the behavior of system stakeholders but ultimately rely on individual, conscious human action to design and execute. Rules can be based on natural law, but they can also derive from religious principles, such as those which shape the business ethics for faith-based communities.

⁵ Ibn AbdulSalam, 2007, v. 1, p.05; Al Suyuti, 1983, p.60.

⁶ Quran, Al Nisa, 4:29

⁷ Al Shirazi, v. 1, p.261, Al Nawawi, v.9, p.225. Al Buhuti, v. 2, p.154-156.

⁸ Ibn Qudamah, v. 3, p.561.

⁹ Ibn Abidin, 2003, v. 4, p.2. Ibn Hammam, v. 3, p.344. Al Buhuti, v. 3, p.148.

Shari'ah prescribes a set of guidelines to treat each of these areas. To qualify for a Shari'ah-compliant earning, the performer is required to ensure that his/her activities are consistent with the Shari'ah ethos, values, and principles.

Shari'ah considers a business activity Impermissible if its subject matter is Shari'ah non-compliant. The list of Shari'ah non-compliant subject matters include, for example, pork, alcohol, tobacco, and others. Other than this, Shari'ah stipulates that the process and mechanism of a transaction also needs to qualify to be Shari'ah compliant. As such, the process and mechanism of a business activity is required to avoid Shari'ah prohibited elements such as interest/usury, gambling, excessive uncertainty or any ambiguity leading to dispute, by stipulating these criteria, Shari'ah aims to eliminate the potential means of exploitation and injustice in business dealings.

The end-objective of this is to bring ease and long-term benefits to all, while removing hardship from society.

For ZaryahX, it is critical to ensure that whatever is offered, sold or exchanged at this platform is recognized as 'wealth' or 'valid property/asset' from a Shari'ah perspective. All the crypto tokens or assets which are dealt in the ecosystem of ZaryahX hold the Shari'ah-based attributes and characteristics of wealth/asset.

The rulings of Shari'ah are mainly directed to preserve the interest and well-being of individuals as well as of the whole society. So long as there is no conflict with these objectives of Shari'ah, there is a large scope of flexibility. In fact, Shari'ah originally encourages ease, flexibility, innovation, progress and development, and it allows people to enjoy the fruits of technological advancement.

BLOCKCHAIN AND SMART CONTRACTS

In the current era, the technology of blockchain and smart contracts, and the phenomenon of crypto assets have attracted the interest of various people. Blockchain as a technology of decentralized ledger and networks promises to bring high security and transparency to financial transactions. While smart contracts and decentralized applications (D-Apps) aim to provide a sophisticated, digital and automated way of executing contracts through the use of blockchain. Similarly, the trend to develop a decentralized financial platform widely known as 'Defi', in parallel

to a centralized financial infrastructure known as 'CeFT' is gradually gaining momentum among its various people.

Since the technology of blockchain and smart contracts has been newly introduced, many people have the question whether such technology or its usage is permissible from a Shari'ah perspective? The original Shari'ah position regarding such technological developments is of permissibility, unless their conflict with Shari'ah rules and principles is established and proven. One of the Islamic legal maxims is stated as:

الأصل في الأشياء الإباحة حتى يدل الدليل على التحريم¹⁰

"The basic principle with regard to things is permissibility until evidence indicates that they are forbidden"

Similarly, blockchain and smart contracts as a technology are permissible because there is nothing inherently impermissible in them. However, it is actually the usage of such technology that may be permissible or impermissible. To ensure and authenticate that the usage consisting of various activities and practices are in fact not in contradiction with Shari'ah values and principles, a critical review of such usage, activities, their objectives and applications should be performed by a qualified and competent team of Shari'ah scholars. Based upon the outcome of such a review, it can be stated whether a certain application or implementation of blockchain and smart contracts is permissible or not.

CRYPTO ASSETS FROM SHARI'AH PERSPECTIVE

Crypto-asset is an umbrella term for all cryptos. There are different types of crypto-assets, which can be defined as “digital representations of value that use cryptographic encryption techniques”. Crypto-assets are wholly digital in nature and only may exist online. These assets utilize cryptography, peer-to-peer networking, and a public ledger to regulate the creation of new units, verify transactions, and secure the transactions without the intervention of any middleman.

¹⁰ محمد بن صالح العثيمين. القواعد الفقهية. 2007. ktab INC..

In short Crypto assets (also referred to as "digital assets" or "virtual assets") are cryptographically secured digital representations of value on a blockchain platform. They can be called crypto in short.

Crypto experts, economists and regulators have categorized crypto assets in various categories on different bases. For example, they have been categorized based on their usage, their consensus algorithms, their underlying technology, their underlying asset or project, their economic rationale, or based on the jurisdictional legislations and regulatory framework. Similarly, crypto assets can be categorized based on their functionalities and underlying structures from a Shari'ah perspective, so that it is easier to apply the Islamic principles and rulings accordingly.

A proper categorization of crypto assets is pertinent to understand their Islamic legal characterization. They can be only evaluated after that from a Shari'ah perspective and a suitable Shari'ah ruling can be constructed. One of the Islamic legal maxims is stated as:

الحكم على الشيء فرع عن تصوره¹¹

The Shari'ah ruling of a thing is based on its actual knowledge [and understanding]."

ZARYAH VIEW ON CRYPTO-ASSETS

Cryptos are digital assets & some cryptos are alternative currencies this group of scholars argue that crypto-assets are digital assets and certain cryptos can be deemed as a medium of exchange in their specific networks with certain conditions. They agree that Cryptos must be screened for Shari'ah compliance before investing.

What are DAOs?

Decentralized Autonomous Organizations (DAOs) are the most effective and safe way to work with like-minded people around the globe. Think of them like an internet-native business that's collectively owned and managed by its members. They have built-in treasuries that no one has the authority to access without the

¹¹ bin Suleiman Al-Manea, Abdullah. "أحكام بيع وشراء حلي الذهب والفضة، تعليق--". Journal of King Abdulaziz University: Islamic Economics 12.1 (2000): 133-138.

approval of the group. Decisions are governed by proposals and voting to ensure everyone in the organization has a voice.

There's no CEO who can authorize spending based on their own whims and no chance of a dodgy CFO manipulating the books. Everything is out in the open and the rules around spending are set into the DAO via its code.

Starting an organization with someone that involves funding and money requires a lot of trust in the people you're working with. But it's hard to trust someone you've only ever interacted with on the internet. With DAOs you don't need to trust anyone else in the group, just the DAO's code, which is 100% transparent and verifiable by anyone. This opens up so many new opportunities for global collaboration and coordination.

DAO is going to be a base of work for all our initial phase and fundraising to build the foundation and exposure we will need to be the very first Shari'ah compliant DAO in the history of blockchain. This will help us build more Shari'ah compliant DAO's which will be solving a lot of problems we face today.

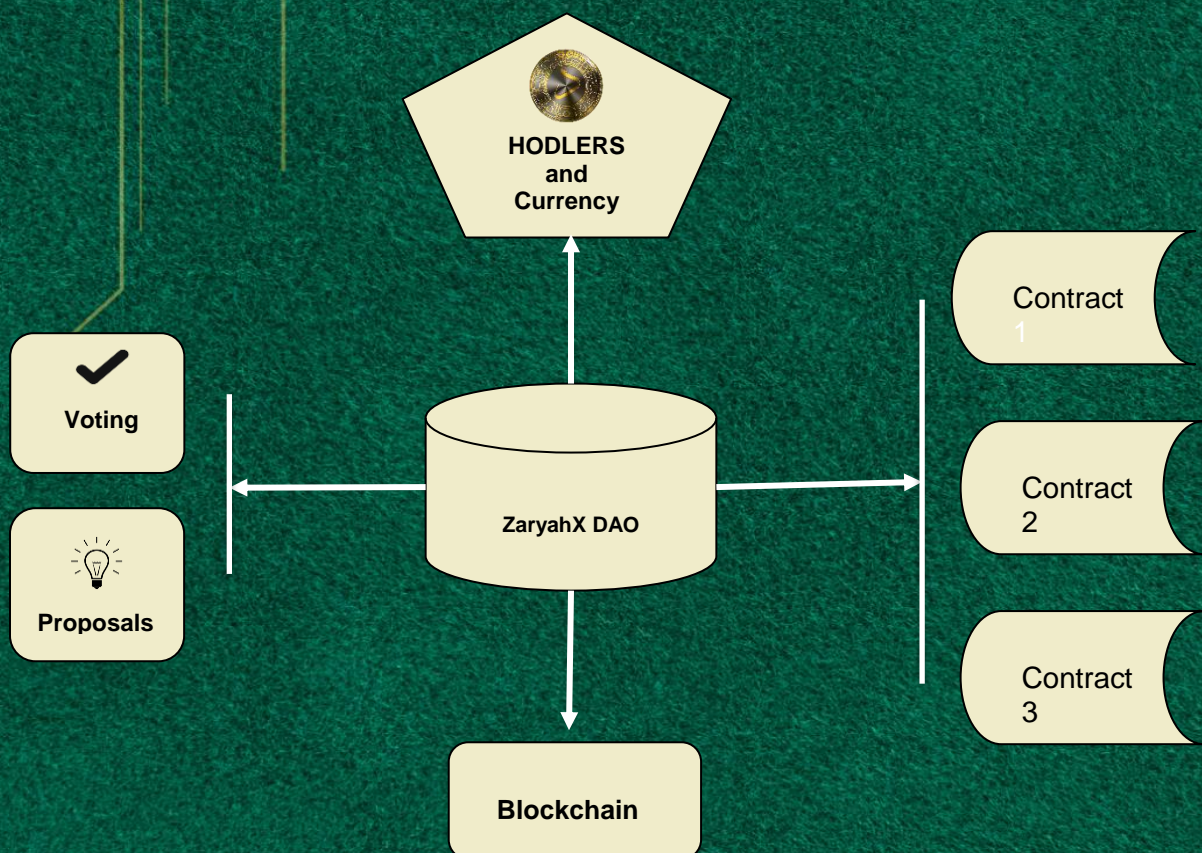


Figure 1 (ZaryahX DAO)

Shariah Advisory Board Framework

Since compliance with the rules and principles of Shari'ah in all its offerings is the main objective of ZaryahX, all its operations, activities and products are continuously monitored and supervised by a team of well-experienced and highly reputed Shari'ah Scholars. This in-house team of Shari'ah Scholars is known as the Shariah Advisory Board (SAB). The SAB of ZaryahX is mandated to conduct Shari'ah screening, review, audit, product structuring, research, as well as Shari'ah endorsement of all its activities and offerings. This is achieved through the proper implementation of the Shariah Advisory Board framework.

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Role of the SAB in the Overall Governance Framework

The position of SAB in the overall Governance Framework of ZaryahX can be depicted in the following diagram,

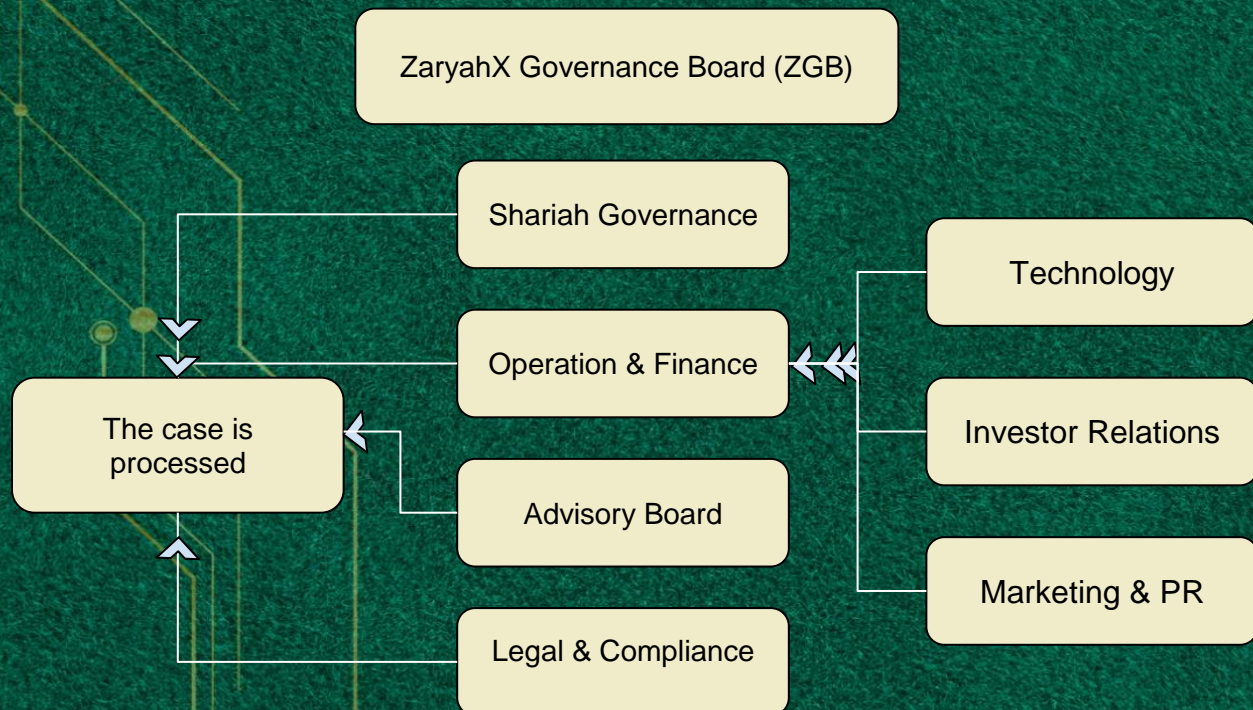


Figure 2 (Overall Governance Framework)

The Shariah Advisory Board Framework of ZaryahX constitutes an additional layer of the overall governance model. As part of the overall governance for ZaryahX, ZaryahX also has a ZaryahX Governance Board (ZGB). This board comprises a group of individuals with both institutional finance, crypto and Shari'ah backgrounds focused on ethics (vs tech to help ensure the development team fulfils the strategy. Key to the ZGB composition is that it is formed of members who have experience from the more regulated sphere of financial services. The ZGB ensures that the technology team considers aspects such as regulation, consumer protection and anti-money laundering in the development of our protocols.

The ZGB is mandated to drive overall platform governance, to focus on product economics, communications, and regulatory engagement, with critical input from the SAB who have representation in the ZGB. Given the theological complexity, the SAB has full ownership of Shari'ah compliance of the ZaryahX ecosystem and veto

power for any products and practices they deem non-compliant. Entire ZGB must approve a product, service, or a feature to be released or even any operational matter should also be approved.

Overall Shariah Advisory Board Framework

The **Shariah Advisory Board Framework (SABF)** constitutes an integral pillar of the governance of ZaryahX. The SABF outlines the roles and responsibilities of different organs of ZaryahX to ensure robust Shari'ah control is in place. The following diagram provides an overview of the Shariah Advisory Board framework of ZaryahX.

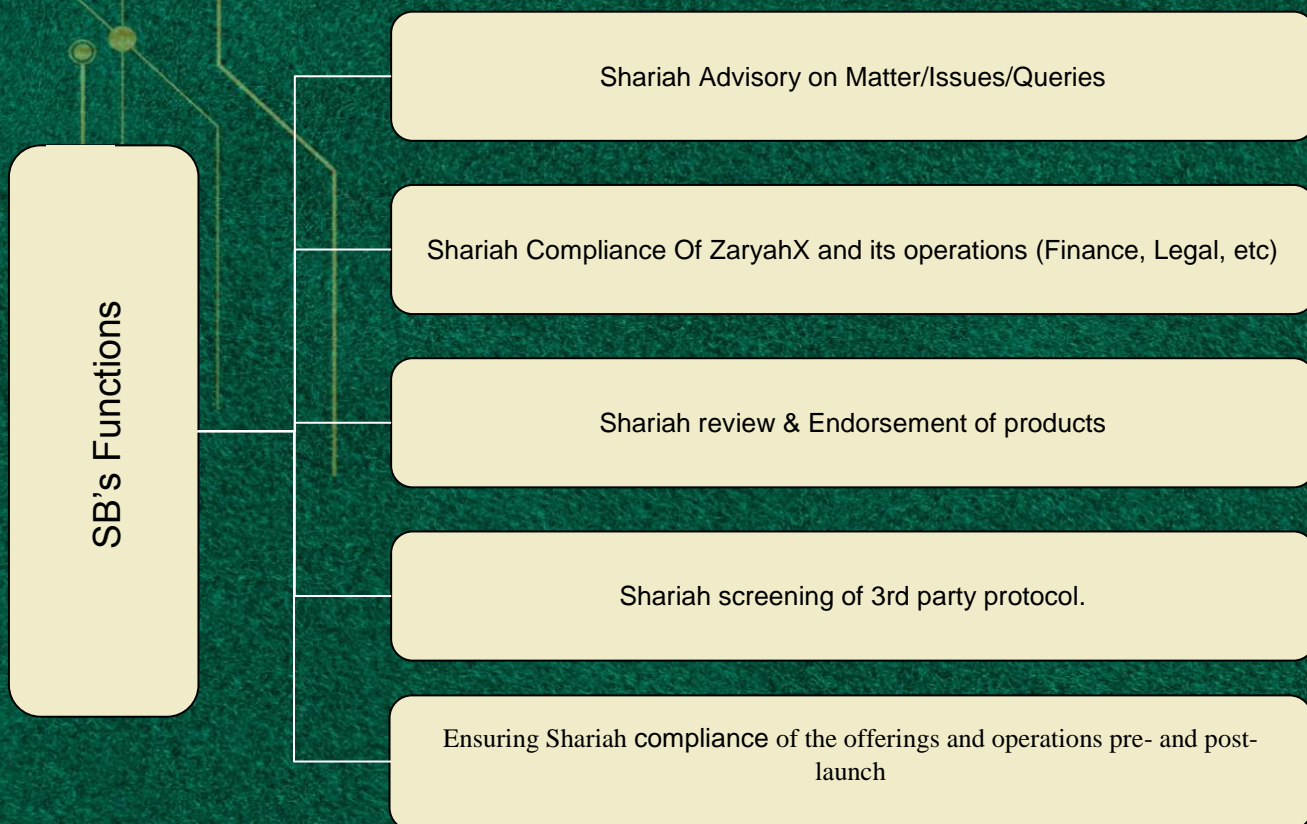


Figure 3 (SAB's Functions)

The SAB has one designated member as part of the ZaryahX Governance Board (ZGB) on all Shari'ah-related matters and issues. ZaryahX, after vesting the utmost efforts to reach out to the best match for undertaking the responsibility of Shari'ah supervision of the business in the domain of dynamic crypto world, have been

successful in appointing a Shariah Advisory Board (SAB) consisting of the scholars well equipped with education in relevant fields of Shari'ah and Finance along with the sound understanding of related Technology. The SAB comprises of the following members:

- Muslehuddin Musab Mohammed – Executive Member & Co-Ordinator
- Mohammed Nafeel Mahboob - Executive Member
- Munir Soud Khamis - Executive Member

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SECTION TWO

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CRYPTOCURRENCY

Cryptocurrency are a type of a crypto-asset that are made to serve as payment systems and to transfer value. The purpose of such an asset is purely to serve as a medium of exchange and value transfer. A cryptocurrency is designed as a general-purpose medium of exchange across applications. Bitcoin, Litecoin, and Dash are examples of cryptocurrencies and currency tokens, since their primary utility is to serve as a medium of exchange and transfer value. Cryptocurrencies are designed to serve as currency even though they are not legally recognized as currency or money, but can be accepted by natural and legal persons as a means of exchange and can be transferred, stored, and traded electronically. In some circumstances, cryptocurrencies can be used to pay for goods and services.

The concept of money in Islam, was never defined directly in the Quran and Sunnah and very few scholars¹² have attempted to explain how money should be seen from an Islamic perspective. This may be because Muslims in the past did not witness any sort of complex changes in the forms of money, monetary policy and money supply. However, many Muslim jurists of the past understood 'money' to be anything that can be used as a medium of exchange if it is accepted by custom and social convention. To reinforce the argument that Shari'ah permits anything other than gold and silver as money, some scholars argue that Umar Bin Khattab (R.A) contemplated using leather from camels as a medium of exchange.

ولقد كان عمر بن الخطاب قال: هممت أن أجعل الدراهم من جلود الإبل ففيل له إذا لا بيعير فأمسك¹³.

And Umar bin Al-Khattab said: I wanted to make dirhams out of camel's skins. So, it was said to him: then there will be no camel, then he held back [from this idea]".

From the statement of Umar Bin Al-Khattab, it can be deduced that money can take any form as long as that form does not intrinsically consist of impermissible or haram elements. For example, leather made of pig skin cannot be used as the form of money.

Stable coins

Stable coins are a prominent type of cryptocurrencies. A stable coin's value is based on one or basket of underlying currencies. The premise for such coins or tokens is

¹² Imam Ibn al-Qayyim (d.751 H), Imam al-Ghazali (d.505 H)

¹³ Al-Biladhuri, 1984, p. 452. Jaribah, 2006.

that these tokens minimize volatility as they may be pegged to something that is considered to have a stable value such as a fiat currency (government-backed money, for example US dollars).

Sometimes, stable coins are backed by actual fiat collateral which is reserved by the token issuing company as an off-chain asset. Some good examples of such stable coins are: Tether (USDT), USD Coin (USDC), Binance USD (BUSD) and others. On the contrary, some stable coins do not use fiat currency reserves or collateral, rather they maintain their value or stabilize the token price through specialized algorithms and smart contracts that manage the supply of tokens in circulation.

As a stable coin is backed by currency, it is categorized as a currency from a Shari'ah perspective. Hence, the trading of such digital currency is subject to the principle of bai' al-sarf (a contract of exchange of money for money of the same or different type).

Unstable coins

Cryptocurrencies that are meant for payments or to perform the role of money, but are neither backed by fiat currency, nor backed by gold or silver, can be called unstable coins or tokens. Bitcoin (BTC), Litecoin (LTC), and XRP (XRP) are a few examples of cryptocurrencies that can be considered as unstable coins. Although their prices or values are highly fluctuating due to market conditions, they can still be considered as cryptocurrencies due to their nature, objective and default structure.

For the same reason, they are considered as money from the Shari'ah perspective as well like Dr. Daud Bakr, Mufti Faraz Adam and Farrukh Habib (Habib, 2021).¹⁴

Gold or Silver backed tokens

Although gold or silver -backed tokens can also be considered as commodity-backed tokens, however, since in the Islamic law, gold and silver are treated as money and rules of currency exchange are applied to them, it is more appropriate to put gold or silver - backed tokens under cryptocurrencies. Therefore, they should be treated as a form of money and their trading should be governed by the Shari'ah rules of currency exchange if traded with each other. PAX Gold (PAXG), Tether Gold (XAUT), CACHE Gold (CGT) are a few examples of such tokens.

¹⁴ F. Habib, A critical analysis of Bitcoin from an Islamic legal perspective. Fintech, Digital currency, and the future of Islamic Finance, p. 9-29.

Utility Tokens

Utility tokens provide the holder with access to particular benefits, discounts, or services on a blockchain platform. In other words, utility tokens derive their value from an underlying usufruct or utility. An example of a utility token is BNB, which acts primarily as a discount token to pay for trading fees on Binance exchange.

Sometimes utility tokens can be used as payment for particular goods or services. For example, Fun Token is accepted for in-game credits, and all fees on the platform must be paid in FUN. In addition, utility tokens may be traded on exchanges or in peer-to-peer transactions in the same way as exchange tokens.

Shari'ah principles and rulings regarding utility, benefits, or future services are relevant to such tokens. Those principles and rulings should be adhered to for Shari'ah compliant utility tokens.

Security Tokens

Security tokens provide their holders particular ownership rights or interests in an underlying business, such as equity of a company, repayment of a specific sum of money, or entitlement to a share in future profits. These can be issued by entities like businesses, or governments and serve the same purpose as their incumbent counterparts such as bonds and stocks,

From the Shari'ah perspective, security tokens can be divided into three main categories:

- a) **Asset-Backed Tokens;** these tokens are backed by an asset other than gold, silver, and fiat currencies. They can be further divided into: (1) commodity-backed tokens, and (2) real estate backed tokens.
- b) **Commodity-Backed Tokens;** are crypto assets that are backed by a real movable commodity other than gold and silver. For example, they can derive their value from underlying oil, gas, precious metals, etc. Petro (PTR). or petromoneda, can be a good example of such tokens which is backed by Venezuelan oil and mineral reserves.
- c) **Real Estate Backed Tokens;** Represent real ownership of the underlying real estate property or a piece of land. For example, a token could represent a meter square of a shopping mall, a residential house or a plot. This means if you own the token, you are effectively owning the respective square meter in that

particular property. It is also possible as it is the case in investments such as REITS, that the assets will also generate an income such as rents.

From a Shari'ah perspective, such security tokens are acceptable as long as their underlying assets and contracts are legitimate and Shari'ah compliant.

Equity Tokens

Represent ownership interest in a company. They are considered to be similar to stock and shares in nature. Owning such tokens will usually make the holder entitled to certain rights such as dividends and voting rights. From a Shari'ah perspective, they would follow the criteria of a Shari'ah compliant stock or share.

Investment Tokens

Represent loans that must be repaid with a stipulation for the amount to be returned in full along with an interest amount. From a Shari'ah perspective, it would be impermissible if issued with some additional returns annexure and should not be allowed to be traded, such tokens are similar to conventional bonds.

Furthermore, it would not be permissible to sell or purchase any existing loan-based security token. However, if investment tokens are backed by Shari'ah compliant securities, like Islamic units of funds, sukuk, etc they can be Shari'ah compliant if the token itself is also designed in a Shari'ah compliant manner.

Governance Tokens

These tokens tend to give their holder the rights to manage and to vote on the governance of its respective blockchain platform or project. One well-known example of a governance token is Maker (MKR). This token allows its holders to vote on decisions pertaining to the decentralized finance (Defi) protocol that the decentralized stablecoin. DAI runs on. For example, MKR holders can vote to change the complex economic rules that govern the decentralized lending that allows DAI to keep its price stable.

Governance tokens can only be considered Shari'ah compliant depending on whether the underlying project or platform is Shari'ah compliant or not. And there are no prohibited elements or features attached to the governance token.

Non-Fungible Tokens

Non-Fungible Tokens (NFTS) are a new form of crypto assets that is gaining a lot of traction lately. These tokens are unique, and they cannot be substituted,

subdivided and interchanged. Due to these features, they can represent real-world objects, like art. Music, videos, virtual world's items, certain rights, certificates and real estate property. Like other crypto assets, the NFTS can only be considered as Shari'ah compliant if their underlying object, project and their features are free from prohibited elements.

Hybrid Assets

Most of the crypto assets are hybrid assets because they are designed and developed for multi purposes and to have various features. Moreover, there is no restriction on what form and features a crypto asset can have. Therefore, a utility token, for example, can also be used as a payment token and vice versa. Ethereum (ETH) is a good example of hybrid assets.

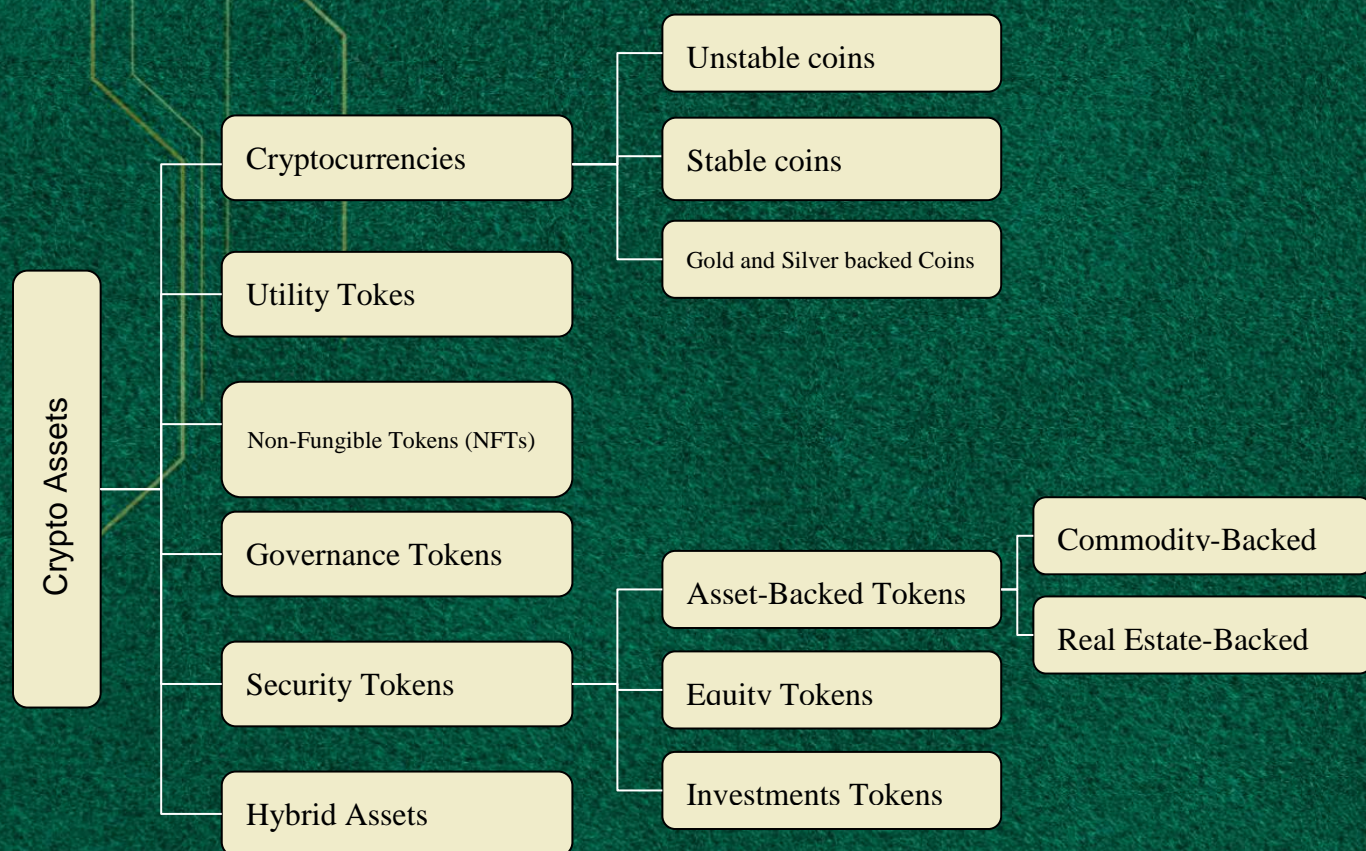


Figure 4 (Crypto Assets)

INITIAL COIN OFFERING (ICO)

An initial coin offering (ICO) is the cryptocurrency industry's equivalent to an initial public offering (IPO). A company looking to raise money to create a new coin, app, or service launches an ICO as a way to raise funds.

Interested investors can buy into the offering and receive a new cryptocurrency token issued by the company. This token may have some utility in using the product or service the company is offering, or it may just represent a stake in the company or project.

ICOs are, for the most part, completely unregulated, so investors must exercise a high degree of caution and diligence when researching and investing in ICOs.

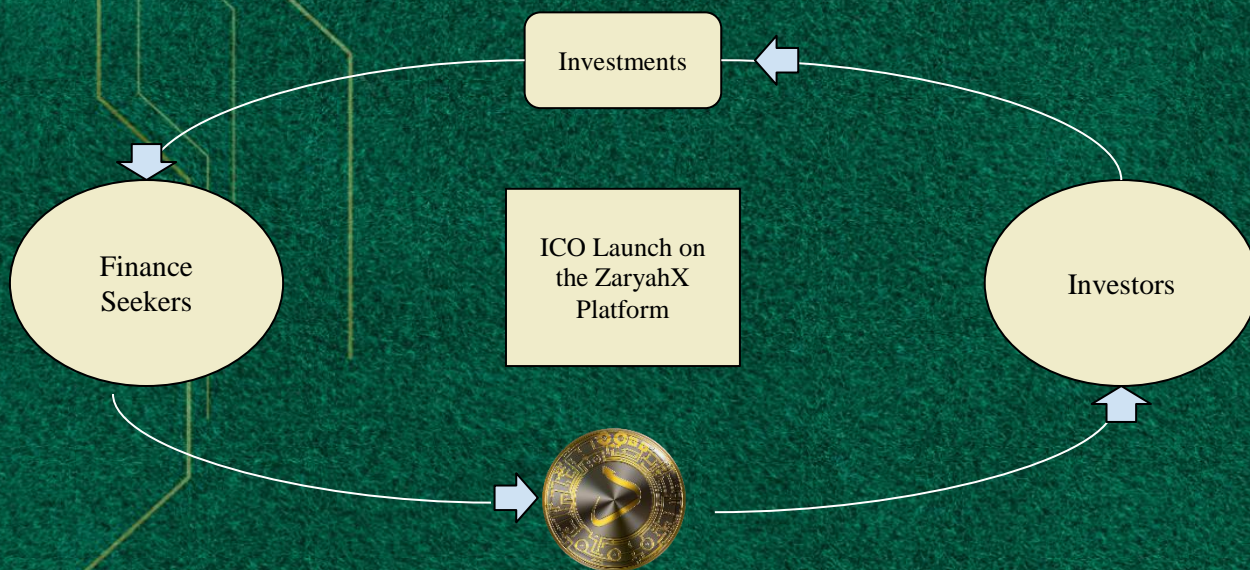


Figure 5 (INITIAL COIN OFFERING)

INITIAL EXCHANGE OFFERING (IEO)

Initial exchange offerings (IEOs) allow companies to raise capital by selling utility tokens on an exchange. Because the cryptocurrency exchange performs due diligence on the offering to protect its customers and its reputation, IEOs are less risky investments than initial coin offerings (ICOs).

Utility tokens sold on a cryptocurrency exchange (IEOs) provide several advantages to both firms seeking to raise funds and their investors relative to those that are not (ICOs).

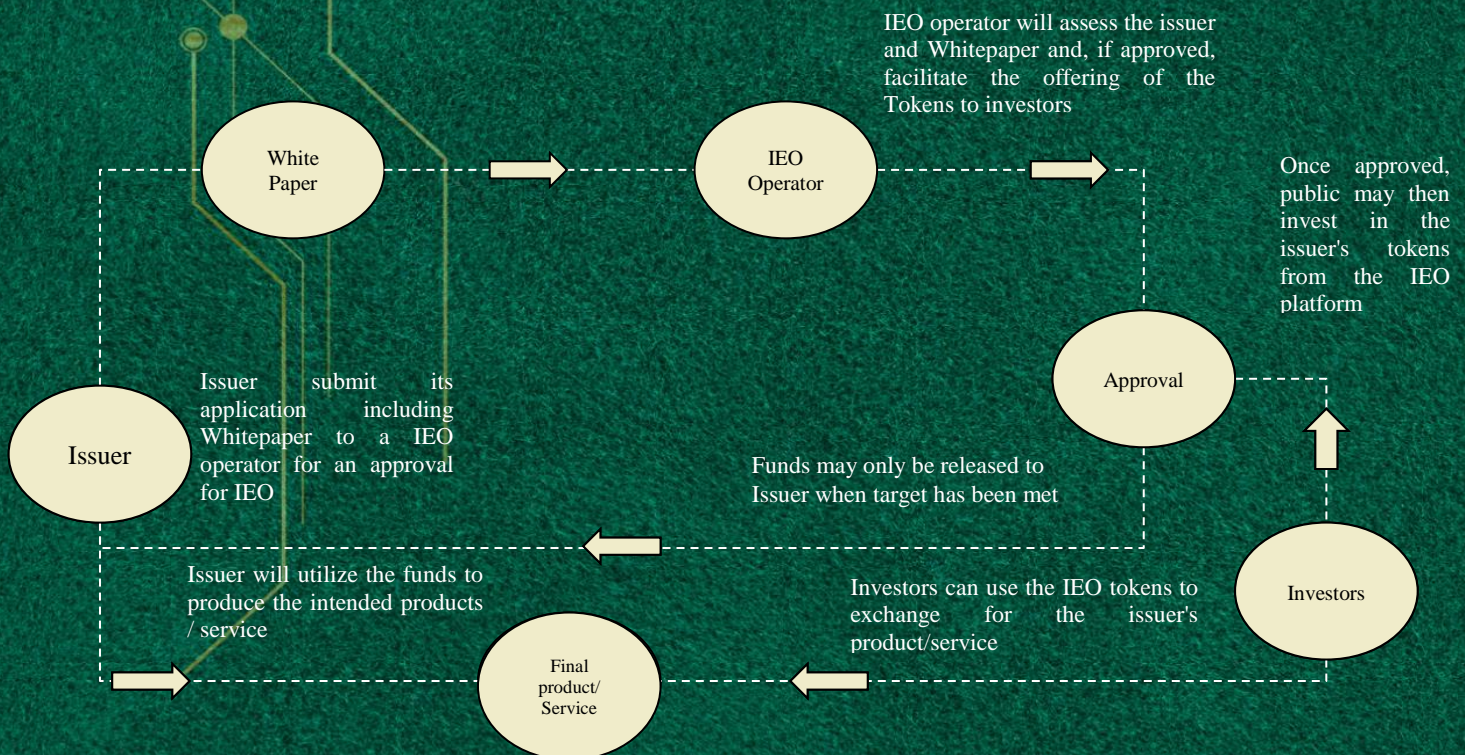


Figure 6 (Initial Exchange Offering)

ZARYAH X PRODUCTS

HALAL EXCHANGE

To create an exchange platform which will eventually act as a Neo Islamic bank by providing the following services in the following categories:

Services

- Cryptocurrency
- Equity
- Commodity
- Real estate
- Currency

Categories

- **Spot**

A spot trade, also known as a spot transaction, refers to the purchase or sale of a cryptocurrency for instant spot delivery. Most spot contracts include the physical delivery of the currency, commodity, or instrument; the difference in the price of a future or forward contract versus a spot contract takes into account the time value of the payment, based on interest rates and the time to maturity. In a foreign exchange spot trade, the exchange rate on which the transaction is based is referred to as the spot exchange rate.

In ZaryahX we offer a wide range of coin pairs for Spot Trading.

In the world of cryptocurrency, spot trading is **a continuous process of buying and selling tokens and coins at a spot price for immediate settlement**. A trader intends to gain profits from market fluctuations in cryptocurrency by trading their tokens in a spot market.

- **FIAT**
- **P2P**

A **peer-to-peer** (P2P) service is a decentralized platform whereby two individuals interact directly with each other, without intermediation by a third party. Instead, the buyer and the seller transact directly with each other via the P2P service.

- **CONVETS (Swaps)**

One crypto can be changed for another.

- **GOLD/SILVER**

Purchasing crypto assets by depositing gold or silver.

To integrate artificial intelligence trading bots, which will summarize and evaluate the most successful trades in the exchange and provide the best trading calls to investors.

The exchange will do KYC on blockchain which will also act as a security protocol for all.

HALAL MINING

Most people think of crypto mining simply as a way of creating new coins. Crypto mining, however, also involves validating cryptocurrency transactions on a blockchain network and adding them to a distributed ledger. Most importantly, crypto mining prevents the double-spending of digital currency on a distributed network.

Like physical currencies, when one person spends cryptocurrency, the digital ledger must be updated by debiting one account and crediting the other. This gives miners the extra responsibility of securing the network from double spending to prevent manipulation of digital platforms.

Meanwhile, new coins are generated to reward miners for their work in securing the network. Since distributed ledgers lack a centralized authority, the mining process is crucial for validating transactions. Miners are, therefore, incentivized to secure the network by participating in the transaction validation process that increases their chances of winning newly minted coins.

Proof of work is the consensus mechanism used by a blockchain network to enable the mining option for their tokens or coins. For miners to be rewarded with new coins, they need to deploy machines that solve complex mathematical equations in the form of cryptographic hashes.

Each block uses a hash function to refer to the previous block, forming an unbroken chain of blocks that leads back to the first block. For this reason, peers on the network can easily verify whether certain blocks are valid and whether the miners who validated each block properly solved the hash to receive the reward.

Over time, as miners deploy more advanced machines to solve PoW, the difficulty of equations on the network increases. At the same time, competition among miners rises, increasing the scarcity of the cryptocurrency as a result, which will eventually lead to the increase of the crypto currency value.

Shari'ah Perspective On Mining

When considering PoW from a Shari'ah perspective, a Ju'alah structure is the most reasonable. Ju'alah is a contract in which one of the parties (the Ja'il) offers specified compensation (the Ju'l) to anyone (the 'Amil) who will achieve a determined result in a known or unknown period. In the PoW, the network protocol offers miners new crypto-assets as a reward for mining. Ju'alah's permissibility is based on a known output, whilst the input is uncertain. Furthermore, a Ju'alah does not need to be contracted with any specific individual. A Ju'alah contract can be concluded by an offer directed towards a specified worker or towards the general public. As such, in a blockchain network, the offer is addressed to all the nodes in the network. The subject matter of the contract is the work that is agreed upon through Ju'alah, as well as the compensation for the work. In PoW-based consensus protocols, the network decides on the compensation. Therefore, it is known in advance.

Miners are also rewarded by transaction fees paid by the sender of the crypto-asset. This is simply a commission and a brokerage fee which can be considered as a Wakalah (agency) fee for validating transactions from the sender of the cryptocurrency. Although the above analysis is purely of the underlying mechanism, the service of the blockchain and the transactions that are being validated must also be Shari'ah-compliant for a particular blockchain to be classed as Shari'ah-compliant.

HALAL CRYPTOCURRENCY (Proof of Work)

In this category, we intend to create a halal cryptocurrency called ZRX which will be pegged against the following physical commodities;

- Gold & silver
- Real estate
- Currency
- Commodity

ZRX will create multiple tokens under various categories to be able to segregate and transparently maintain the individuality of the products.

ZRX will be a minable coin which will also act as a halal source of revenue for all those who choose to mine our currency.

We will also be introducing ZRX pay option where people will be able to transact within the exchange by just typing their telephone number. Example: Apple Pay, Google pay, etc.

We will be introducing Halal Crypto debit card/credit card for all the exchange members which can be used in ZRX ATMs and ZRX card machine for which Crypto tokens and point will be given. We will also be introducing barcode scanning and NFC payments to smartphones and smartwatches.

HALAL NFT METAVERSE

What is NFT?

NFTs (or non-fungible tokens) are unique digital tokens that serve as proof of ownership of an asset, and cannot be replicated.

NFTs use blockchain technology, which acts as a digital record of all transactions related to the NFT on a vast network of computers.

While NFTs can be used to represent physical assets, like property or artwork, the majority of NFTs represent collectible digital assets like digital artwork, music, photos, videos, or even virtual plots of land in video games!

Can't the underlying digital assets be copied?

Yes, they certainly can be. In fact, a lot of times the artist retains the copyright of the original asset, which allows them to legally reproduce it.

NFTs represent ownership of the “original” asset, even if copies are made in the future.

This will be a marketplace to encourage and promote Islamic/Shari'ah compliant art such as Islamic arts, calligraphy, Islamic books, Islamic artifacts, Islamic heritage, Islamic history, etc. An artist will have the option to create & upload his artwork and the underlying smart contracts will convert the uploaded file into an NFT. The artist will receive royalty of a certain percentage for later sales of this NFT.

We intend to create multiple virtual museums of Islamic history with the NFT platform integrated with extended reality (AR/VR), where multiple museums and Islamic centers can generate revenue through ancient artifacts which can be auctioned and sold, eventually we plan on creating a halal metaverse integrated with ancient histories of multiple governments.

We also plan on creating a digital museum with a collection of Halal NFTs.

It is mentioned in a hadith:

وعن ابن عباس رضي الله عنهما قال: سمعت رسول الله صلى الله عليه وسلم يقول: "كل مصور في النار يجعل له بكل صورة صورها نفس فيعذبه في جهنم" قال ابن عباس: فإن كنت لابد فاعلا، فاصنع الشجر وما لا روح فيه" ¹⁵

ibn Abbas said that he heard Allah's Messenger saying "Everyone who makes representations of things will go to hell, and for every representation he has made there will be produced a soul which will punish him in hellfire" ibn Abbas said If you must do it, make pictures of trees and of things which do not possess a soul"

Digital art, photos and videos do not fall directly under the prohibition mentioned in the hadith, however, Islamic principles of ethics are also considered in such digital art, photography and videos by SB. For example, NFTs does not represent anything unlawful to see in Shari'ah; a vice or unlawful substance or object, anything sacred in Shari'ah which it prohibited to portray such as the photo of Allah, the Prophets etc., photos disrespectful to, ridiculing, or disfiguring someone, limbs and body parts which the Shari'ah orders to be covered and concealed. In this way, it is ensured that NFTs of photography, art and videos should also align with the Islamic rules of modesty and decency.

¹⁵ Al-Bukhari and Muslim, Riyad as-Salihin, 1680.

SUKUK (Ownership Certificates)

In this product, Sukuk will be issued in the Crypto market against assets which will act as a security on a typical sukuk model.

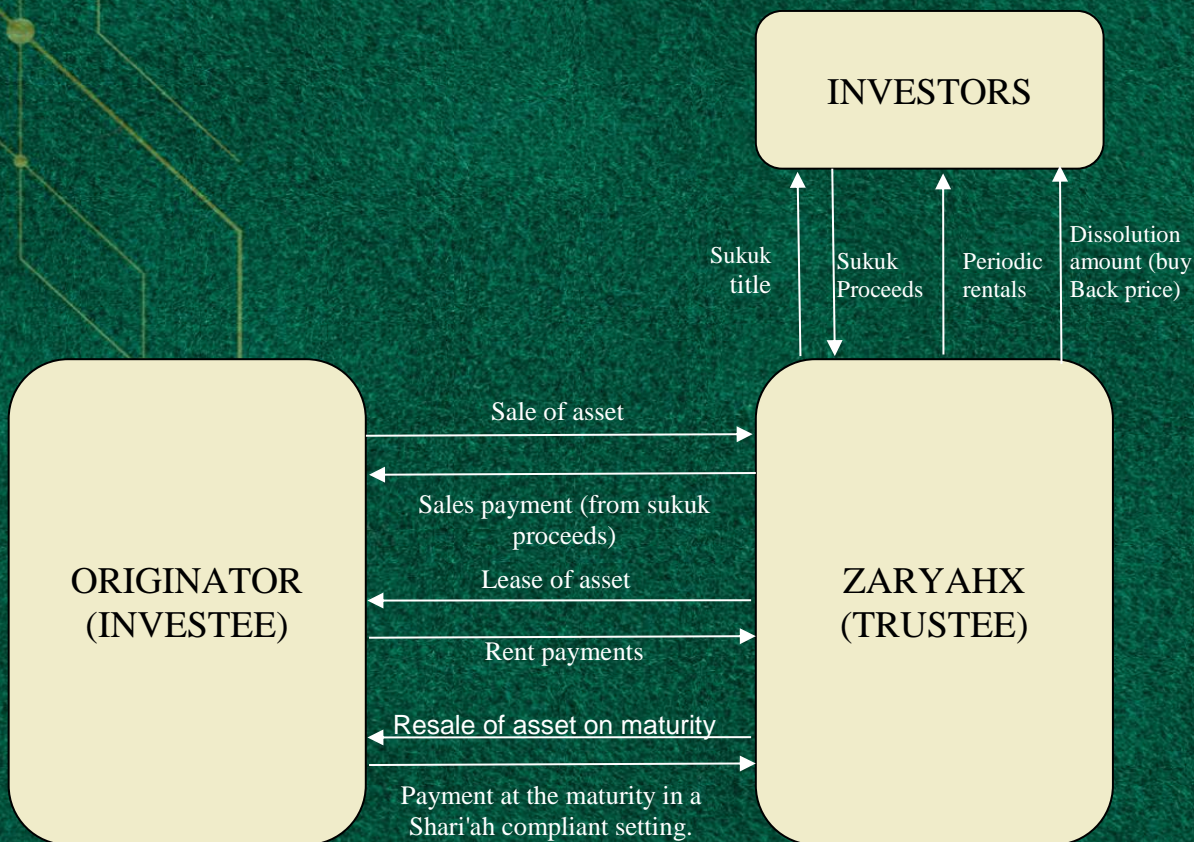


Figure 7 (Sukuk)

MCCX

To convert any physical, tradable asset into a token and create an ETF (Exchange Traded Funds) on blockchain platform.

1. Gold & silver
2. Currencies
3. Commodities
4. Any export/import material (Trade tech)

In this product, we intend to issue tokens as securities against the asset which can also act as a LC (Letter of Credit)/bank guarantee for international transactions and can also increase the speed of transactions to be in microseconds.

HALAL REAL-ESTATE

In ZaryahX we have created the following products:

- Halal RE-ITs (Real Estate - Investment Trusts)
- Halal RE-DAO (Real Estate - Decentralized Autonomous Organization)
- Halal RE-IPS (Real Estate - Investment Portfolio Service)

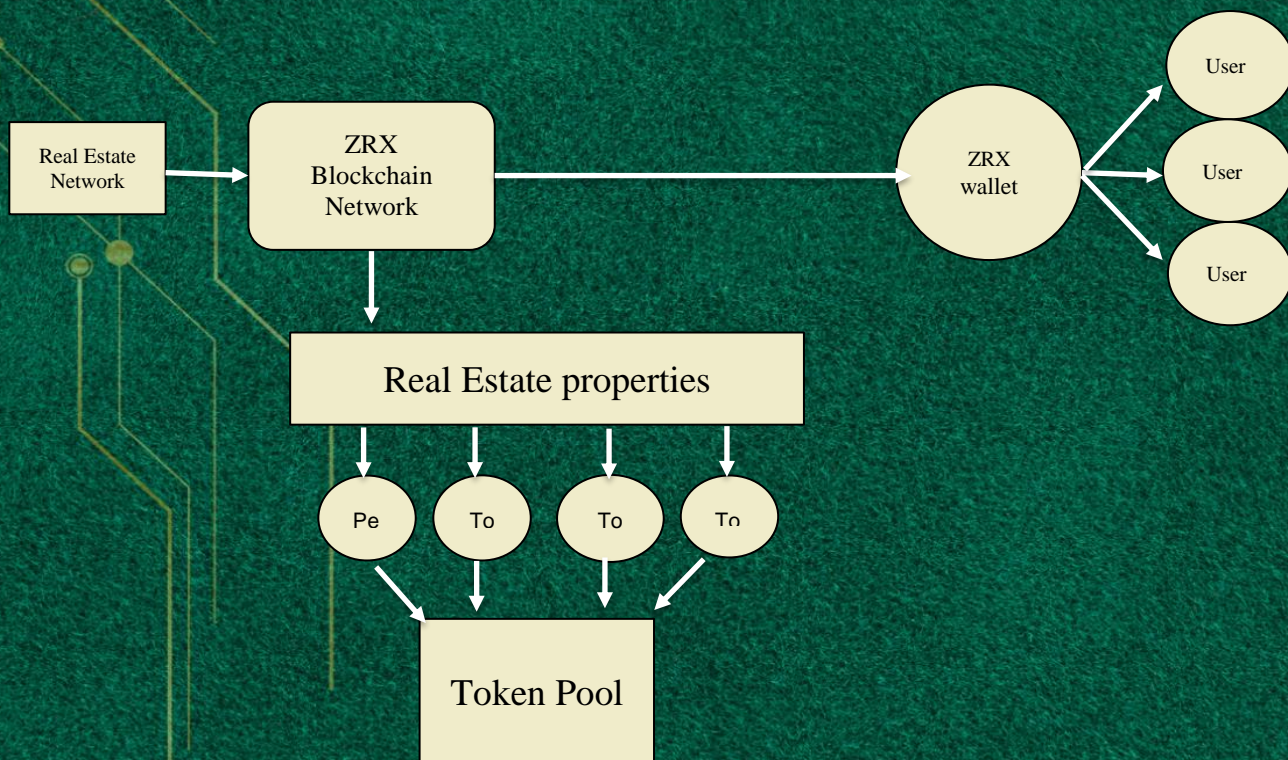


Figure 8 (Halal Real-Estate)

Halal RE-ITS

In ZaryahX we will provide services for companies of any size to buy and sell real estate properties using crypto currency. This way a lot of companies will be able to make big transactions in crypto currency and also have a transparent record of the assets and transactions that happen inside the organization. The organizations will be given an option to offload their unsold properties in an ESCROW account against which they will be issuing STOs for liquidation of the assets.

Halal RE-DAO

ZaryahX will create a halal DAO for real estate where real estate organizations and individuals can put their properties for sale or buy a property. All this will be done in our own blockchain network which will help us have secure transactions among people and also will make the process very transparent. This process will be integrated with virtual reality for the buyers to get the actual feel of the assets they are purchasing. Through this DAO we will also be issuing tokens for fundraising specific to the project, liquidate the property/asset on per square feet-basis.

Halal RE-IPS

This is a halal portfolio management service created by ZaryahX where users will be able to invest in real-estate through small tokens which they can deposit on a monthly-basis and on reaching maturity can be uncashed to buy a physical asset.

HALAL E-COMMERCE

We intend to start a Halal E-commerce platform integrated with drop shipping where people can buy basic necessities, groceries, commodities, etc. through our token to create a wider dependency and increase the value of our currency.

HALAL STAKING

In ZaryahX we have created a halal staking program for everyone to stake their crypto currency. Our staking pools will lock the funds a person stakes for a particular time period and reinvest those funds in multiple halal tech startups or businesses through a DAO which will add more traffic to our exchange which will increase our revenue as well as give us back the returns we expect.

HALAL TOURISM INTEGRATED WITH HALAL NFT

In this product, we will create a Halal tourism packages which can be used through our debit card for which they will be given travel points to encash for Hajj/Umrah services.

ACCESS TO GLOBAL MARKET THROUGH CRYPTOCURRENCIES

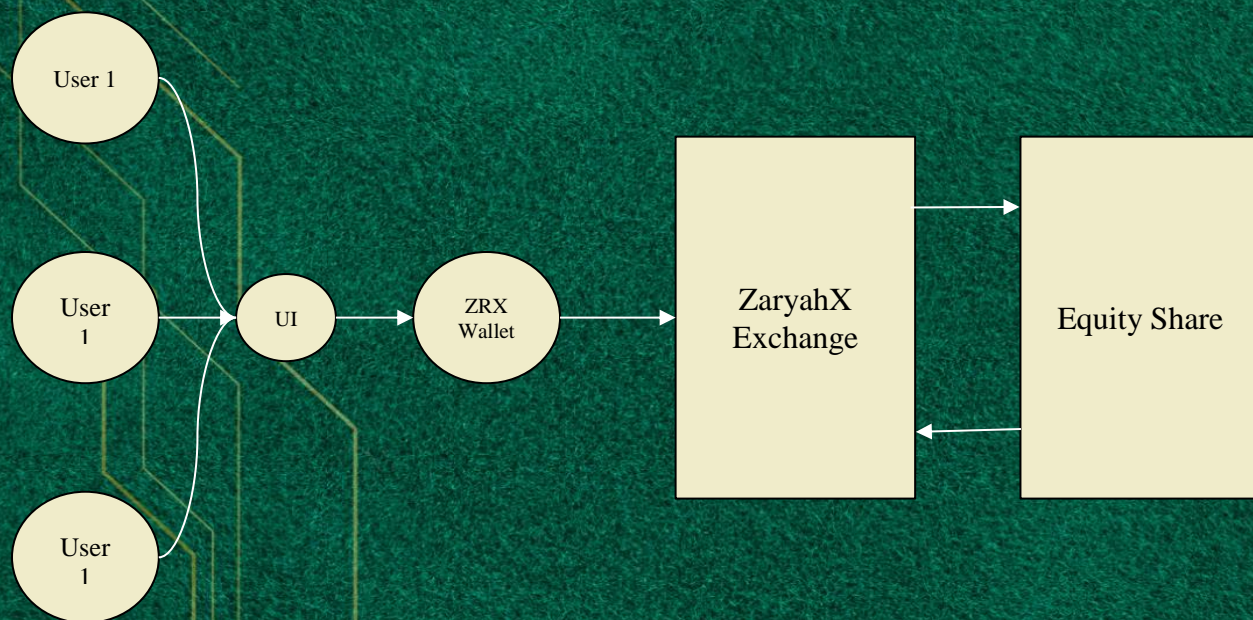


Figure 9 (Equity Integration with Crypto)

In this product, we intend to create a revolutionary product which would integrate the crypto markets with the equity/commodity/forex markets, in turn adding a bridge between multiple markets for the inflow of capital.

Through this product we will also tokenize hedge funds/VCs/PEs to liquidate the idle holdings and re-invest in the market.

People who cannot be able to buy stocks will be able to buy them for a fraction of a cost with immediate delivery.

People can buy equities through our SIP (Systematic Investment Planning) product where people can offload small amounts of money for a particular period of time and on maturity get returns.

CROWDFUNDING/ INCUBATION

The exchange will provide opportunities to various businesses to raise funds through our IEO (initial exchange offering) in cryptos.

CRYPTO OFFERING

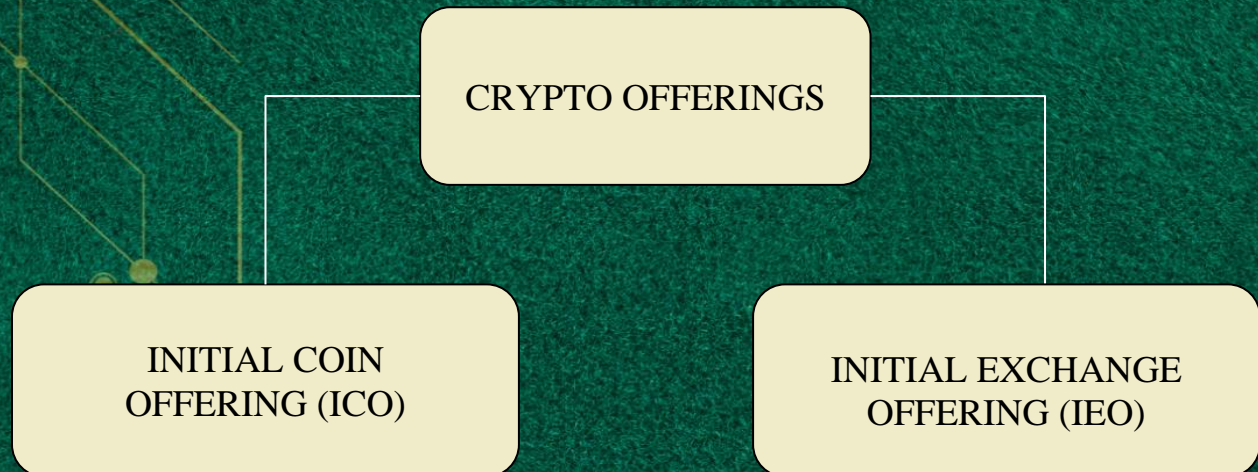


Figure 10 (Crypto Offering)

CRYPTO FUND HOUSE

Under this product, we intend to create an exclusive fund house for venture capitalists and private equity investors where they can invest into projects through cryptocurrencies

BANKING AS A SERVICE

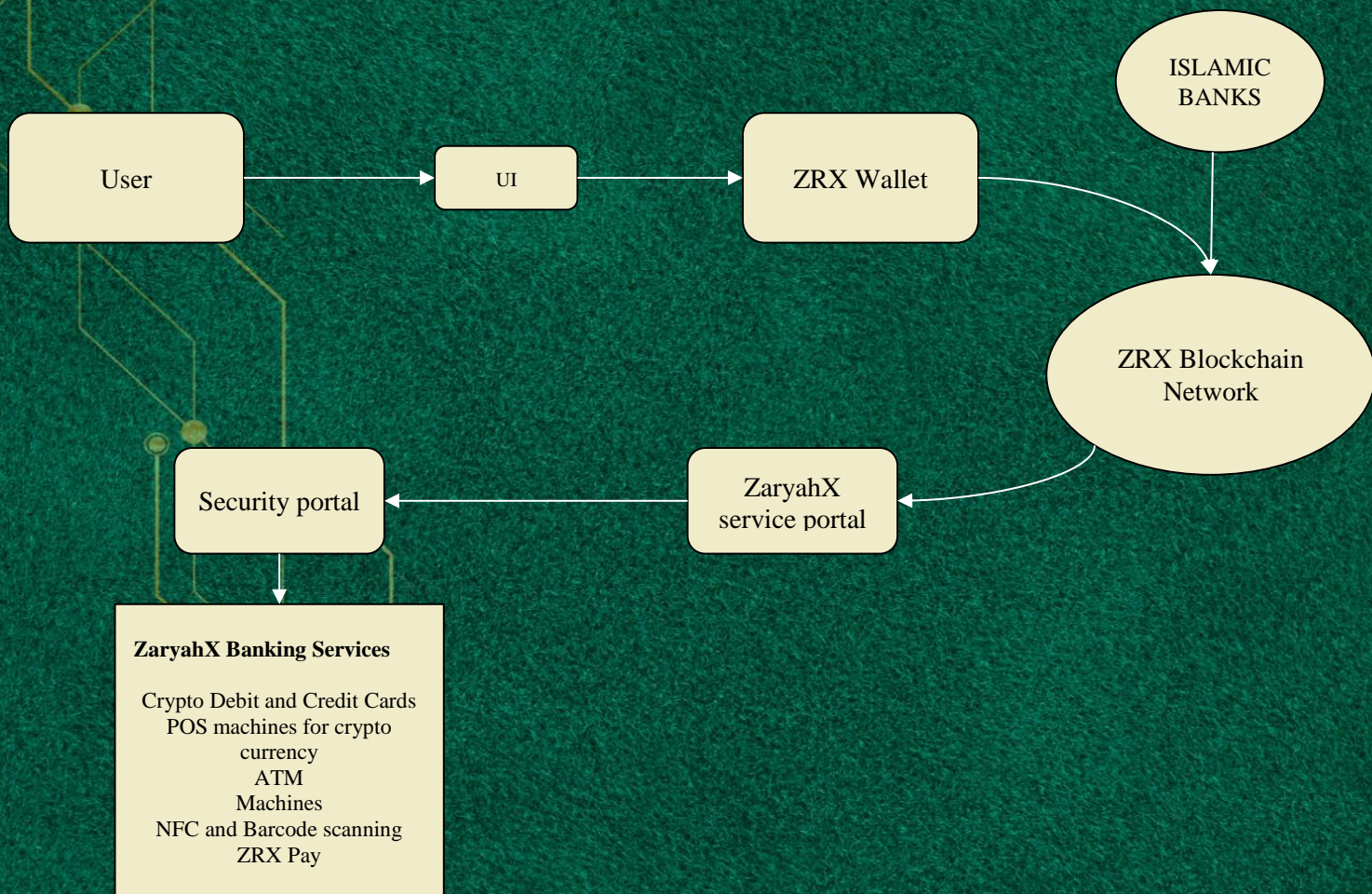


Figure 11 (Banking As A Service)

BaaS can be defined as an on-demand service that allows others to access financial services online. This is possible by banks granting access to third party service providers through the use of APIs. These third-party service providers can simply position themselves on top of the existing regulated infrastructure of the underlying banks, somewhat of a ‘white-labelling’ approach to financial services. Service providers have access to a menu of items and can select, what they wish from the bank’s menu. Hence, some have described BaaS as the deconstruction of banking into individual granular services to which one may subscribe. A manifestation of BaaS would be airlines and other non-bank businesses offering banking products and services such as mobile bank accounts, debit cards, loans, and payment services.

This is possible through the bank's server interacting via APIs and web hooks with that of the airline. Customers can access banking services through the third party's website or app. Funds are in the underlying regulated bank and cannot be used by the third parties; hence, the regulatory requirements are not imposed on these third-party service providers. BaaS allows non-banks to become pseudo-banks with a few lines of code.

BaaS allows non-banks to access specific banking capabilities such as:

- Pre-paid card and account services
- Payments
- Credit cards and associated account services
- Clearing and settlement (including agency banking)
- Core banking
- Card processing
- Lending

All the products and services provided in BaaS will be structured to meet Shari'ah principles.

TAKAFUL TECH

Takaful means mutual cooperation or joint guarantee. The Takaful Act enacted by Malaysia in 1984 defines takaful as follows: "A scheme based on brotherhood, solidarity and mutual assistance, which provides for mutual financial aid and assistance to the participants in case of need whereby the participants mutually agree to contribute for the purpose."

Takaful is therefore a group of people coming together by contributing into a common pool. The monies in this fund are used to pay out to members of the pool who have been afflicted by certain events for which the members have mutually agreed to cover each other.

Takaful is generally set up in two-tier structures, whereby one tier is the pooled funds of the policyholders which is used to settle any claims. The second tier involves a Takaful operator engaged by the fund to underwrite, manage the pool, and engage in claims handling and investments of the pooled funds.

A very common Shari'ah structure for Takaful is a Wakalah agreement for underwriting services delivered by the Takaful Operator with a Mudaraba agreement for investment purposes.

Advantages of Takafultech

- **Tailored services** – Artificial Intelligence (AI) can be used to provide more tailored services. Some Takafultech firms are using AI to make the car insurance shopping experience more streamlined and seamless.
- **More data** – Internet of Things (IoT) can provide not only more data, but more accurate data, allowing insurers to offer better products with better pricing. Drivers can have their driving data sent to insurers from their cars, allowing the more responsible drivers to benefit from better deals and offers.
- **Potentially cheaper premiums** – Takafultech relies much more on data collected through IoT. As such, the premiums can reflect the real-life activity of the policyholder and therefore give a better premium if the policyholder is generally more risk-averse and less hazardous.

CORPORATE ACCOUNTS

ZaryahX will provide corporates to be able to open accounts and maintain Halal fixed deposits wherein through this product they can utilize the ideal funds and generate maximum benefits.

ZAKATTECH

By integrating the social services ecosystem with blockchain, it has potential benefits for all, including the payers, beneficiaries, and the Zakat management body. The blockchain system will provide the following benefits

- Transactions at Higher Speed
- Reduced Operational Costs
- Transparency in the Ecosystem
- Improving Accounting and Governance of Zakat Institutions
- Efficiency of Zakat Operations

- Better Cyber Security
- Reduce Risk of Identity Fraud
- Efficient Identification

The exchange will form tie-ups with global charitable organizations. The public can send money to the people in need directly (recognized by the organization). The payers track all their payments from beginning to the end and verify where their funds went. A clear audit trail is developed, manifesting exactly where every single penny is spent. Every Zakat transaction on the blockchain would be recorded in near real-time monitor, and identify issues with budget allocation, or find a project's inadequacy to tackle a problem and, consequently, improve their results.

Instead of burning /halving the tokens we will introduce donating as a concept to the NGO in the digital Leger.

Islam profoundly promotes charity and alms giving in various ways. The Quran mentions:

الذين ينفقون أموالهم بالليل والنهار سرا وعلانية فلهم أجرهم عند ربهم ولا خوف عليهم ولا هم يحزنون 16

Those who spend their wealth in charity day and night, secretly and openly-their reward is with their Lord, and there will be no fear for them, nor will they grieve."

The people who make revenue in the exchange while withdrawing their fund will be given an option to deduct zakat which will go to the zakat fund and donated to DAO NGOs on a pro-rata basis.

WALLET

Wallet which is a non-custodial crypto wallet in a digital form. It allows users to hold and own the private keys of their digital accounts, which gives the users full control of their crypto funds. The private keys are held in encrypted storage.

Wallet, being a storage place for private keys, does not have any Shari'ah issues by default. The private keys are similar to passwords or account pin numbers of crypto assets that are stored on a blockchain, while the private keys are stored in the wallet. Therefore, the wallet is considered permissible based on the Islamic legal maxim:

¹⁶ Quran, Al-Baqarah, 2:274

The basic principle with regard to things is permissibility until evidence indicates that it is forbidden

However, the main Shari'ah issue is whether the crypto assets stored in Wallet are Shari'ah compliant or not, and whether they are being transacted or exchanged in a Shari'ah compliant manner. Wallet will be integrated into Shari'ah filtering technology that allows only compliant tokens to be stored, transacted, and managed by the user.

HALAL DEX (DECENTRALIZED EXCHANGE)

ZaryahX will be the first organization which will be having both centralized and decentralized exchanges simultaneously. We will ensure that our users transact safe and securely in our decentralized exchange with no transaction fee. The transactions between wallets and other transfers will also be a hassle free and 0% fee. Our decentralized exchange will also be connected to our centralized exchange to make sure the price difference is minimum.

¹⁷ Al Zuhaili, 2006, v. 1, p. 190.