



MUZAKARAH CENDEKIAWAN SYARIAH NUSANTARA KE-17

# Muzakarah 2023

**Shariah issues – Smart Contract, DeFi &  
NFT**

*Prof. Dr Younes Soualhi*

# PRESENTATION OUTLINE



**Introduction**



**Smart Contract: Shariah issues**



**DeFi and NFTs: Shariah issues**

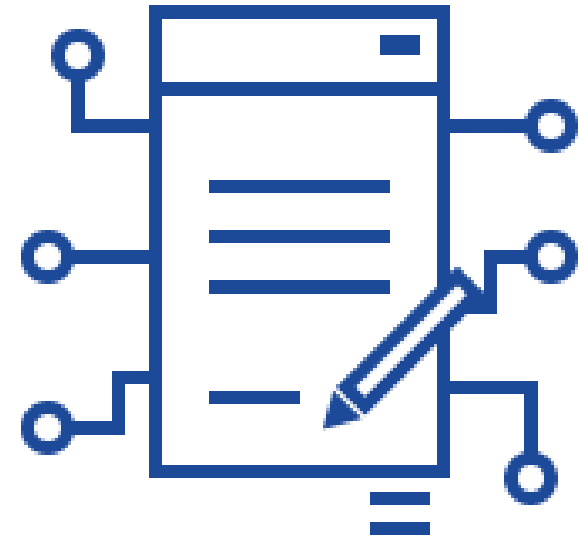


**Conclusion**



# SMART CONTRACT

Smart contracts are code written into a blockchain that executes the terms of an agreement or contract from outside the chain.



# SMART CONTRACT

An illustration of a smart contract. It features a glowing blue rectangular base with a white circuit board pattern. On top of the base is a dark grey tablet displaying a document with lines of text and a signature. A quill pen is positioned as if writing on the document. The background is a solid light blue.

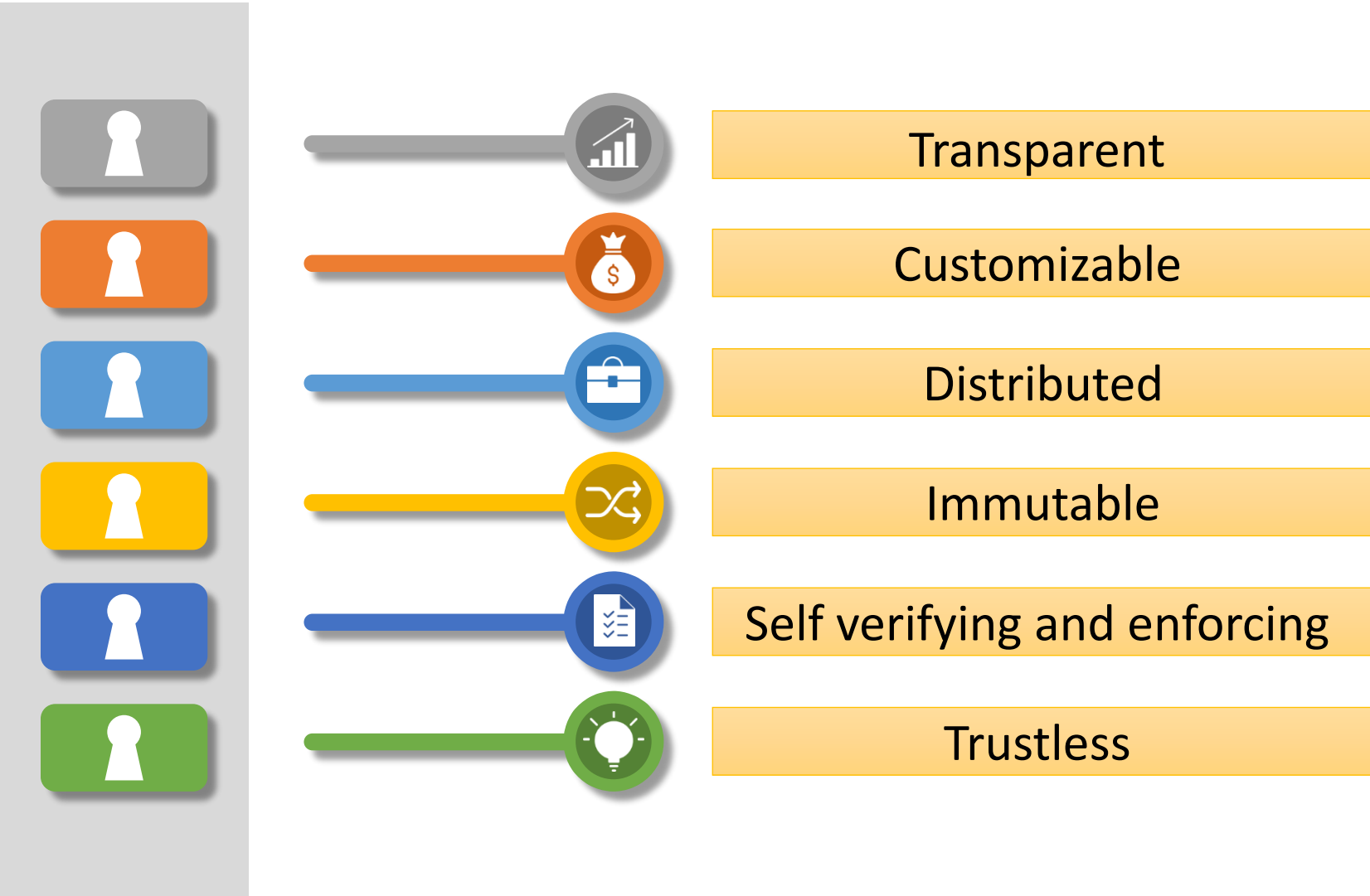
## Smart Contracts

*['smärt 'kän-,trakts]*

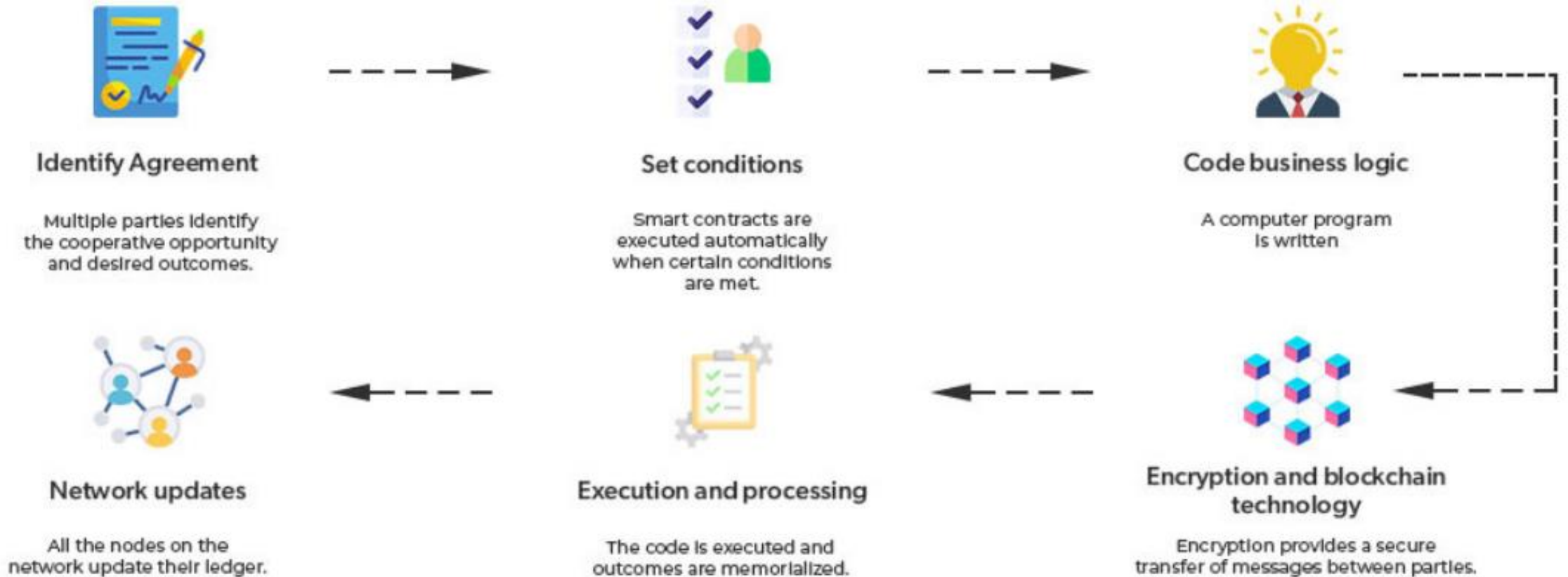
A self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code.

 Investopedia

# FEATURES OF A SMART CONTRACT



# HOW DOES SMART A CONTRACT WORK?



# IF.....then

- **IF** you send object A, **THEN** the sum (of money, in cryptocurrency) will be transferred to you.
- **IF** you transfer a certain amount of digital assets (cryptocurrency, for example, ether, bitcoin), **THEN** the A object will be transferred to you.
- **IF** I finish the work, **THEN** the digital assets mentioned in the contract will be transferred to me.

# APPLICATIONS OF SMART CONTRACTS

**1.Real Estate:** Reduce money paid to the middleman and distribute between the parties actually involved. For example, a smart contract to transfer ownership of an apartment once a certain amount of resources have been transferred to the seller's account(or wallet).

**2.Vehicle ownership:** A smart contract can be deployed in a blockchain that keeps track of vehicle maintenance and ownership. The smart contract can, for example, enforce vehicle maintenance service every six months; failure of which will lead to suspension of driving license

# APPLICATIONS OF SMART CONTRACTS

## Example Use cases:

1. Smart contracts provide utility to other contracts. For example, consider a smart contract that transfers funds to party A after 10 days. After 10 days, the above-mentioned smart contract will execute another smart contract which checks if the required funds are available at the source account (let's say party B).
2. They facilitate the implementation of 'multi-signature' accounts, in which the assets are transferred only when a certain percentage of people agree to do so
3. Smart contracts can map legal obligations into an automated process.
4. If smart contracts are implemented correctly, can provide a greater degree of contractual security

# LEGAL ISSUES IN SMART CONTRACTS

## Execution

SM cannot be amended

## Confidentiality

Smart contracts are not confidential

## Regulation

Not yet regulated in most jurisdictions



# ***SHARIAH ISSUES***

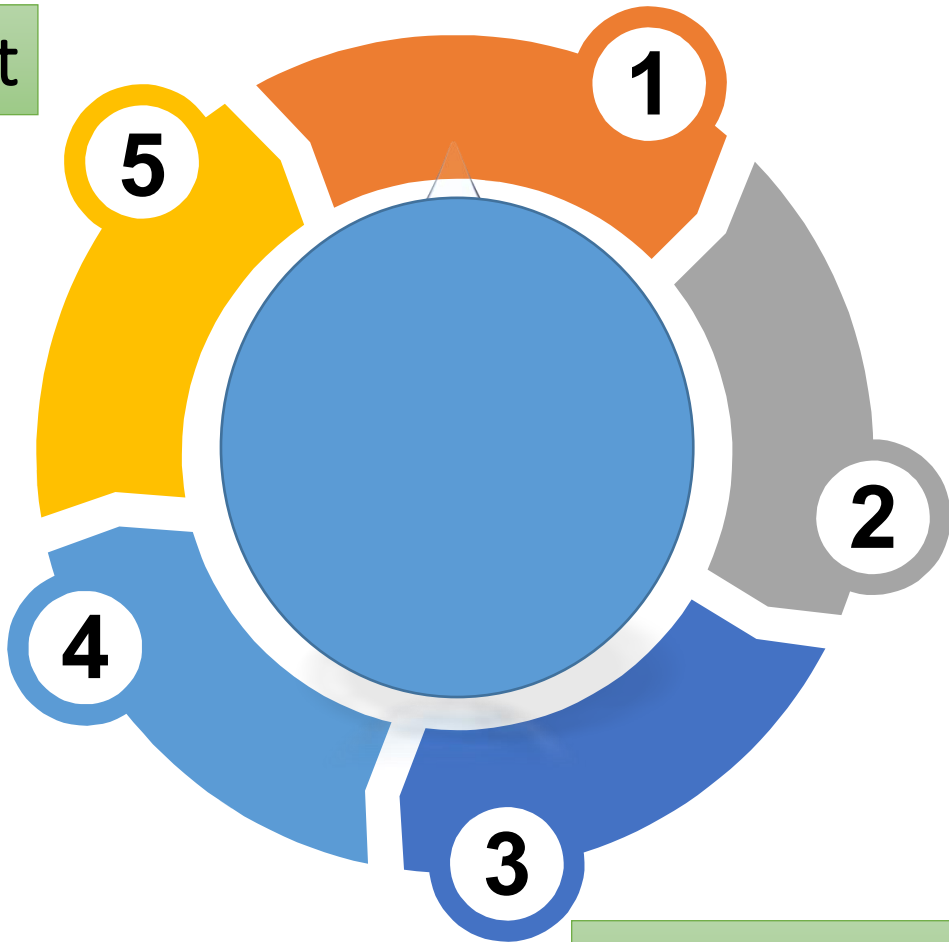
Nature of SMC

Ta'liq 'Ala al-Shart

Contract session  
of SMC

*Qadb*

Pillars of SMC





## The contracting parties

Is the blockchain an independent legal entity or an agent (wakil)?



## Currency

Is cryptocurrency Shariah compliant?



## Expression

- Is “the IF ...then “ structure of SMC a form of sale that is contingent on a condition ( البيع المعلق على شرط )
- Does SMC involve the deferment of both value and counter value?



# 3

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Three main Shariah stands on Smart contracts

# Scholars prohibiting Smart contracts

Prohibitors (المانعون)	Argument	Counter arguments
Abu Ghuddah and Ghassan	Not permitted by Fiqh Academies	Not prohibited yet by Fiqh academies. - الأصل في الأشياء الإباحة -
	Not permitted by most jurisdictions	Many jurisdictions allowed it
	Not backed by tangible assets	Not relevant
	Involves risks of errors	Risks can be mitigated

# Scholars Permitting Smart contracts (المجيزون)

	Arguments
Kohf, Feddad, Sano, Bur'l, Sawi, Balouchi and others	- الأصل في الأشياء الإباحة -
	- الأصل في المعاملات التعليل -
	-Maqasid al-Shariah

# No stand yet

No stand (التوقف)	Argument
Fiqh Academy (Jeddah), AAOIFI	Issues of Qabd, Daman (liability) , rights...ect. These issues are not yet clear to justify a Shariah resolution.



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# Ownership and *Qabd*

In a smart contract on a blockchain, the transfer of ownership typically involves updating the ownership information stored within the smart contract itself. This process can vary depending on the specific design and implementation of the smart contract, as well as the blockchain platform being used. The following are considered in ascertain ownership in a smart contract:

- 1. Ownership Representation:** The smart contract will have a mechanism to store ownership information, typically in the form of variables or data structures. For example, there might be a variable called "owner" that stores the address or identifier of the current owner.
- 2. Authorization:** In order to transfer ownership, the current owner of the asset or contract needs to authorize the transfer. This is often achieved through digital signatures or cryptographic keys associated with the owner's address. The smart contract will validate the authorization before proceeding with the transfer.
- 3. Transfer Function:** The smart contract will include a transfer function that facilitates the transfer of ownership. This function will typically take as input the necessary information, such as the new owner's address or identifier, and perform the necessary checks and updates to reflect the ownership change.

- 1. Validation and Conditions:** Depending on the requirements of the smart contract, additional validations or conditions may be implemented to ensure the transfer meets certain criteria. For example, there may be restrictions on who can become the new owner or specific rules regarding the transfer process.
- 2. Event Logging:** It is common practice to log the ownership transfer event on the blockchain. This allows interested parties to track the history of ownership changes and provides transparency.
- 3. Execution and Confirmation:** Once the transfer function is called with the required parameters and conditions are met, the smart contract executes the transfer of ownership. The ownership information is updated within the contract, and the transaction is recorded on the blockchain.

# RECOGNIZED TRANSFER OF OWNERSHIP VIA SMART CONTRACTS

1. Ethereum Name Service (ENS): ENS is a decentralized domain name system built on the Ethereum blockchain. It uses a **smart contract** to enable the registration, management, and transfer of domain names ending in .eth. The smart contract ensures the ownership and control of domain names are securely managed without the need for intermediaries.
2. Decentralized Exchanges (DEX): DEX platforms like Uniswap and SushiSwap utilize **smart contracts** to enable peer-to-peer trading of cryptocurrencies. These smart contracts handle the exchange of tokens, determine prices based on supply and demand, and facilitate liquidity provision and automated market-making.
3. Insurance Contracts: Smart contracts can automate insurance processes, enabling efficient claims handling and payouts. Companies like Etherisc have developed decentralized insurance platforms that utilize **smart contracts** to manage policies, assess claims, and execute payouts based on predefined conditions.

# RECOGNIZED TRANSFER OF OWNERSHIP VIA SMART CONTRACTS

4. Real Estate Transactions: Smart contracts can facilitate secure and transparent real estate transactions. Platforms like Propy utilize **smart contracts** to automate the transfer of property ownership, handle escrow services, and execute transactions once specific conditions are met.
5. Token Sales (Initial Coin Offerings, ICOs): ICOs have been a popular way to raise funds for blockchain projects. **Smart contracts** are used to define the terms of the token sale, automate the distribution of tokens, and ensure compliance with agreed-upon rules.
6. In smart contract involving purchase agreement, once the agreed-upon product is delivered, the payment is released automatically.

# القبض

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Is *qabd* in Smart contract physical or constructive of (Qabd haqiqi or Hukmi)?

*Qabd hukmi* is more suitable to Smart contracts as *tamkin* and *takhliyah* are realized through the coding and the immutable nature of these contracts. This is further supported by three (3) shariah principles:

- Original *ibahah* ( permissibility)
- Customary practice (*'urf tijari*)
- Maslalah



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# ***Al-Bay' bi al-Shart*** in the Smart contract

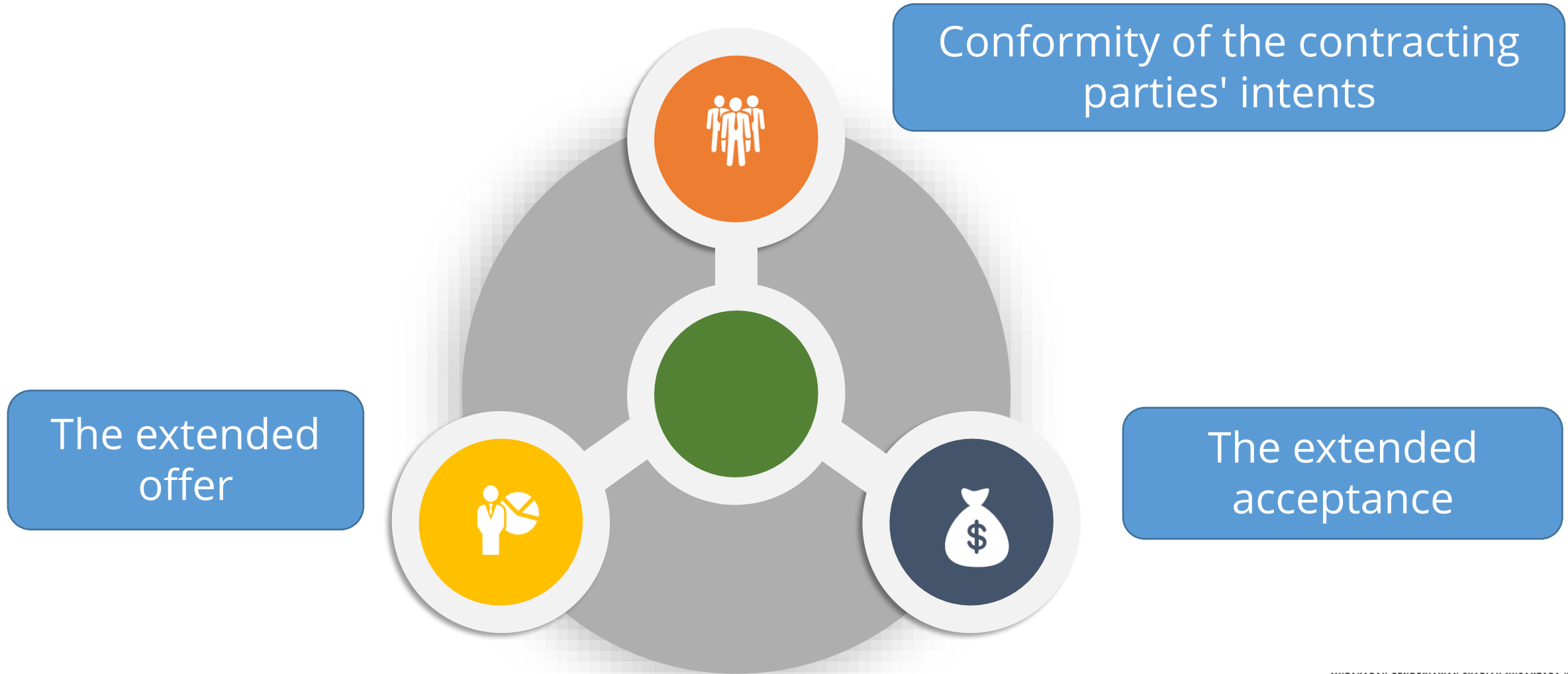
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The conditionality in the smart contract is looked at from various Shariah principles:

1. The extended ***ijab and qabul*** (similar to bidding in the stock market)
2. *Al-Muslimum 'ala shurutihim*
3. Analogy with *khiyar al-Shart*
4. *Al-Ibahah al-Asliyyah*

# THE CONTRACTING PERIOD IS MAJLIS AL-'AQD



# SHARIAH VIEWS ON THE EXTENDED OFFER (QABUL)

Late acceptance after the expiry of the contract session ( majlis al-Aqd):

- This not permissible according the majority of Hanafis Shafi'is and Malikis except in auction transactions.
- Ibn 'Arabi allows late acceptance.
- Nadwat al-Barakah (5\19) allows the extended offer in online transactions until the acceptance is obtained.

## A FEW THINGS TO BE CONSIDERED:

As far as smart contracts are concerned, scenarios will vary and, accordingly, have different Shari‘ah implications. This is explained as follows:

- If the smart contract entails an exchange of a token for a cryptocurrency, classification of the token and the cryptocurrency is a prerequisite for determining the Shari‘ah rules of the exchange.
- If the token and the cryptocurrency are both considered money from the Shari‘ah perspective, then the rules of *ṣarf* (currency exchange contract) shall prevail.

# SUMMARY OF THE MAIN POINTS IN SMART CONTRACTS :

- **Characteristics:** The smart contract is more effective, transparent, clear, secure, and less expensive than the traditional contract, but it remains less flexible and confidential than the traditional contract.
- **Scope :** The smart contract is very broad and comprehensive for the financial sector with its banking, insurance and investment dimensions in the financial markets.
- Generally, the smart contract is a form of contracting with modern instruments that have been approved by the Fiqh Councils. However, some dimensions of the smart contract are not without jurisprudential controversy.
- **Contract session:** The contract session in the smart contract is the period of time in which the link between offer and acceptance is made. And it happens that the acceptance is delayed because of the period that the smart contract spends in estimating the terms of the contract, and it is permissible to delay acceptance from the offer in modern instruments based on the permissibility of the extended offer that was approved by the Fiqh Council

- **Legal entity:** The smart contract is not an independent legal entity, but rather acts on behalf of the two contracting parties in terms of eligibility and the agreed terms.
- **Conditionality** in the Smart contract structure:  
The smart contract in its logical form "if...then" is a sale that is apparently dependent on a condition, but the condition is not a requirement of the contract but rather outside of it.
- **In case the SCM uses cryptocurrency, the Shariah compliance of the SMC depends on the Shariah compliance of crypto. However, when no crypto is used such as supply chain management, the Shariah compliance depends on the activity undertaken.**

# THE SHARIAH COMPLIANCE OF CRYPTOCURRENCIES:

Controversy still exists about the Shariah compliance of cryptocurrencies, on which smart contracts depend to a large extent, and research has shown that there are ways out of this problem.

- **Qabd:** The qabd in smart contracts is voluntary to fulfill the two conditions of empowerment and abandonment.
- **Maqasid al-Shariah:** The objectives of the smart contracts are consistent with most of the objectives of Shariah.

# DeFi

- DeFi stands for decentralized finance. It is an emerging financial technology that uses secure distributed ledgers, such as those used by cryptocurrencies, to remove third parties and centralized institutions from financial transactions
- DeFi enables individuals to access financial services such as lending, borrowing, trading, investing, and saving directly from their digital wallets, without intermediaries or fees.
- DeFi is mostly based on the Ethereum blockchain, which supports smart contracts and decentralized applications.

# DAPPS AND PROTOCOLS ARE ALREADY BEING USED IN THE DEFI ECOSYSTEM

- Traditional financial transactions.
- Decentralized exchanges (DEXs)..
- E-wallets.
- Stable coins.
- Yield harvesting.
- Non-fungible tokens (NFTs).
- Flash loans.



# SHARIAH PERSPECTIVE OF DeFI

- Shariah issues of the smart contract and blockchain apply to DeFI.
- Maslahah and mafsdah of a decentralized finance system must be weighted in depending on the sector, especially the exposure of customers to risks due to non-regulations.
- If DeFI tends to undermine the monetary stability of the country, it must be controlled by the regulator on the basis of giving al-Maslalah al-'Ammah (public interest) preference over al-Maslahah al-Khassah (private interest).

# NON-FUNGIBLE TOKENS (NFT)

- NFT is short for Non-Fungible Tokens. An NFT is a secure, blockchain-based certificate that **represents** an entitlement its owner has to a (usually) digital or physical asset (e.g. artwork) or licence and permit for something.
- NFT is stored in a Smart Contract
- Main NFTs were issued for the following:

*Art 2. Collectibles 3. In-game items 4. Data and Licensing 5. Media 6. Ticketing.*

## SALE OF NFTs

1. The sale of all rights of the underlying asset, including propriety rights, copyright, and rights of disposal of the underlying, as well as trading and economic rights of the NFT itself.

**NFT Shariah compliance depends on the underlying asset's.**

2. The sale of some rights connected to the underlying asset but not proprietary rights and copyright.

**NFT is Shariah compliance as it falls under the sale of rights.**

# SHARIAH PRINCIPLES OF DEALING WITH NFTs

- *Maliyyah*
- *Taqawwum*
- *Manfa'ah Maqsudah*
- Extravagance (*Israf*) and wastefulness (*Tabdhir*).
- Any potential wider Sharia infringements.

# CONCLUSION

- **Smart contracts** are Shariah compliant as they fulfil the requirements of a shariah contract provided they do not use the disputable cryptocurrencies. It would be better to wait until an internationally acceptable Shariah decision is issued.
- For non-crypto based smart contracts, the Shariah compliance depends on the activity using the smart contract.
- **DeFi** shares the same Shariah compliance concerns with smart contracts and blockchain. However, the regulators must intervene if the public interest is undermined (maslalah 'Ammah)
- **NFT's** Shariah compliance depends on the underlying asset's compliance.

# TERIMA KASIH



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