

# **DECENTRALIZED FINANCE PRESENTATION AND PANEL DISCUSSION**

26 OCTOBER 2023





# Outline

Purpose


Introduction and Trends

The Ecosystem and Use Cases

Survey Insights

Implications to the Financial Sector

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# Purpose

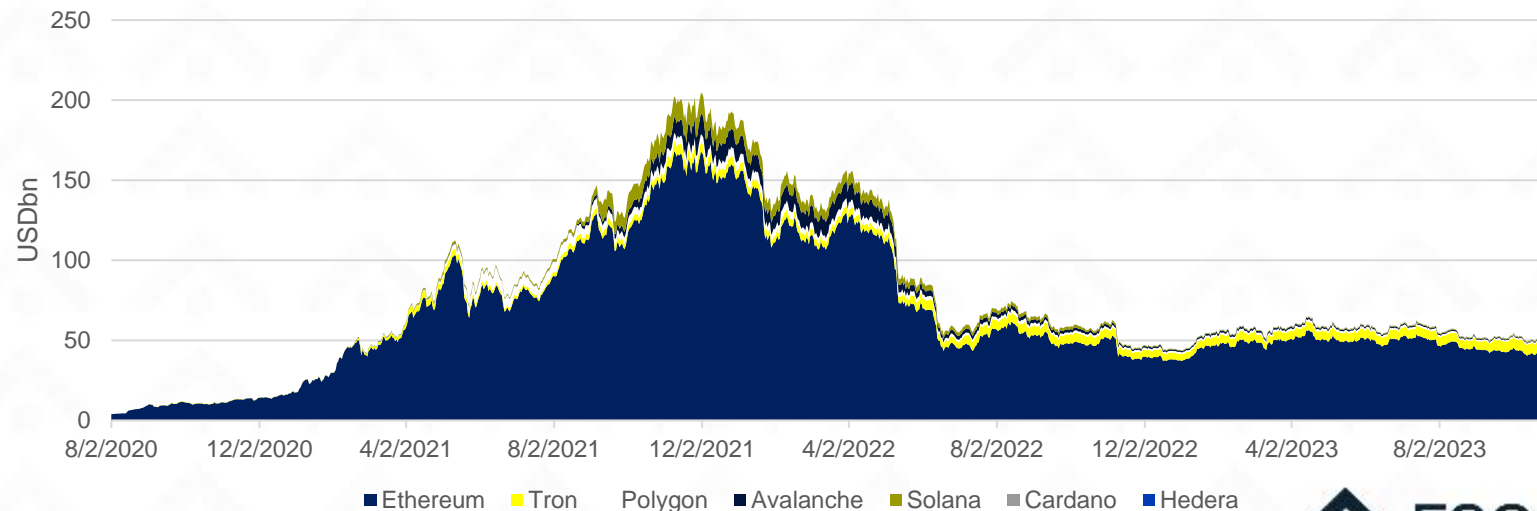
- What is decentralised finance?
- Trends and developments in decentralised finance
- Decentralised finance in South Africa.
- Implications of decentralised finance on the financial sector.



# Decentralized finance total value locked was negatively impacted by 2022 bull market

- Global decentralized finance (DeFi) total value locked (TVL) exceeded **\$63 billion** in October 2023.
  - In the first week of May 2022, Terra USD/LUNA collapsed where the combined TVL of the DeFi ecosystem was approximately \$140 billion.
  - By the 14<sup>th</sup> of May, the combined TVL of the DeFi ecosystem fell further to approximately \$80 billion.
  - When FTX collapsed, the combined TVL of the DeFi ecosystem dropped to approximately \$40 billion and has slightly increased and stabilized in 2023 <sup>[1]</sup>.
- Global market capitalization of stablecoins is approximately **\$124 billion** in October 2023.
- Layer 1 and Layer 2 crypto tokens market capitalization is approximately **\$319 billion** in October 2023<sup>[2]</sup>.

Top DeFi Networks - Total Value Locked, 2023<sup>[3]</sup>



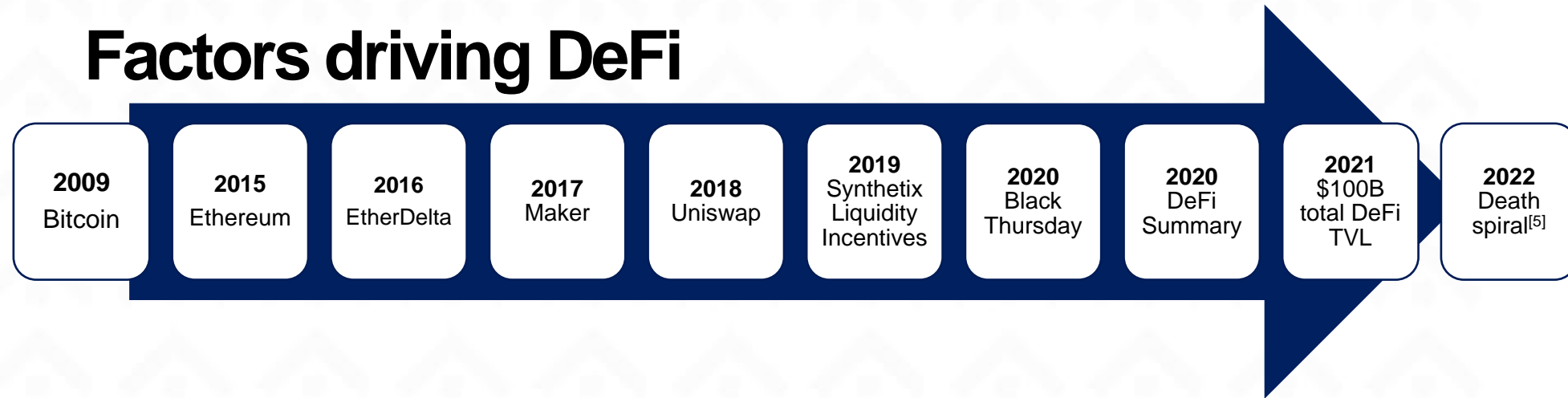
# What is Decentralized Finance?



Decentralized finance (DeFi) can be best described as an open financial ecosystem, where in this open ecosystem there is no support for financial intermediaries in a transaction. This open ecosystem aims to challenge the use of centralized financial institutions through disintermediating their service provision and governance.

	Decentralized Finance (DeFi)	Centralized Finance (CeFi)	Traditional Finance (TradFi)
<b>Unit of account</b>	Digital assets e.g., ETH/ stablecoins	Digital asset e.g., stablecoins.	Fiat currencies e.g., South African Rand, ZAR
<b>Checks</b>	None	ID/KYC/AML	ID/KYC/AML
<b>Custody</b>	User (may include escrow)	Service provider/custodian	Custodian/service provider
<b>Execution</b>	Smart contract	Intermediaries	Intermediaries
<b>Clearing and settlement</b>	Blockchain (T+0)	Service provider/blockchain (T+0)	Service provider/clearing house (T+2)
<b>Interoperability of product</b>	Fully on the same blockchain. Potentially across blockchains	Medium, on same blockchain	Low, potential netting (obligations/debt), e.g., ISDA
<b>Investor protection</b>	Private solutions only such as DeFi insurance	Potential government conduct/ prudential supervision	Government conduct/prudential supervision, deposit insurance <sup>[4]</sup>

# Factors driving DeFi



**Increased interest and rising investment in crypto assets and a growing appetite for a new type of investment**

**Delayed money transfers due to the need for a trusted party and exchange rates**

**Financial markets that function within certain trading hours and are limited by certain time zones**

**Financial cost of a bank account as financial intermediaries require a premium for their services**

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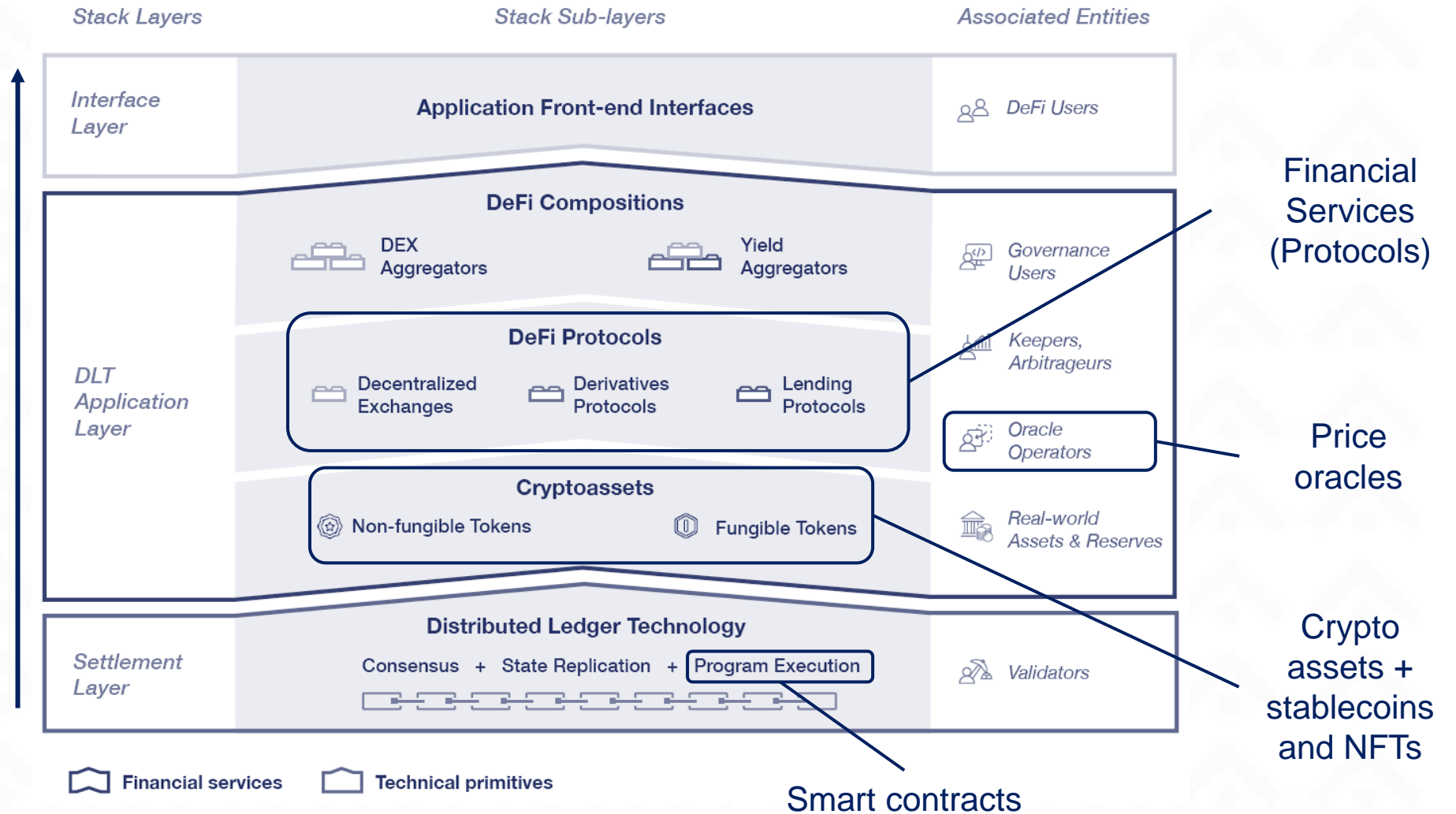
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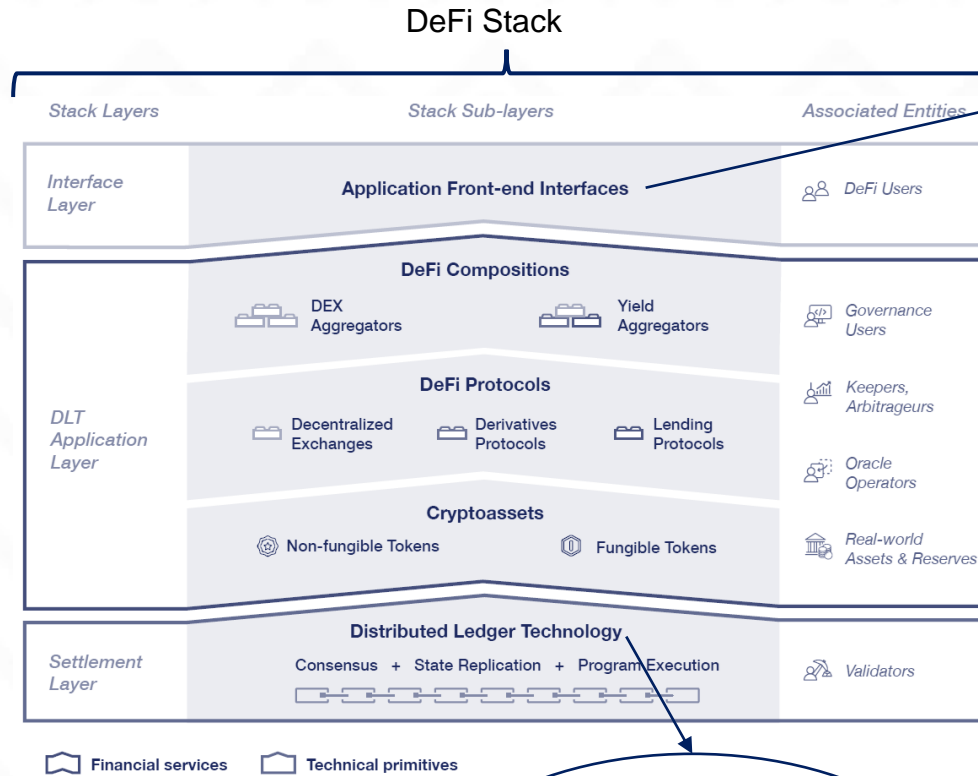


# The DeFi Ecosystem<sup>[6]</sup>



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# The DeFi Ecosystem



**Key Applications**



**Key Networks<sup>[7]</sup>**

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# This study focused on the following use cases

## Payments

- This is most likely the foundational use case of decentralized finance ecosystem and the blockchain ecosystem at large.
- The architecture of blockchain is such that it facilitates peer-to-peer payments without the middleman, creating a potentially more open financial system for the underbanked and unbanked.

## Lending and Borrowing, and Tokenisation

- An algorithmic autonomous interest rate protocol integrates with and a long list of other decentralized finance lending and borrowing platforms thus allowing using to earn interest on the crypto that they have supplied to the lending pool.
- As a token is a digital asset that is created, issued, and managed on a blockchain; tokenization naturally follows as a native functionality of a blockchain, and it is one of the cornerstones of decentralized finance.

## Decentralized Exchange (DEX)

- Decentralized exchanges or DEXs, operate without a central authority therefore users can transact peer-to-peer and maintain full control of their funds.

## Asset management

- In asset management, individuals are custodians of their own crypto funds through ownership of their crypto wallets that they have full control over. Wallet providers help individuals securely interact with decentralized applications to do everything with regards to other use cases e.g., lending and borrowing, payments, buying and selling crypto assets through exchanges.

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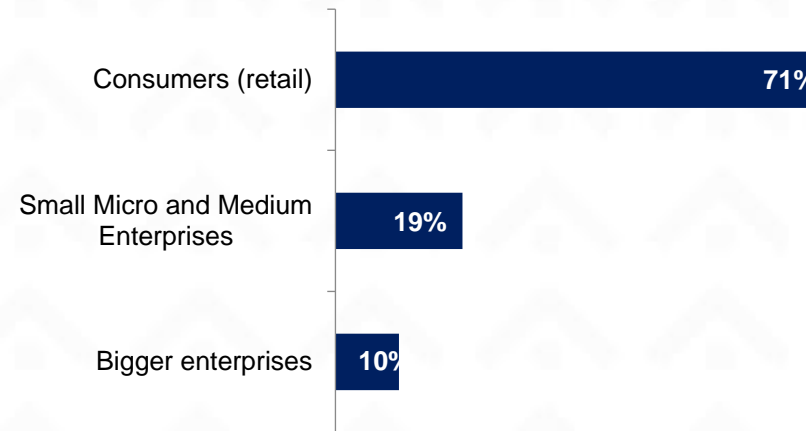
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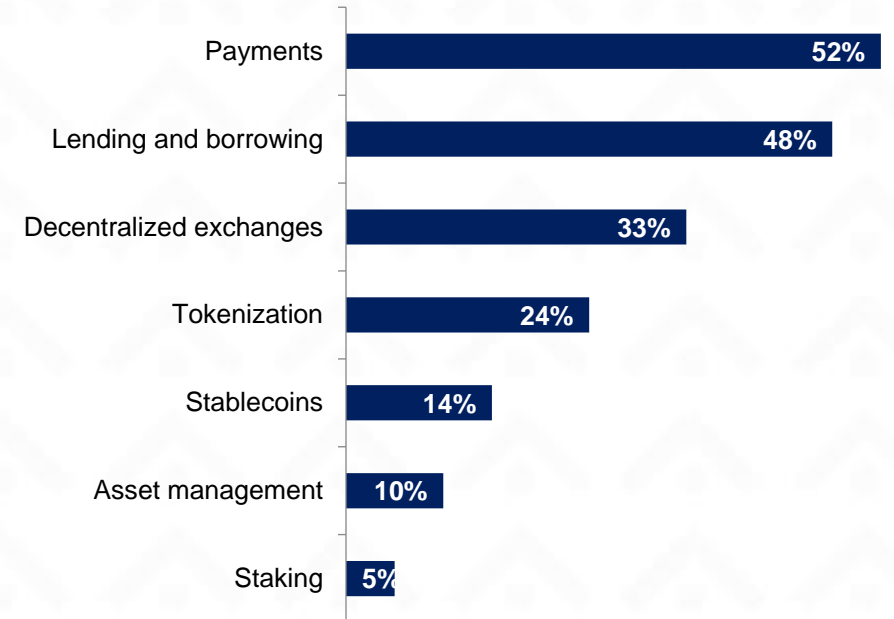
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# Payments is the dominant use case in DeFi

## Most likely customer type for DeFi



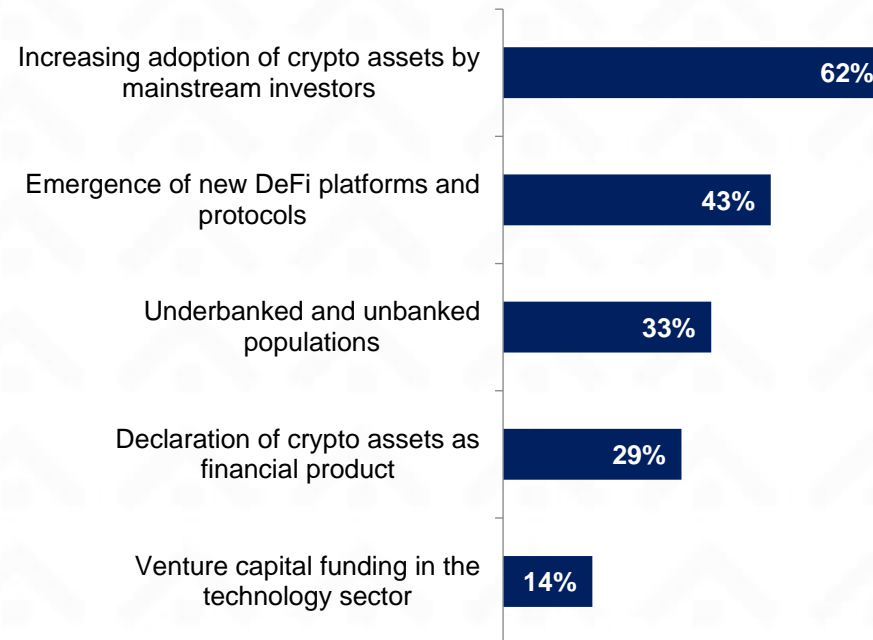
## DeFi use cases



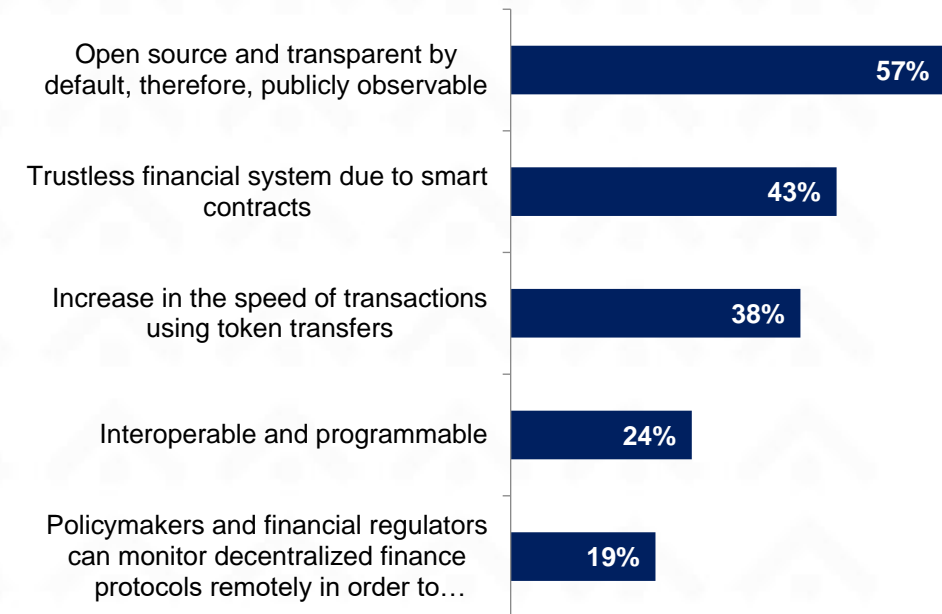
- 71% stated that the most likely type of customer for DeFi financial services offerings is the retail customer, followed by small macro and medium enterprises at 19% and lastly by bigger enterprises at 10%.
- In South Africa, consumers see cryptocurrencies as the future of finance and digital ownership, and as an opportunity to participate in a global ecosystem and 80% Of the population would invest in cryptocurrencies [8].
- The three most prominent use cases of decentralized finance in South Africa are payments, lending and borrowing, and decentralized exchanges at 52%, 48% and 33% respectively.
- The crypto ecosystem was born as a means to make instant international payments without using a trusted third party.

# Increased adoption of crypto assets is the main driver of DeFi

## Future drivers of DeFi



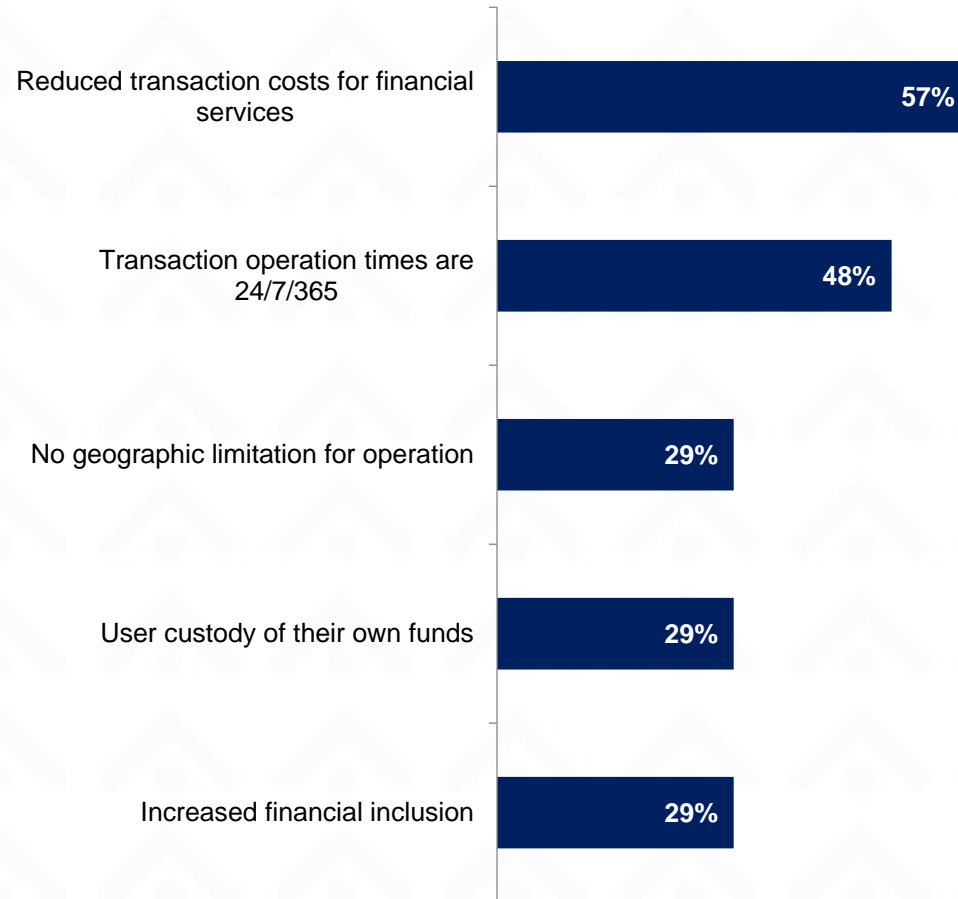
## Opportunities arising from DeFi



- The leading future drivers of DeFi identified include the adoption of crypto assets by mainstream investors (62%) and the emergence of new DeFi platforms and protocols (43%).
- Key opportunities arising from DeFi include an open source and transparent by default, and therefore, publicly observable financial system (57%) and secondly, a trustless financial system due to smart contracts (43%). This will increase consumer trust in the financial system.

# A key potential outcome of DeFi is the reduction of transaction costs for financial services

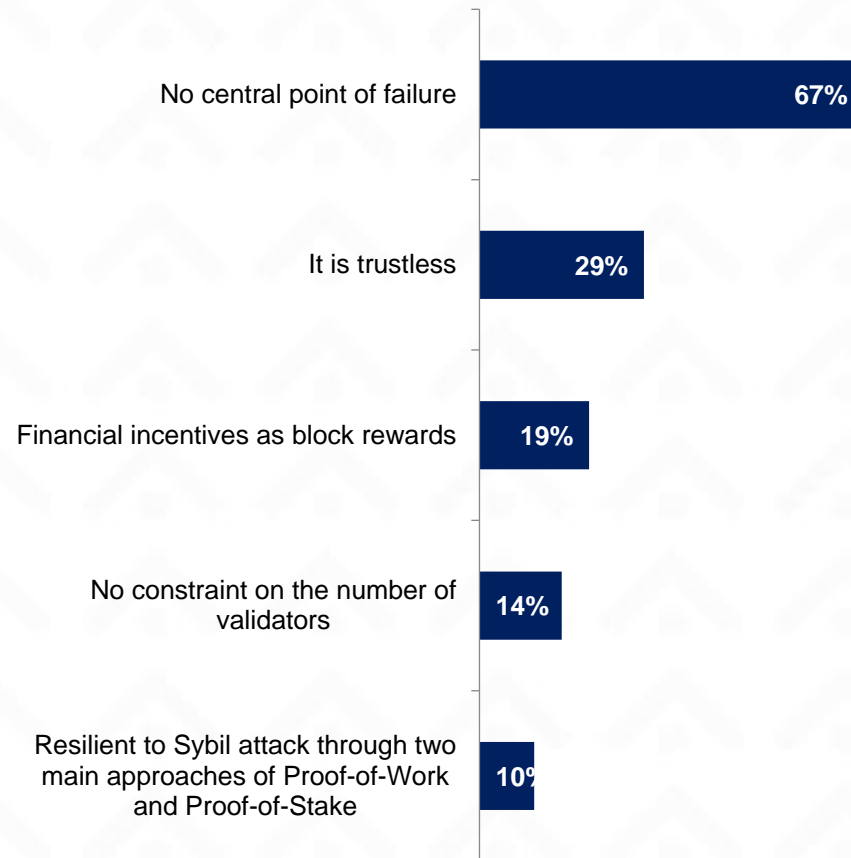
Potential DeFi outcomes



- A key outcome of DeFi is the reduction of transaction costs for financial services (57%) due to the nature of DeFi, where the role financial intermediary is removed.
- Secondly, other potential outcomes of DeFi include transaction operation times that are 24/7/365 (48%) and no geographic limitation for operation (29%) and customers only need an internet connection to participate in DeFi financial services.

# What is the key characteristic of blockchain?

## Advantages of permissionless blockchain technology

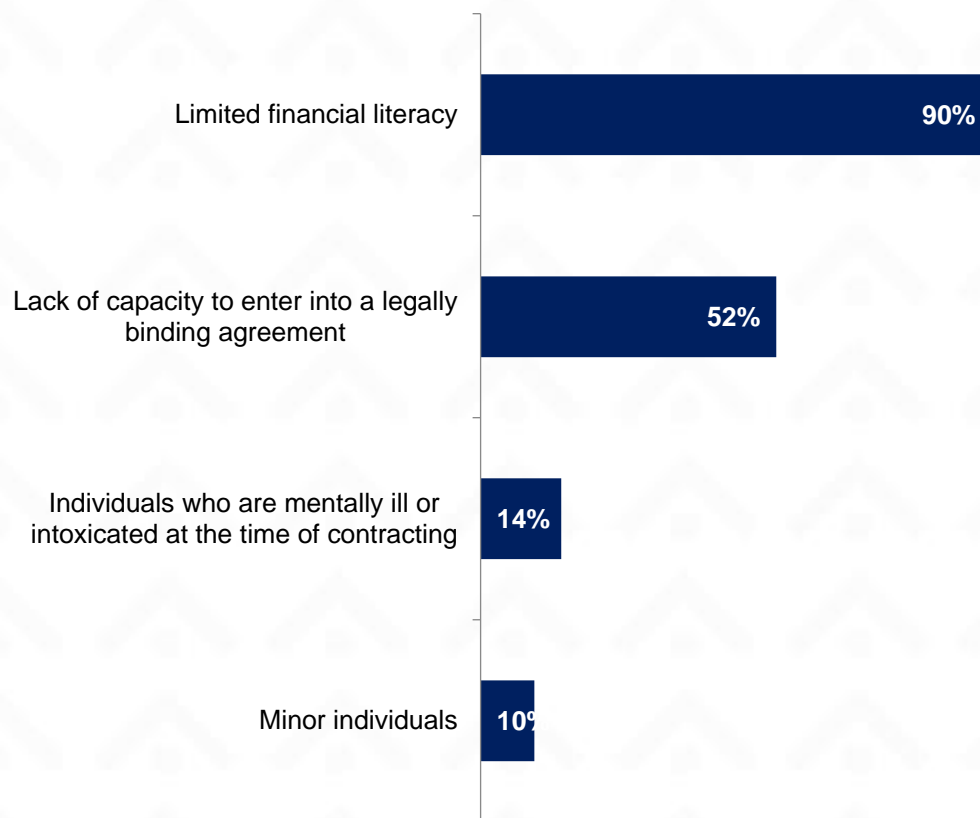


- Key identified advantages of permissionless blockchain technology include no central point of failure (67%) and that it is trustless (29%).
- These advantages contribute to firming up the security of blockchain technology. However, it isn't without its vulnerabilities.



# Consumer protection and smart contract considerations

Consumer protection considerations with smart contracts



- Smart contracts are digital contracts stored on a blockchain that are automatically executed when predetermined terms and conditions are met.
- When it comes to consumer protection considerations with smart contracts, the main themes that arose in the survey were that consumers could be exposed due to limited financial literacy (90%) and the lack of capacity to enter into a legally binding agreement (52%).

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# Let's discuss the key risks of DeFi

## Key risks of DeFi



- The main risks of DeFi identified in the survey include the execution of smart contracts resulting from coding errors when forming smart financial contracts (43%) and the interconnectedness or dependency risk as DeFi protocols allow various smart contracts and decentralized blockchain applications to interact with each other to offer new services based on a combination of existing ones (33%).

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# Key technology and operational risks in DeFi

## Safety and security of DeFi platforms

- As governance frameworks often unclear, opaque, untested and easy to manipulate.
- The persistence of centralised elements in decentralised governance.
- AML/CFT risks due to pseudonymity.

## Blockchain security

- DeFi depends on the proper functioning of the underlying blockchains.
- Due to its high dependence on the internet, the blockchain architecture is highly vulnerable to cyberattacks.
- Main risks of the various layer 2 solutions: security of bridges connecting blockchains

## Smart contracts and DeFi security and threats

- Due to smart contracts being self-executing, it is important that they are secure and free from the following vulnerabilities relating to:
  - Smart contracts are immutable.
  - Written in programming languages.

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# What are the key risks to the financial sector?

## Collateral and Leverage

- DeFi is characterized by high leverage; high leverage in crypto markets exacerbates procyclicality.

## Liquidity mismatches and run-risk in stablecoins

- The exact nature of stablecoins' vulnerabilities depends on their design. Stablecoins backed by short-term securities with illiquid secondary markets, such as commercial paper, feature *liquidity* mismatches.

## Linkages with the traditional financial system

- The fall in crypto asset prices that started in the second half of 2022 had a spillover effect to the traditional financial system.
- Crypto assets growing interconnectedness with traditional finance and the real economy may pose a threat to monetary sovereignty.

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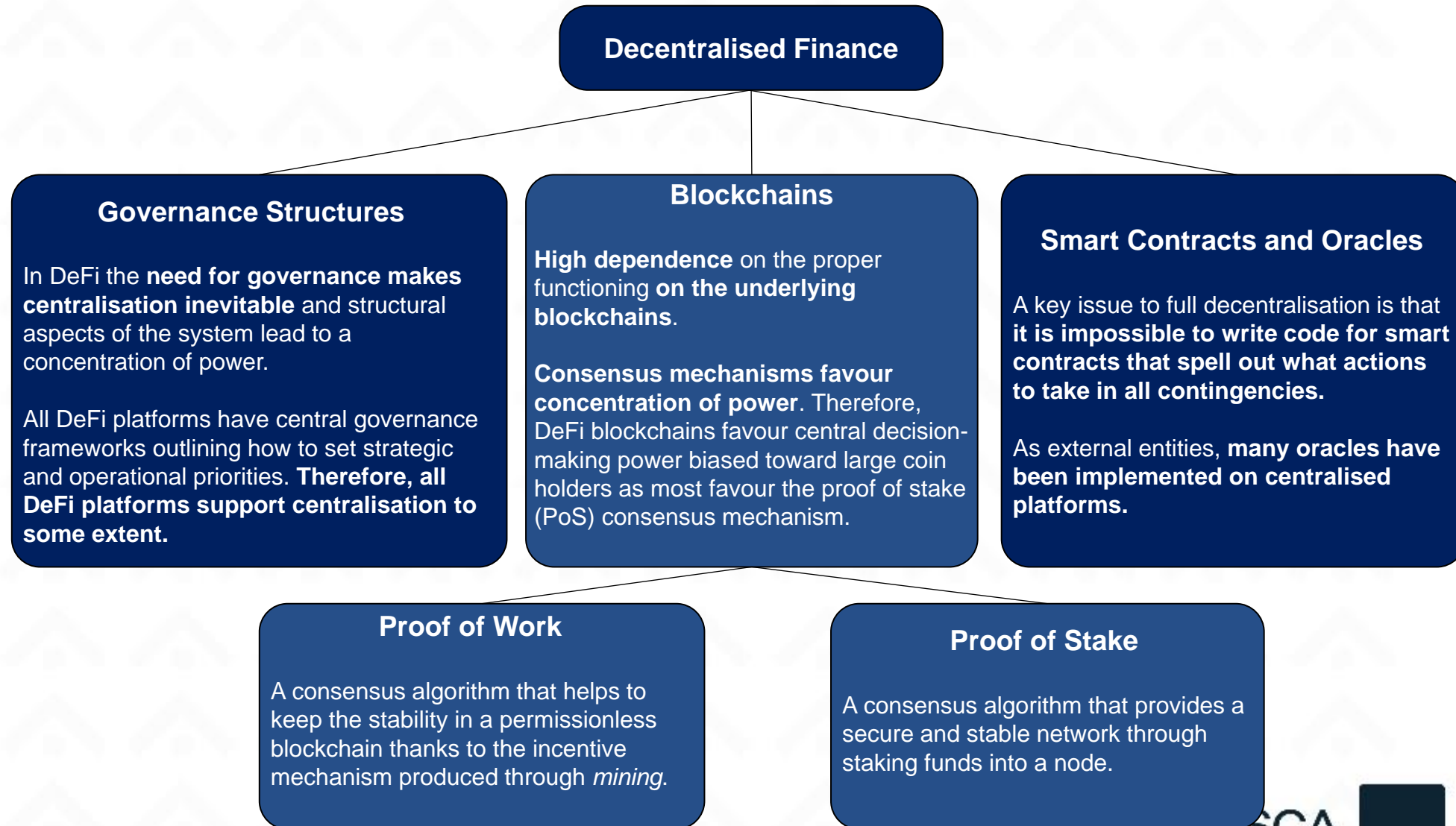
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# The Illusion of Decentralisation in DeFi



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# What are the considerations for South African financial sector?

**Analysis of DeFi activities, products, services and arrangements**

Applying existing framework or new framework, as appropriate, in accordance with the principle of **“same activity, same risk, same regulatory outcome.”**

**Assessment of interconnectedness among the DeFi market, broader crypto asset market and traditional financial markets**

When analyzing DeFi products, services, arrangements, and activities, a regulator should seek to understand the interconnections among DeFi arrangements, the broader crypto-asset market, and the traditional financial markets. **In so doing, a regulator should consider how those interconnections impact risks to investor protection and market integrity, and how they might identify further regulatory touchpoints, including potential responsible persons.**

**Require the necessary identification and addressing of material risks including operational and technology risks**

- Principle of certification of smart contracts.
- A regulator should seek to require providers of DeFi products and services and other Responsible Persons, as appropriate, to identify and address material risks, including operational and technology risks. **These risks should be identified and effectively managed and mitigated.**

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# Thank you



# References

- [1] DeFiLlama (2022), “2022 DeFi Year In Review”, available [here](#).
- [2] Binance (2023), “Top Layer 1/Layer 2 Tokens by Market Capitalization”, available [here](#).
- [3] DeFiLlama (2023), “Overview”, available [here](#).
- [4] Fitch Ratings (2022), “Credit Encyclopedia Series: Decentralised Finance Primer”, available [here](#).
- [5] DeFiLlama (2022), “2022 DeFi Year In Review”, available [here](#).
- [6] BIS (2023), “The Technology of Decentralized Finance”, available [here](#).
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- [8] Consensys & YouGov data (2023), “A Global Survey on Crypto and Web3: Executive Summary”, available [here](#).
- [9] BIS (2021), “DeFi Risks and the decentralization illusion”, available [here](#).
- [10] IOSCO (2023), “Policy Recommendations for Decentralized Finance (DeFi) Consultation Report”, available [here](#).