The DeFi Handbook 2020

CFTW

An overview of what blockchains present in decade two

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Overview

Since the rise of Bitcoin, blockchains have always been raising the benchmarks of human capability within technology. Blockchains aside from facilitating payments via cryptocurrencies have vast arrays of use cases.

Drawing from the insights of Vitalik Buterin- Ethereum Founder, the Bitcoin blockchain was fundamentally a plug-in to payments systems. Strategically, Buterin sawa a more robust outfit - facilitating ordinary trades. And Ethereum came into the picture.

Ethereum as the second most prominent digital asset to rock into the crypto-space has been limitless with surprises. Notably is the ERC20 protocol and Smart contracting. Even more exciting is the rise of Decentralized Finance(DeFi)

DeFi in the space cascades across both spaces- payments and facilitators to trades and notably governance. In the governance space, DAOs come in strongly.

Concurrently, the spaces with DeFi rise again as more credible, auditable built-ons on the Ethereum blockchain. As an ecosystem, Ethereum takes up the form of a giant which is yet to grow bigger. By virtue of developers' ability to build-on open source, the ecosystem of Ethereum opens up a wide array of opportunities to drive significant business variables like liquidity and contractual trust.

Built-ons on Ethereum on another viewpoint take on infinite applications, adroitly defying the mining caps, scalability security of assets and network limitations from the centrality aspects.

Back to DeFi. As blockchains thrive into the second decade, much more will feature within hallmarks that are amazing. As decade two features DeFi , similar but outstanding forays in the line of revolution include , but not limited to: Internet of things, Machine learning and quantum computing.

This eBook will broaden your view of blockchains in the limelight of what tech can do within the hallmarks of revolutionizing human life. In a nutshell, you'll broaden your knowledge on both use-cases and beneficial aspects of blockchain applications and specifically, DeFi.

Read on!

What Is DeFi (Decentralized Finance)?

DeFi is an acronym for decentralized finance. And it refers to a paradigm shift from traditions of finance- centralization to decentralized ones, which are built-on peer-to-peer technologies which are built on Ethereum blockchain.

Into the year 2020 DeFi is a huge topic and an industry clocking more than $7Billions worth secure within smart contracts. Entirely, DeFi is a huge ecosystem composed of expansive networks of financial instruments riding on an integration of protocols. In

reality, DeFi projects are out on lending and borrowing platforms, across Stablecoins and BTC that's tokenized.

DeFi Emerges as the most active front within the blockchain spaces. Aside from the use cases, DeFi has come up with key focus on applications spearheaded by notable enthusiasts, developers alongside organizations.

According to the view by –Lex Sokolin, Global Fintech Co-Head of ConsenSys, the future of global finance is inching towards global infrastructures that are common.

The traditions with finance narrow down to centrality of infrastructures cascading across authorities, institutions along with other intermediaries. DeFi on the other hand runs on the power of codes within systems and infrastructure built on Ethereum blockchain. DeFi runs on immutable smart contracts where developers roll out protocols of financial nature. The platforms codes run as per predictions while they are concurrently accessible to any parties with access to the internet.

> DeFi magnifies and leverages financial security and its transparency, opportunities for up scaling, growth and matching liquidity gaps with standardized integrations of an economic ecosystem.

The huge point of departure with DeFi is the applicability of crypto-assets in avenues never possible with fiat currency or ordinary assets. A glance at the DeFi landscape portrays a reality of novel applications only possible with blockchain technologies. Talk of the rise in decentralized exchanges, assets value-bed on others and flush loaning as well.

In a nutshell, DeFi opens up an array of paradigm shifts within financial infrastructures, and the border on core financial aspects of opportunities, risks and trustworthiness.

The Pro-Point with DeFi (Decentralized Finance)

At the core of DeFi is the Ethereum blockchain and it leverages on several concrete principles which form its pillars.

DeFi magnifies and leverages financial security and its transparency, opportunities for up scaling, growth and matching liquidity gaps with standardized integrations of an economic ecosystem.
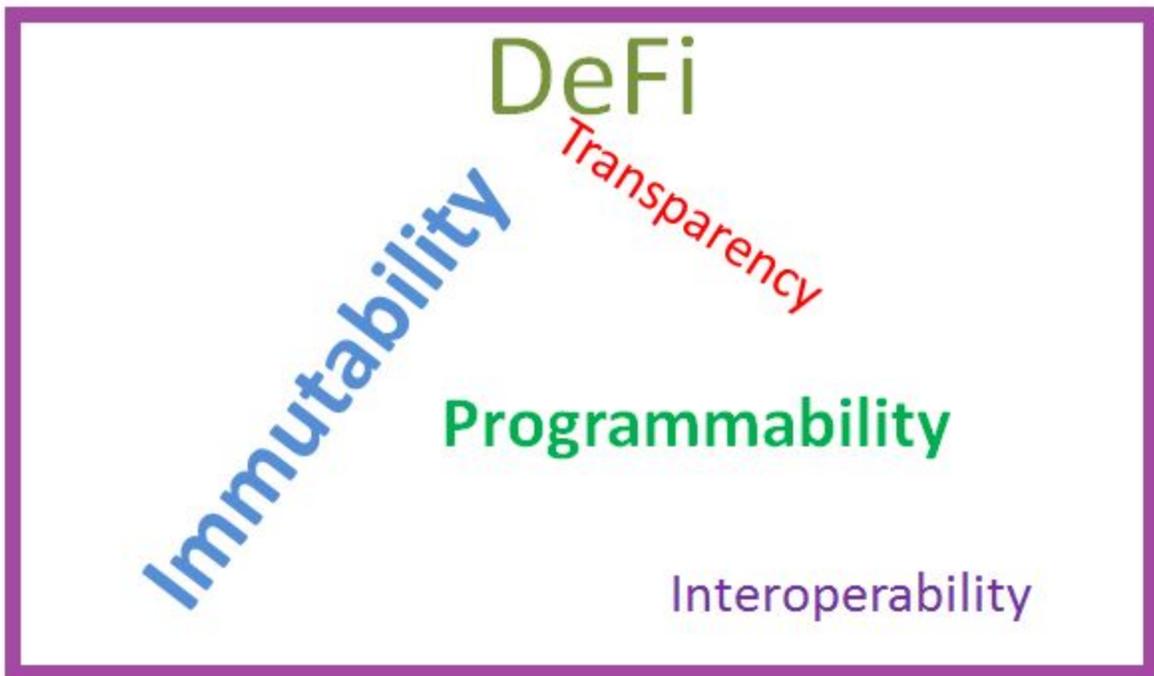
Here's a glance of the seamlessness within DeFi:

Programmability

Smart contracts are highly programmable and in the tail end facilitate the automation of their execution within an environment away from human interference. Smart contracts execute to create financial instruments and other digital assets with respect to their specific natures.

Immutability

Information on the blockchain updates seamlessly- allowing every user to access a latest copy. This facilitates data coordination in a manner that is fool-proof from tampering. - That enhances secure mechanisms for system audit purposes.

Interoperability

Interoperability

Ethereum blockchain allows stacks of software to be built-ons.Defi apps therefore follow protocols where compos ability and integration complement each other.

There's great flexibility where developers find ready-made protocols- their role narrows down to the customization of interfaces and integrating them with third-party apps. In some circles, DeFi is commonly referred to as "money legos."

Transparency

Public Ethereum blockchain technically broadcasts all transactions from one authentic user to all others on networks (note: Ethereum addresses compose encryptions of keys which provide for pseudo-anonymity). It enforces transparency at a high level and it's very easy to carry out in depth data analysis. The high transparency also sees to it that every user can access network availability without any pre-selection mechanisms. One other salient feature is, Ethereum provides a platform for DeFi to run on open source code where anybody can not alone access, but also build on and perform audits upon.

Permissionless

DeFi clearly distinguishes itself from traditional finance Specifically, DeFi is underscores its openness via, Permissionless access: everyone with an interface from a crypto wallet plus internet connectivity, without any regard to their geographical locations or amounts in the wallets, has access to DeFi apps that run on Ethereum.
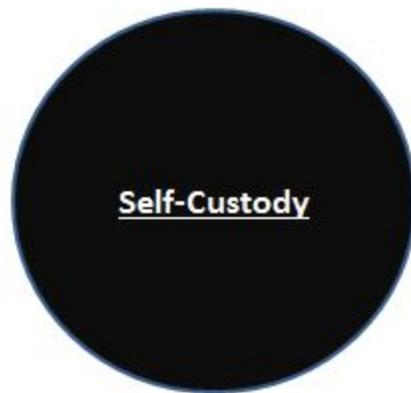
Self-Custody

Ethereum allows a unique level of custody to both   assets and user data. For instance, users of [MetaMask](#)- Web3 wallets have seamless access to both DeFi protocols and financial applications.

According to notes by Collin Myers, the Global DeFi Product Strategy Lead at Codify, most new economies arise from leveraging. It's in 2019 that blockchains rolled out fixes to such, and finally the DeFi economy.

The DeFi Use Cases

DeFi has created a new form in the entire global economy. The mix from DAOs, synthetic assets in the light of decentralized protocols guiding finance have unlocked a new front of opportunities for stakeholders.

DeFi has many use cases. And the following comprehensive list gives significant proof that DeFi is more than an ecosystem comprising projects.

From a broader perspective, DeFi emerges as a holistic and integrative pursuit of efforts to put in place a financial system built on Ethereum. Ideally and technically rivaling centrality of service providers with seamless access, resilience and transparency.

On a unique note, DeFi protocols allow you to keep custody of your own crypto-assets. Good examples are Argent, Gnosis Safe and MetaMask, which have interfaces that provide standard e and secure features while interacting with DeFi applications. The interfaces help in purchase, sales, and staking as well as transferring digital assets.
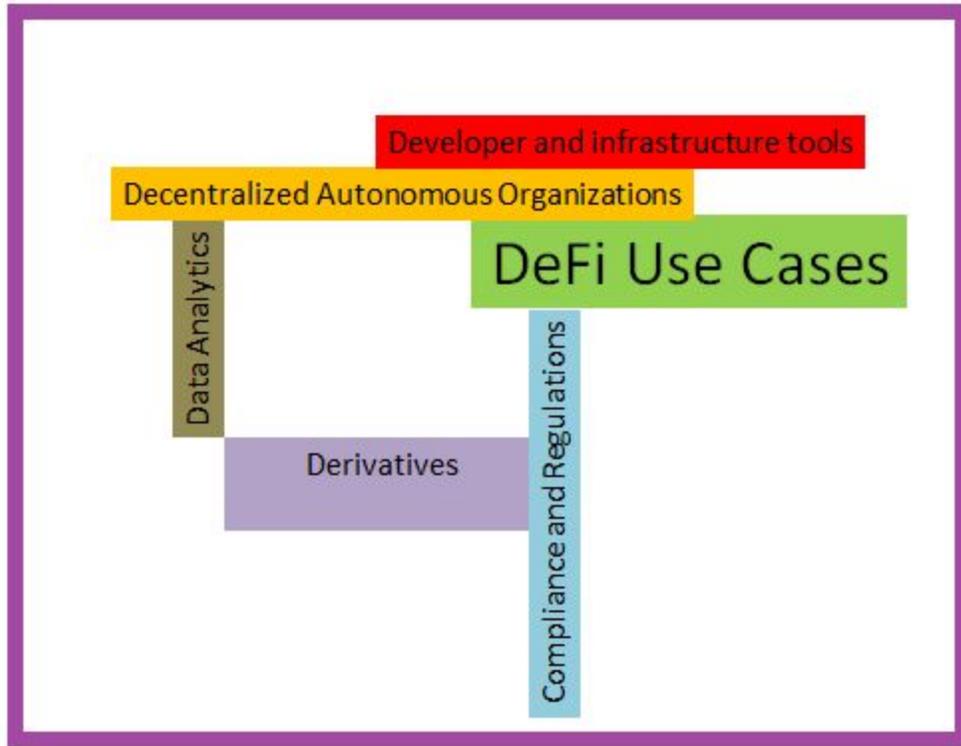
In specific details, MetaMask gives you an interface to access DeFi applications with key components for storage of passwords and seed phrases as well as encryption formats for private keys for your local gadgets, limiting account or data access to authorized parties.

Compliance and Regulations

Traditional finance enforces the KYC or Know Your Customer regulations to carry out checks on both anti-money laundering and counter-finance terrorisms practices.

On the other front, DeFi, through Ethereum infrastructure, rides on cutting edge analysis narrowing down to addresses of participants unlike their identities. DeFi therefore works with a known-your-transaction (KYT) policy that tracks risks on real times and individual projects in line with provisions for fraudulently and financial crimes.

Decentralized Autonomous Organizations

DAOs are simply decentralized and autonomous organizations whose corporation runs according to Ethereum blockchain-coded rules. In essence, DAOs eliminate the need for central authority for administration. Some of the popular DAO protocols within the DeFi space comprise Compound and Maker. Into specific details the protocols help in

fundraising, management of financial operations as well the decentralization of governance to communities.
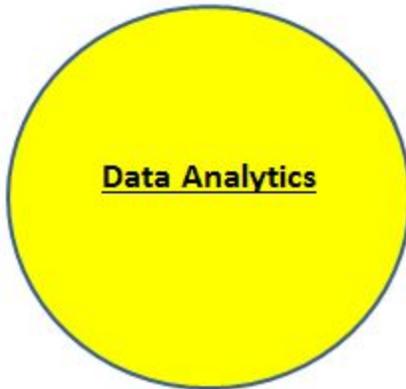
Data Analytics

Data analytics around DeFi protocols are quality derivations from fool-proof data from the Ethereum networks. Therefore, DeFi stands quality chances with discovery of trends and the insights they lead towards decision-making regarding risks and opportunities.

DeFi applications have incited the roll out of many tools and dashboards. Examples are Codify Data and DeFi Pulse, which help track incidences, protocols risks as well as assessments of metrics on Returns and liquidity.
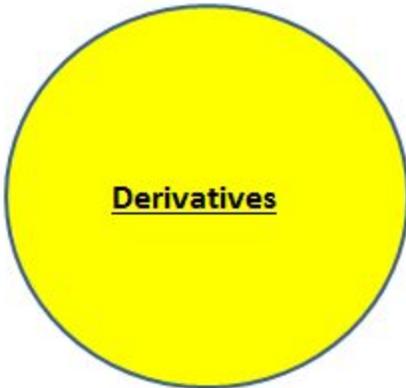
Derivatives

Open source coding has advanced to roll out smart contracts leading into the

tokenization of underlying assets whose details wiring is code-based. Derivatives

riding on the DeFi protocols have the ability to represent real assets - fiat, commodities

bonds, and crypto-sets as well.

Developer and infrastructure tools

DeFi protocols have one huge advantage over other platforms - it's the composability. With it, many components within a system are able to seamlessly connect and interoperate. Compostable codes offer a great ability for developers to network allowing others to add more functionality on the achievements of others.

No wonder, you'll encounter the term "money legos," in line with DeFis. Developers for both code and products have easy times rolling out DeFi protocols from a tool with a full stack approach and with secure integrations in the picture. Key examples include the Infura's API suite, Truffle's smart contract libraries and Diligence's security tools.

Visualization for DeFi super user Cases

Visualization for DeFi super user Cases

DEXs

DEXs

Decentralized exchanges are best known as the DEXs. These are cryptocurrency

exchanges whose operations have no centralization of authority. They allow

peer-to-peer transactions while maintaining the control of funds. With DEXs, there

comes a reduced risk of instances with price manipulations, hacks since the crypto-asset storage is away from the exchange platforms.

Comparisons based on liquidity shows that DEXs have projects with best access for liquidity unlike centralized counterparts Also, DEX have significantly low fees charges for listings. That eliminates the likelihood for a project paying s dollars to the tunes of millions for listing their tokens on centralized exchanges.

There's an integrated implementation where exchanges implement varying decentralization. In essence some centralized servers may host order books alongside more features while they do not store users' private keys. The list of DEXs in the DeFi space are: [Liquality](#), [Mesa](#), [Oasis](#),[AirSwap](#) and [Uniswap](#).


Gaming

DeFi helps forge an array of opportunities through composability. Protocols help in the development of products direct on platforms cascading across varieties of verticals.

Games built on Ethereum have risen in popularity from innovative modeling.

A great example is the [PoolTogether](). A nil-loss auditable savings lottery enabling the users purchases digital tickets. Users require depositing DAI Stablecoins, wherefrom pooling enables lending and compounded return protocols for interests.
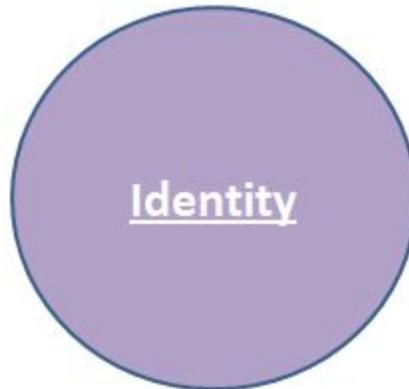
Identity

User identities have always been on the spot with compromises, sometimes hitting seemingly credible platforms. DeFi protocols enriched with blockchain -enabled systems open up a huge foray facilitating access to the global economy.

From a certain perspective, DeFi can help lower collateral decline for most parties requiring credit support. There have been great fallacies with few arrangements like ordinary mortgages and home ownership plans.

DeFi is critical in refining data privacy for individuals as well as what the masses can access openly. DeFi is open for anyone with access connectivity, while it allows them abilities to limit control to data and assets as they wish.

Insurance

Insurance

DeFi is rapidly emerging with teething risks to do with bugs and breaches around smart contracting. In the realm, many insurance products are reaching out to the markets for users to cover for various risks. One particular solution is Nexus, who are covering smart contract users for unintended use cases within the smart contracting domain.

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Visualization for DeFi super user Cases
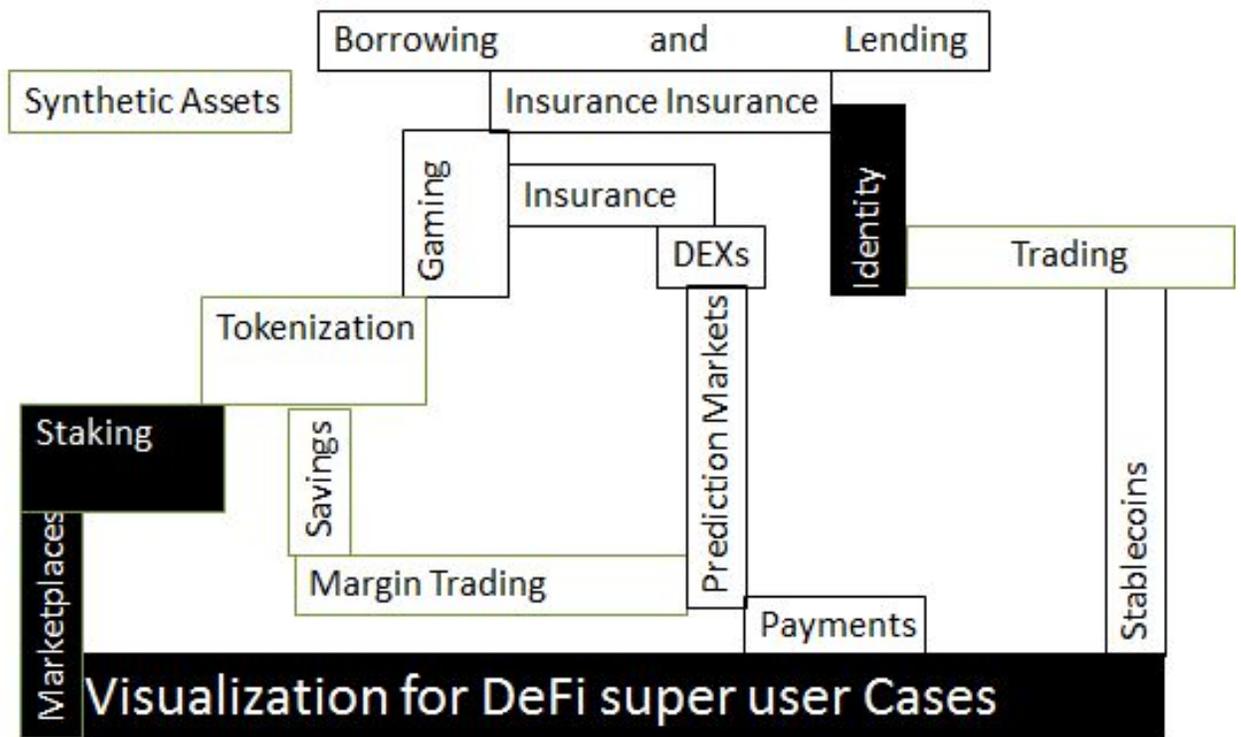
Borrowing and Lending

You may wonder how the DeFi ecosystem is transforming the credit industry. Smart contracts are deployed with a financial interest compounding components within p2p frameworks.

One example is Compound, built on a protocol and algorithm with an autonomous rate of interest. Many platforms on DeFi within that category are PoolTogether, Dharma, and Argent. For Compound, the overarching goal is to provide a market rate of interest built on Ethereum, where lenders earn by pooling resources into a lending pool.

Compound start contracts match lenders and borrowers as well as auto-calculate the interests due based on ratios provided for resources borrowed and supplied.

Component is a leading example of what DeFi can within the entire domain of borrowing and lending- enabling holders to earn some interest from their crypto-assets instead of allowing them sit idle with time.

Margin Trading

The scenario with margin trading for traditional finance scopes traders leverage by borrowing funds from platforms to trade. Within the DeFi space, margin trading takes the form of where protocols for non-custody lending act within a decentralization framework.

 Good examples here are dYdX and Compound where smart contracting automated trading activities. It's the concept behind the rise of an n emerging term - the "autonomous money markets" with DeFi

Market Places

Marketplaces

Online marketplaces are now at the verge of experiencing the power of protocol controls within the domains of service and goods exchanges at global scales.

Virtually, everything exchanges hands within peer-to-peer frameworks. You can exchange pieces of code, software, files among other virtually collectible products to, cloth, jewels and food.

Payments

Payments

P2p payment models are arguably the foundational use-cases for DeFi and the Blockchain ecosystems at large.

The entire- architecture is meant to allow users to exchange Cryptocurrencies with ease - away from interference from third party actors.

DeFi therefore opens up a more open economy where both communities - under and unbanked communities are brought onboard within the mainstreams of accessing financial services without any forms of prejudicial segregation.

Prediction Markets

Prediction Markets

Blockchain-based applications have radically injected transformations into the insights of the masses- helping in voting on decisions and the tradability of values based on the events of predictive natures. The entire scenario is the crowd sourcing of   fair prices within markets.

A great example within this domain is [Augur](), a DeFi platform for platforms and it features market predictions, electioneering as well as results for sporting, gaming among other economic activities.

Savings

With almost similar   semblance with lending and borrowing frameworks. DeFi protocols and applications are breathing new life into the space.

Users can access credit via many apps and they refund with interests - just as an extension of the traditional lending schemes. With DeFi, comes the great ability to create savings pools as well as incorporate dynamic rates of interest- ones sensitive to the volatility of credit apply Vis a Vis its demand.

Good examples are [Dharma](), [Argent]() and [PoolTogether](). Each of their apps brings in a no loss model, where participants get assurance of recouping their money back at any time.

There's one DeFi application that is taking into the spaces by storm with cutting edge saving schemes. Yard farming is revolutionizing the scenes by opening up arrays for crypto-owners to profit from idle crypto-assets. Several protocols are in place t and they bring in a balance into the delicate variable of supply and demand for liquidity.

Stablecoins

Stablecoins are cryptocurrency with a valuation model based on a designated fiat currency or commodities. Originally, stable coins were meant to address the volatility of crypto-assets and facilitate liquidity and eventually transform blockchains into best of payment solutions.

With the incoming of DeFi into the payments space, several arrays of solutions coping remitting, paying, lending and borrowing have flourished into platforms. Interestingly, payments solutions arising from DeFi frameworks are morphing into another paradigm of use cases with institutions. Great example is the [central bank digital currency (CBDC).](#)

Staking

Staking within the crypto-sphere is on the rise. For Ethereum networks, upgraded into a consensus algorithm, the [Proof of Stake](#) , [Ethereum 2.0](#), users can stake ETH for an array of rewards.

 Staking on Eth2 compares to holding a savings account earning interest. Stakers get rewards for block validation in line with Ethereum Protocols.

Synthetic Assets

The rise of Stablecoins gives a similar, yet district scenario with synthetic assets. Those are crypto assets providing exposure in line with other assets like gold, fiat currencies,

and also Cryptocurrencies. Token earnings get locked with smart contracts that are in-built within Ethereum.

One instance is for the Synthetic protocol, where a collateralization ratio hits 750% and helps in cautioning economies against price volatilities.

Tokenization

Tokenization forma a fundamental pillar for DeFi and extends in a very special case for the functionalities of the Ethereum blockchain. Tokens perform the tasks of network-fueling and unlocking various arrays of economic fronts.

 Tokens are the digital assets whose existence, issuance and management are on a respective blockchain. Token design facilitates both security of ownership and instantaneous transfers, and that is aside from the programmability with inbuilt ranges of functionalities. For instance, in real estate, tokens represent a portion of property and hold specific incentives in line with the industry stakeholders

Reality is, Ethereum tokens are emerging as secure alternates across global users for not only access but, trading and storing values.

Trading

The DeFi space has radically built up new activities within the trading arena. Derivative and margin trading have transformed, as well as the swapping of tokens within exponentially integrating frameworks cascading across exchanges, and actors within markets and providers of liquidity.

Also, the rise in adoption of decentralization access exchanges has significantly led to; lower transaction fees, fast settlements as well as more transparent   models for assets custodian-ship.

Mid-way through quarter two of 2020, decentralized exchanges recorded a cumulative volume bursting past the $4 billion mark.