

Decentralized Finance (DeFi)

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DeFi – Decentralized Finance

The launch of Bitcoin in 2009 gave birth to robust blockchain technology. The cryptocurrency and blockchain space features several niches in which organizations and projects create solutions for different use cases.

DeFi, or the decentralized finance sector, is one such niche. With DeFi, you can carry out most of the things banks support — lend, borrow, earn interest, trade derivatives, buy insurance, trade assets, etc. But it is faster and does not need a third party or any paperwork.

It does sound interesting. Hence crypto enthusiasts must be aware of all the vital aspects.

What is DeFi?

Decentralized finance or DeFi is an umbrella term for different financial applications in blockchain or cryptocurrency geared towards disrupting financial intermediaries. It is based on secure distributed ledgers.

DeFi aims to create a permission less, transparent and open-source financial service ecosystem which operates without any central authority and is available to everyone. Users will have total control over their assets and interact with this ecosystem via P2P (peer-to-peer) and DApps (decentralized applications).

Decentralized finance is primarily based on Ethereum and is all about code. It uses smart contracts and crypts' to offer services which do not require intermediaries.

Financial institutions play the role of guarantors of transactions in today's financial world. A smart contract replaces these financial institutions in a transaction in decentralized finance.

A smart contract can hold funds and refund or send them depending on several conditions. When live, a smart contract always runs as programmed, and no one can alter it. The following illustration clarifies:

Suppose a contract that is engineered to offer an allowance can be programmed to send money from Account X to Account Y every Friday. For that matter, it will only do so as long as Account X contains the required funds. No one can change the contract and add Account Z as a recipient to steal funds.

Also, contracts are public for any individual to audit and inspect, implying bad contracts will quickly come under community scrutiny.

Features:

1. **Smart Contracts:** DeFi relies on smart contracts, self-executing contracts with the terms of the agreement directly written into code. These contracts automate processes like lending, borrowing, and trading without the need for intermediaries.
2. **Interoperability:** DeFi platforms often interoperate, allowing users to access various financial services seamlessly across different applications and protocols.
3. **Tokenization:** Traditional financial assets like real estate or stocks are tokenized on blockchain platforms, enabling fractional ownership and increased liquidity.
4. **Liquidity Pools:** DeFi protocols use liquidity pools where users can lock their assets to provide liquidity and earn rewards in the form of fees or governance tokens.
5. **Open Source:** DeFi projects are typically open-source, allowing anyone to inspect the code, propose changes, or contribute to the development of the platform.

Advantages:

1. **Financial Inclusion:** DeFi opens up financial services to the unbanked and underbanked population, providing access to banking, lending, and investment opportunities without relying on traditional institutions.
2. **Accessibility:** DeFi platforms are accessible to anyone with an internet connection, enabling global participation without the need for a traditional banking infrastructure.
3. **Transparency:** Transactions on DeFi platforms are transparent and traceable on the blockchain, enhancing trust and reducing the risk of fraud.
4. **Programmability:** Smart contracts enable programmable financial services, allowing developers to create customized solutions and automate complex financial processes.
5. **Reduced Intermediaries:** DeFi eliminates the need for intermediaries such as banks and brokers, reducing costs and speeding up the execution of financial transactions.

Disadvantages:

1. **Security Risks:** Smart contracts are susceptible to vulnerabilities, and any exploit or loophole in the code can lead to significant financial losses.
2. **Regulatory Uncertainty:** DeFi operates in a relatively unregulated environment, leading to uncertainties regarding legal frameworks and potential regulatory interventions.
3. **Market Volatility:** Cryptocurrency markets, which DeFi often relies on, are known for their high volatility. Sudden market crashes can result in significant losses for users.
4. **User Errors:** As DeFi platforms involve self-custody of funds and interacting with smart contracts, users are at risk of making mistakes like sending funds to the wrong address or approving malicious contracts.
5. **Scalability Challenges:** Some DeFi platforms face scalability challenges, leading to network congestion and increased transaction fees during periods of high demand.

DeFi vs Traditional Finance

DeFi is an emerging system aiming to revolutionize the traditional finance segment. It boasts the ability to be a financial tool outside of regulatory and government control. This makes it potent enough to disrupt traditional finance. Given below is a comparison between DeFi and traditional finance:

Traditional finance	DeFi
You must trust financial institutions regarding money management – they should not mismanage your money, including lending to risky borrowers, etc.	You get to manage your money – where it goes and how it is spent.
You need to apply to use financial services.	DeFi is open to any individual.
It can take several days for payments to complete because of manual procedures.	Fund transfer can take place in minutes.
Transaction activity is closely coupled with your identity.	Financial activity is pseudonymous.
Financial institutions hold your money	You get to hold your money
You cannot look into loan history, a record of managed assets, etc., with financial institutions.	Any individual can look into a product's data and check how the system works.
Markets close down at certain times due to several reasons.	Markets are open at all times.

Use Cases for DeFi

- **Synthetic Assets and Derivatives** - Allows the formation of tokenized derivatives with added security
- **Infrastructure Development** - Provides the tools to compile, integrate and develop blockchain solutions
- **Asset Management** - Allows selling, purchasing, staking, earning interest on and transferring digital assets
- **Compliance and KYT** - Provides KYT (Know-Your-Transaction), which tracks transaction behaviors in place of user identity
- **Risk Management and Analytics** - Helps analyses data for reduction and assessment of risk.
- **Payment Solutions** - Provides safer, more transparent and faster solutions in comparison to the legacy payment systems
- **DAOs** - These are decentralized administrative entities which manage the core financial operations.
- **Digital Identity** - Provides portable self-sovereign identity which is private and secured
- **Insurance** - Offers secured audits, automated insurance claims and cuts down paperwork
- **P2P Lending and Borrowing** - Ensures P2P borrowing and lending with low risks and high-interest rates.

DeFi Risks

Given below are some of the risks of DeFi:

- **Threat of Hackers** - All the potential use cases of DeFi rely on software systems which are vulnerable to hackers.
- **Collateralization** - Almost every DeFi lending transaction needs collateral equal to a minimum of 100% of the loan's valuation, if not more. These significantly limit who is eligible for several types of DeFi loans.
- **No Consumer Protection** - The absence of rules and regulations implies that users have little recourse in case a transaction goes foul.

Future of DeFi

DeFi bears the potential to revolutionize the financial sector when concerns regarding privacy and data security are increasing. But first, it must address issues related to liquidity, regulations, scalability and security.

There was less than \$20 billion worth of value that was locked in different DeFi products as of November 2020. A majority of these were on Ethereum. It was worth over \$260 billion by the next year, with Binance Smart Chain alone contributing \$19 billion. If this trend goes on and the decentralized finance maximalists are right, it can be just the start of a monstrous DeFi wave.

DeFi has gained significant momentum over the years. Crypto enthusiasts looking forward to them must keep in mind all the above-mentioned vital aspects. Also, they must ensure to carry out extensive research before interacting with DeFi applications due to the considerable risk involved.