

L11: DAOs & Governance

BSc Blockchain Course

Digital Finance

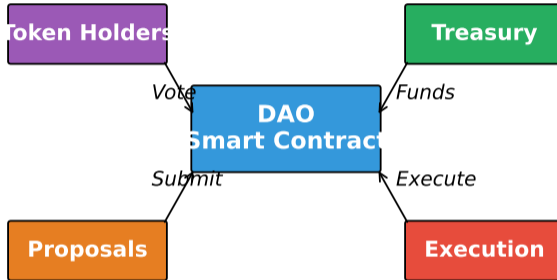
- 1 DAO Fundamentals
- 2 Governance Mechanisms

By the end of this lesson, you will be able to:

- 1 Understand DAO structure and components
- 2 Explain different voting mechanisms
- 3 Describe treasury management approaches
- 4 Analyze proposal lifecycles
- 5 Evaluate DAO governance models

Prerequisites: L05 Ethereum, L06 Solidity.

DAO Organizational Structure



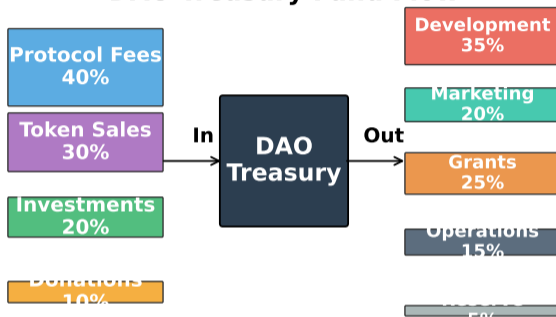
DAOs replace hierarchies with smart contract governance.

DAO Voting Mechanisms

Token Voting	1 token = 1 vote Simple but plutocratic
Quadratic Voting	Cost = votes ² Reduces whale power
Conviction Voting	Time-weighted Long-term alignment
Delegate Voting	Vote delegation Liquid democracy

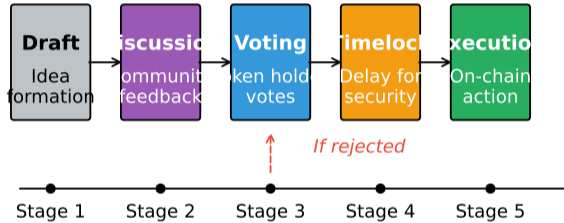
Quadratic voting reduces plutocratic control.

DAO Treasury Fund Flow

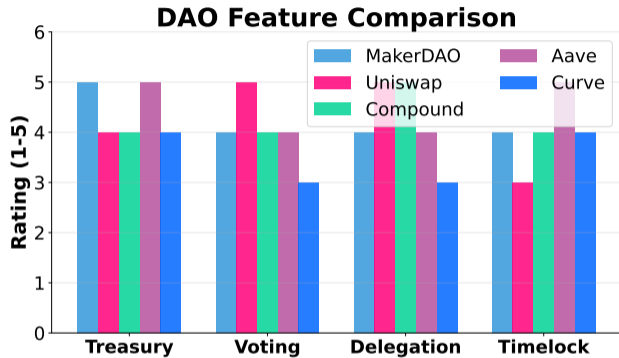


DAO treasuries hold billions in protocol-owned assets.

DAO Proposal Lifecycle



Timelocks provide security against malicious proposals.



Different DAOs optimize for different governance goals.

Diversification Strategies:

- Hold stablecoins to reduce native-token volatility exposure
- Deploy idle assets to yield protocols (e.g., Aave, Compound)
- Maintain runway in stables: 2–3 years of operating expenses

Governance Controls:

- Multi-sig safes (e.g., Gnosis Safe) for large disbursements
- Spending caps: proposals only release funds up to a limit
- Streaming payments (e.g., Superfluid) for contributor salaries

A DAO treasury denominated only in its own token is vulnerable to bear markets.

Flash Loan Attacks:

- Borrow large token amount within one transaction
- Pass malicious proposal or execute vote
- Repay loan — attack costs almost nothing
- Beanstalk hack (2022): \$182M lost this way

Mitigations:

- Snapshot voting power at block before proposal
- Require token lock-up to vote (e.g., veTokens)
- Mandatory timelock before execution

Voting power must be snapshotted before the proposal to prevent flash-loan manipulation.

Remember These Points

- 1 DAOs are on-chain organizations governed by token holders
- 2 Voting power can be 1-token-1-vote or quadratic
- 3 Treasuries fund development, grants, and operations
- 4 Proposals go through discussion, voting, timelock stages
- 5 Delegation enables liquid democracy

Next Lesson: Controversies and Future.