



社区驱动的群体智慧涌现决策范式

A Community Driven, Swarm Intelligence Emergent Decision Solution

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NEO Smart Contract

一. 智能经济与群体智慧

Smart Economy & Swarm Intelligence

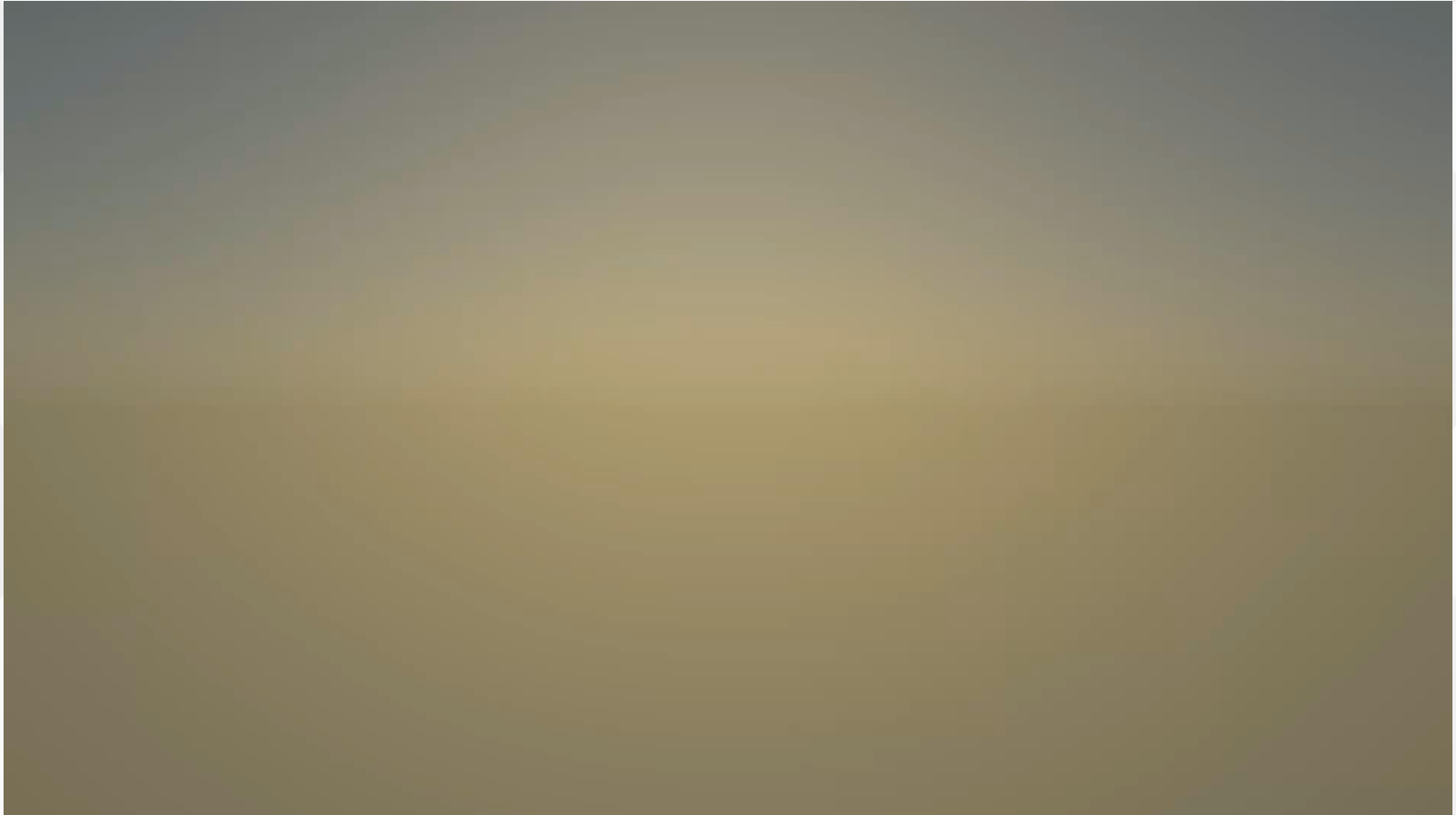


NEO
smart economy

智能经济 = 数字资产 + 数字身份 + 智能合约

Smart Economy = Digital Assets + Digital Identity + Smart Contracts

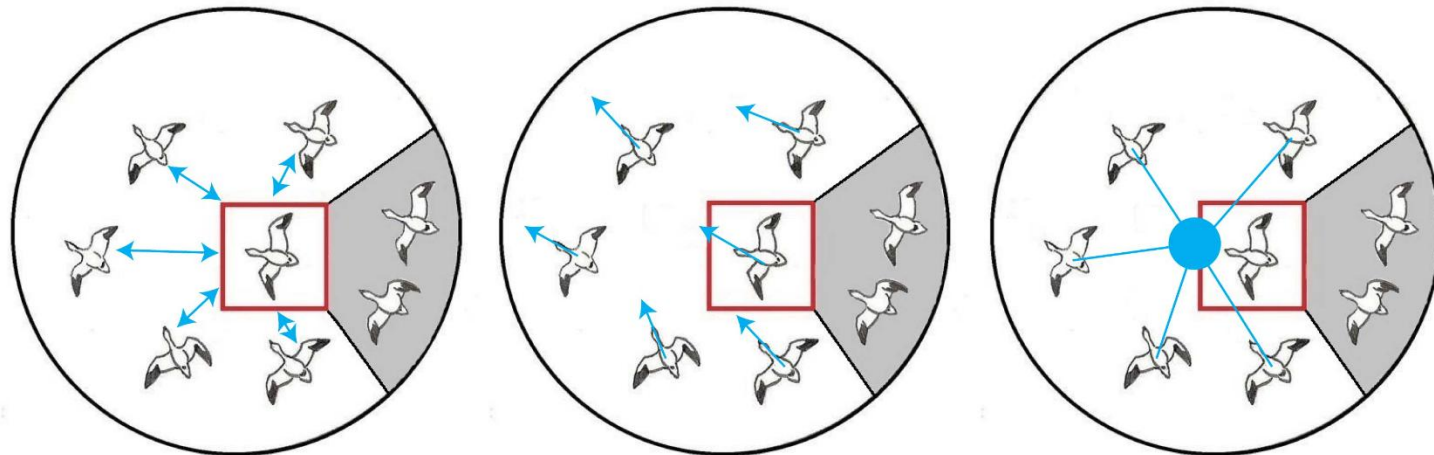
群体智慧 Swarm Intelligence



Source: https://www.youtube.com/watch?v=_4Arb-kli3Y

Boids Model 3 Simple Rules

- 分离控制：Separation
- 一致性控制：Alignment
- 凝聚力控制：Cohesion



The three flocking rules from the *Boids* model: 1) Separation; 2) Alignment; and 3) Cohesion.

Source: <http://www.petercavanagh.us/home/exhibits/how-birds-fly/advanced-flying/flocking/>

完美的结合 Perfect Marriage

- 群体智慧是无中心集中控制的组织结构

Swarm Intelligence has the structure of no centralized control

- 区块链重构了我们的“邻居”

Blockchain: Reconstructing the idea of ‘neighbors’

- 在智能经济社群中，群体智慧涌现将成为常态

A new collective intelligence can emerge in Smart Economy

二. 智能经济下的新组织结构

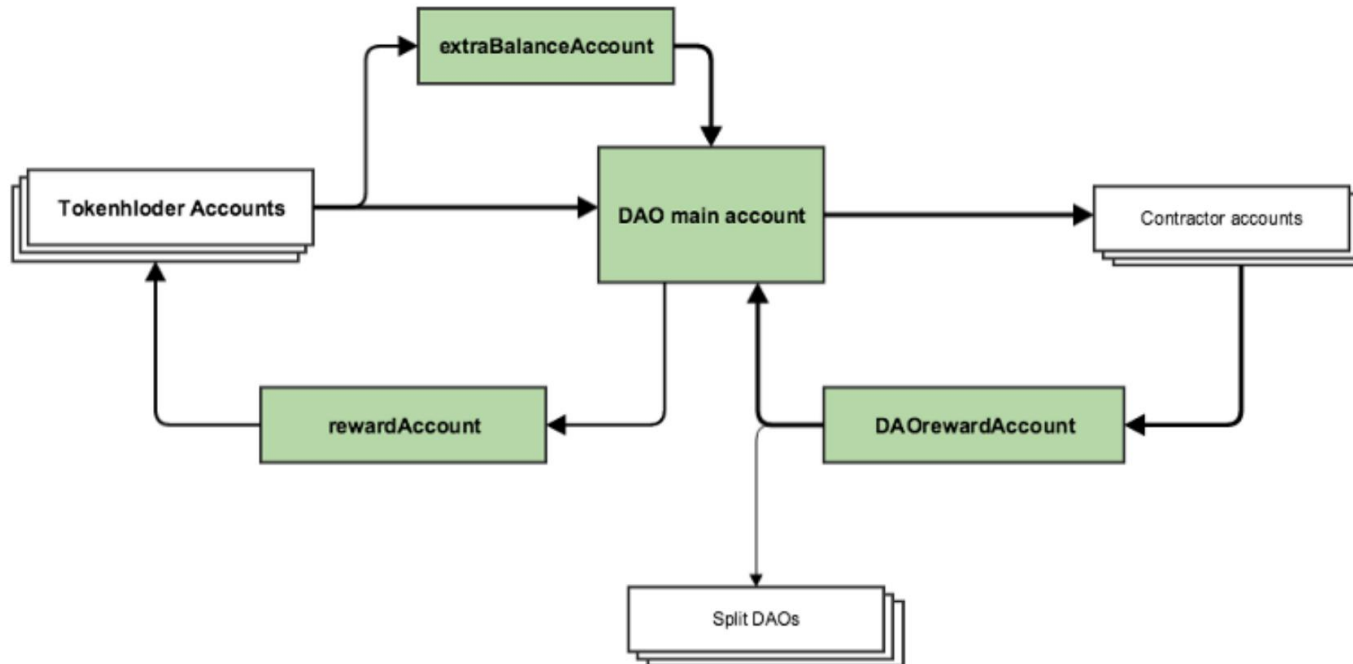
New Structure of Organizations in Smart Economy

TheDao Innovation

- 去中心化的自治组织：管理信任

Decentralized autonomous organization: Trust

- 通过智能合约管理共同资金 Smart Contracts



The Failure of TheDAO

- 为了防止“大多数抢劫少数攻击”，TheDAO 提出解决方案是“DAO分离”。这带来了无限递归问题

Split recipe brought “infinite recursion split” problem.

- 是不存在数体八列格式外的新的组织模式？

New

```
splitDao
  withdrawRewardFor
    payOut
      recipient.call.value()()
        splitDao
          withdrawRewardFor
            payOut
              recipient.call.value()()
                ...递归下去
```

研究组织的进化 Evolution

- 青色组织

Teal organizations

- Self-Management

- Distributed

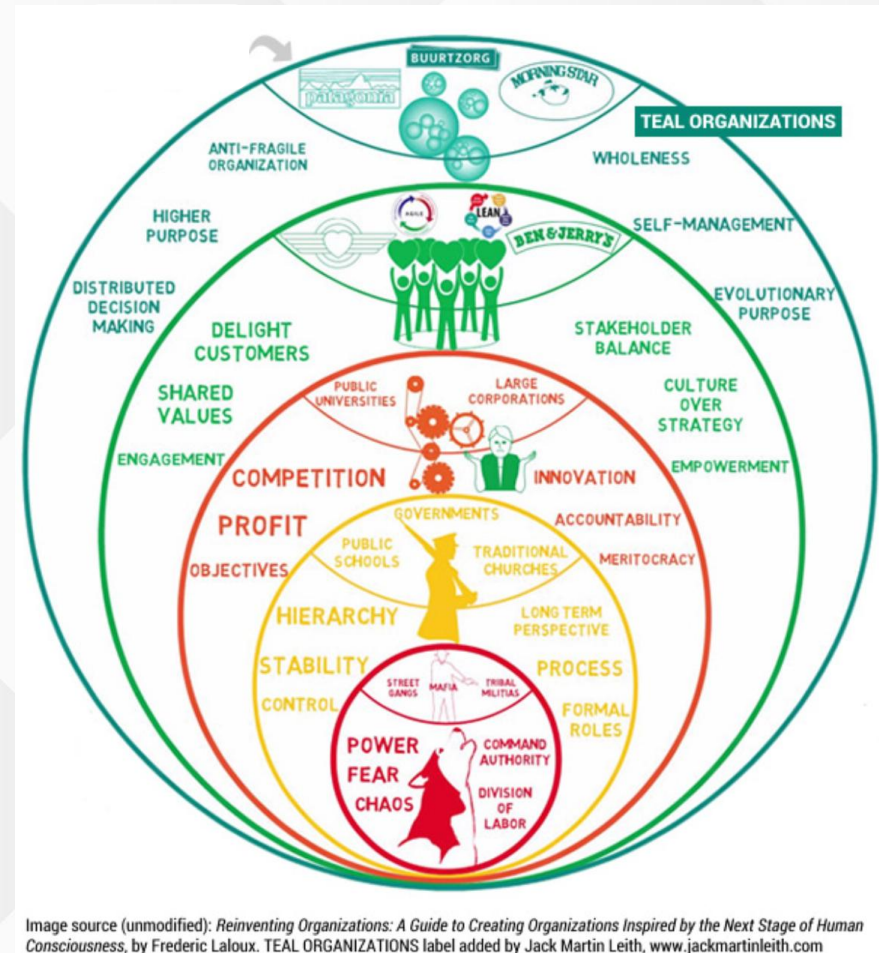
Decision making

- Decentralized

Management model

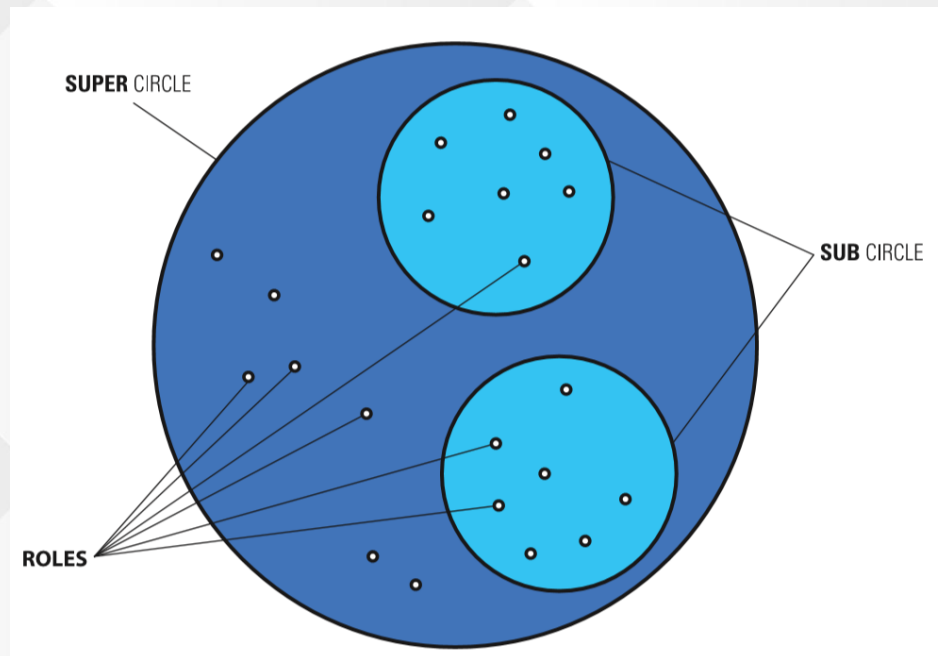
- peer-to-peer

governance



合弄制 Holacracy have solved

- Rule system: A written constitution
- System for distributing authority : Circle Structure
- Governance: peer-to-peer ongoing process.



Circle Structure Source: holacracy whitepaper

Holacracy Not Solved



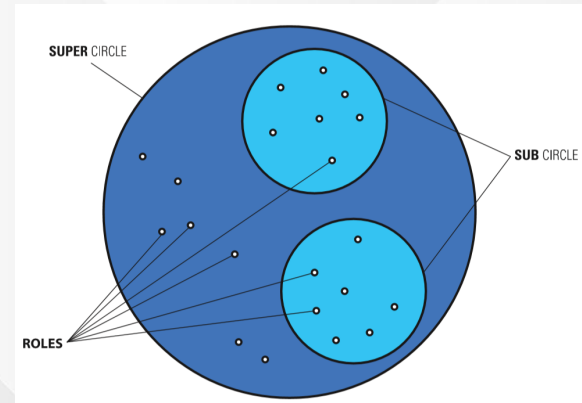
- Ownership
- Economic incentive mechanism
- Distribution mechanism

Our solution



DAO2.0 = 智能经济 + 合弄制

DAO2.0 = Smart Economy + Holacracy



三. 群体智慧决策系统

Decision-making system based
on swarm intelligence

传统组织决策的问题

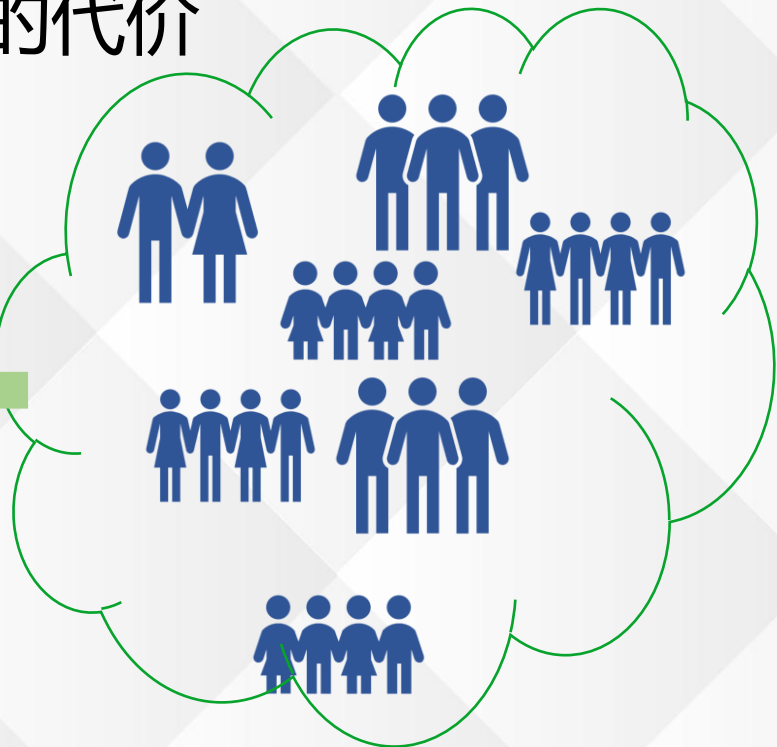
- ① 参与者无法真正参与贡献
- ② 决策层的固化
- ③ 群体思维：维持高内聚力的代价



决策



决策者：
固定化



参与者只
需要跟随

决策模型 Decision-making Models



- 理性决策模型

Rationality Models

- 有限理性决策模型

Bounded Rationality Models

DAO2.0 Achieve Rational Decision

Rationality Prerequisites

- 结果完全理性；
- 决策者具有完整的偏好体系；
- 决策者知晓所有备选方案
- 决策者对于所有方案能够计算出成功概率

DAO2.0

- 基于特定投票机制运行，没有例外；
- 社群的偏好体系共同建立，自动维护；
- 社群能够展现出所有备选方案；
- 社群基于偏好体系对于所有备选方案的成功概率计算

New Annotation for Boids Model

Boids Model Rules

- 一致性协议
Alignment
- 分离协议
Seperation
- 凝聚力协议
Cohesion

DAO2.0

- 每个节点向区块链总体目标移动
- 每个节点向区块链的任何其他节点保持一定的距离（分歧）
- 每个节点都向着区块链中平均的意见接近

Quality Control Circle

- 群体思维 (group thinking):
 - 高内聚力的群体
 - 不一致的信息被忽视
- 质量小组 (Quality Control Circle,QCC) 。
 - 自发组成数人一圈的小圈团体
 - 质量小组是自下而上设立的



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THANKS!

for listening

Tony Tao

NEO

Community