



The Token Economy primer

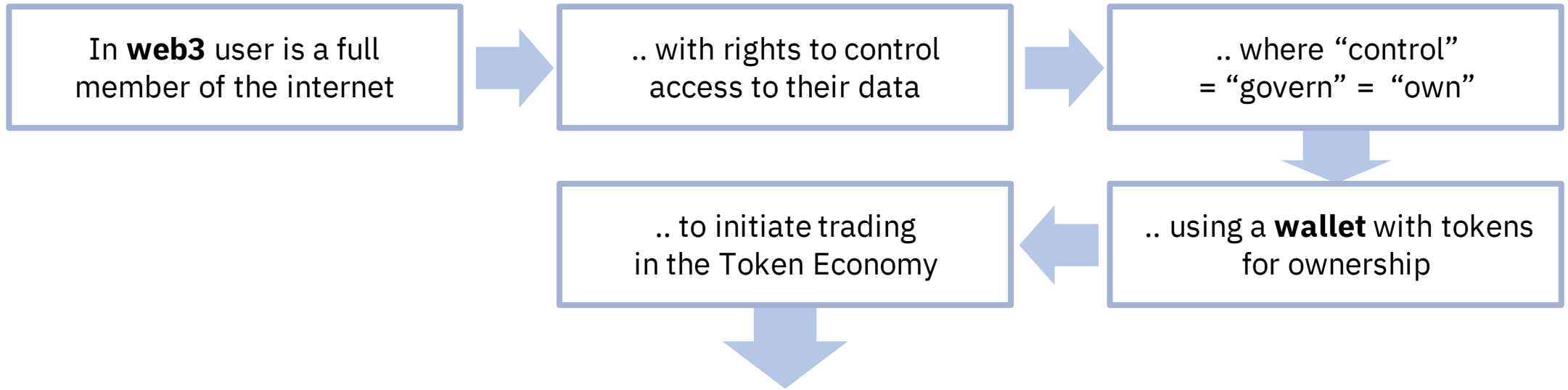
Andy Martin

24-Mar-22

web3 as a token economy = New internet owned by innovators and users governed by tokenomics

Metaverse as a token economy = permissionless economy of connected “verses” built on tokenomics

DAO Tokenomics = born digitally native economy plus monetisation of real-world data in new virtual economies

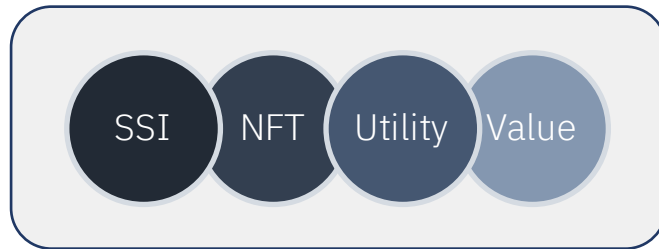


... DAO Tokenomics



DAO as a Token Economy

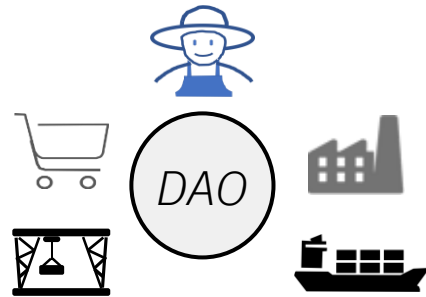
Wallet



Avatar

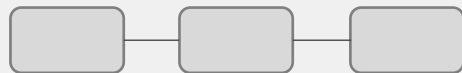
- Individual controls access to their identity, NFT, securities, utility or money
 - Individual initiates buying and selling
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Enterprises
Go to Market as
a network



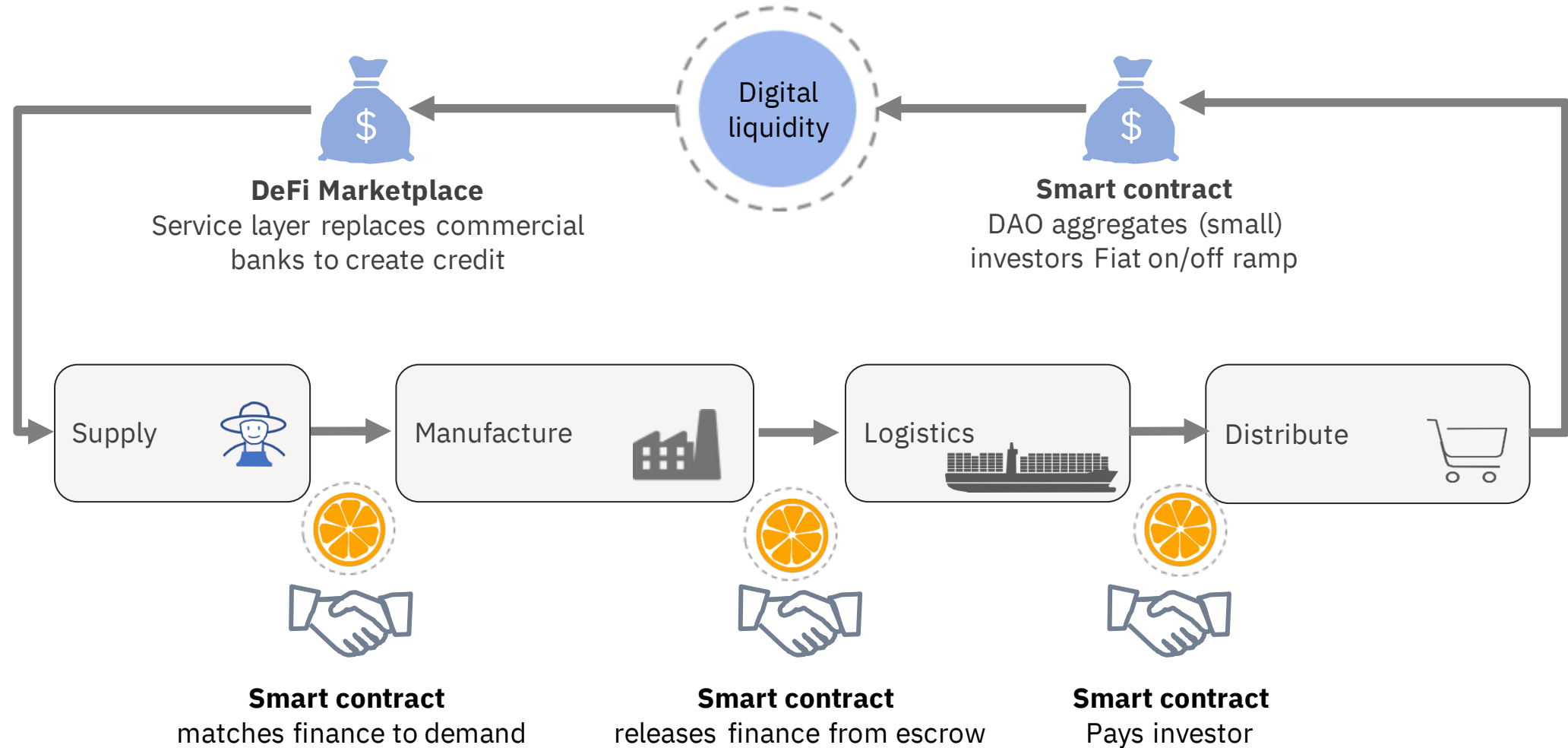
- Community creates a purpose, values, & rules & is then owned & controlled using tokens
 - Smart contracts govern trading, monetising data (NFT) governed by the data owner
 - Tokens govern incentives & to democratize value
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Blockchain

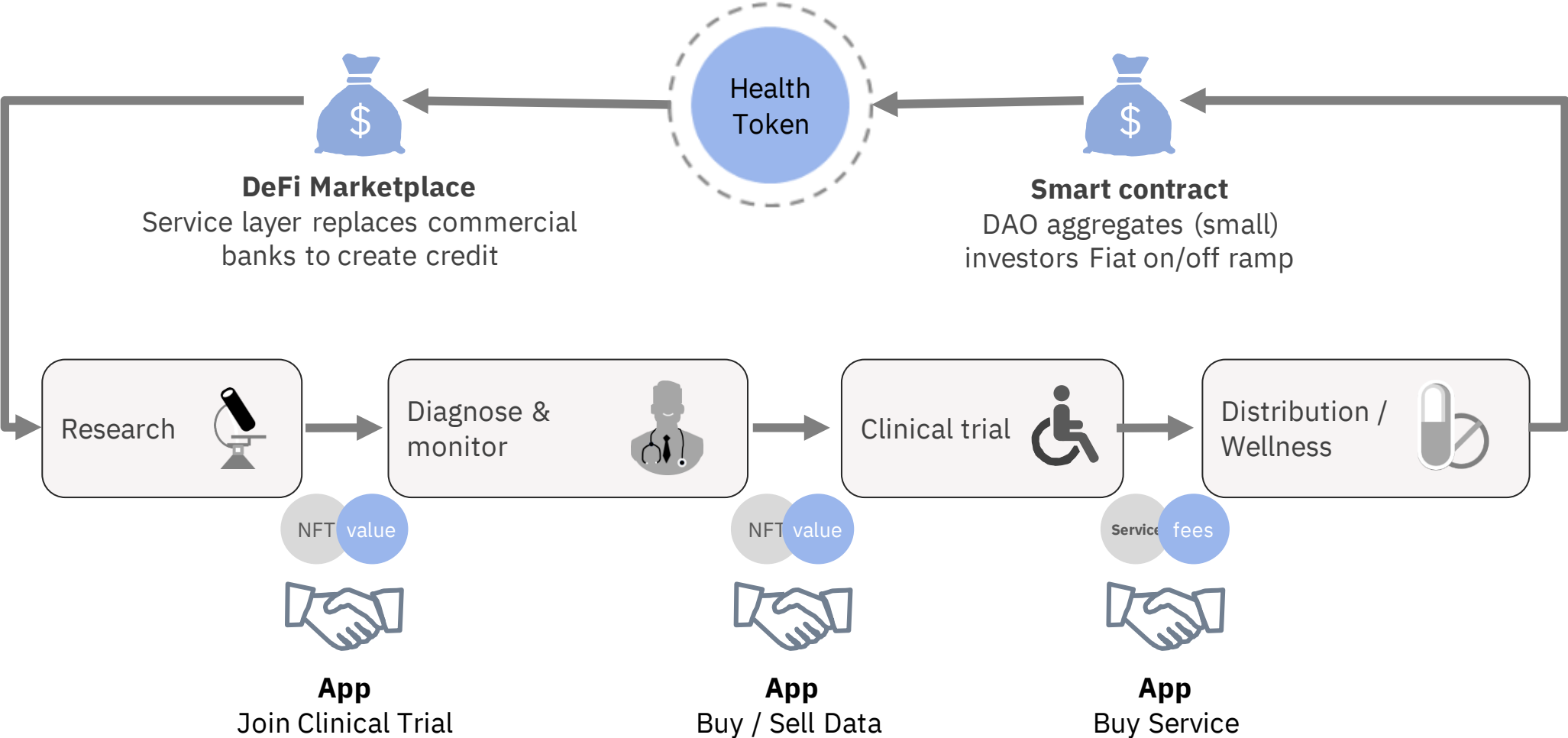


- State machine for ownership of tokens
- Tracking provenance of who did what & when
- Distributed & decentralised source of the truth

DAO is a Networked Business



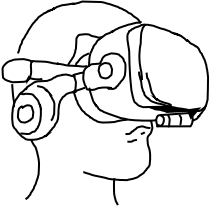
DAO is automated “shareholders meeting” for a networked business



SSI + Token + DeFi + DAO = industry reinvention

	Innovation	Platform	Governance
Go to market	<ul style="list-style-type: none">As a network	<ul style="list-style-type: none">Network, market or industry	<ul style="list-style-type: none">DAOZone of sovereignty/rules
Products	<ul style="list-style-type: none">Buy & sell dataApps & wallets earn value	<ul style="list-style-type: none">Fees for activityProfessional & foundation services	<ul style="list-style-type: none">Store value in the market token(s)Skill & reputation
Tokenomics	<ul style="list-style-type: none">Win-win-winBehaviours	<ul style="list-style-type: none">Composability of funding protocols	<ul style="list-style-type: none">New funding / reserve model

The DAO Tokenomics Equation



Earn

Collateral

Trade

Govern



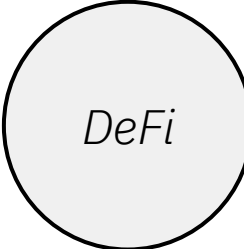
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User

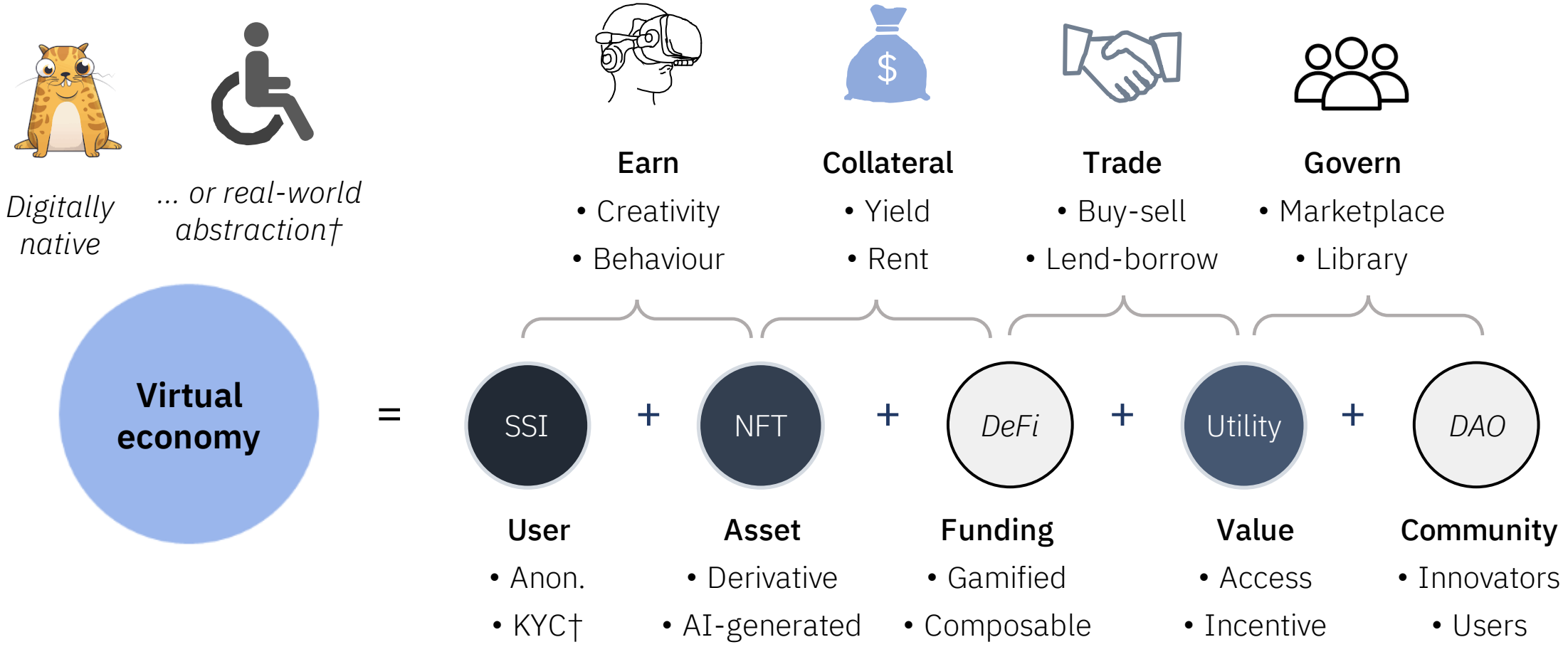
Asset

Funding

Value

Community

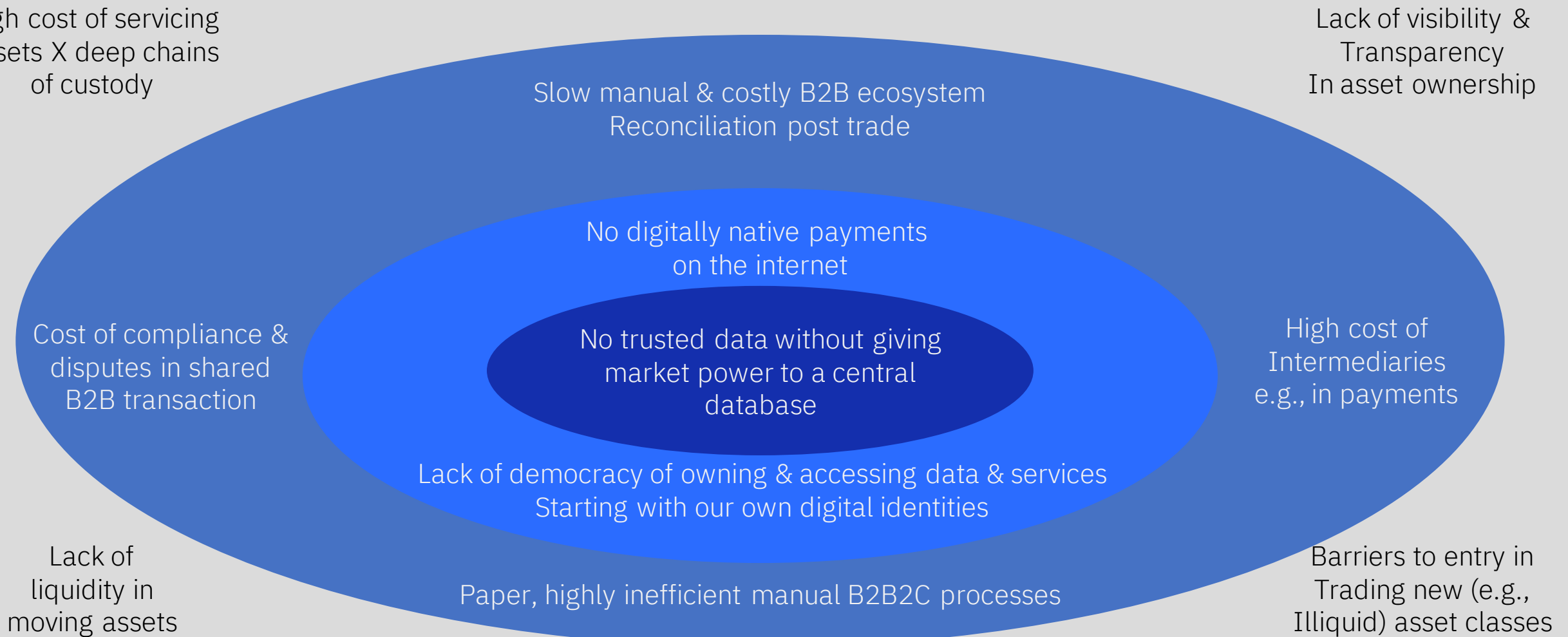
The DAO Tokenomics Equation



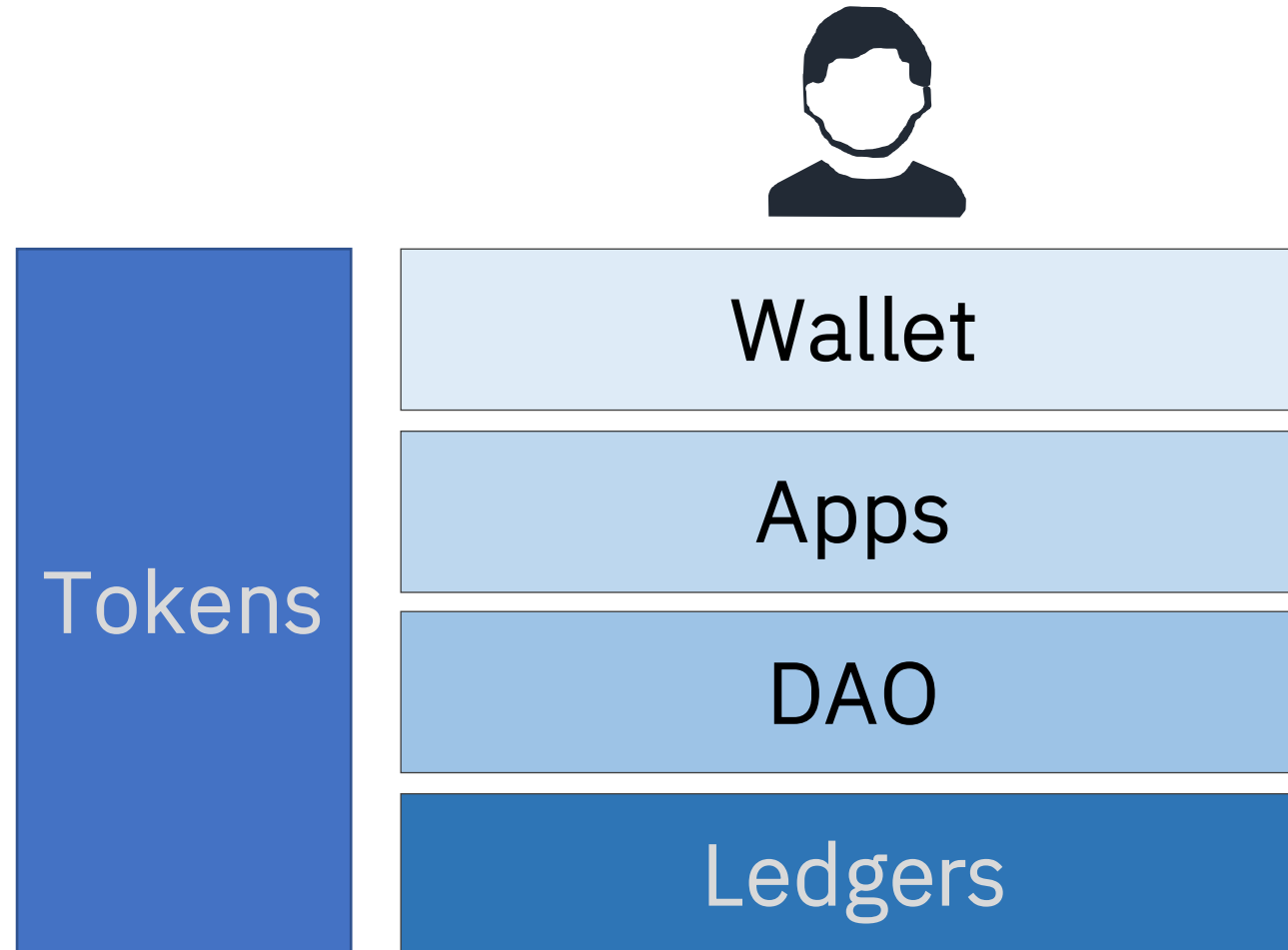
Token economy – what’s different?

	Web 2.0	web3
Market data	Central governance & ownership	Distributed & decentralized governance & ownership
Platform power	Lock-in	Open-neutral
Identity	“Controls”	“Verifies”
Incentive	Winner takes all	Win-win-win
Liquidity	“Analogue”	“Digital”
Monetisation	Platform	Data owner, innovator & platform

Token economy – what is the problem solved?



Web3: Token Economy governance is managed by the token holder in a fair and democratic way



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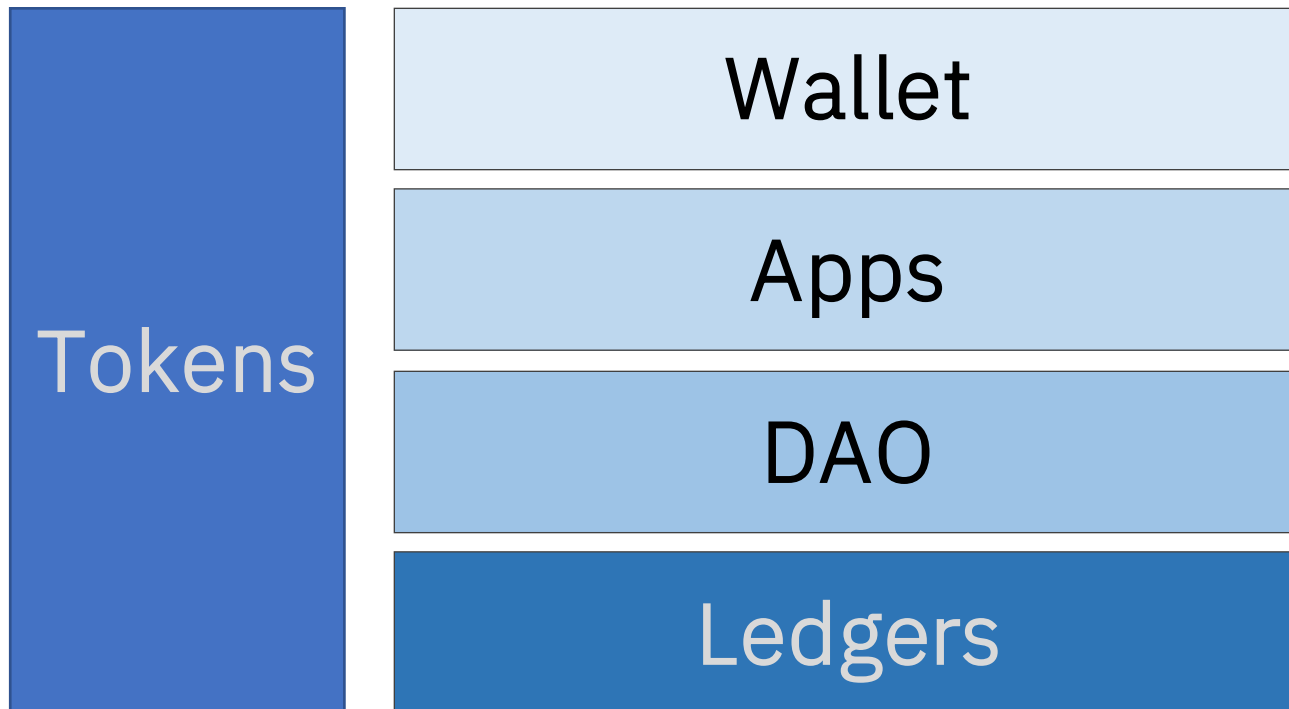
Users owns, that is manages or controls access to their data and the process to update its state

Manages private keys where ownership of 100's of tokens can be accessed & atomic swaps initiated

Manages business model of value exchange (atomic swaps) of tokens for ownership or access for tokens for value

Tokens are used for fund raising, ownership and decision making by token holders as the value is managed for collective win:win:win outcomes

Tokens are used as rewards for helpful behaviour in providing the ledger updates & platform resources



DAO is a marketplace

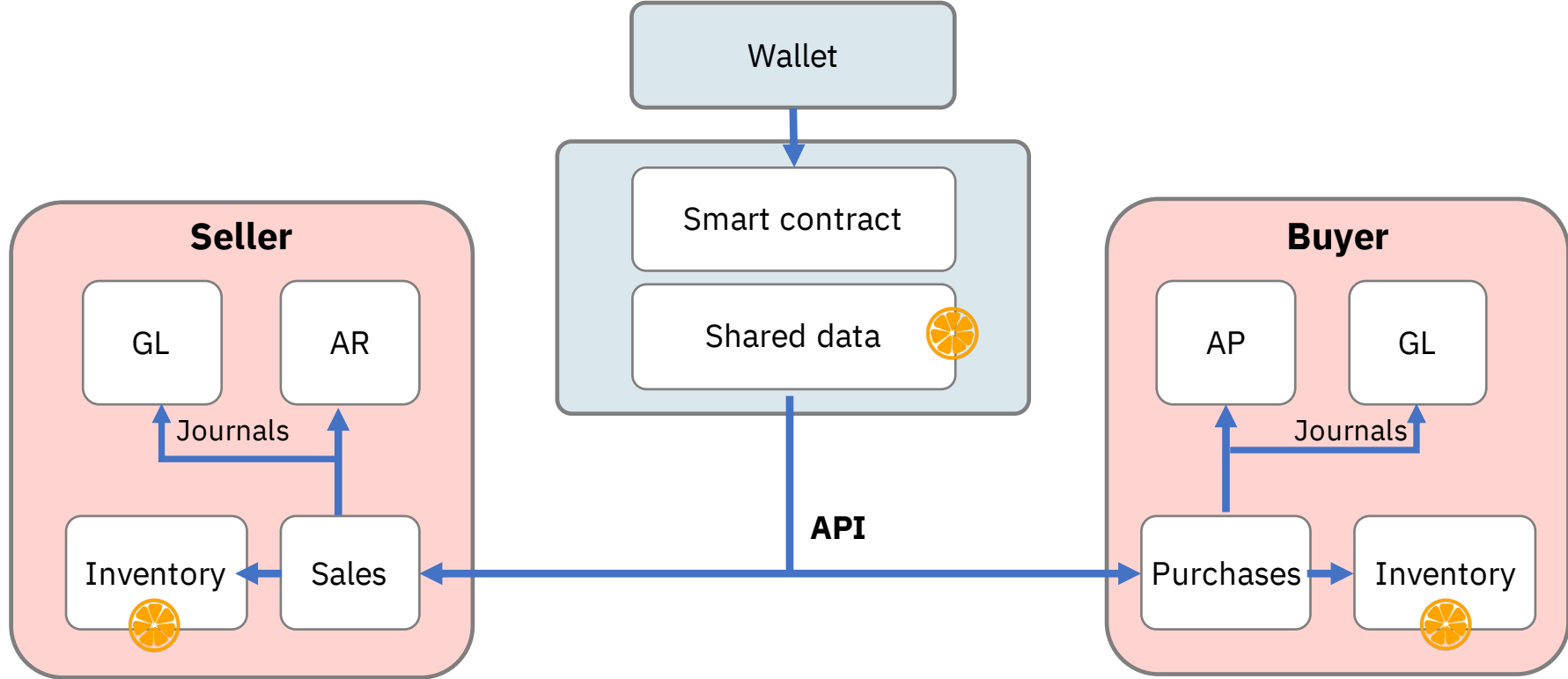
Wallet –It is the user interface layer where ownership of 100's of tokens can be accessed, and atomic swaps initiated

Apps –Many different businesses can be built on each network. App logic governs trading of tokens and are used to incentivise behaviour and denote ownership inside the app.

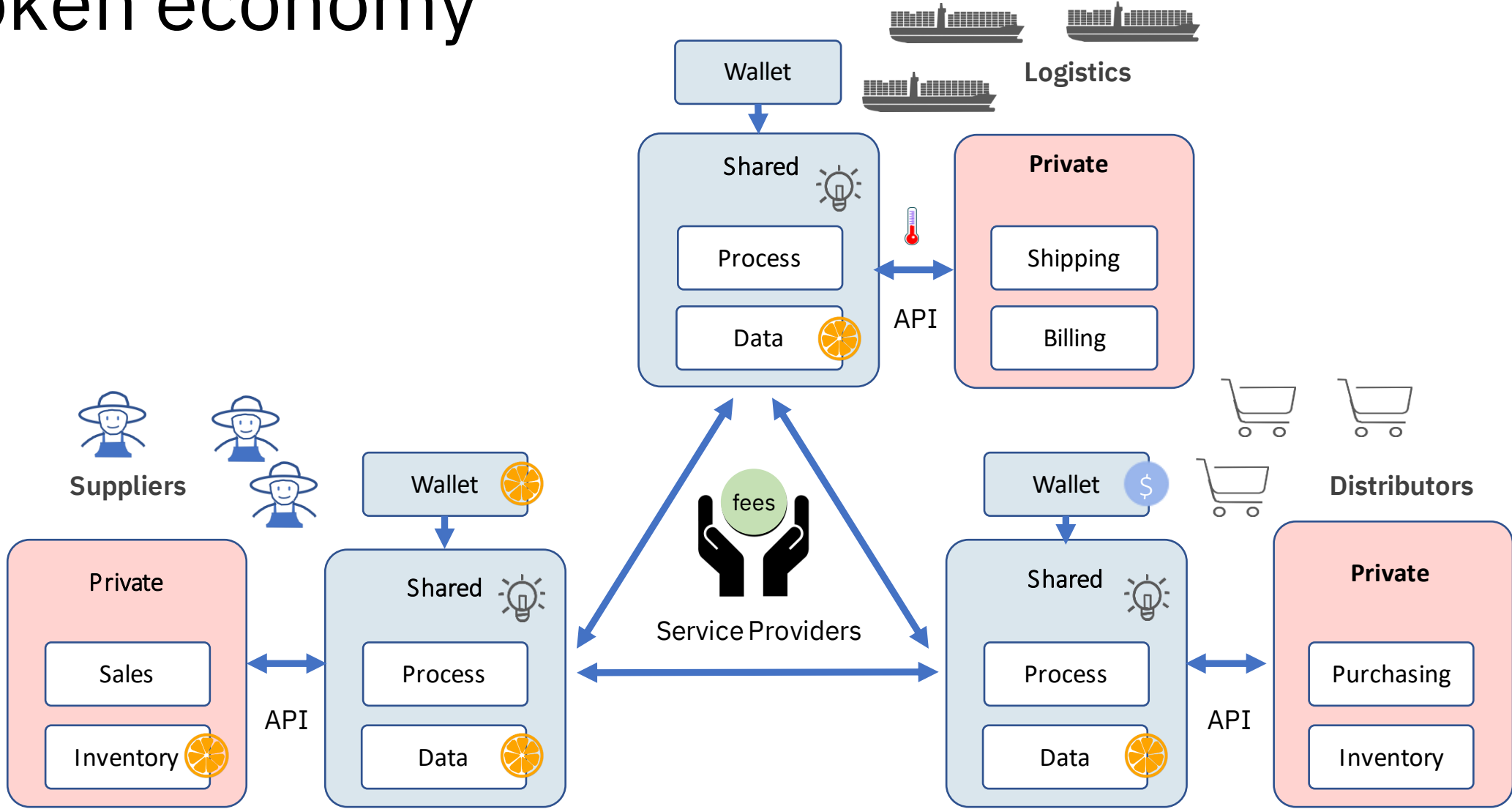
DAO –This is the B2B2C value chain of economic actors (“the community”) who don't need to trust each other assembled to support complex tokens. This is a marketplace and has its own marketplace token that is used for payments but also governance by way of voting and access and staking rights and duties and critically as an incentive for better collective outcomes.

Internet of ledgers –Govern the activity such as atomic swaps of tokens in the network. Tokens are used to pay those who maintain the infrastructure by providing bandwidth and storage and to order and validate the ledgers

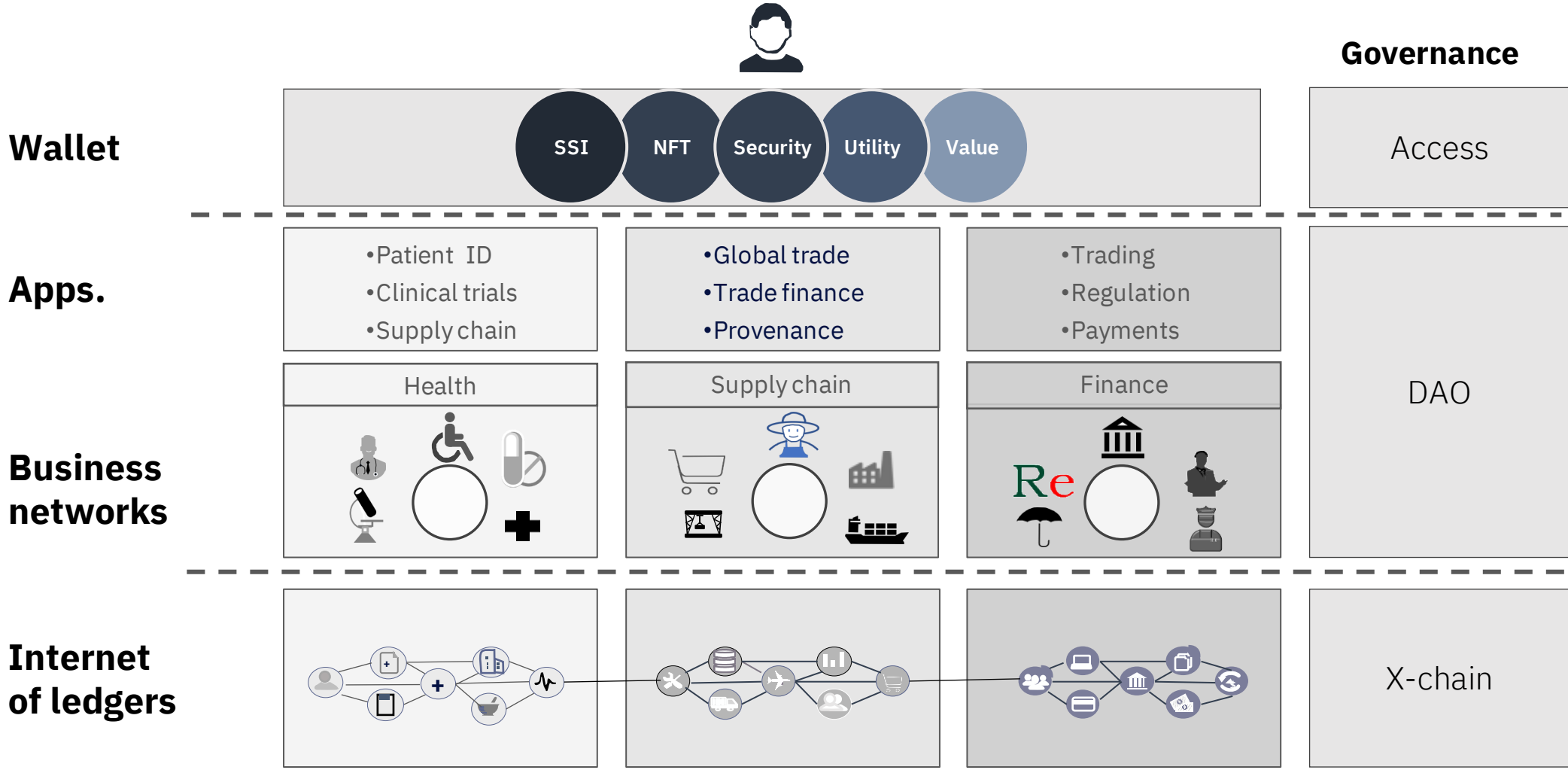
Quadruple entry system



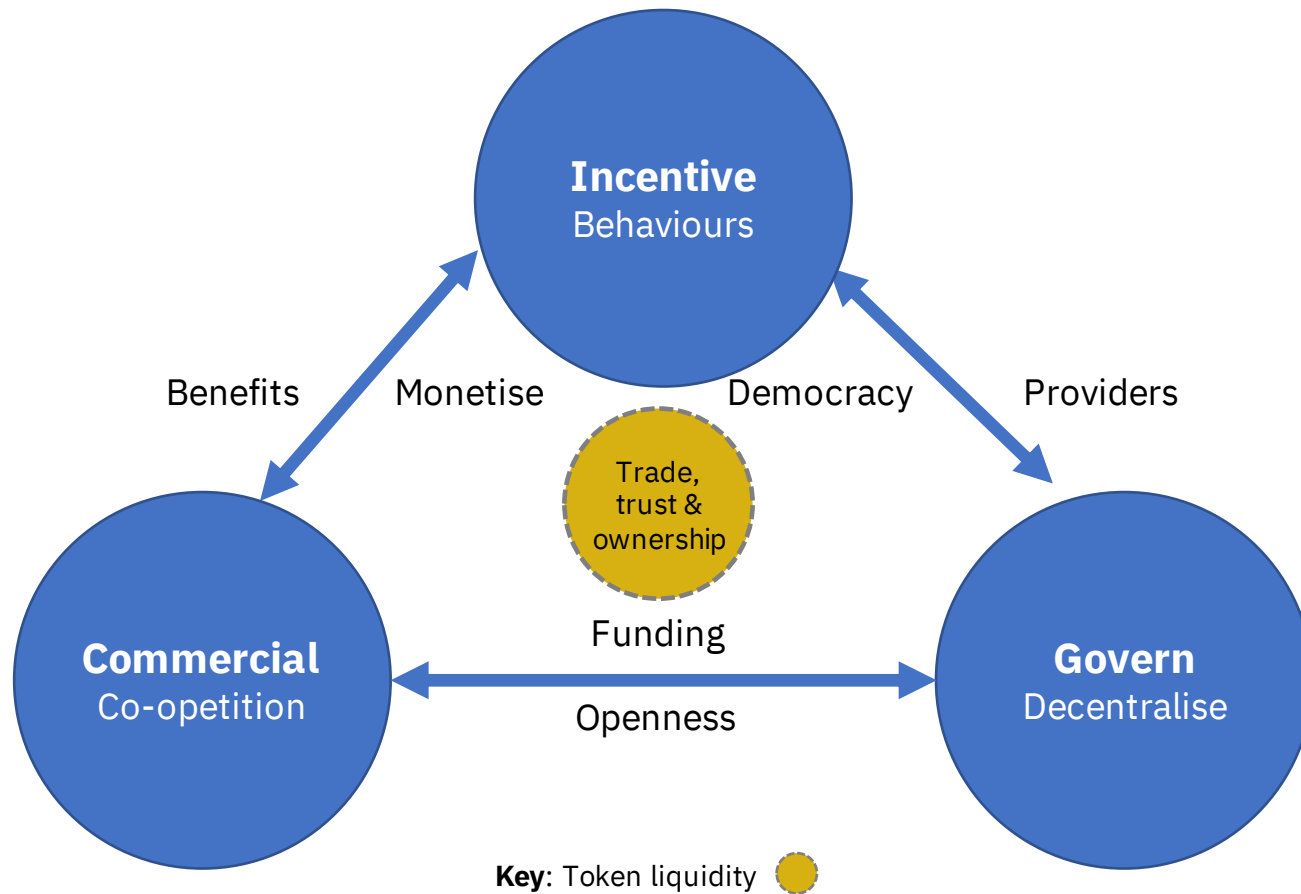
Token economy



Governance model levels



DAO's Business model has 3 parts



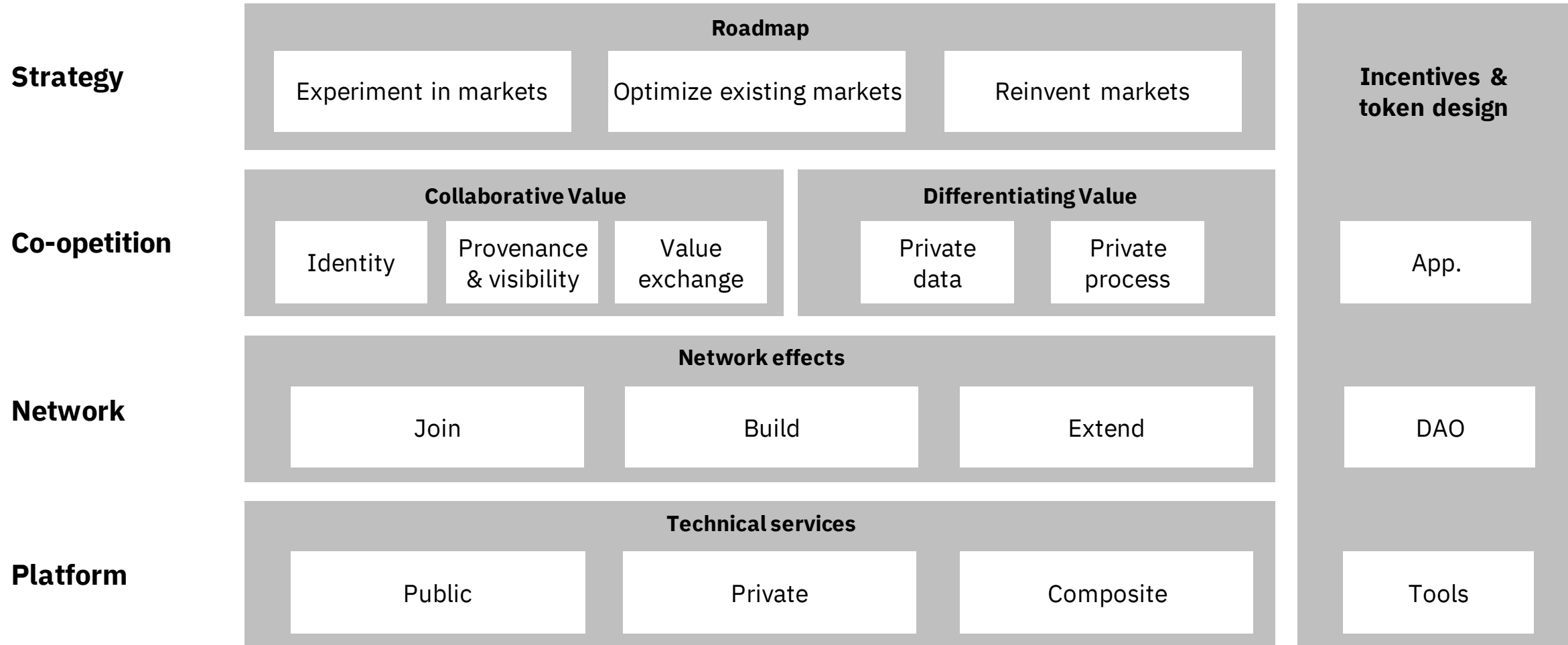
Business model

- **Economic** model, incentives, disincentives & behaviour changes
- **Governance** model, how decisions are made on-chain via tokens & voting or off-chain & guiding principles of fair, democratic & open
- **Commercial** model, of monetisation & fees

Token economy – where to start?

	Identity	Provenance & visibility	Ecosystem reconciliation	Tokenisation	Value exchange
Automotive	<ul style="list-style-type: none"> • Vehicle ID 	<ul style="list-style-type: none"> • Vehicle lifecycle • Supply chain visibility 	<ul style="list-style-type: none"> • Vehicle leasing 	<ul style="list-style-type: none"> • Car eWallet 	<ul style="list-style-type: none"> • Financial settlements
Banking	<ul style="list-style-type: none"> • KYC/KYT 	<ul style="list-style-type: none"> • Collateral mgt. 	<ul style="list-style-type: none"> • Post trade 	<ul style="list-style-type: none"> • Issue, custody & service 	<ul style="list-style-type: none"> • Payments
Energy & Utilities	<ul style="list-style-type: none"> • Usage on a singular entity 	<ul style="list-style-type: none"> • Cybersecurity device provenance 	<ul style="list-style-type: none"> • Grid balancing 	<ul style="list-style-type: none"> • Renewable energy credits 	<ul style="list-style-type: none"> • Peer to peer trading
Telco	<ul style="list-style-type: none"> • Mobile security 	<ul style="list-style-type: none"> • Supply chain mgt. 	<ul style="list-style-type: none"> • Roaming, fraud & overage mgt. 	<ul style="list-style-type: none"> • Digital services enabler 	<ul style="list-style-type: none"> • Platform services marketplace
Distribution/Consumer	<ul style="list-style-type: none"> • KYB / KYS / SSI 	<ul style="list-style-type: none"> • Anti-counterfeit 	<ul style="list-style-type: none"> • Disputes mgt. • Post trade 	<ul style="list-style-type: none"> • Engagement e.g., recycling & loyalty 	<ul style="list-style-type: none"> • Circular & sustainable economy
Travel & transport	<ul style="list-style-type: none"> • Passenger 	<ul style="list-style-type: none"> • Baggage handling 	<ul style="list-style-type: none"> • Multimodal tickets 	<ul style="list-style-type: none"> • Loyalty X-industry 	<ul style="list-style-type: none"> • Travel marketplace

Token economy – a strategic framework





DAO on-chain bookkeeping

Andy Martin

Six areas of on-chain entries (1 of 4)

1. **Funding & reserves**

Issue (on ramp from fiat)

Collateral (raised from banks)

Reserve fund (manage XR to fiat)

Redeem (off ramp to fiat)

2. **Governance/voting**

Decision making

Incentive (e.g., for helpful behaviours)

Release funds to app. projects

Finance member operations

3. **Financing**

Staking for DeFi creating credit & earning yield

4. **Ledger level**

Fee (for maintaining the ledger)

5. **Apps level**

Stake (right to develop app.)

App fee (paid by customer)

Fees share (to DAO)

6. **Data monetisation**

Access (fee paid to access data)

Fee share (to data owner & DAO)

Six areas of on-chain entries (2 of 4)

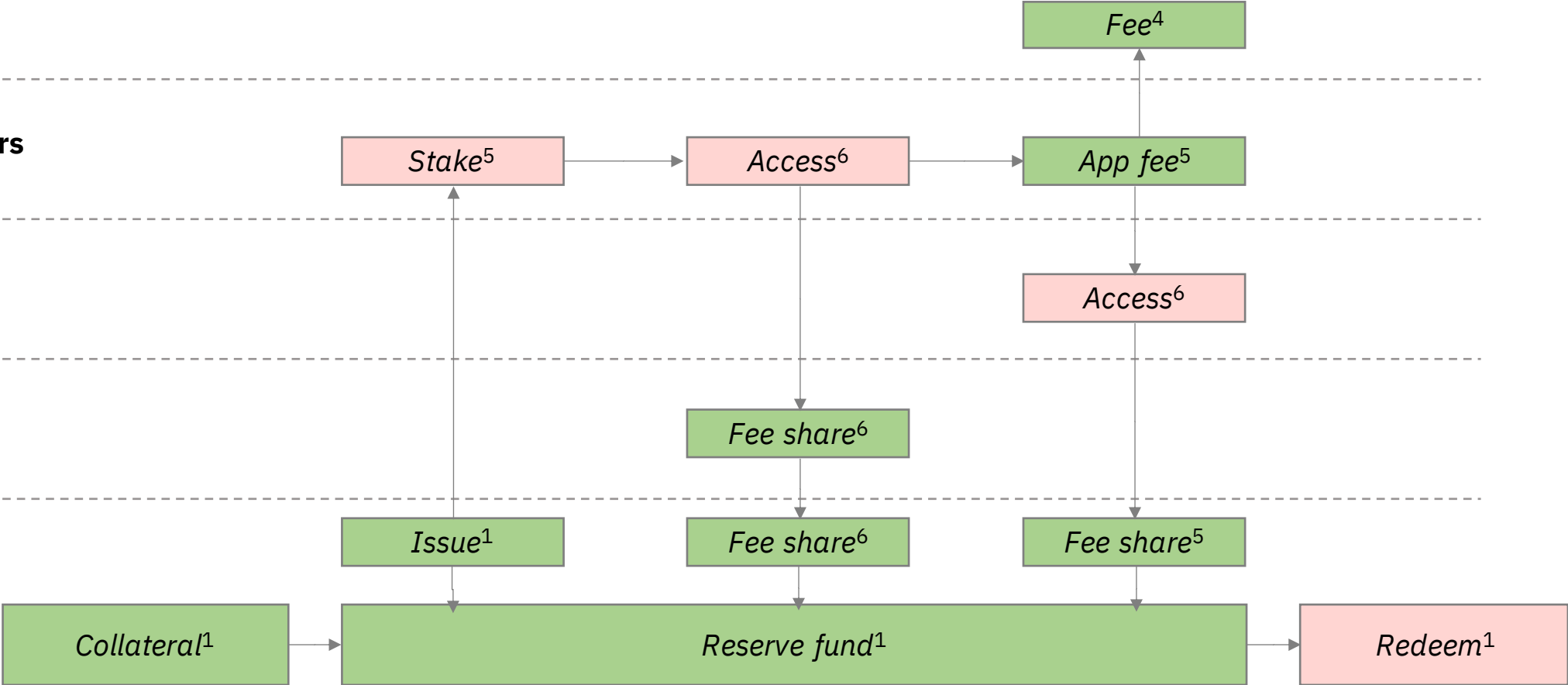
Validate & order

Innovators apps

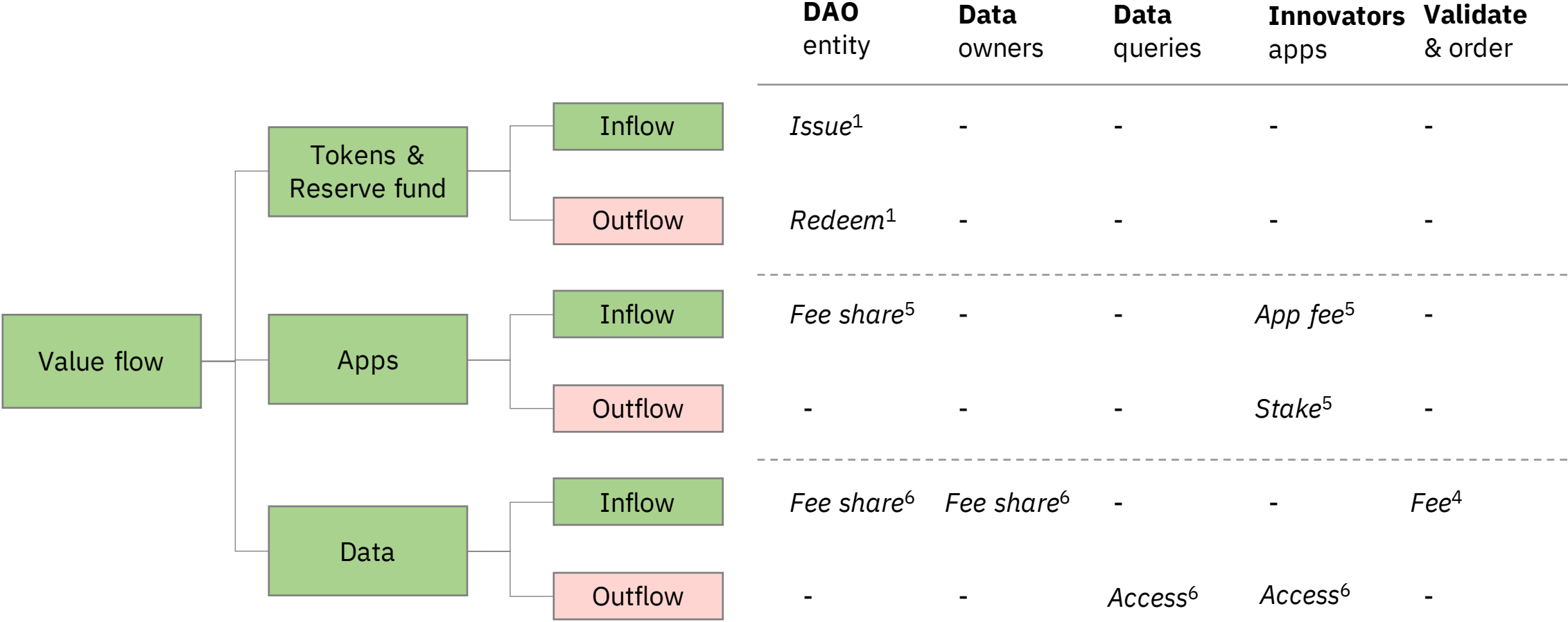
Data queries

Data owners

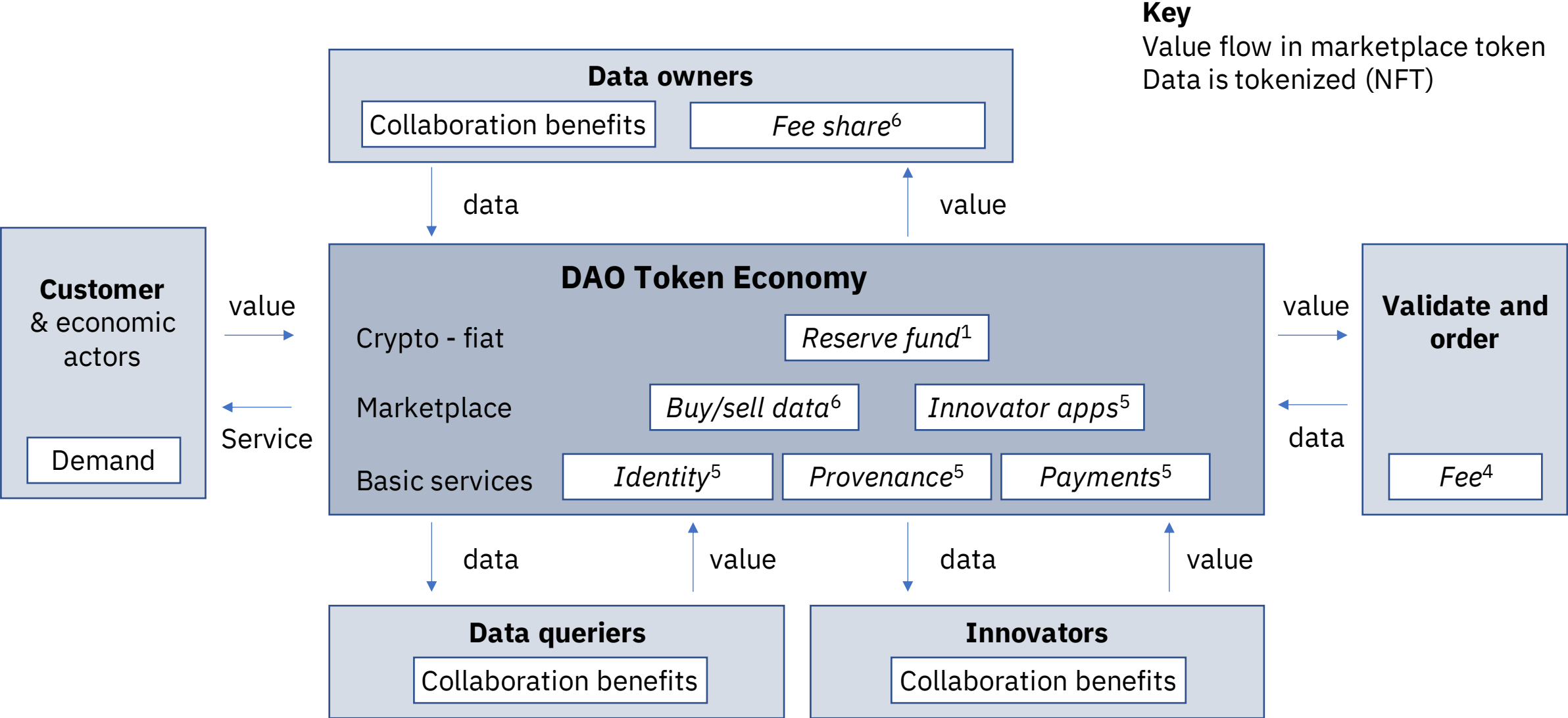
DAO entity



Six areas of on-chain entries (3 of 4)



Six areas of on-chain entries (4 of 4)



Token Economy

5 Laws

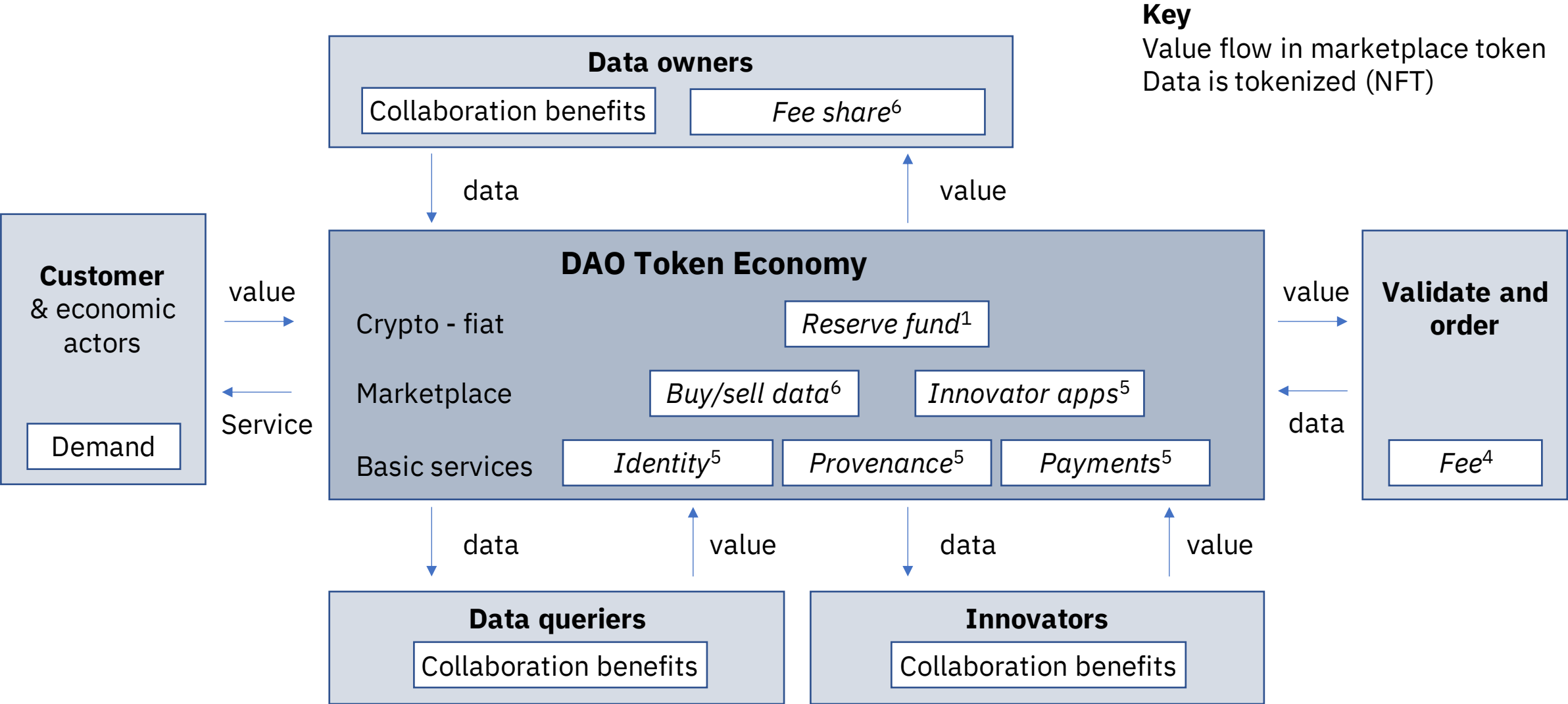
TOKEN

Andy Martin

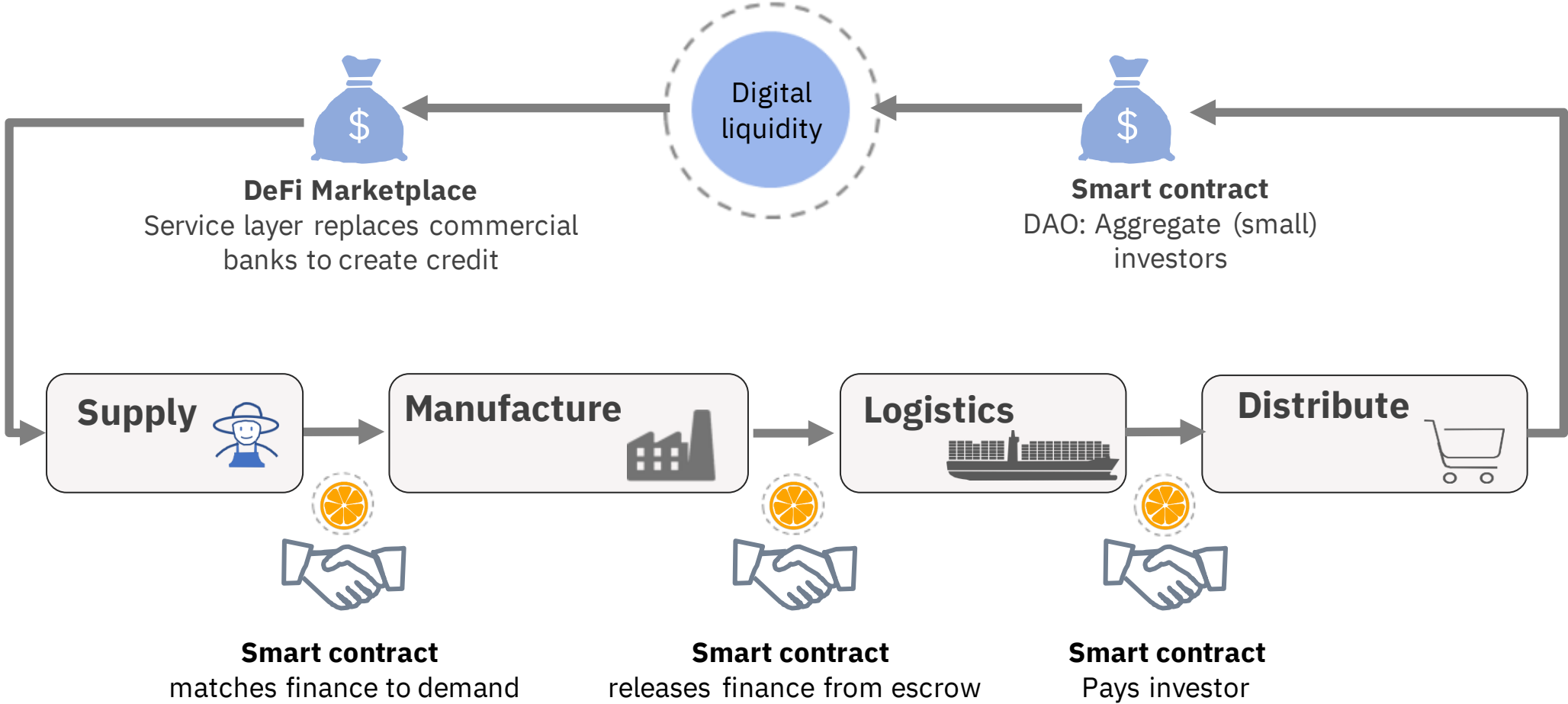
5 Laws of the Token Economy business model design

- **Law 1:** Value by buying and selling of data tokenised into digital assets
- **Law 2:** Networked businesses' token stores this new value created by DAO members' innovation
- **Law 3:** Total value created increases through optimisation, network effects & synergies
- **Law 4:** Behaviours governed by the token are at the level of the wallet, App, DAO & ledger
- **Law 5:** Token value designed to stay inside DAO, but may be converted to fiat

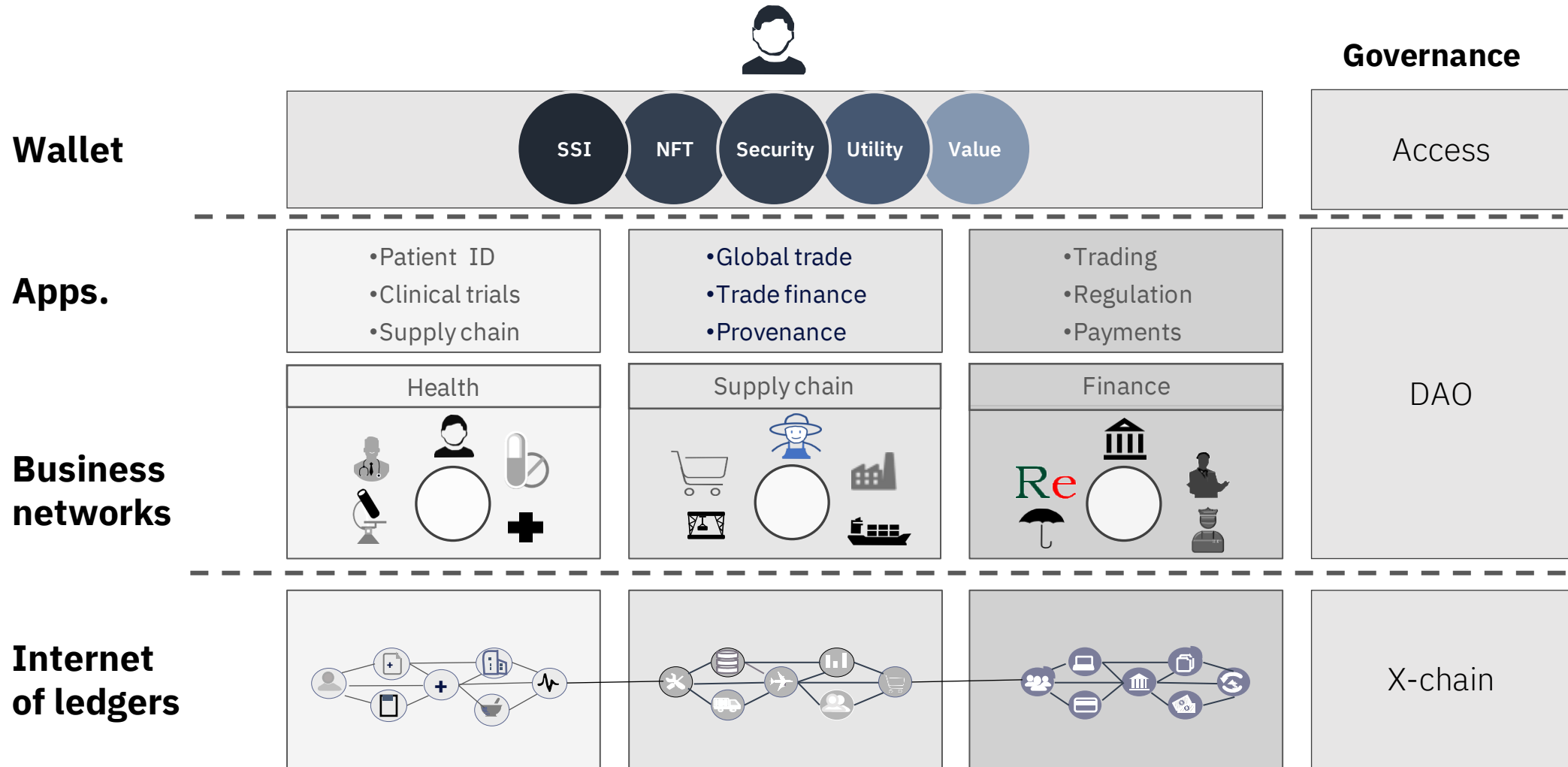
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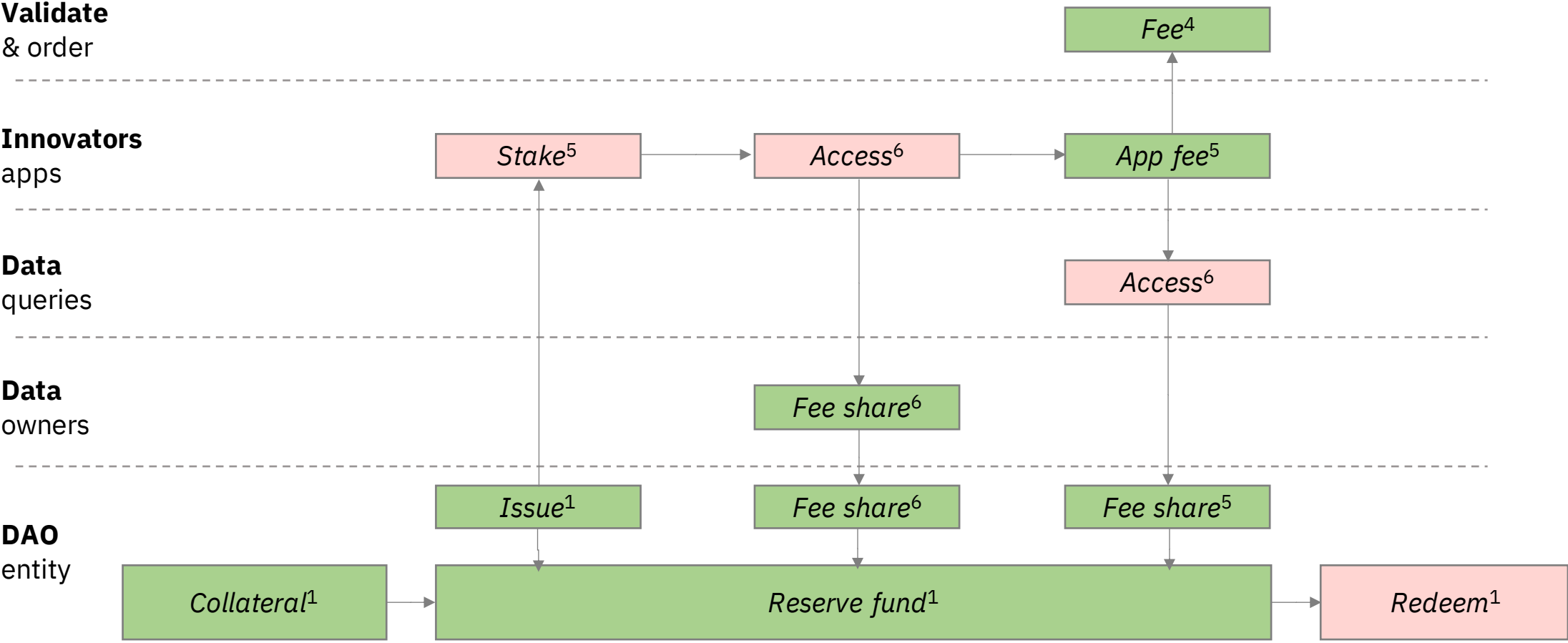
Law 2: Networked businesses' token stores this new value created by DAO members' innovation



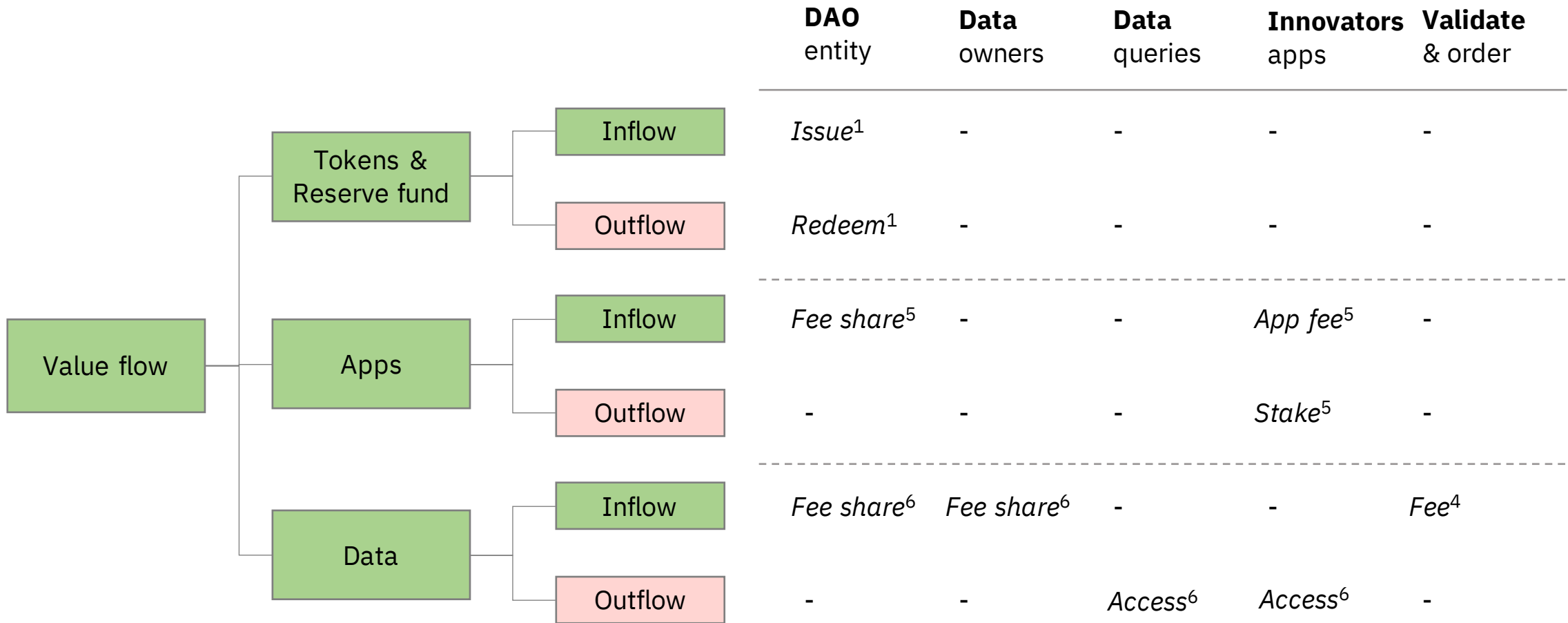
Law 4: Behaviours governed by the token are at the level of the wallet, App, DAO & ledger



Law 5: Token value designed to stay inside DAO, but may be converted to fiat (1 of 2)



Law 5: Token value designed to stay inside DAO, but may be converted to fiat (2 of 2)



References

Martin, Andy, The Token Economy (October 16, 2021). Available at SSRN: <https://ssrn.com/abstract=3972111> or <http://dx.doi.org/10.2139/ssrn.3972111>

Martin, Andy, 5 Laws of Tokenomics (January 26, 2022). Available at SSRN: <https://ssrn.com/abstract=4018141> or <http://dx.doi.org/10.2139/ssrn.4018141>