DAO: The Evolution of Organization

2022 Report

Cointelegraph
Research

XDAO coinshift YOUHODLER pollen Dash QPOLIS ALIEN WORLDS GO

The DAO Phenomenon and Why It's Important

Dear Partners, Investors and Friends,

The blockchain industry is still maturing, and every day, new applications of the technology are being created. Over the past few years, decentralized autonomous organizations, or DAOs, have captured the imagination of the blockchain space. DAOs are disrupting investment, corporations, social clubs, and even political parties. But what exactly are DAOs, and why should the average crypto investor care?

DAOs can be a more efficient form of organization

DAOs are the frontier of coordination. Even though we are individuals, we work together in order to survive. Decisions for how to deploy resources such as capital and labor can be made collectively in a transparent way with the blockchain technology. Members of DAOs can propose ideas and vote on how to use community savings. This reports provides a glimpse of how our society can function in the future without top-down structures. DAOs are a powerful way to make resource allocation more efficient, and there are many examples of DAOs that have already fostered a higher standard of living for its members. If you want to know how DAOs are shaping democracy, corporations, this report is a must-read.

Knowing what to look for can help future investments

The top graph shows the DAOs tracked by CoinMarketCap's DAO Index vs. the total market capitalization. DAOs are not immune to global economic conditions and have reacted similarly to traditional markets from 2021 through Q3 of 2022. Some DAOs have produced a better return on investment (ROI) than Bitcoin (BTC). Not all DAOs are highly correlated with major cryptocurrencies. For example, Curve DAO (CRV) can improve a Bitcoin portfolio's risk-adjusted return since their daily price movements do not move together often. This means there may be investment opportunities for those who know what to look for, and this report can help provide a starting point.

Cointelegraph Research continues to bring up-to-date reports on the cryptoverse

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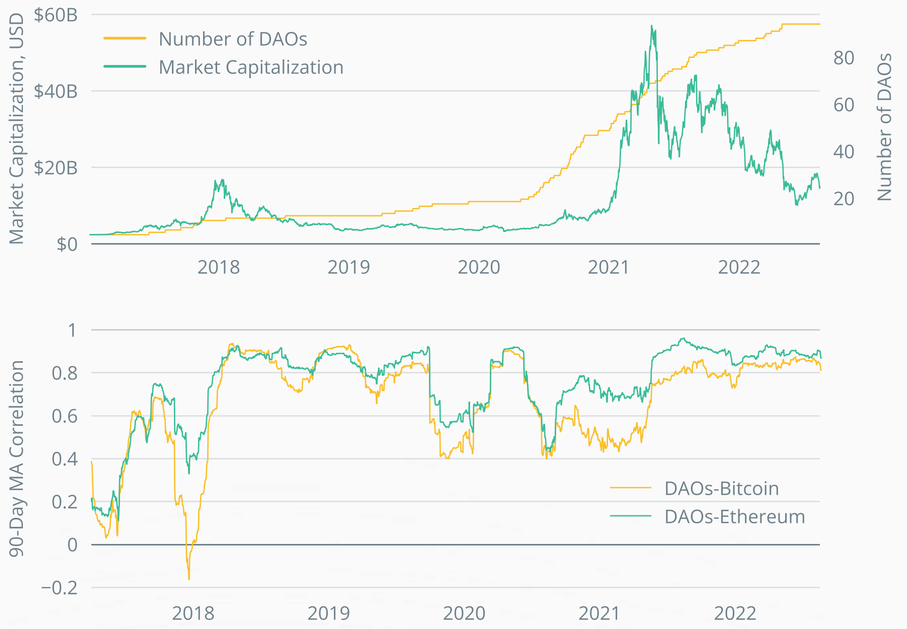
Michael Tabone
Sr. Economist at Cointelegraph Research

Figure 1: Market Capitalization and DAO Index Based on CoinMarketCap Data



Source: *CoinGecko, CoinMarketCap, Cointelegraph Research*

Cointelegraph Research constructed a value-weighted index of DAO tokens that includes large projects, such as Aave, Uniswap and Dash, but also a variety of smaller DAOs. Although this does not represent the entire DAO space, which comprises several thousand organizations, it yields some insights as to how DAOs move independently from major cryptocurrencies such as BTC and ETH. The chart above shows that the correlation of returns has been rather high during the Bitcoin hype of late 2017 but high during the bear market that followed. Since late 2019, the picture has been more nuanced, with a lower correlation during the bull market of 2020 and 2021 but a high correlation in the early 2022 slump. Notably, the correlation to Ether has been consistently higher starting in mid-2020.

Table of Contents & Key Highlights

Key Highlights

- As of mid-2022, there are currently **over 4,000 active DAOs** with a **market capitalization of around $20 billion**.
- Cointelegraph Research identified three eras of the evolution of DAOs where **1.0** was the pre-Digital Revolution and Bitcoin, **2.0** was the advent of blockchain smart contracts, and **3.0** was an explosion of DAO infrastructure growth.
- There was an early example called "The DAO," which was **hacked in 2016 for $60 million** worth of Ether and eventually caused a major fork. Today, this split can be seen in the different protocols of **Ethereum Classic and Ethereum**.
- In 2022, **40% of all DAOs are focused on decentralized finance (DeFi)**, but this is not the only application of a DAO.
- DAOs can be applied to all different spaces, including **gaming (5%), politics (4%), art & culture (6%)**, and the second largest focus for DAOs are nonfungible tokens **(NFTs) at 17%**.
- **Ethereum** is the most popular blockchain for building DAOs, with **83 of the top 100 governance tokens** by market capitalization.
- Venture capital (VC) investment into the DAO space reached a local peak in **Q1 2022 at over $160 million.**
- DAOs have respectable treasuries. **Uniswap has a liquid treasury of around $1.5 billion**, and **BitDAO is sitting on $1.3 billion** at the time of writing.
- Over **50% of DAOs hold USD Coin (USDC)** (a cryptocurrency pegged to the United States dollar on the Circle protocol), with close to **45% of DAOs holding MakerDAO's stablecoin, Dai**, and over **40% hold Wrapped Ethereum (wETH)**.
- Alien Worlds, an NFT game where **six different DAOs interact** in the game and compete over limited resources, is the **highest active non-DeFi decentralized application (DApp) by transaction volume,** according to DappRadar.

DAO Timeline and Report Road Map

Academic journals talk about decentralization in its application in business, pre-Information Age.

1960–1970
Page 6

The term decentralized autonomous organization is coined when talking about digitally integrated houses in the context of the internet of things (IoT). These ideas gave birth to DAO 1.0.

1997
Page 6

Satoshi Nakamoto releases the Bitcoin white paper and mines the Genesis Block on Jan. 3, 2009. The Bitcoin network is said to the first example of a DAO.

2008–2009
Page 7

Father and son, Stan and Daniel Larimer, present the idea of decentralized autonomous corporation (DAC) as an "unmanned company" that operates without human involvement, which operates by business rules running on code that would be incorruptible or "sovereign corporations governed with inhuman integrity."

2013
Page 7

Multiple whitepapers were published between 2013–2014 including Ethereums white paper, explaining how the promise of Bitcoin can be improved upon through smart contract application.

2013–2014
Page 7

1.0

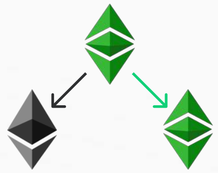
Dash pioneered decentralized governance using blockchain technology with the launch of its two-tier masternode network. This marked the change to the next era of DAO 2.0. Dash is the longest-running DAO to this day.

2015
Page 8

2.0

Altcoins, which provide additional functionality like smart contracts, such as Ethereum are publicly launched. The ability for code to act as a thirty-party arbitrator was another setp in the evolution in DAO 2.0. A myriad of altcoins with smart contract capability come to market as well during this time.

2015
Page 9



"The DAO" is launched in 2016 and hacked for 3.6 million ETH ($60 million at the time). A hard fork takes place, breaking the Ethereum chain into two seperate blockchains: Ethereum Classic and what we know today as Ethereum.

2016
Page 10

An explosion of infrastructure and tooling applications come to the market and bring on the current era of the DAO, or 3.0. There are over 4,000 active DAOs with over $20 billion in market capitalization in 2022.

2018–2022
Pages 11–29

3.0

Does the blockchain game Alien Worlds exemplify all of DAO 3.0?

Are Alien Worlds, Bored Ape Yacht Club, and other projects showing us signs of the next area of DAO 4.0?

Legal Considerations for DAOs along with risks and drawbacks.

2022 and beyond
Pages 30–33

4.0?

XDAO is a Multichain DAO Ecosystem for Safely Managing Crypto Assets

Blockchains supported by XDAO

Layer 1

ethereum · polygon · BNB CHAIN · fantom · AVALANCHE · OASIS · XinFin (XDC) Network · HECO Chain · telos · klaytn · CoinEx Smart Chain · CUBE · celo · fuse · ONTology · OKC

Layer 2

OPTIMISM · METIS · boba

Polkadot

Moonbeam · Moonriver · SHIDEN · ASTAR

Cardano

Milkomeda Foundation

Near

AURORA

TRON

BitTorrent

Nervos

GODWOKEN

XDAO successfully works across 27 blockchains and plans to expand its presence.

XDAO PRO

XDAO offers XDAO Pro paid consulting service. It allows anyone who is not deeply involved in crypto to launch a DAO with XDAO expert assistance. XDAO helps to work out all the specifics of the DAO, tokenomics, and the development of additional one-of-a-kind modules.

To apply for XDAO Pro the user should fill in the form provided on the dedicated page:

Explore

Flexible Governance

When creating a DAO you should use reliable solutions and clearly prescribe all aspects related to the storage and approval of spending, as well as decision-making in the organization. XDAO gives you that ability. All you have to do is allocate governance tokens and balance off-chain or on-chain voting.

XDAO features

Smooth no-code connection to any DeFi Protocol via XDAO Connect

XDAO Connect allows our DAOs to swap, buy, sell, stake, borrow, supply and more!

Learn more

Segregation of governance and economic rights

Our innovation is to give the DAO creators and managers governance rights (by issuing governance tokens, or GTs), while investors will be able to have a share in the DAO (by purchasing and holding liquidity provider tokens, or LPs).

Interaction with LP and GT

DAO Created

Liquidity Provider Tokens
- Made for investors and teammates
- Can be burned to take a share back
- Can be traded on DEX (AMM)
- Used for off-chain voting

Governance Tokens
- Made for DAO's governors
- Soulbound (not salable)
- Used for on-chain voting

DAO Modules

Upgrade your DAO using Modules. Each Module can execute any algorithm embedded in it.

Launchpad
Start Token Sale of LP tokens of your DAO

Private Exit
Get a private offer burning LP for exit from DAO

Telegram Bot
Manage your DAO through Telegram Bot

Dividends
Pay dividends by distributing tokens from DAO account

Payroll
Pay salaries to employees of other regular payments

22000+ monthly active users

100k+ monthly visits

20000+ DAOs created across all blockchains

Create your DAO. Easily

xdaoapp · xdao_eng · XDAO Community · xdaoapp · company/xdaoapp

How It All Started: DAO 1.0

Cointelegraph Research identified three eras DAOs history

The concepts for **DAO 1.0** started over half a century ago and evolved through the concept of an internet-connected home to the deployment of blockchain technology.

DAO 2.0 was born out of the addition of Dash's governance mechanism and smart contracts in the next phase of blockchain protocols, such as Ethereum, EOS and Tezos. This allowed for more decentralization and wider adoption across decentralized applications (DApps).

The rise of infrastructure relating to DAO governance marks the transition to **DAO 3.0**, which has seen an explosion in DAOs created over the past two years to over 4,000 active DAOs.

Once upon a time...

When we think of a modern business, firm or corporation, we think of an organization of people that uses a top-down structure where a single decision maker or group directs resources, including labor and capital, toward a goal. Business entrepreneurship can be traced back to around 17,000 BCE in New Guinea, where obsidian was traded for food, skins and other goods.[1]

Over the last few centuries, the number of firms has proliferated, and several economists have studied this growth. The Nobel Prize-winning economist Ronald Coase dedicated a large part of his academic career to studying what the structure of the firm is and why it exists. His work on property rights and the transaction costs of contracting with labor and managing resources helped identify reasons for a firm.[2] These ideas are focused on centralized decision making, but others have theorized if a more decentrlized approach could be benificial.

In the 1960s and 70s, academics in the business discipline started theorizing on concepts that would become important decades later.[3] In 1997, Werner Dilger wrote a journal article on a "smart home" that would be integrated as part of the "Internet of Things," or IoT, which he termed a decentralized autonomous organization.[4] However the technology to integrate a home without human intervention did not practically exist at the time of Dilger's writing. This time period, prior to creation of the Blockchain technology, can be called DAO 1.0.

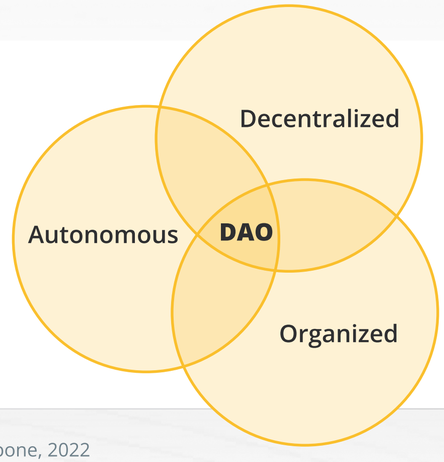
Everyone alive has in some way been part of a DAO, albeit unknowingly. Every pickup basketball or football game, every spontaneous outpouring of support for a community in a natural disaster, and every voluntary interaction of a group of people have elements of what a DAO is.[5] With the advent of blockchain technology there may be a better way to organize ourselves in social and professional applications.

DAO Breakdown

Decentralized — decentralized means the relationship of participants in the organization is "no longer determined by administrative affiliation, but follow the principles of equality, voluntariness, reciprocity and mutual benefit, and driven by individual's resource endowment and complementary advantage." [6]

Autonomous — this interaction being managed by protocols creating a "code is law" voluntary agreement can not only impact the concept of the firm from the standpoint of eliminating bad actors or mistakes by management but, in some cases, could be used to remove the need for managers completely.[7]

Organization — a generic term that may or may not have legal considerations depending on the formality of what is connecting everyone together, which would also potentially include activities using smart contracts.[8]



1 "Voyagers of the Vitiaz Strait: A study of a New Guinea Trade System" Thomas Harding, 1967

2 Read more about Coase's seminal work "The Nature of the Firm" here

3 "Decentralized autonomous organization" Samer Hassan & Primavera De Filippi. Internet Policy Review, 10 (Issue 2), 2021

4 "Decentralized autonomous organization of the intelligent home according to the principle of the immune system" Werner Dilger. International Conference on Systems, Man, and Cybernetics. Computational Cybernetics and Simulation, 1997

5 To read more about this concept, read "You have been in a DAO your entire life" M. Tabone, 2022

6 "Decentralized autonomous organizations: Concepts, model, and applications" Ding Wang, et al., Transactions on Computational Social Systems, 2019

7 "Contracting in the smart era: The implications of blockchain and decentralized autonomous organizations for contracting and corporate governance" A. Murray, et al., Academy of Management Perspectives, 2019

8 Samer Hassan & Primavera De Filippi, 2021

Decentralized Authority Is Key to a True DAO

The Digital Revolution or Information Age, which came about with the explosion in personal computer use and the advent of the internet, lowered the barriers to entry and made information more accessible to everyone.[9] This made information more symmetrical, increasing the skill set and the ability of more people to do what could only have been done by a few qualified people previously. In 2008, an individual or group of individuals called Satoshi Nakamoto released the Bitcoin white paper outlining a peer-to-peer electronic cash system.[10] This was different from previous attempts, and it brought together several technologies (decentralized ledger, blockchain, cryptography, etc.) into one application.[11] On Jan. 3, 2009, the Bitcoin Genesis Block was mined, which marked the start of the Blockchain Revolution. Bitcoin is a generation one (Gen1) blockchain that does not have what is called smart contract capability. This allows parties to enter into a contract governed by code and not reliant on the actions of an outside party to enforce.

Father and son, Stan and Daniel Larimer presented the idea of DAC as an "unmanned company" that operated without human involvement and business rules running on code that would be incorruptible, or "sovereign corporations governed with inhuman integrity."[12] They helped give rise to the blockchain protocol EOS, which, like Ethereum,was a Gen2 blockchain protocols. It is unclear if Vitalik Buterin, one of the co-founders of Ethereum, knew Dilger create the DAO term in 1997, when stating he invented the it in 2013.[13]

While the DAO, as seen through the blockchain lens, was still being worked out, several different entities were trying to innovate how these dispersed groups could interact in a meaningful way to accomplish like-minded goals. An innovation ushered in by Dash was a novel governance model that helped influence the evolution of the modern DAO.

A DAO is an entity that can operate with no central leadership. Decisions get made from the bottom-up, governed by a community organized around a specific set of rules enforced on a blockchain.

DAOs are fully autonomous and transparent. As they can be built on open-source blockchains, anyone can view their code. Anyone can also audit their built-in treasuries, as the blockchain records all financial transactions.

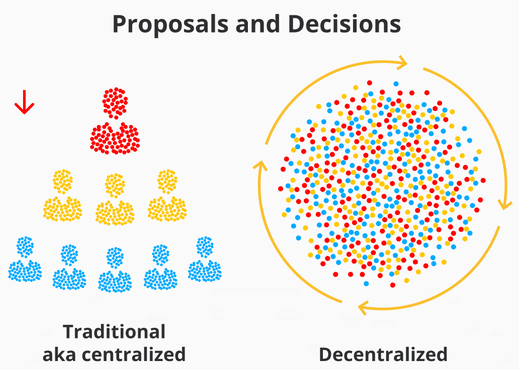
Investors or stakeholders can participate in a DAO without the presence of an intermediary, like governments, or financial institutions, like banks, giving many greater financial autonomy.

This allows participants to invest, borrow or raise money for any purpose as long as there is community consensus.

Traditional firms rely on governmental forces for the implementation of agreements between different parties, or contracts. DAOs utilize a "code is law" mentality, which means that the code automatically functions as the decision arbitrator.

A traditional or usual organization follows a top-down hierarchical model of leadership with a centralized authority on top, for example, a CEO. Generally, financial decisions are made by a chief financial officer. This is not the scenario at a DAO. Here, the leadership and decision-making are transferred to a distributed network of autonomous participants.

Companies are often registered in a country or given operational authority through a government entity. DAOs operate in a completely decentralized manner and, in many cases, without a governmental body overseeing the enforcement of contracts and the daily activities of the organization.



[9] "Evolution of industry and blockchain era" M. Hasan, S. Akhtaruzzaman, S. Kabir, T. Gadekullu, S. Islam, P. Magalingam, R. Hassan, M. Alazab, & M. Alazab. Transactions on Industrial Informatics. 2022
[10] "Bitcoin: A peer-to-peer electronic cash system" S. Nakamoto, 2008
[11] Mastering Bitcoin: Programming the open blockchain" A. Antonopoulos, O'Reilly Media, 2017
[12] "Bitcoin and the three laws of robotics." S. Larimer, Let's Talk Bitcoin, 2013
[13] "I invented the term in 2013, and Daniel Larimer came up with DACs" V. Buterin, Medium, july, 2016

The Next Step: DAO 2.0 Blockchain Governance Innovation by Dash

Humble beginnings

Bitcoin was once considered a DAO because most network participants had never met, and the network evolves through community agreement that requires miners and nodes to signal their support. However, Bitcoin is no longer considered a DAO by today's standards, as a true DAO must have complete autonomy; it must fund and manage every aspect of its operations independently, free from outside interference or centralized control, thereby reducing the risk of single points of failure and potential conflicts of interest.

Innovating blockchain decentralized governance

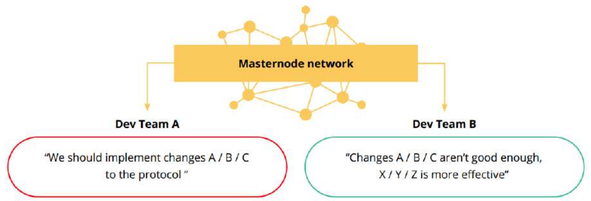
Dash (a fork of Bitcoin) was the first cryptocurrency DAO to have a self-funding, self-governing protocol. Dash pioneered decentralized governance by blockchain with the launch of its two-tier masternode network in 2015, and it remains the industry's longest-running DAO to date.

Dash allocates 10% of all block rewards to fund its own development in a competitive and decentralized manner, unlike other cryptocurrencies that depend on donations, pre-mined endowments, foundations, volunteerism, corporate sponsorships or third parties.

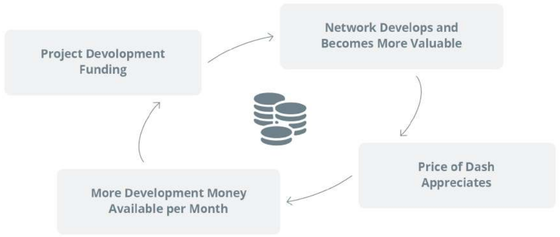
What are Dash masternodes?

Dash masternodes are a decentralized network of powerful servers backed by collateral held in Dash designed to deliver advanced services and governance over Dash's proposal system securely in exchange for a portion of the block reward. Dash believes that masternode operators make wiser decisions when they have something to lose as well as gain when they have "skin in the game." Dividing the block reward may appear to be a minor detail, but it has a significant impact, as it allows Dash to hire everyone who works for the network rather than miners consuming the network's entire revenue stream of the network.

The first superblock was mined on 7 September 2015, making Dash the world's first Decentralized Autonomous Organization (DAO)



A decentralized network of master nodes controls and govern the direction of the project.



Dash's virtuous cycle: As the price rises, the Dash treasury has more money to invest, creating a positive feedback loop.

Self-regulating incentivized infrastructure

Because of financial incentives, the governance of the Dash DAO is quick, efficient and very purposeful. Anybody can submit a network proposal for a small anti-spam Dash fee, which helps to ensure that only serious proposals are submitted. As a result of a free-market-competition funding approach, the best concepts and ideas that add value to the network are rewarded.

Each masternode can vote on each proposal once (yes/no/abstain). If a proposal is approved, the payment specified in the proposal is paid in a monthly "superblock" with all other proposals that passed that month.

On occasion, the network receives decision proposals for significant or divisive decisions. For instance, the outcome of a vote can be used to determine whether Dash's developers should implement a feature or not.

As it is possible to submit proposals that pay out over several months, masternodes can revoke support from a project by amending the vote if the use of already-awarded funds is unsatisfactory. This incentivizes proposal owners to work honestly and diligently to gain the network's trust and approval.

The DAO gold standard

The Dash DAO has stood the test of time and inspired numerous projects. Dash's approach to decentralized governance hasn't changed in years, but that's by design. Dash is able to adapt to what works best for the network due to the DAO's free market approach, as opposed to the limitations and restrictions in centralized traditional corporate structures.

To learn more about Dash, read our recent research report: Why Are Crypto Funds Investing in Dash?

How does Dash's DAO solve problems that traditional structures cannot? — Joël Valenzuela | Director at Dash Marketing Hub

Dash's DAO stands out due to its simplicity, which makes perfect sense since it was the world's first. It's essentially an open book: Anyone can ask a question or request funding of the network, and Dash's holders get to respond. After a vote is held, that's it. It's done.

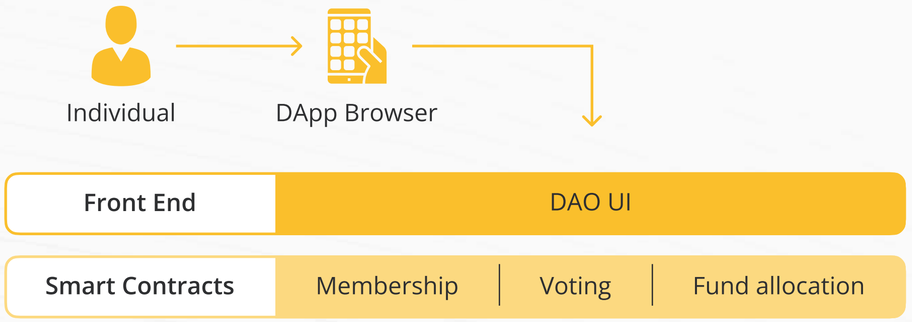
This allows projects to be funded and decisions to be made quickly on a consistent basis, without hoping for oligarchical structures to burn out or lose their power. It also lets anyone with Dash pool their funds to have a voice, rather than explicit shareholders or a board of directors. Finally, it's anonymous, meaning it's truly open to participation from anyone anywhere in the world, without geopolitical restrictions.

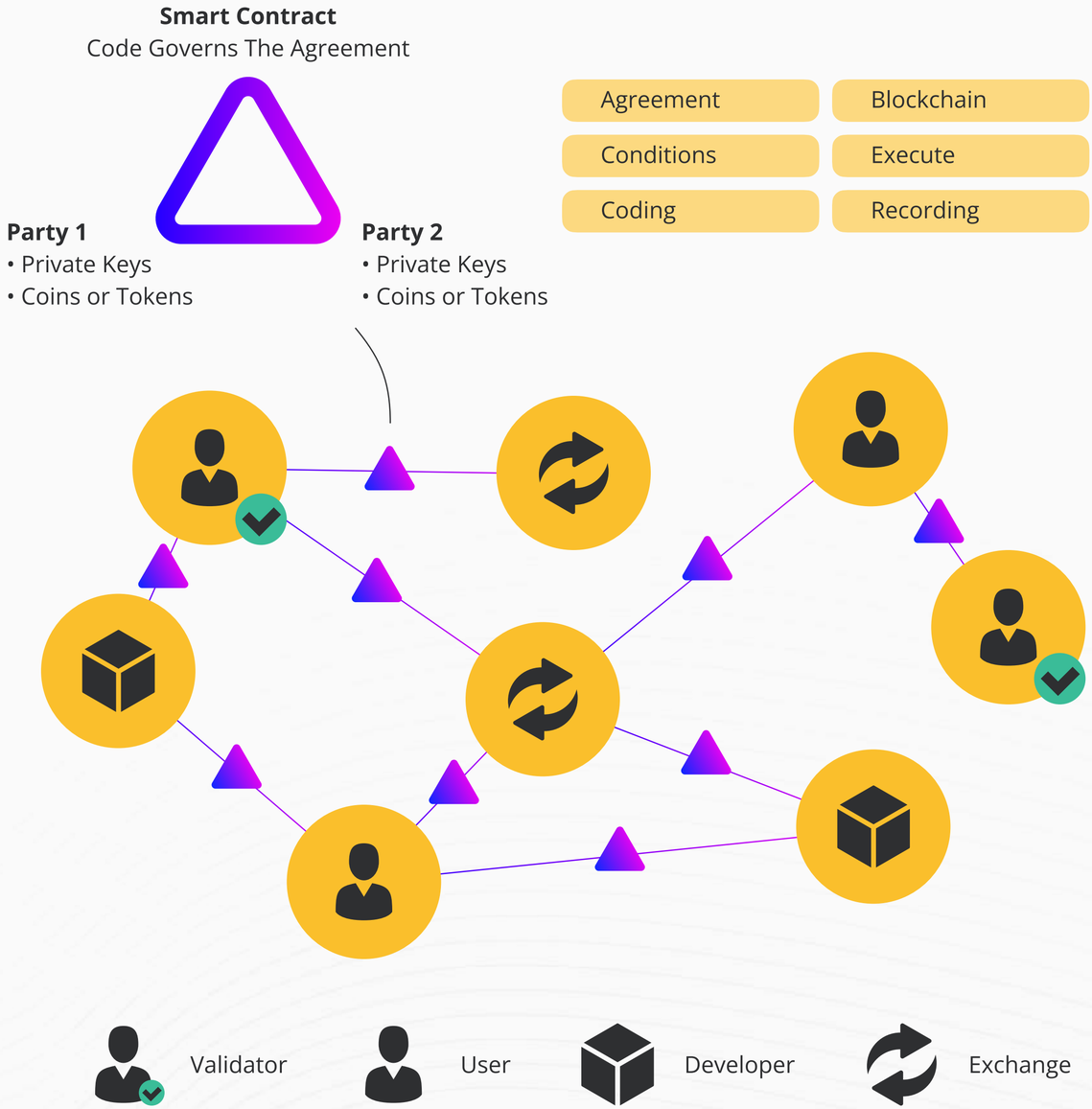
Smart Contracts and DAO 2.0

Smart contracts allow different parties to engage in an agreement locked in code relating to digital assets.[14] This can include what makes DAOs possible: voting, proposing, signing and delegating coins or tokens in a way to support different functionalities that a DAO needs to operate. Any DAO participant is allowed to make proposals and vote on other proposals, with no one entity controlling the majority of tokens or votes.

Decentralized applications, or DApps, utilize smart contract functionality to allow users to log in to different interfaces and authenticate their cryptographic identity. Whoever signs the transaction has access to the private keys, making them the owner of all the assets in that wallet. This is why the blockchain and crypto community often says, “Not your keys, not your coins.” In DAOs, this means that a participant can identify themselves and utilize cryptocurrencies as a means of paying for a vote, proposals and other actions. These used to require a centralized gatekeeper to act as an intermediary, which was drastically reduced with the advent and adoption of smart contract technology.

DAOs as part of Layer2 Ecosystem





[14] “Blockchain in industries: A survey” Al-Jaroodi & N. Mohamed. IEEE Access, 2019


ALIEN WORLDS
WHAT WOULD YOU DO WITH A FORTUNE?
Welcome to the Alien Worlds Metaverse.
Here, DAOs compete for millions in fungible tokens and NFTs.
Take control of vast treasuries by running for election, collaborating on a shared vision and taking charge of a Planetary DAO.
MASTER THE METAVERSE
alienworlds.io

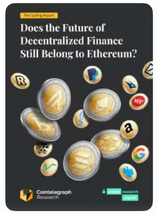
DAO 2.0 Lessons Learned: “The DAO” Case Study

The use of Ethereum for decentralized finance (DeFi) was one of the earliest use cases for the protocol. The Ethereum network launched in July 2015, and in May 2016, “The DAO” was formed. This was one of the earliest entities built on Ethereum, and it received a large amount of attention in those early days. The DAO raised $150 million worth of Ether (ETH) and was one of the earliest crowdfunding efforts and high-profile projects built on the Ethereum blockchain. The DAO was hacked three months after it had launched, and $60 million of ETH was stolen. There was much discussion about the vulnerabilities of The DAO’s code before the attack took place from supporters who wanted to see the project be successful. However, as the code was reviewed by a few inquisitive computer scientists, concerns were expressed to Ethereum leadership. The dominant concern was a bug in The DAO’s wallet, which allowed funds to be drained. Programmers attempted to fix the bug, but an attacker exploited the vulnerability and began siphoning funds.[15]

The response to the attack by some in the community was to hard fork Ethereum’s blockchain. A hard fork is a radical change to a network’s protocol that makes previously invalid blocks and transactions valid, or vice-versa. A hard fork requires all nodes or users to upgrade to the latest version of the protocol software.

Not everyone supported this action, but the process of the hard fork was completed. This hard fork resulted in two chains: Ethereum and Ethereum Classic. Those who refused to accept the hard fork, which altered the blockchain’s history, supported the pre-forked version; this blockchain is now known as Ethereum Classic. Ethereum Classic proponents support the phrase, “Lex Cryptographia,” or code is law. Code is law means that the code of a smart contract is the ultimate arbiter of the outcome of an on-chain interaction, as opposed to some overriding force from outside the network.[16] As a result, applications are unstoppable and run exactly as programmed without downtime, censorship or third-party interference. The blockchain presently known as Ethereum is the one that implemented the hard fork and altered the blockchain’s history. As a way to atone for the lost funds, hacked funds were sent to an account available to the original owners.

This was an important step in the implementation of smart contracts and DAOs. The exploit brought along with it lessons that have been incorporated into DAOs and other Web3 projects ever since. The importance of a sound and secure system is vital, and the vulnerability of a blockchain protocol to unknown exploits is a risk that needs to be taken into account when getting involved in these ventures.



Cointelegraph Research published the report “Does the Future of Decentralized Finance Still Belong to Ethereum?” in the first part of 2022. It covers the history of Bitcoin and Ethereum and some of the next wave of blockchain protocols. You can view the document by clicking **here**.

On the Ethereum blockchain, The DAO is formed in 2016.

The DAO treasury is hacked for $60 million of ETH.

A debate between Ethereum and The DAO communities erupts over rolling back the blockchain to before the hack. The camps are divided between those who argue for a refund of the hacked funds to The DAO participants and the code-is-law side, which had advocated for leaving the blockchain unaltered.

A hard fork of the blockchain happens, resulting in two chains.

Ethereum

The chain reverts to its prior state before the hack and drains the treasury, becoming known as Ethereum (whose native crypto, ETH, is currently the second-largest by market capitalization).

Ethereum Classic

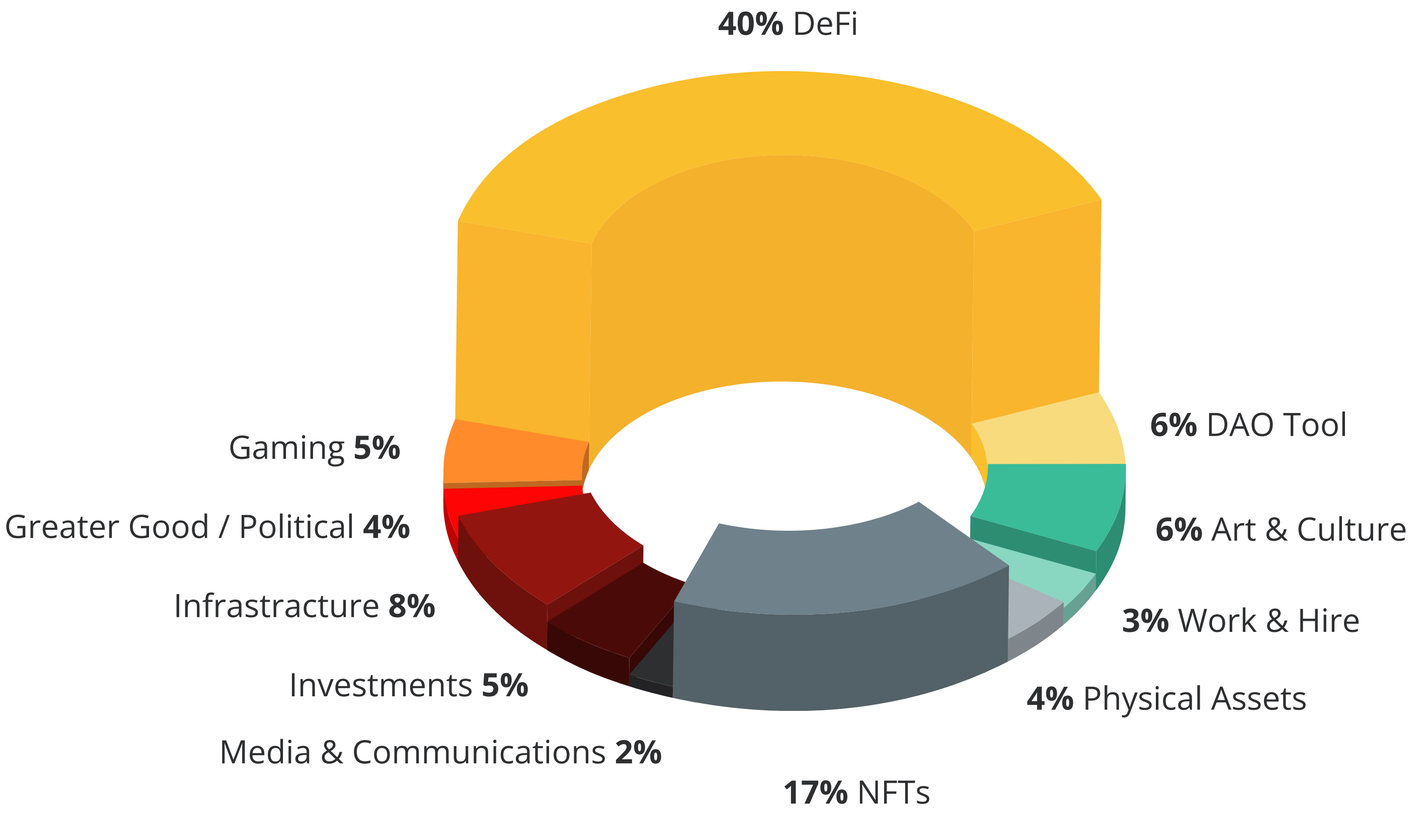
Code-is-law proponents continue to utilize the “old” Ethereum chain, which is not reverted to the pre-hack version of the blockchain. This is now known as Ethereum Classic.

[15] “The DAO controversy: The case for a new species of corporate governance?” Morrison, Mazey, & Wingreen, Frontiers in Blockchain, 2020

[16] “Blockchain and decentralised autonomous organisations: the evolution of companies?” Sims, New Zealand University Law Review, 2019

Rise in Infrastructure Sparks DAO 3.0

Figure 2: DAO 3.0 Categories of DAO Focus in 2022



Note: *Data as of August 2022. Based on 550 DAOs, one DAO can belong to multiple categories*
Source: *Deepdao.io, Cointelegraph Research*

Powered by DeepDAO

The fall of "The DAO" was a learning moment for the entire crypto space and is still a cautionary tale for new projects in the hopes of not repeating the same fate. While DeFi continued in its many forms, other projects started working on making the infrastructure and tooling applications, which would pave the way for an explosion in DAO growth. **From 2019 to 2020, there was an increase of 660% in active DAOs.**[17] This was the start of **DAO 3.0** or the major proliferation of DAOs that branched out widely to not just DeFi but art, social activity, politics, NFTs, gaming (often called GameFi in the crypto space) and beyond. Some of these tools, as we break down the categories a bit deeper in the following pages, made treasury management easier, voting and proposal less costly, or made the entire start-up and operation of a DAO so easy that it could be done without needing to know how to code.

Cointelegraph has been asking, "**Are DAOs the new corporate paradigm?**" for some time now.[18] There continues to be positive momentum in the growth of DAOs as a testament to the growth **from 700 in May 2021 to over 4,000 active DAOs in mid-2022.**[19] DAOs are still organizations, however, and just like any startup business or venture, they have a high percentage of failure in the first year. This report intentionally focuses on active chains with substantial treasuries and active participation. Unlike traditional companies, if a blockchain protocol is a token built on a layer-1 (L1) blockchain, like the Ethereum network, it is still a locatable record viewable by blockchain analysis tools. While just under half of all DAOs are concentrated on DeFi, there are a growing number of categories, which are broken down in the following pages.

[17] See Cointelegraph news article from 2020 here
[18] "Year 1602 revisited: Are DAOs the new corporate paradigm?" Andrew Singer, Magazine by Cointelegraph, February 22, 2022
[19] "Number of DAOs increases 8x along with spke in votes and proposals." Brian Newar, June 10, 2022

DAO 3.0: Scaling, Adoption & Use Cases — DeFi and Tooling

DeFi and Investment — 45% of DAOs

DeFi is the largest application of DAOs, which entails the likes of Uniswap, Aave and MakerDAO. These DAOs serve the primary purpose of acting as an ownership and governance system for DeFi applications. Investment DAOs operate like an investment fund commonly seen in traditional markets.

The DAO with the largest daily trading volume on the Ethereum blockchain is Uniswap. Uniswap obviates the need for trusted intermediaries, prioritizing decentralization, censorship resistance and security. The purpose of Uniswap is to manage liquidity pools of different ERC-20 tokens, which assist users with completing swaps of different ERC-20 tokens. The UNI token sits at a $4 billion market capitalization,[20] with a total treasury of over $2.2 billion.[21]

BitDAO is a powerhouse investment DAO that manages assets worth upward of $2.3 billion. BIT token is the governance token that has assisted in collecting of such a large treasure chest. Members of BitDAO are a part of the on-chain governance in which DeFi protocols receive sizable investments from the DAO. BitDAO's BIT token has a $1.0 billion dollar market cap,[20] with a $1.3 billion dollar treasury total.[21]

The LAO, is structured as a member-directed venture capital fund in the US. It is registered as a Delaware limited-liability company (LLC) and compliant with US laws but carries out its functions via a Decentralized Application (Dapp) and smart contracts.[22] The LAO is sitting on a modest $9.7 million treasury,[21] but is a novel approach in future investment sources.

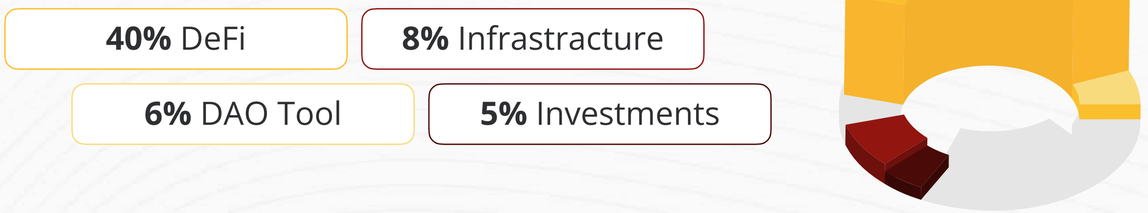
Infrastructure and Tooling — 14% of DAOs

As DAOs have become more prevalent in the blockchain space, tools to accommodate DAO scaling have emerged. As more firms take on a DAO structure, there will likely be more "picks-and-shovels" tooling spawning up to address the unique issues DAOs face.

Some protocols, like the Ethereum network, suffer from high transaction costs, which prompted the creation of Snapshot, a tool for off-chain voting and proposals for DAOs. Snapshot is a voting system that removes the need for fees when it comes to a DAO's voting process. It can be seen as a blockchain-based polling application to help DAOs understand how their members feel about certain changes and updates.[23]

Aragon is a protocol that makes the creation of a DAO simple with governance plugins and a simple user interface. Utilizing the Ethereum blockchain, Aragon has helped proliferate the use of DAOs as a global organizational solution without even needing to know how to code.[24] The DAO utilized its own native ANT token for governance, currently sitting at $67.4 million in market capitalization,[20] and has $122.8 million in its treasury.[21]

The ability to manage a DAO's treasury is key, and Coinshift offers DAOs a multisignature solution for their regular operations There is a deeper dive into Coinshift on page 25 of this report. Coinshift is under the umbrella of the GnosisDAO, which has a treasury worth $1.1 billion,[21] and whose token, GNO, has a $330-million market capitalization.[20]



20 Information sourced from CoinMarketCap in September 2022
21 OpenOrgs.info provided the basis for this information on treasury balances from September 2022
22 For more information, visit the LAO website here Learn about Snapshot here
23 Learn about Snapshot here
24 Aragon has a well organized and informative webstite all about DAOs and launching an organization as a DAO
25 To learn more about Coinshift and their smart treasury management solutions, click here

DAO 3.0: Scaling, Adoption & Use Cases — Social and Metaverse

Social and Political — 15% of DAOs

The concept of a social DAO is best compared to a gym or country club membership a person may pay for in the real world. A membership with a social DAO is contingent on the number of tokens held.

Bored Ape Yacht Club is an NFT collection that issued its own token, ApeCoin (**APE**), as a DAO.[26] Comprising famous members, such as Tom Brady, Mark Cuban, Stephen Curry, Madonna, Jimmy Fallon and Gary Vaynerchuk, the Bored Ape Yacht Club's social member status is a driving force behind its market value. APE has a market capitalization of $1.7 billion. [28]

AssangeDAO, a political DAO, uses its native token, **JUSTICE** as a means to support and free media activist Julian Assange. While being a small DAO compared to the rest of the cryptocurrency market, this demonstrates the laser-focused efforts one community can have by issuing tokens. The market capitalization of JUSTICE is $0.7 million.[28]

If you contribute to a DAO as an independent freelancer, you may not have access to many different benefits which come from being employed in the traditional world. Opolis provides access to medical insurance, retirement plans, tax compliance, and other benefits for those in the Web3 gig economy. This is changing the way people approach employment and see themselves in society, as Web3 jobs are mostly remote, the ability to pick up and move at a moment's notice if a more favorable political or social geographical region becomes available. Through Opolis, someone working in Web3 can process all their various streams of income into various tax documents like a W2 in the United States.[30]

Metaverse, GameFi, and NFT — 26% of DAOs

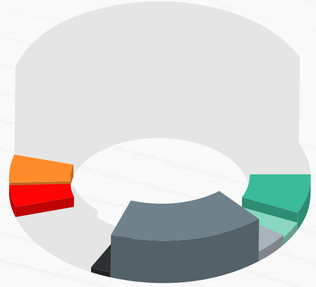
The metaverse, a computerized world that is a blend of real life and digital experiences, with which someone may interact through the use of augmented or virtual reality, is a growing sector in the blockchain space. Part of the metaverse experience is through the use of NFTs for the user to wear or otherwise interact with in these digital worlds. DAOs are popping up in NFTs, metaverses and in GameFi as a means of community engagement.

One of the oldest NFT cultivators and curators in the blockchain space, Pleasr DAO has made a name for itself outside of its own industry. It's famous for purchasing a one-off album by the Wu-Tang Clan called Once Upon a Time in Shaolin and turning it into an NFT.[31] The 74-member collective goal is to "fund culturally significant pieces" and take that to another level by sharing it with the community. While its treasury is just under $4 million,[29] the members of the DAO can raise capital dynamically depending on the circumstances.[32]

Receiving investments from the likes of Binance, Polygon and Solana, Avocado DAO focuses on investing in virtual games and the NFT space.[27] The token for AvocadoDAO is AVO, which took a large hit in the market decline in the first half of 2022 and sits around $1.36 million in total market capitalization. [28]

Perhaps the most complex ecosystem of DAOs in a metaverse game that utilizes NFTs and its own native cryptocurrency, TLM, Alien Worlds combines all these elements into an immersive experience for players. A more detailed case study is outlined below and potential implications for the future of DAOs.

17% NFTs
6% Art & Culture
5% Gaming
4% Physical Assets
4% Greater Good / Political
3% Work & Hire
2% Media & Communications



26 For more on the Bored Ape Yacht Club ecosystem, and how the ApeCoin DAO works, click here
27 Click here for more information on Avacado DAO
28 Information sourced from CoinMarketCap in September 2022
29 OpenOrgs.info provided the basis for this information on treasury balances from August 2022
30 For some more detail on the Opolis, and how it is impacting decentralized employment click here
31 Read more on the Wu-Tang music backstory here
32 From the Pleasr.org about page found here

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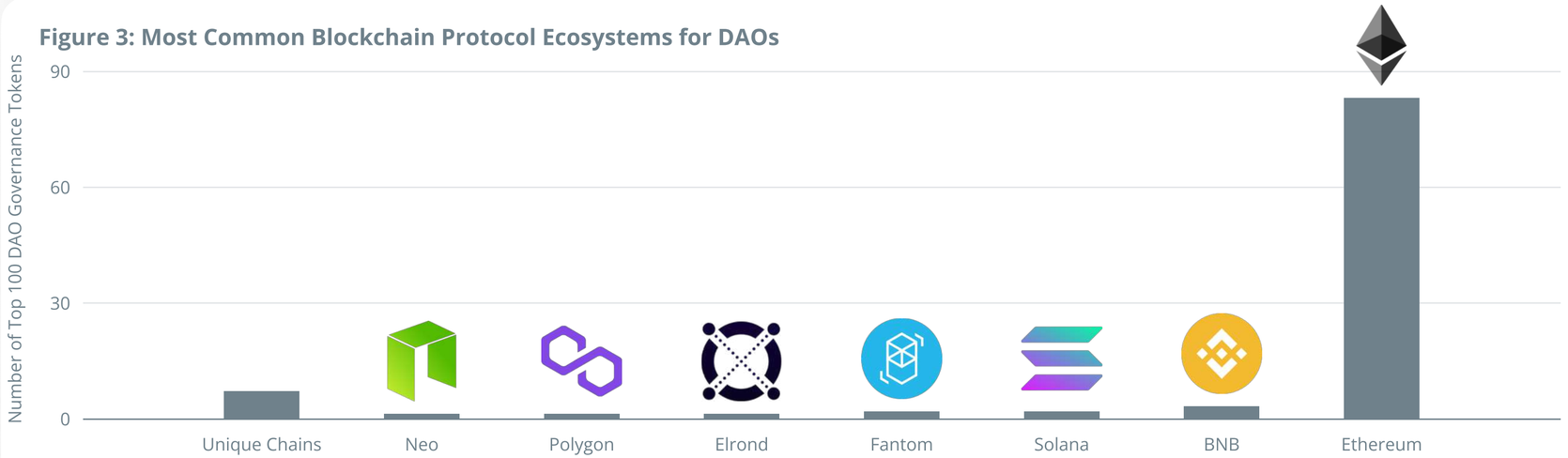
Popular Blockchains for DAOs

Unsurprisingly to anyone with knowledge of the crypto space, Ethereum is by far the most prevalent L1 technology for DAOs. Among the top 100 governance tokens by market capitalization, 83 of the respective DAOs primarily link into the Ethereum ecosystem. The network effects that come with employing the second-largest cryptocurrency by market capitalization are a strong pull factor for DAO launches. DAOs on Ethereum can leverage a large pre-existing user base that has already set up browser wallets, transferred funds to their addresses, and is connected to the ecosystem's communication channels on social media. Thus, it becomes easier for a project to reach a critical mass of token traders required to frictionlessly exchange governance tokens on DEXs without unsustainable price volatility.

Figure 3: Most Common Blockchain Protocol Ecosystems for DAOs



Source: *Coinmarketcap.com (Throughout this report different sources of data have been utilized. Each one specializing in different areas relating to DAOs, their coins/tokens, or activities.)*

Depending on the type of DAO and use case for the token, this is essential for the success of the organization. Token emissions are often used as economic incentives, and in many cases, the native token constitutes the majority of a DAO's treasury. Violent price fluctuations risk destroying a DAO's ability to provide incentives and a loss of confidence in the DAO's value proposition and treasury. The quantitative data shows that the aforementioned constraints are tight, and not many organizations make it across the critical threshold just described. More than half of the DAO projects surveyed by DeepDAO do not have more than 100 tokenholders. Merely 4% of the projects had more than 10,000 tokenholders. Over 80% of these rare successes deploy Ethereum as the main treasury chain, and it is plausible that many of them would not be viable without the strong network effects of Ethereum's ecosystem.

Insider Insight

What would it take for DAOs to be embraced by traditional entities?

Established businesses tend to look at results vs concepts to estimate potential. Conversely, and perhaps because they are still in their infancy, DAOs tend to focus on the big idea, often failing to clearly define goals and measure success accordingly. There is a middle ground to be reached, whereby traditional corporate entities bring their mastery of process, delivering results to the cultural priorities of more democratic DAOs.

What are the main obstacles to DAOs and DeFi entering the mainstream?

The biggest elephant in the room is regulation. Traditional entities are hesitant to take part in DeFi and DAOs without the support of governments and central banks. Yet more and more individuals look to these new paradigms as distrust in governments grows and a new financial crisis looms. With this in mind, financial education is another key challenge, but one that can be addressed from the bottom up, unlike the rigid, top-down process that regulation is.

William Vandyk
COO Pollen

Tokenomics

Behind every DAO is a carefully designed set of rules that govern the inner workings of the DAO. As with any other crypto project, these “tokenomics” are supposed to ensure that the DAO can fulfill its purpose. Crucial elements of tokenomics are the rules regarding the supply of tokens and incentives for participation in a DAO’s governance. Naturally, tokenomics for different DAOs will depend on the purpose — i.e., for a gaming DAO, the tokenomics will differ from those for an investment DAO.

Genesis supply — The original supply of tokens

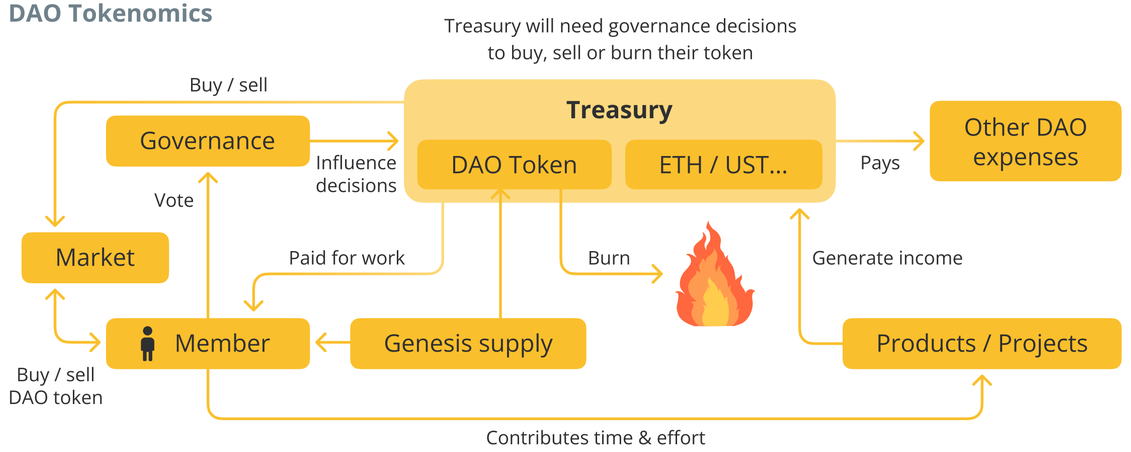
When starting a DAO, a certain number of tokens is minted and distributed among investors, participants, founders and the DAO’s treasury. Tokenholders will, in general, hope for the DAO’s business model to be successful insofar that income streams are generated, which will then be used to drive up its token’s price by either burning or purchasing tokens. Good tokenomics will ensure that there is no inflationary supply of tokens after the initial minting so that supply does not outpace demand.

Demand — The value of a token

The value of a DAO’s token will eventually be determined by supply and demand. Demand for a given token can come from several conceptual features of that token. First, it can be an investment or store of value, such as Bitcoin, which often comes with the additional benefit of being considered as collateral by many counterparties. Second, the token can be used to pay for services — e.g., Chainlink’s LINK token. Third, the token can offer cash flows, such as those from staking. Finally, a token may offer additional voting power in the governance of the token issuer, such as a DAO.

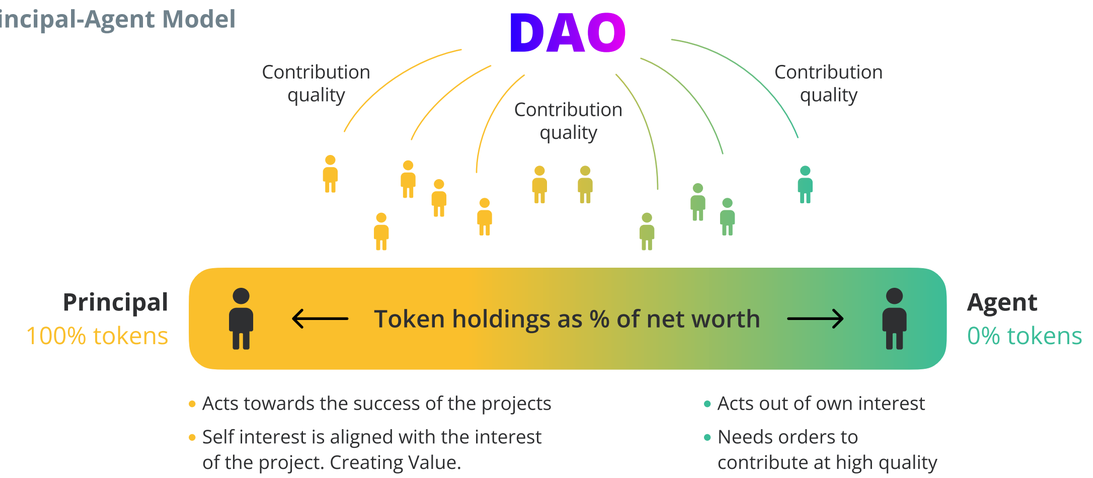
Demand for a token can also increase indirectly if a DAO generates revenue. Revenue from a DAO’s business will often be denominated in other tokens, such as USDC, as people outside the DAO pay for the DAO’s services. Thus, the DAO can start to convert these tokens into native tokens on the market, leading to a positive return for existing tokenholders. In general, a DAO with a profitable value proposition will attract demand from investors who hope for a positive return on their token investment. This will depend both on the DAO’s business model but also on the DAO’s tokenomics: *How many tokens will be created in the future? Can tokens easily be exchanged for other tokens?*

DAO Tokenomics



Source: *tokenomicsdao.com, Cointelegraph Research*

Principal-Agent Model



Source: *ffstrauf.medium.com, Cointelegraph Research*

Governance

As we have shown, tokenomics are crucial for the success of a DAO in terms of its token becoming valuable for investors. However, with DAOs being in a constant state of change, tokenomics may also be changed over time if the DAO community decides to do so.

Proposals

Members of a DAO's community can make proposals that all governance tokenholders can decide on. A successful proposal will be a binding decision for the community and has to be implemented by the DAO. These proposals can range from paying other organizations for services to investment decisions related to the DAO's treasury. Only members with a pre-specified amount of governance tokens can make proposals (again depending on the DAO's internal guidelines).

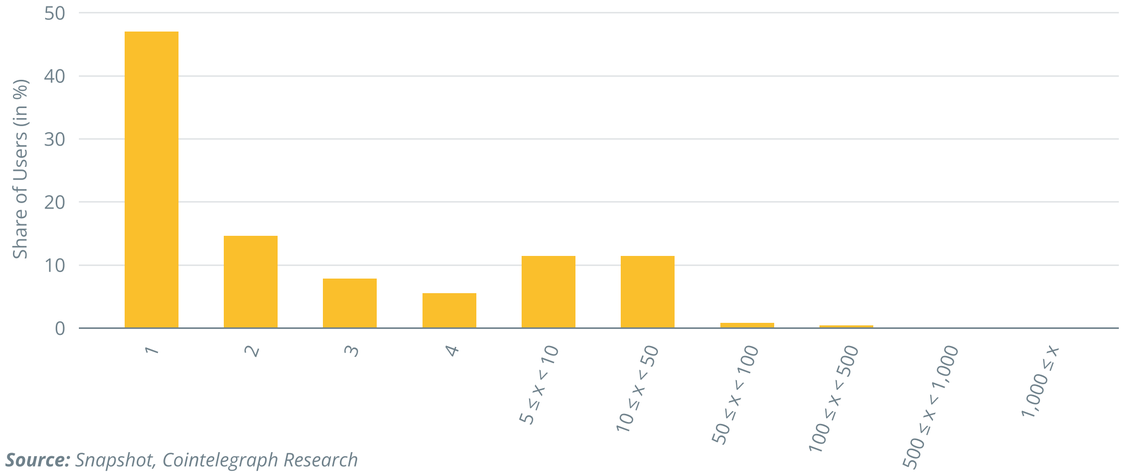
Snapshot

Voting on proposals is a crucial feature within a DAO's ecosystem. Yet high gas fees may deter some tokenholders from participating, especially if their stake in the DAO is not very large. Thus, Snapshot has evolved as a tool to facilitate voting without incurring large gas fees.

Voting

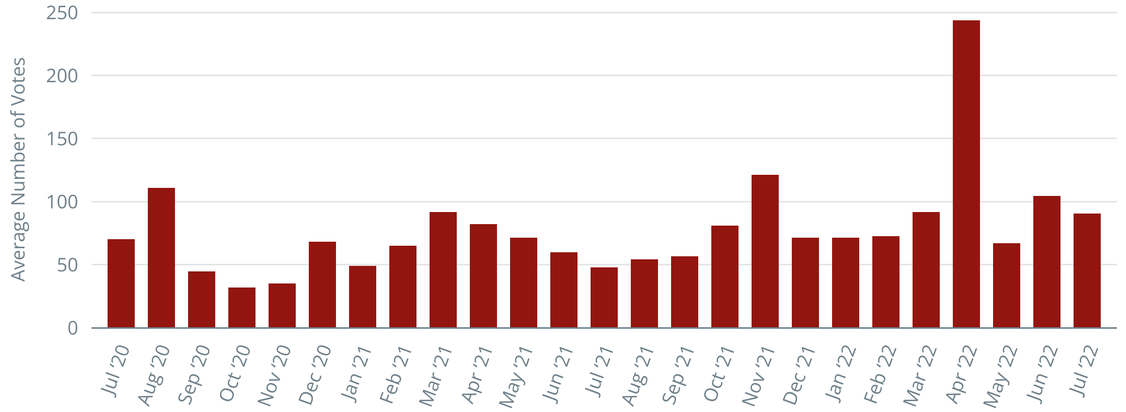
Once a proposal has been put up for a vote, members can cast their vote. Some governance tokenholders may choose to delegate their voting power to other members. This form of indirect democracy means that tokenholders can participate while not actively making decisions. Data from Snapshot displayed in Figure 4 shows that nearly half of all voters only voted once. While some power users may vote several times and in several DAOs, the majority of users only participated in a limited way. As the referenced data from Snapshot has been collected since the beginning of 2020, some of the limited participation may be explained by unsuccessful DAOs that have only drawn limited attention from their members. If you consider the data displayed in Figure 5, the average votes per proposal appear to be more stable over time. While it cannot be ruled out that the continuously high number of average votes is purely driven by new DAOs being successful for a short period of time, it seems more like those DAOs that are successful continue to attract interest from members.

Figure 4: Number of Votes per User



Source: *Snapshot, Cointelegraph Research*

Figure 5: Average Votes per Proposal



Source: *Snapshot, Cointelegraph Research*

Key Metrics

Data on DAOs

DAOs are diverse and so is the data available for DAOs. Extensive research in this report has identified a number of high-quality sources for the most important DAO metrics. Token prices and market capitalization can easily be gathered from established data outlets, such as CoinGecko. However, not all DAOs have tokens that trade on exchanges or are liquid enough to yield accurate price information. Depending on the project, some DAOs may have a very active community without having an actively traded token. Nouns DAO, for instance, is governed by Nouns (NOUN), which are themselves NFTs rather than conventional tokens. Thus, this report will look at traditional metrics, such as the ones listed below, together with "activity" metrics obtained from DeepDAO and Snapshot.

Traditional metrics that are closely related to a DAO's tokenomics will be discussed on page 17. Among these traditional metrics are:

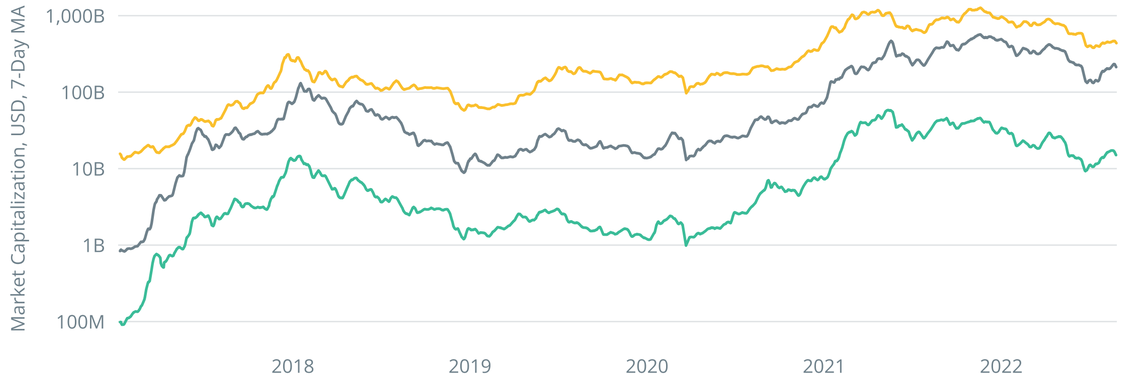
- Maximum token supply
- Circulating supply
- Token price
- Market cap
- Trading volume
- Fully diluted valuation

A DAO investor may additionally be interested in the health of a project that may yield some information in the long term:

- Active members
- Proposals
- Votes
- Treasury value (vested and liquid)

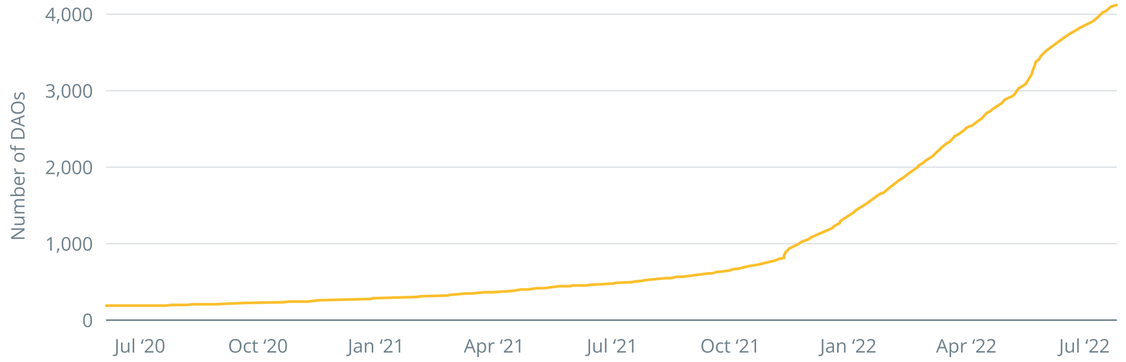
Such data is more difficult to obtain; for example, treasury wallets need to be identified through on-chain analysis. Proposals and votes may happen on-chain or off-chain through tools such as Snapshot. The charts on the right display the number of DAOs on Snapshot. While this only highlights the explosive growth of DAOs since late 2021 on Snapshot, it can be seen as a proxy for the entire space. Other data outlets, such as DeepDAO, currently track more than 4,800 DAOs.

Figure 6: Market Capitalization of DAO



Source: *Coingecko, CoinMarketCap, Cointelegraph Research*

Figure 7: Number of Active DAOs on Snapshot



Source: *Snapshot, Cointelegraph Research*

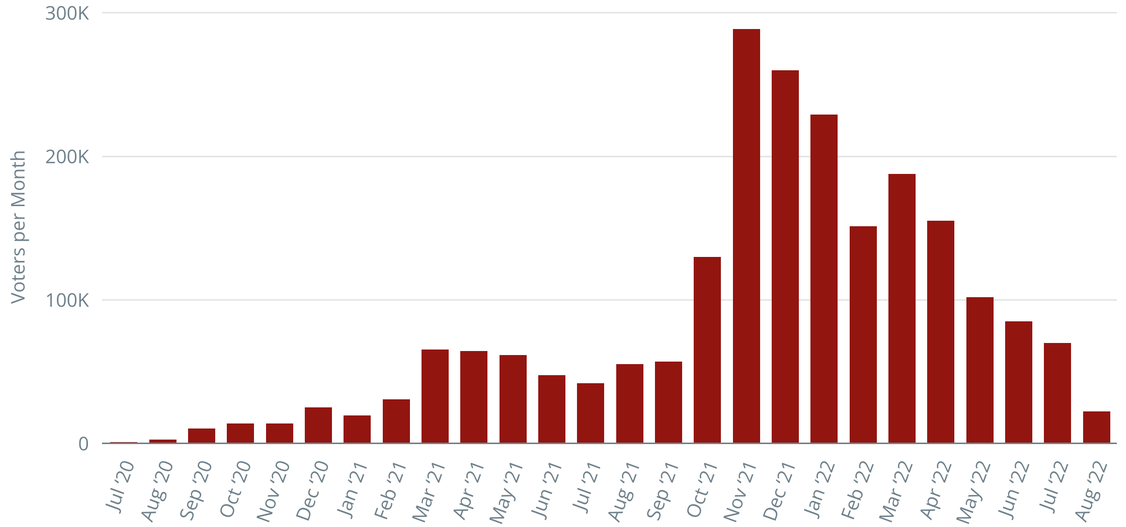
Key Metrics — Continued

Participation in DAOs

Despite the impressive growth in the number of DAOs, the sheer number does not tell us much about the activity within the DAO space. Figure 8 displays the number of daily voters active in the DAO space as tracked by DeepDAO. Although one voter may be active in different DAOs, the chart tells a clear story about the rise and fall of DAO activity. Despite the impressive activity in late 2021, the number of voters has retreated back to levels of early 2021. While this is by no means the end of DAOs, it is a clear sign that interest has been waning together with the general market downturn in the crypto space. Nevertheless, a healthy consolidation phase will likely result in DAOs that have a clear value proposition for users and clients surviving.

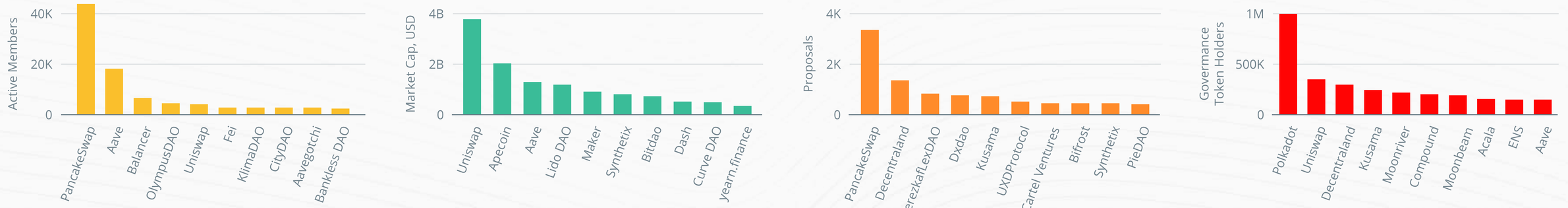
As discussed on the previous slide, there are two ways of evaluating a DAO's ecosystem. One would be the investor perspective that is primarily concerned with the performance, scalability and liquidity of DAOs and their tokens. The "activity" perspective, on the other hand, would merely look at the engagement of DAOs and their members. Figure 8 has shown that interest seems to have faded compared to the heydays in late 2021. Figure 9 below displays that activity within a DAO is not necessarily associated with its reaching a large valuation. While these stylized facts do not mean that DAOs with a large community engagement cannot be successful, it is evident that the mere quantity of interaction within a DAO is not a guarantor of success.

Figure 8: Total Votes per Month Within the DAO Ecosystem



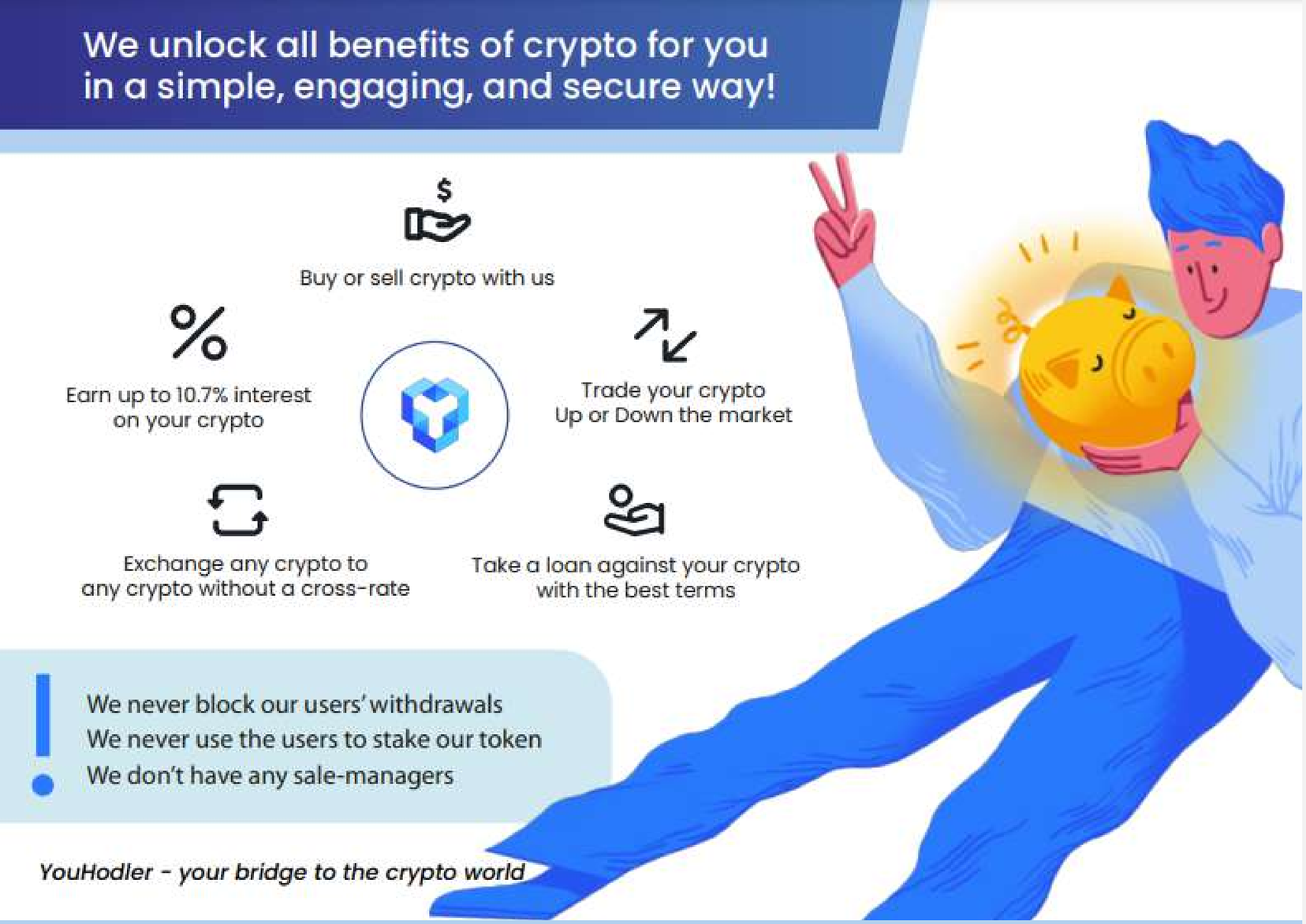
Source: *deepdao.io, Cointelegraph Research*

Figure 9: Top 10 DAOs by Active Members, Market Cap, Proposals, and Governance Token Holders



Source: *deepdao.io, Cointelegraph Research*

Powered by DeepDAO



YOUHODLER

Insider Insight

How have YouHolder maintained high yields during the recent downturn in the market?

The yield percentages you see on our platform (up to 10.7% APR + compounding interest) are powered by the fees from our other features (crypto-backed loans, turbocharge loans, crypto-fiat, fiat-crypto exchange, and Multi HODL).

Due to the current bear market, clients will likely use these features in more conservative ways. So it's only natural our rewards are more conservative as well. When the market is down as it is now, returns in both traditional financial markets and crypto markets are lower. That's just a fact. As a result, we temporarily lowered our yields slightly to match the current market condition. We will raise them again when conditions improve.

As for our sustainability in general, we prioritize a conservative and sustainable approach to FinTech. Unlike other platforms, YouHodler's business model is contained within the platform. We never take clients' funds for financial activities outside of the platform. Doing so is risky and goes against our conservative approach to FinTech. At YouHodler, everything is kept inside the platform. This is how we maintain liquidity and balance. Furthermore, we never lock clients' funds inside the platform. Users are free to withdraw whenever they want, regardless of market sentiment.

Once again, the fact that we keep all funds within the platform results in more conservative returns than some high-risk DeFi platforms but we believe our business model is better in the long-term for safety and sustainability during volatile market conditions. The same cannot be said for other platforms using riskier strategies.

Ilya Volkov
CEO YouHodler

DAO Token Correlation and Return vs Bitcoin

In any given asset class, it is important to identify the theoretical risk-free rate if you were to invest solely in that category. In crypto, that is Bitcoin, as it has the largest adoption, market capitalization and longest record. The two important areas of the analysis are correlation (how each asset moves in relation to Bitcoin's fiat valuation) and whether there is any return higher than simply purchasing Bitcoin. As we can see from the chart, over the past few years, there has been a strong correlation between the crypto market, in general, and the largest cryptocurrency, Bitcoin. Although most DAOs run on the Ethereum protocol, the tokens of each DAO have some idiosyncratic movement that can be attributed to the financial performance of the DAO's activities or general market sentiment toward the DAO's sector of business.

Figure 10: DAO Correlations with Bitcoin

Source: *CoinMarketCap, Cointelegraph Research*

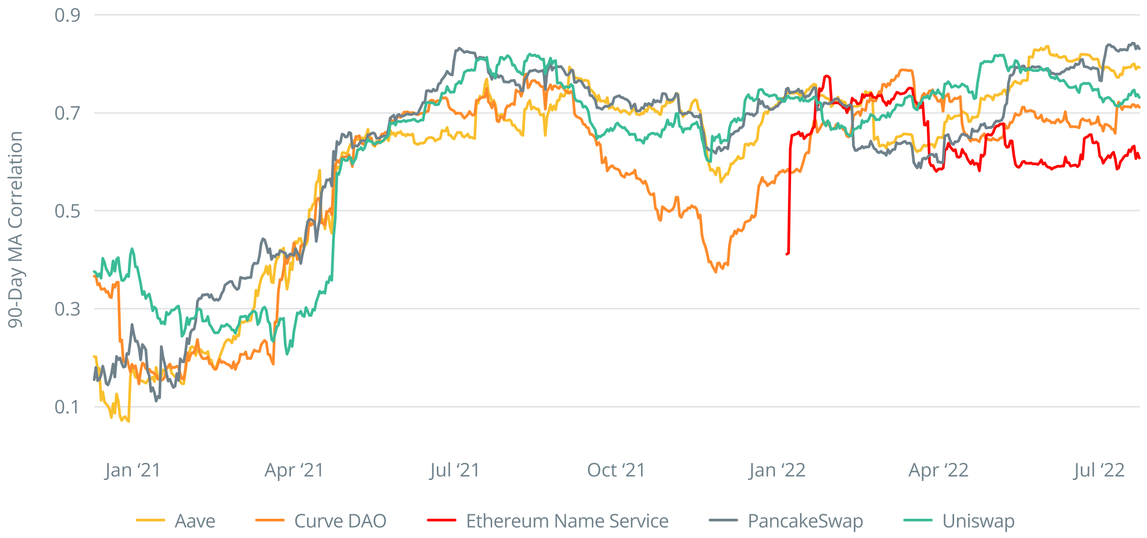
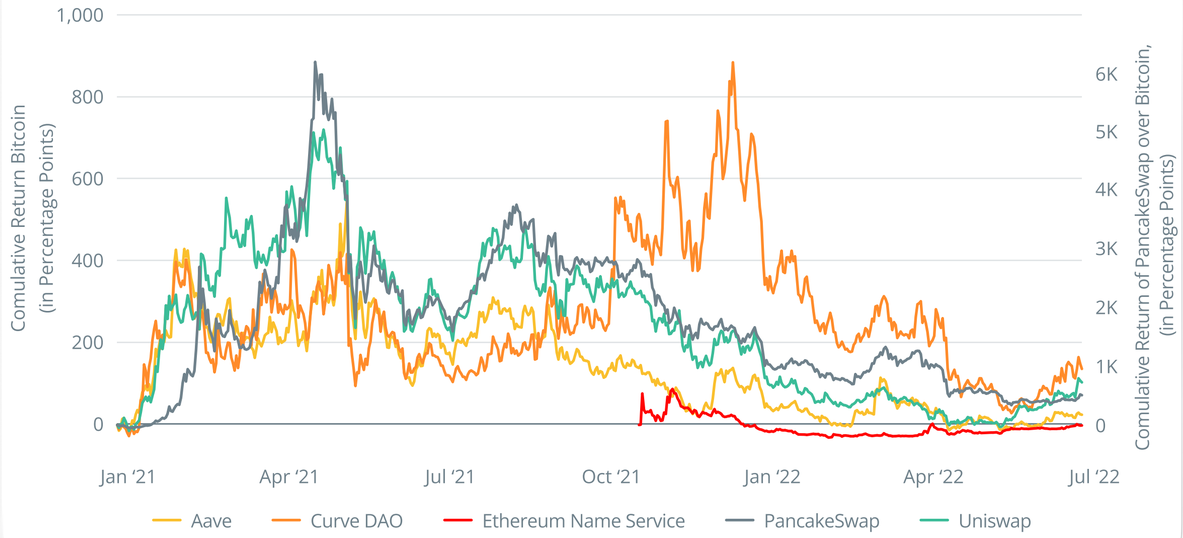


Figure 11: DAO Cumulative Returns over Bitcoin

Source: *CoinMarketCap, Cointelegraph Research*



The chart above sheds some light on how the most popular tokens of DAOs have performed in recent months and to what extent they have moved independently from general market developments. DAOs such as Aave and Uniswap outperformed many of the other big DAOs on this chart during the last year and a half. During this period, it would be a prudent time to consider selling off a portion of a particular holding to lock in gains before risking riding down the position of the asset to a zero or negative return compared to Bitcoin.

DAO Token Correlation and Return vs Ethereum

While most DAOs exhibit a lower correlation to Bitcoin compared to Ether, there is nonetheless a rather strong co-movement, especially since early 2021. Since Ethereum has a high correlation to Bitcoin, it is no surprise that the charts on the previous page show similar results. PancakeSwap is the only represented DAO token that has out outpaced both Bitcoin and Ethereum the entire time from January 2021 through 2022. All other DAO tokens would have provided a negative return to the alternative of holding Ethereum.

Figure 12: DAO Correlations with Ether

Source: *CoinMarketCap, Cointelegraph Research*

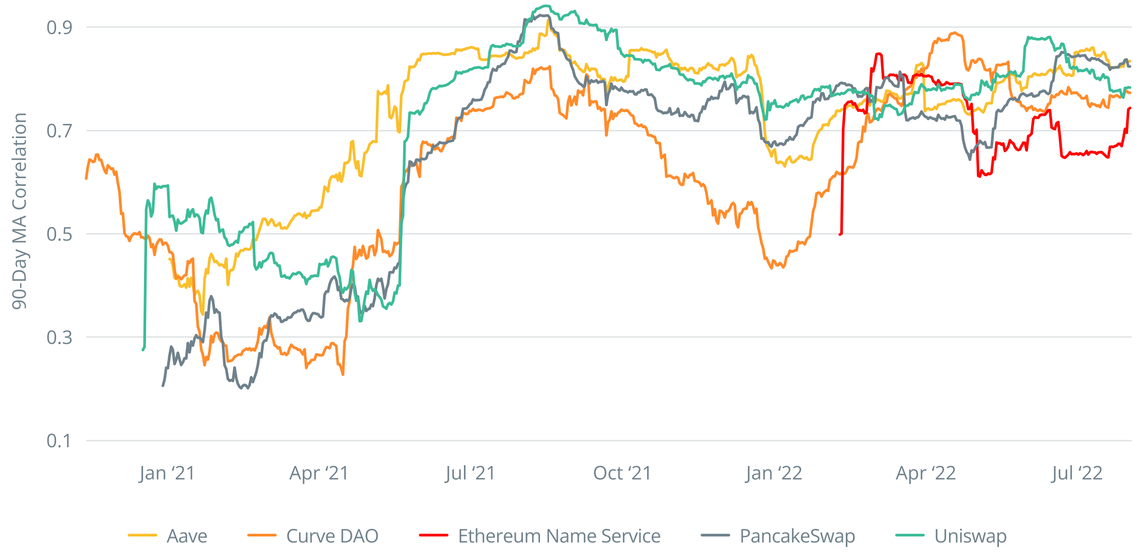
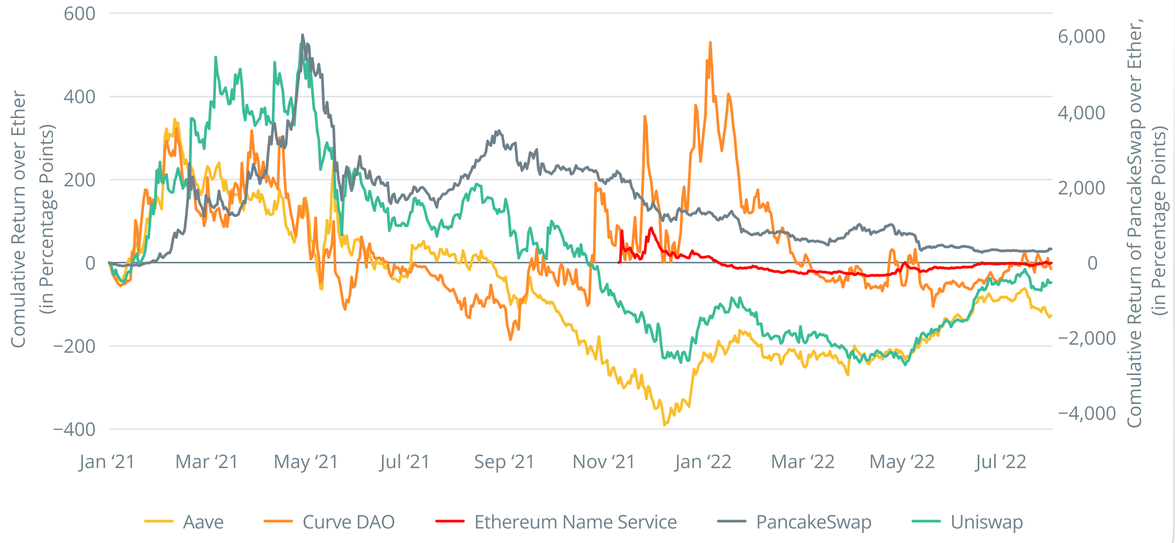


Figure 13: DAO Cumulative Returns over Ether

Source: *CoinMarketCap, Cointelegraph Research*



ETH is the L1 coin which many of these long-standing, high-market-capitalization DAOs in the chart above operate on. Many DAOs operate as a layer-2 (L2) blockchain, riding along with the rails of an L1. Aave is a great example of this, utilizing ETH for gas fees to make transactions. When looking at a particular DAO to invest in, the popularity of the DAO may impact network effects on the L1 blockchain, theoretically increasing the value of the L1 blockchain more than that of the L2, as the L1 will have to be continuously spent for transactions, increasing its demand. This is one reason why DAOs often hold assets like ETH. It is important to factor in not only the utility of the token but any yield that can be had by staking or for hodling the asset to offset simply holding onto the L1 coin.

Case Study: OlympusDAO

To illustrate how tokenomics can shape the initial attractiveness and long-term sustainability of a DAO, this report takes a closer look at an infamous DAO that started in 2021. Olympus DAO was subject to a heated debate both due to its unique mechanism and its seemingly unsustainable value proposition. Yet the protocol's features deserve some attention from investors.

A potential problem for new protocols is how to maintain liquidity on decentralized exchanges. As some investors only provide liquidity during periods with strong incentives but quickly withdraw liquidity once a new protocol offers preferable terms, the retention of liquidity is of central importance to new crypto tokens. Olympus addresses this issue by offering so-called "bonding," which means that investors hand over their funds to Olympus in exchange for OHM, the protocol's native token. Technically, investors deposit their funds and receive OHM tokens at a discount after a specified vesting period. By doing so, the investors' funds directly go into the treasury of Olympus, increasing its liquidity. Currently, the value of Olympus' treasury stands at nearly $300 million, invested in more than 50 cryptocurrency tokens.

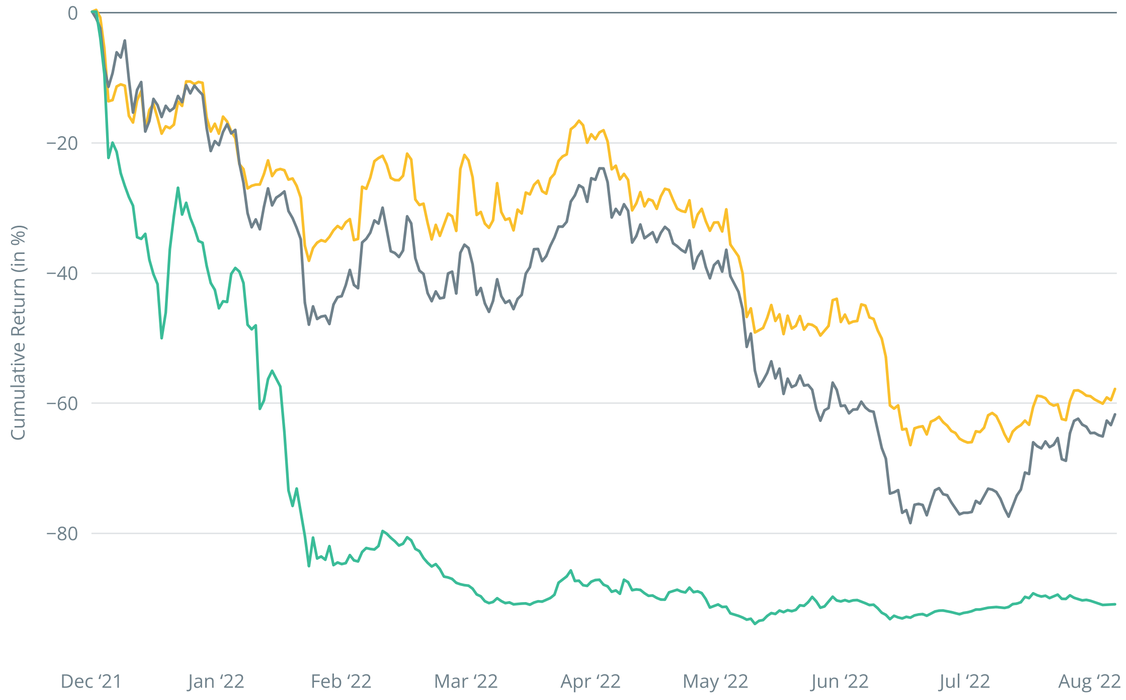
An additional step that increases the return for investors is Olympus' "staking" option, which allows tokenholders to deposit their tokens in a pool to earn additional rewards. With more tokenholders staking their OHM and receiving sOHM in exchange, there is less supply in the market, driving up the price. Thus, there is an incentive never to sell OHM, given that other tokenholders act in the same way. This concept has brought Olympus some allegations of running a Ponzi scheme, as returns can only be distributed among investors as long as other investors don't sell.

Despite these allegations, there is some lower bound for the price of OHM coming from the protocol. OHM will never be valued below 1 Dai, as the Olympus DAO stablecoin treasury acts as a backstop. Additional OHM can be issued if its price is above 1 Dai. But Olympus does not only collect funds from new investors — it creates revenue streams by selling liquidity to other protocols and by staking tokens from its liquidity pool.

While returns from buying and staking OHM have initially been large, the performance was

rather poor in the first quarter of 2022. Even though staking OHM should eventually compensate for the dilution arising from the issuance of additional tokens, the chart above shows that the total return from staking OHM is below the return of holding Bitcoin or Ether.

Figure 14: gOHM Performance Comparison



Source: *Coingecko, Cointelegraph Research*

In conclusion, investors are presented with a variety of investment possibilities in the DAO space. Although the price of Olympus has faced some headwinds, the jury is still out to what extent protocol-owned liquidity can generate substantial returns for investors. In any case, innovations such as bonding and staking may continue to attract investors' attention in future use cases.

A key source of information to help make sense of OlympusDAO can be found **here**

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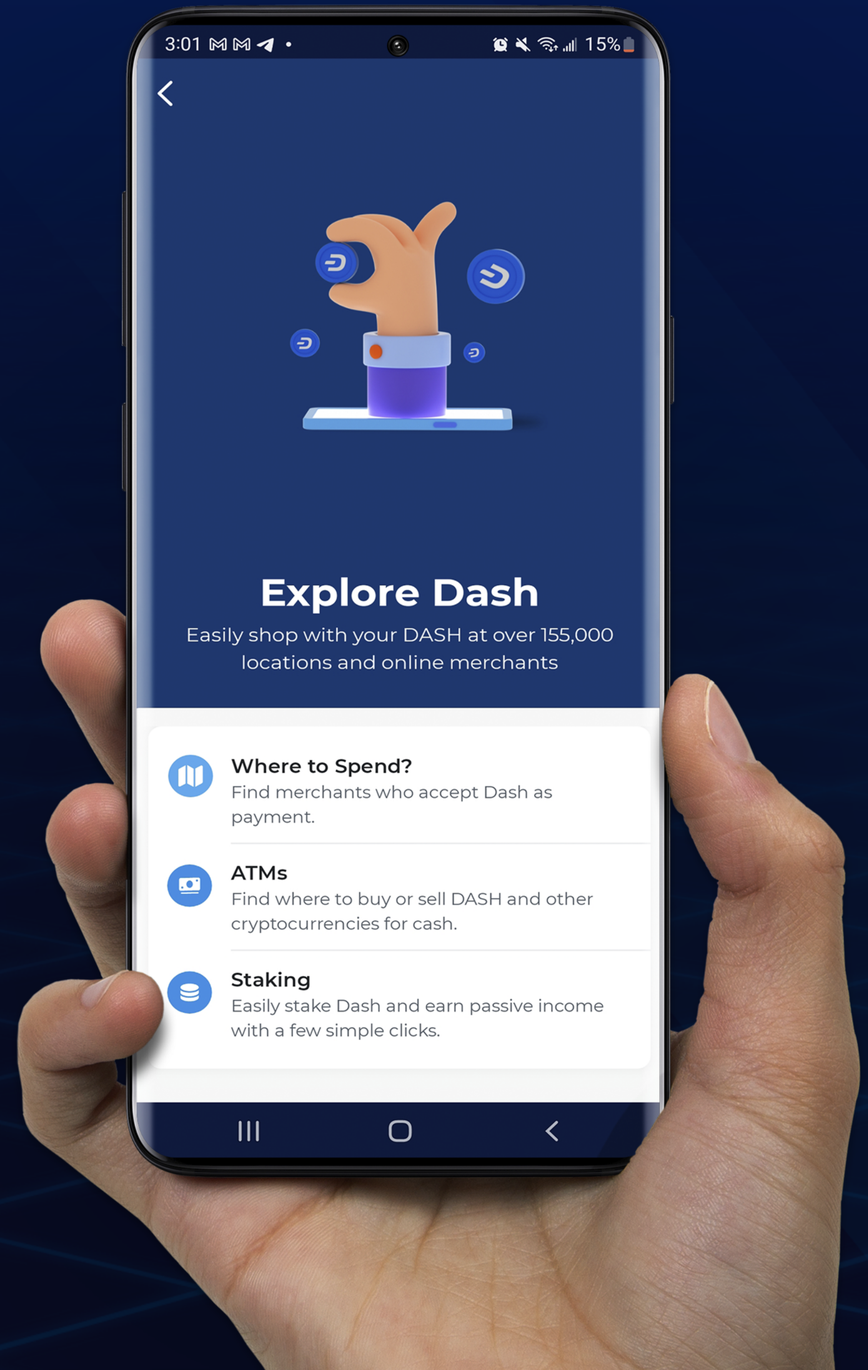
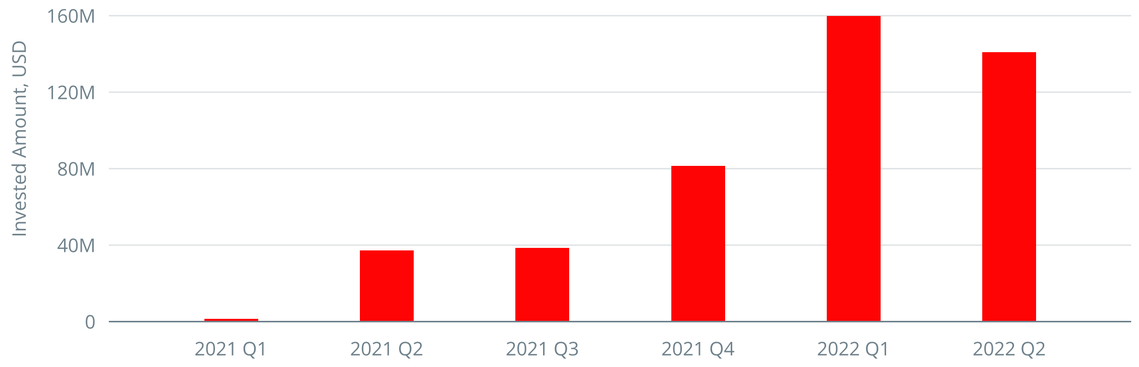


VC Investment in DAOs

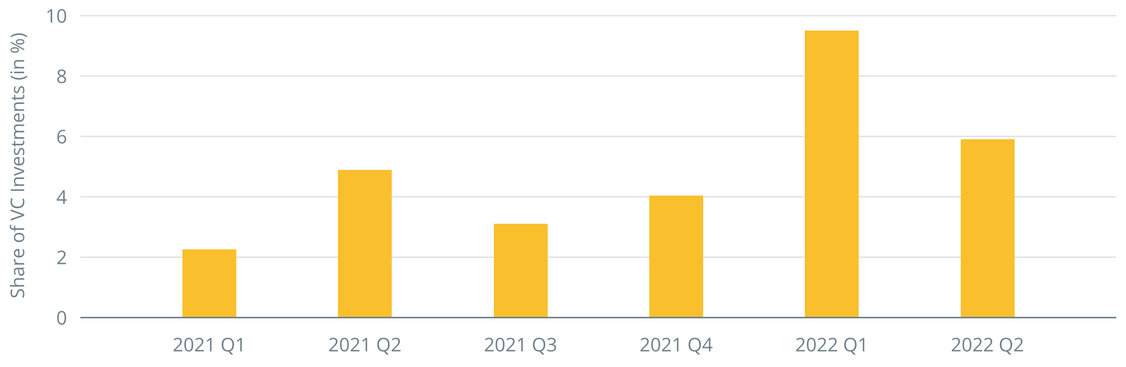
There are two aspects to the venture capital (VC) side of a DAO: VC investment in DAOs and DAOs as the VCs themselves. Venture capital involvement in funding DAO projects has been on an uptrend since 2021, often coinciding with macroeconomic and crypto market cycles. In Q1 2022, VC investment hit a local peak of over $160 million. Due to the easily malleable way in which DAOs can form and be focused on different goals, it is no wonder VCs can see these potentially good vehicles for a return on investment while still holding a higher degree of risk than other crypto-based opportunities. DAOs also allow firms to receive funding from a non-traditional source without having to deal with some of the sacrifices sometimes associated with the strings attached to VC backing — i.e., giving up the autonomy of a project's direction. DAOs may not offer some of the natural benefits of having a VC either, like a network of already-connected companies and individuals

Figure 15: VC Investments in DAOs



Source: *Cointelegraph Research VC Database*

Figure 16: Share of VC Investments (by USD Volume) Involving DAO Investors



Source: *Cointelegraph Research VC Database*

DAOs, which were VC investing in another project in the crypto space, made up around 9% of all VC investment in Q1 2022 and dropped to less than 6% in Q2. This follows the same current patterns seen in traditional financial institutions and VCs. As we will see on our next page, some DAOs have even invested in other DAOs. What should be of note is that these decentralized organizations can gather information from different parts of the world perhaps better and faster than traditional systems, which may learn of trends or changes in a given industry later than the members of a DAO. This can give DAOs an advantage. However, a potential downside is the proposal and allocation of funds process in order to capitalize on that information.

Some Notable Investors In The Top Ten DAO Funding Rounds

From 2020 to mid-2022, there were 60 DAO and DAO infrastructure firms that received investments from venture capital. Often, a firm raises money from more than one source, and these 60 deals have over 540 different VCs involved in raising capital. The most active 20 VCs were concentrated in 32 DAO projects. The top 10 projects over the last two years involving VCs and DAOs are broken down below.

Seed Club had a Strategic Raise of $15 million in May 2022

Seed Club is a DAO that brings together upcoming and alumni projects into an ecosystem in incubating the next generation of Web3 projects. It's backed by top investors, such as Union Square Ventures, The Chernin Group, Placeholder, Collab+Currency, Blockchain Capital, Framework Ventures, IDEO CoLab Ventures, Distributed Global, Kindred Ventures, Nascent, Multicoin Capital, The LAO and Hutt Capital.

Yield Guild Games Southeast Asia (YGG SEA) had a Seed Round for $15 million in December 2021

YGG SEA is a blockchain gaming sub-DAO (meaning it is a sub-group within broader DAO groups), and over two rounds, it raised $15 million from Crypto.com Capital, Animoca Brands, MindWorks Capital, Poloniex, Jump Capital, Digital Currency Group, Hashed, Polygon, Arca, OKX, Yolo Ventures, SevenX Ventures, LongHash Ventures, HashKey Capital, Morningstar Ventures, Dialectic Capital, SweeperDAO, PetRock Capital, FBG Capital, Circle, Infinity Ventures Crypto and Yield Guild Games.

Rift Finance held a fundraising round and brought in $18 million in February 2022

Helping to create liquidity markets to reduce friction in trading cryptocurrencies, Rift Finance had an $18-million fundraising round that included Pantera Capital, Two Sigma Ventures, Coinbase Ventures, Hashed, DeFiance Capital, Spartan Group, Jump Capital, Vessel Capital and Morningstar Ventures.

CreatorDAO's Seed Round raised $20 million in August 2022

Imagine a DAO that embodies the idea of mutual enrichment and support for all participants involved. CreatorDAO is that type of organization that promotes and builds on commentary within its ecosystem. It also has some of the largest investors, including a16z (Andreessen Horowitz) and Initialized Capital among its investors.

Coinshift raised $15 million through a Series A round in May 2022

A treasury management tool for DAOs, Coinshift announced a $15-million Series A lead by Tiger Global, as well as Sequoia Capital, Alameda Research, Spartan Group, Ethereal Ventures, Alpha Wave Global, HashKey Capital, Quiet Capital, Polygon Studios and Volt Capital.

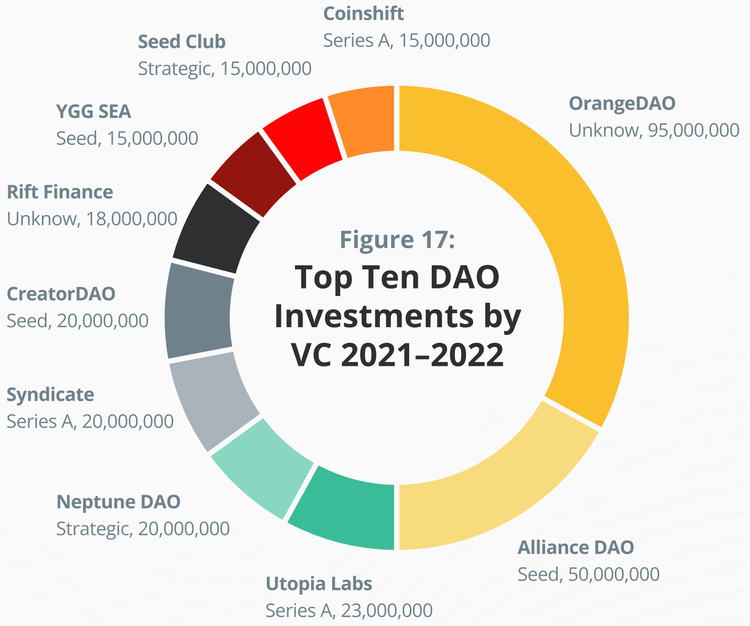


Figure 17:
Top Ten DAO Investments by VC 2021–2022

Syndicate DAO finished a Series A round of funding for $20 million in August 2021

Giving the ability to easily start the process of creating, launching and running a DAO in one place, Syndicate DAO attracted funding from long-term investors in the space, such as a16z, IDEO CoLab Ventures, Electric Capital, Coinbase Ventures, Aave and Protocol Labs.

Orange DAO held a strategic round for $15 million in March and an $80-million round in August 2022

OrangeDAO is an investment DAO specifically geared toward helping to incubate the next generation of the blockchain and crypto industry. The Algorand Foundation and Near Foundation invest heavily in Orange DAO, which invested in some of the other DAOs on this list.

Alliance DAO's Seed Round raised $50 million in January 2022

Like Orange DAO, Alliance DAO is a Web3 incubator that has a systematic process called the Accelerator with different cohorts. Some of the notable investors included Alameda Research, 0x Labs, Avalanche Foundation, BlockFi, Chainlink, CMT Digital, Coinbase Ventures, CoinFund, CoinShares, Crypto.com Capital, Apollo DAO, 1inch, Dragonfly Capital, Injective Protocol, IOSG Ventures, Jane Street Capital, Kyber Network, Nascent, OrangeDAO, Protocol Labs, Solana Capital, Ready Player DAO and Polygon.

Utopia Labs raised $23 million in a Series A in May 2022

Utopia Labs is a DAO tooling and infrastructure firm that provides payments, expense management and compliance features for tax accounting, among other products. The Series A in Q2 2022 included some of the following investors: Paradigm, Circle, Coinbase Ventures, Infinity Ventures Crypto, Distributed Global, Fourth Revolution Capital, Spice Capital, Chainforest, Global Coin Research, Yield Guild Games, Paragons DAO, Woo DAO among others.

Neptune DAO's $20-million strategic round was in April of 2021

The LAO and Flamingo DAO incubated Neptune DAO in 2021 to be a liquidity provider and produce ROI for its holders. The initial investment by the separate DAOs into Neptune was $13 million, which it then went on to source another $20 million in investor capital.

Source: *Cointelegraph Research VC Database*

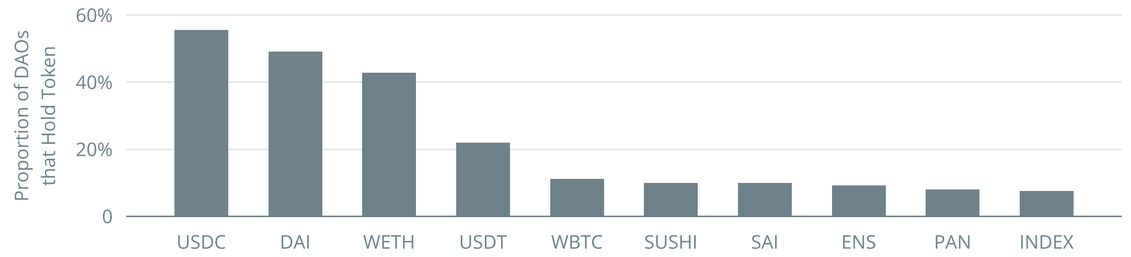
Treasury Analysis

The treasury of each DAO consists of all assets contained in wallets belonging to the DAO. The treasury is defined as assets under the discretion of a DAO — i.e., fully governed on-chain funds.
A different way to measure the value of a DAO's treasury would be to include additional wallets, which may not be freely available to the DAO. Such wallets can contain reward fees or staking accounts.

The table below displays how potential discrepancies can arise between total treasury holdings and what is liquid. While GnosisDAO's total treasury is $1.14 billion, its liquid treasury is $234 million at the time of this writing, according to OpenOrgs.info. This report breaks down the makeup of each of these 10 DAO treasuries in more detail. It is important if DAOs continue to grow in popularity as a form of group organization, the revenue, treasuries and investment profiles of this up-and-coming class of companies can rival or surpass top Fortune 500 companies. As this class of business "structure" continues to grow, due to the competitive advantages of the DAO operations, as we will cover later, it may eat entire industries.

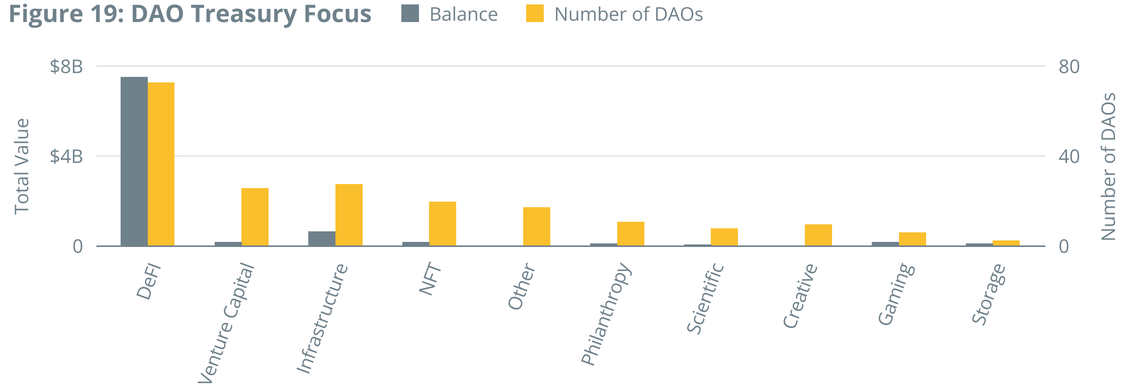
On the right of this page, are the assets and projects DAOs have invested in to hold as part of their balance sheets. Many DAOs hold the stable coins **USDC**, **DAI,** and **USDT**, while wrapped Ether (**WETH)** is the top non-stable asset.

Figure 18: Token Holdings/Investments by DAOs



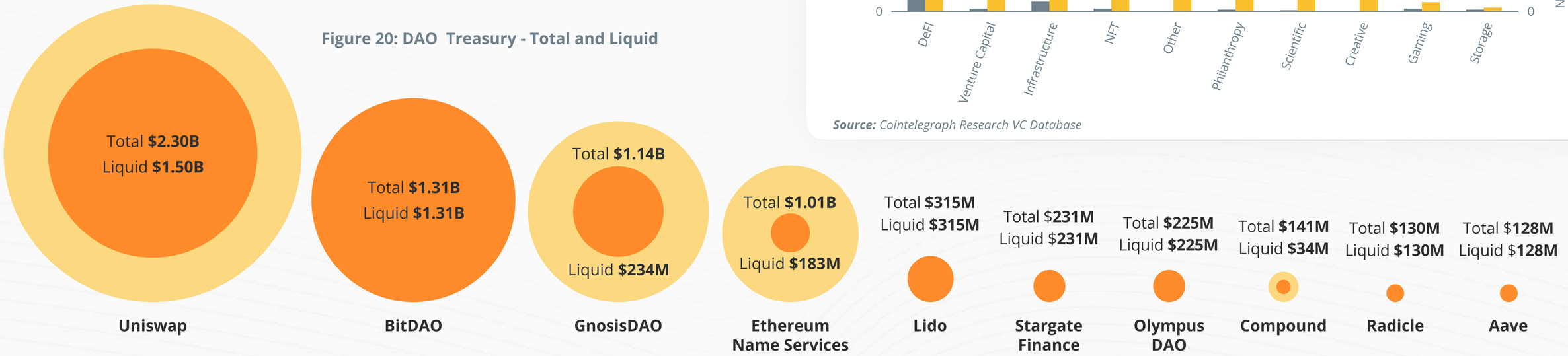
Source: *OpenOrgs.Info as of September, 2022*

Figure 19: DAO Treasury Focus



Source: *Cointelegraph Research VC Database*

Figure 20: DAO Treasury - Total and Liquid



Note: *Total and Liquid Treasury Totals taken from OpenOrgs.info on September 20th, 2022.*

Bounties, Contributions & Governance: How DAOs Get Things Done

In a DAO, participants must use their funds to participate in voting and events proposed by other participants. To sustain this economy, there are incentives rewarded for participating in a DAO.

"Bounties" are a type of incentive granted to a DAO's participants when they fulfill a task, such as a development project.[33] Typically, DAOs will have bounties listed with the corresponding task and award amount to encourage users to view what needs to be done in order to achieve the ultimate mission of the DAO.

There are contributor DAO tools to allow the administration of incentives. Rabbit Hole is an example of an on-chain contributor tool. Through Rabbit Hole, users can see what "Quests" are available to earn tokens and/or NFTs across several different DAOs. They can also choose to complete mini-courses on introductions to blockchain concepts to earn rewards as well.[34]

As with governance and treasury tools, there are also off-chain options. Off-chain contributor tools don't automatically execute the awarding of the incentives when a task is completed, rather it relies on a user to self-report this action. This decreases the fees associated with on-chain tools but can lead to more friction. [35]

Gitcoin is an off-chain contributor tool that enables users to learn, participate, earn rewards and even invest in other projects. They also offer hackathon options, grants and a platform to allow users and developers to network with each other and give "kudos" to reward other users for their participation.[36] Coinvise, similar to Gitcoin, encourages users to create their own token, rewards and, ultimately, their own DAO community. A user can explore other DAO communities to see what bounties and quests they're offering and how to promote participation in these DAOs.[37]

PoAP, or proof-of-attendance protocol, rewards users with an NFT proving their attendance or participation in an event, whether it's virtual, online or a task. PoAP can be used to issue NFTs to users in order to boost their credibility within a DAO. Users holding a specific PoAP might have access to a certain platform or event that non-collectors are not permitted to attend.[38]

MintGate depicts credibility within a DAO ecosystem through memberships and membership tiers through the issuance of NFTs. They refer to this as "Token Gating" to verify users who are allowed to view and participate in certain aspects of the DAO.[39]

Insider Insight

What's it like to work in a DAO with thousands of bosses?

"DAOs in the real world are no longer a futuristic fantasy of developers but an opportunity to make it here and now. As an example of our biggest case study, we digitized a crypto-oriented city of 50,000 sq/m. Every apartment is presented as a rental and also ready-to-buy NFT. Residents are members of the DAO who will vote daily, thereby creating the most favorable living conditions. Surprisingly, we regularly get requests from real-world companies to digitize their businesses. They want to use DAOs to attract investment and manage assets transparently, as well as to vote. Blockchain offers substantial advantages. From a legal perspective, DAOs are already recognizable organizations; they can pay taxes and show their accounting on a par with companies but in a more modern and automated way."

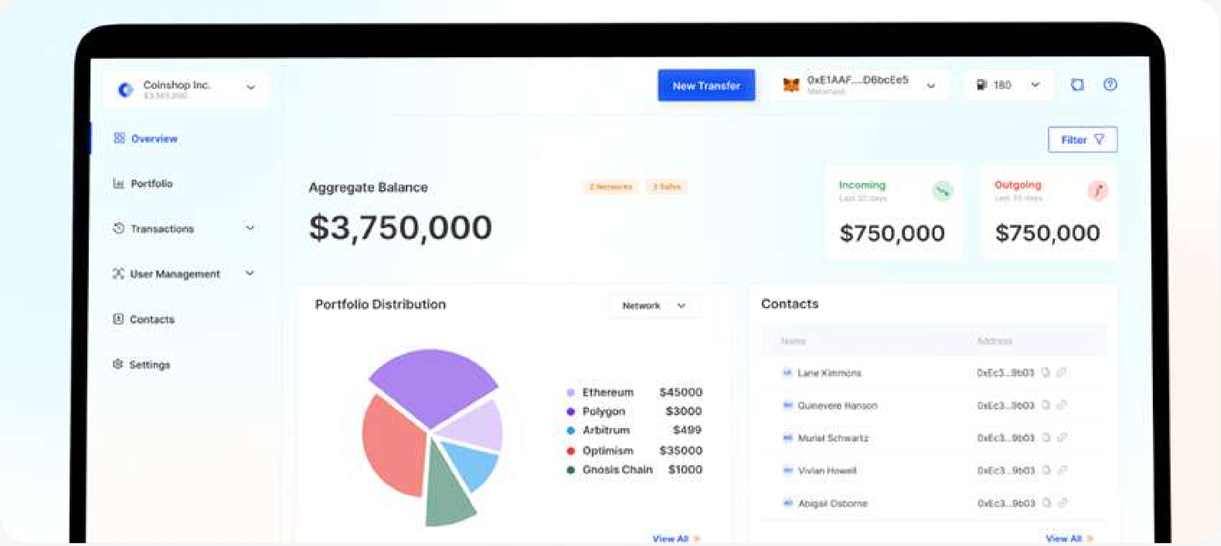
Vlad Shavlidze
CEO XDAO

33 Read more about Bounties here.
34 Explore what Rabbit Hole has to offer here.
35 Learn more about off-chain versus on-chain here
36 Learn more about what Gitcoin has to offer here.
37 Learn more about Coinvise and its options here
38 Explore what benefits POAP collectors receive here
39 Explore how MintGate approaches Token Gating here.

Case Study: Coinshift

Coinshift is an advanced treasury management and infrastructure platform for DAOs and crypto businesses.

With Coinshift, treasury teams can have a unified view of their treasury on multiple chains and multiple safes, helping improve visibility and save time. In addition, Coinshift is integrated with Gnosis Safe, allowing clients to run mass payouts, easily collaborate on multisignature transactions, and save up to 90% on gas fees. Coinshift's team will also be able to solve more advanced use cases, such as reporting, stream payouts, automating payouts and delegating off-chain operations to its team. Coinshift currently supports the following chains: Ethereum, Polygon, Arbitrum, Optimism, Gnosis Chain, BNB Chain and Avalanche.



Features of Coinshift V2

- Moved from one Gnosis Safe to managing an entire organization with multiple Gnosis Safes on multiple chains, which are integrated into one interface with Coinshift v2, with global user management, global contacts, proposal management and many other features shared across the entire organization.
- Users can pay multiple contributors in different tokens with just one transaction, stream payments, and automated salary payments with built-in transaction batching. Coinshift's native integration with Superfluid will enable its users to create and manage real-time streams directly from Coinshift's dashboard. Streaming is a revolutionary way of making payouts that unlock benefits for both the DAO and the contributor.
- Organizational-level financial reporting, combining all transactions across all Safes and all chains, with unified tagging for more seamless auditing and tax reporting.
- Users can deploy custom asset allocation strategies with built-in tagging and reporting.
- With Coinshift's transaction batching solution, users can save a considerable amount of time and gas fees on deposits, withdrawals, token approvals, etc. while interacting with DeFi protocols.
- Coinshift's infrastructure has a deep integration with Gnosis Safe smart contracts, which enables a host of benefits such as delegation of proposal workflows, better handling of error scenarios and nonce management, and an accurate gas estimation service for mass-payout transactions that help reduce transaction failures. Furthermore, its modular architecture enables easy integration with third parties, making the platform highly composable for advanced and evolving use cases. With deep integration and in-house control over infrastructure, Coinshift aims to provide a platform with best-in-class service-level agreements akin to Web2 platforms.

Social Media Tools DAOs Use To Communicate

Successful DAOs can attribute their performance to their community. As discussed earlier, there are several different types of DAOs that can be considered similar to social networks, as they contain like-minded individuals and organizations. Although some DAOs are social networks themselves, all DAOs still establish contact with their communities through the use of social media sites.

Social media networks, including Twitter, Telegram, Discord, Reddit, GitHub and LinkedIn, are being used to facilitate communication inside DAO communities. The table on the right of this page shows in more detail how each social media tool is useful for DAOs to communicate.

Some argue that DAOs will replace the social networks that are known today. Traditional social networks are beginning to look at the utilities of social media, when before the main function was to connect people and encourage them to create content. More people are realizing the consequences of centralized organizations running social media sites, especially when it comes to collecting and selling their personal data.

This is why some agree that DAOs are the future of social media. DAOs are decentralized and are powered by participation in a network. Users don't only have the opportunity to communicate and connect with one another but can incorporate assets and capital into their communities in a private, secure manner. By combining the utilities that social media platforms are looking to implement but remaining decentralized, DAOs are paving the way for a new type of social networking.

Some Common Social Media Tools for DAOs

Social Network	Purpose for DAOs
	Best for broadcasting news and updates.[40] Enables the opportunity for information to spread across multiple Twitter feeds, which could in turn build the DAOs business network. Can lead to interactions between members of a community or outsude communities.
	Quick and direct communication with the DAO community. Allows members to "join" rather than "follow" a DAO, making it more personal.[41] Option to secret chats which are end-to-end encrypted.[42]
	DAO Masters claim it's the "tool of choice for many Web3 organizations". There can be several channels for one Discord group, making it easier to separate conversations from each other. It also supports 3rd party bot integrations, including Token Gating.[43] *
	Promotes the posting of social news and opinions. Users can choose to create an account to interact with a DAOs subreddit community or to only view the subreddit to catch up on news and updates. Each subreddit has its own rules and culture, which is important to note.[44]
	Tech-focused community network that encourages developers to share their DAO projects and collaborate on them. Developers can upload their code files and track changes made by them or other users. Users are encouraged to developers to network and share ideas.[45]
	Best for strengthening a DAOs business network and building the credibility of the DAO. Four out of five LinkedIn users have the ability to influence business purchasing decisions, meaning LinkedIn ads can be effective for DAOs wanting to partner with other organizations.[46]

** Token Gating authorizes the Discord group to manage access to channels, depending on a user's crypto wallet holdings.*[46]

40 Learn more about the uses of Twitter here.
41 Learn more about DAOs and Telegram here.
42 Learn more about Telegram's features here.
43 Learn more about Discord and its popularity within crypto here.
44 Learn more about Reddit and its uses for businesses here.
45 Learn about the purposes of GitHub here.
46 Learn why some businesses choose to use LinkedIn here.
47 Learn more about Discord and its popularity within crypto here.

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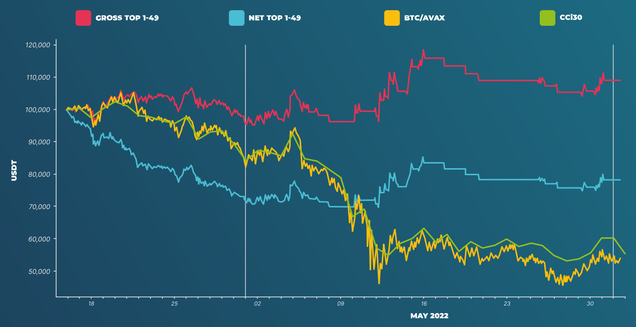

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All of DAO 3.0? Case Study: Alien Worlds

In 2020, Dacoco, a Switzerland-based DAO technology firm, created and launched Alien Worlds, an NFT- and DAO-based metaverse and is currently the world's leading play-and-earn blockchain game. Founded by Sarojini McKenna, Rob Allen and Michael Yeates, Alien Worlds was influenced by concepts in decentralized communities. Its success is rooted in players' ability to gather, build and compete in a metaverse using strategy over skill and building communities with one another — all set in outer space. Alien Worlds was the first project to put DAOs into competition with one another within a single economy. Players earn Trilium (the metaverse's cryptocurrency token) through the Mining and Missions games, which they can then stake to one or more of the Planetary DAOs to either run for governance or to vote for leaders. In the game, each of the six Planetary DAOs (which are also known as Syndicates in the game lore) must organize itself by holding regular elections for Custodians who will control the vast treasuries, which are funded by tokens staked by the DAO's members and topped up by the game economy. By April 2021, Alien Worlds had become the largest gaming DApp in history and is now the No. 1 blockchain game by monthly users.[48]

Over 7.9 million lifetime players

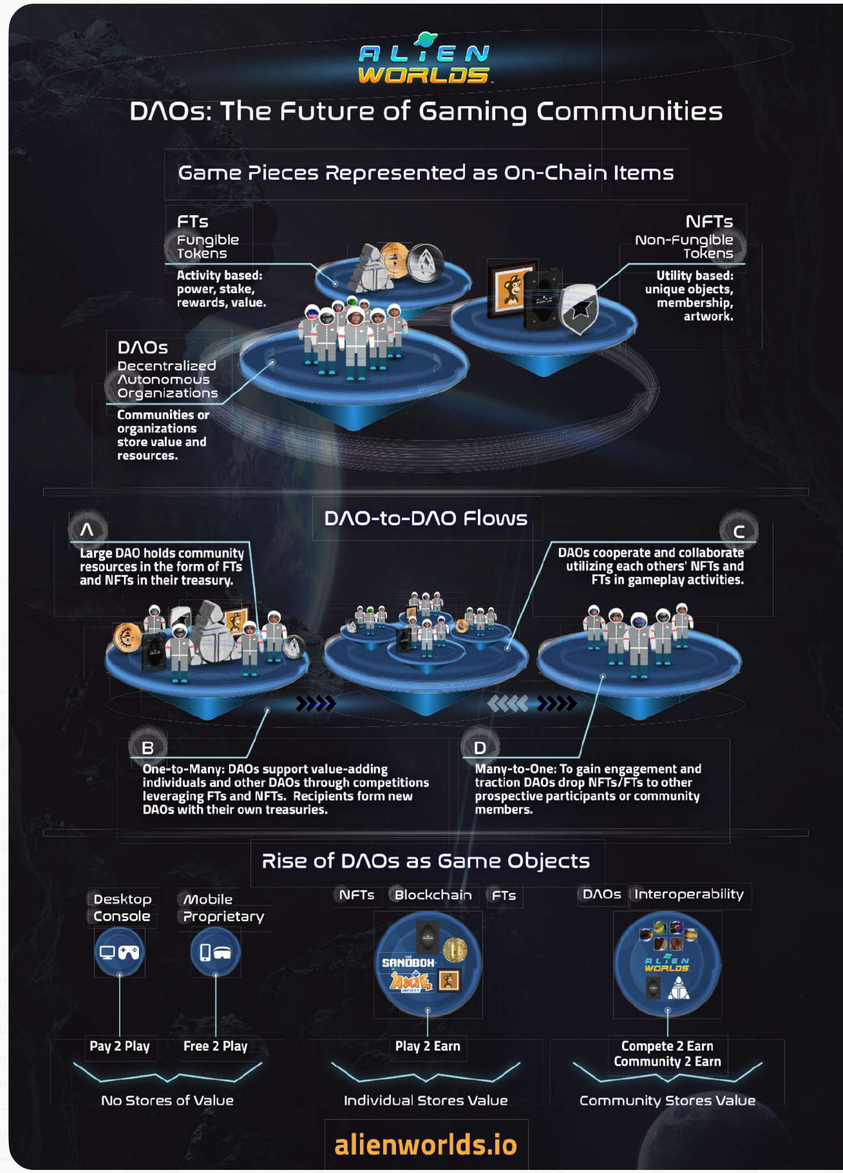
DappRadar

The Alien Worlds ecosystem is rooted in interpersonal relationships, giving players purpose and meaning through community building, user collaboration and crypto incentives, including Trilium (TLM) and NFTs (digital objects/property).

Alien Worlds aims to unlock the social possibilities of Web3 gaming by featuring DAOs as game elements. Each DAO is governed by an elected Planetary Council. These Planetary Councils, in turn, will decide how to spend their treasuries on the projects or programs they choose to support. Players who have already staked to planets can vote and govern the community. By working together, they build genuine social connections that can evolve into cultural identities unique to each DAO, to which they have pledged their allegiance. Collectively, the preferences of the "team" and the management of the treasury of each Planetary DAO shapes the outcome for the community with the power to influence both players' metaversal and personal lives.

Advancing in the game requires mining, trading and staking TLM, as well as acquiring different special NFTs, thereby fostering economic competition or collaboration among different DAOs vying for power. This gameplay offers a unique petrie dish that political scientists and economists could only hope to replicate in real life. There is just enough economic decision making in the Alien Worlds ecosystem that produces real consequences to actions taken by each DAO community — ultimately influencing the direction of the game.

There are direct analogous substitutes for items we all utilize in our daily physical lives: mining (careers/work), money (TLM), objects (NFTs), social units (DAOs) and competition or cooperation over scarce resources (DAO vs. DAO). These dynamics have helped to propel Alien Worlds to the top spot for metaverse and NFT games, and with its dynamic structure, it can adapt to the needs of its participants who can then bring their visions to life.

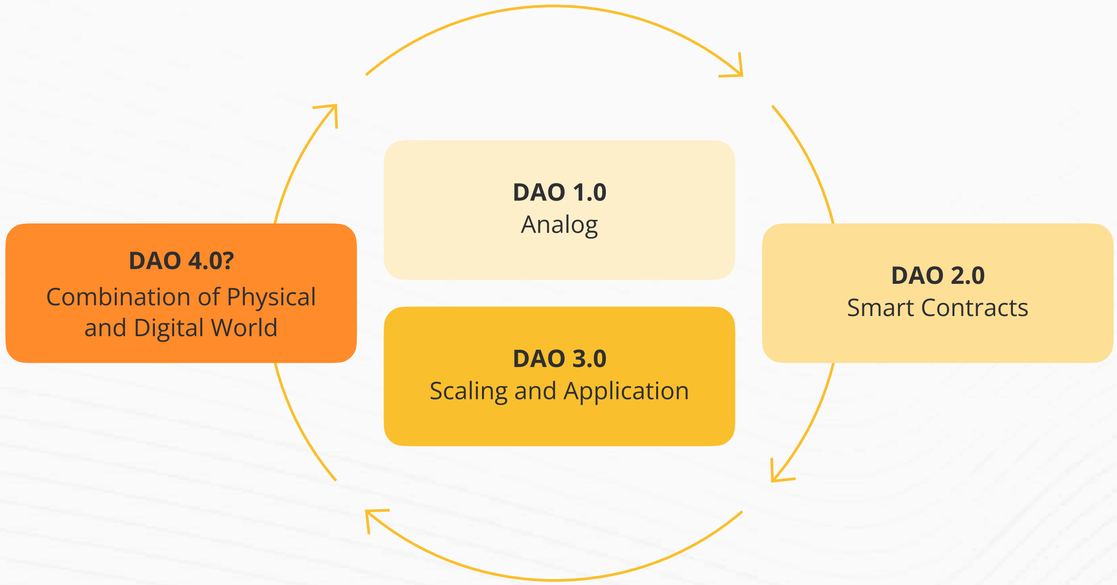


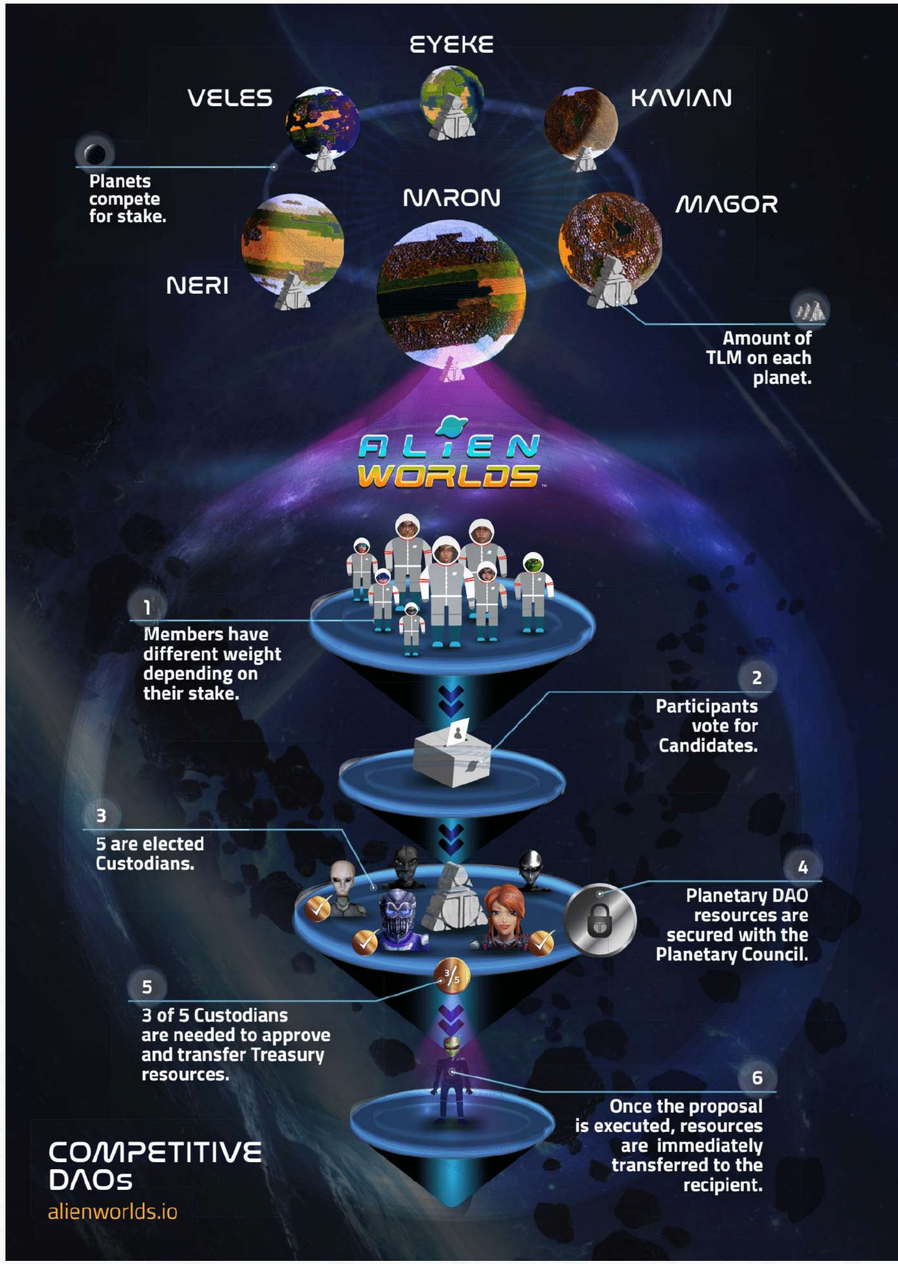
[48] Rankings and statistics are from DappRadar and can be found here

Is Alien World a Glimpse of DAO 4.0?

Alien Worlds is a fun, interactive NFT metaverse game. But is that all there is to this phenomenon? If we look at how some DAOs are evolving, there may be something to glean about the next phase of how DAOs unravel. For example, in Alien Worlds, we can observe DAOs competing over scarce resources within the same universe. This is not unlike a real-world community where different groups have banded together and have to interact with different groups. On a global scale, there is the United Nations, which can act as a certain type of arbitrator between countries. Imagine, instead, it was based on the Lex Cryptographia mentioned earlier. While we may not be able to perfectly replicate what this social experiment would look like or play out, games like Alien Worlds can provide glimpses of potential applications not just through a computer screen but in the physical world as well.

We also see this with DAOs whose members experience utility in the physical world. DAOs like the Bored Ape Yacht Club, utilizing its APE token, have real-world events like Ape Fest, which are exclusive to Bored Ape Yacht Club members. The bleed-over from being a DAO in the digital realm now also includes utility outside of one's computer. We have already seen firms like Erik Voorhees' ShapeShift, a decentralized exchange (DEX), literally shift and dissolve from a traditional company with a top-down structure into the ShapeShift DAO. If ShapeShift is successful, it may potentially spur other software-as-a-service companies, and especially DApps, to either transition like ShapeShift or just launch as one outright. Whether a DAO can transition from the digital screen to a large manufacturing facility will only be determined in the future. However, we may see these applications sooner than we might expect.





Legal Considerations on DAOs: Risks & Drawbacks

Although DAO treasuries command over $11 billion in assets, DAOs have been out of regulators' watchful eyes so far. Currently, there is no globally recognized legal structure for DAOs, but this is likely to change, given the speed at which regulators are creating blueprints for regulating crypto. Existing frameworks limit the ability of a DAO to operate as a completely decentralized structure with no particular leader or representative and low human intervention to operations. Yet the need to interact with the off-chain world in order to develop and grow pushes more DAOs to opt for a legal entity road.

Since DAO is a specific type of an organization, any centralized structure to represent it off-chain comes into conflict with its decentralized nature and may contradict its key principles. Thus, while some DAO members may be ready to proceed with a legal structure, others may question the choice as it often means sacrificing anonymity, autonomy and decentralization, at least in part. Yet remaining regime-less may be a sound option for a DAO unless it needs off-chain representation to ensure its future growth prospects. There are three key factors driving the decision of a DAO to set up a legal entity, often referred to as "legal anchoring." Ensuring limited liability for DAO members and obtaining tax clarity are one of the main reasons, but much of the rationale appears to be the strategic and operational management of a DAO.

There are plenty of reasons to bridge a DAO to the traditional world despite the trade-offs of partial centralization. A legal structure may be crucial for the day-to-day operations of a DAO in order to build third-party integrations, sign legal contracts, establish legal agreements with companies and clients from TradFi, or set up bank accounts to pay employees and contributors in fiat, all of which would require a DAO to seek legal representation. There is an array of scenarios when a DAO might have to create a legal entity beyond those named, but each may be important for DAO maintenance.

Equity investments from traditional VCs also come with legal anchoring, with Uniswap's Delaware C corporation being a vivid example. Protecting intellectual property also requires legalization from a DAO, especially if its members would like to assert their IP in court. Curve DAO could be the case if it eventually decides to move forward with legal action against Saddle protocol for "wholesale copying of Curve code" after one of the Curve DAO tokenholders submitted a proposal to enforce its IP rights. Curve DAO then made a decision not to proceed with the case, given the size of the rival protocol, but it probably won't be able to do it for legal reasons — Curve DAO was not a legal entity at the time, but it would need one to handle its IP properly.

The tax reasons for legal anchoring may be less relevant for DAOs at their current stage of development. While DAOs may want to clarify their tax obligations, there is still minimal guidance to DAO token distribution and the subsequent capital gains. Meanwhile, DAO members may report their DAO taxes personally: "In the US, DAO token holders could be viewed as holding interests in pass through entities, resulting in taxable income for DAO token holders in a variety of situations," according to dYdX's legal documentation.[48] Overall, DAOs may point to complying with tax requirements as a rationale for setting a legal entity; yet no DAO actually pays taxes so far, according to the law firm Buzko Krasnov.

> "We are not going to know the true long-term feasibility of a DAO as a corporate structure until one gets sued and we see how the courts interpret these organizational formations."

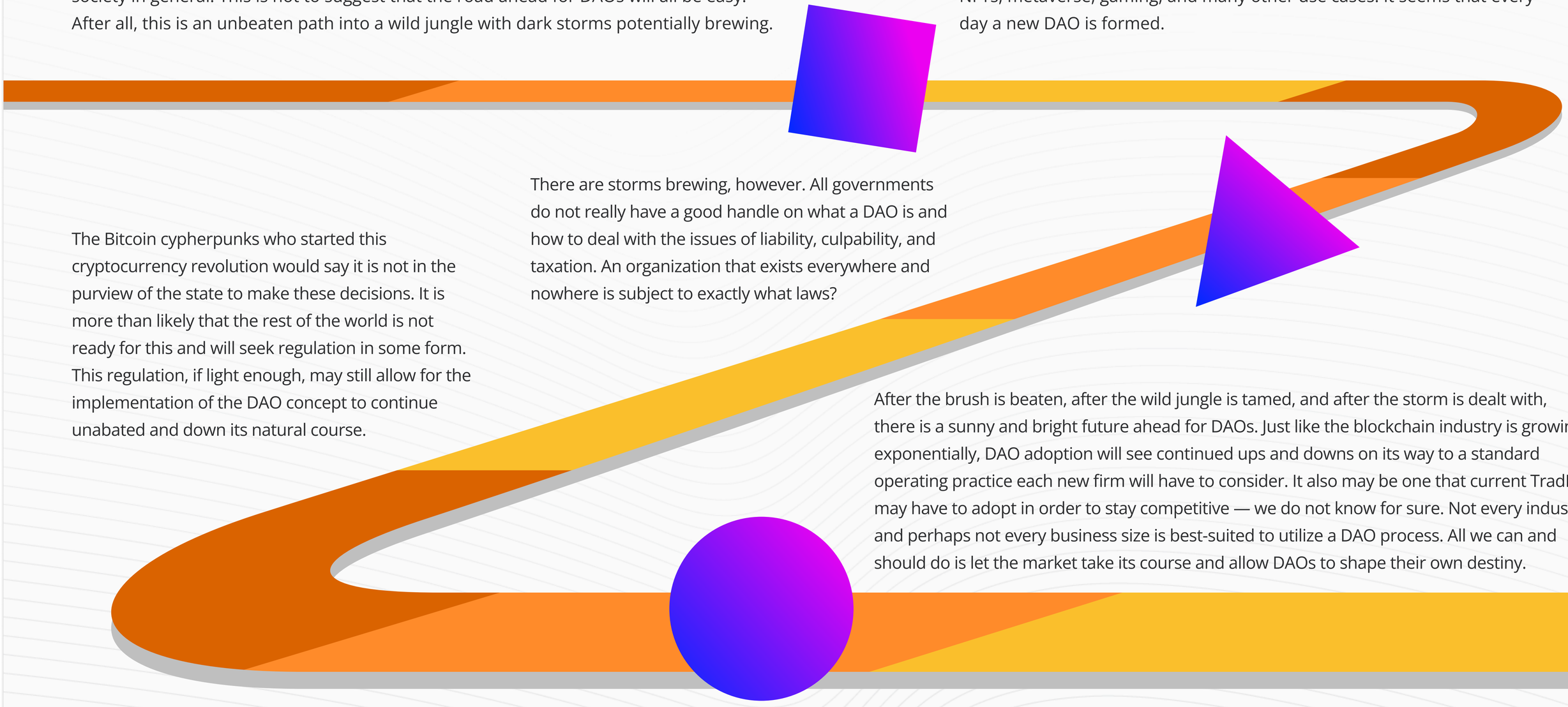
Dr. Brian Houillion
University of the Cumberlands' Program Coordinator for MS of Global Business with Blockchain Technology

[48] For more on dxdy's take on DAO's legal framwork click here

Conclusion

DAOs are an exciting phenomenon. The possibilities are seemingly endless as to how a DAO can be implemented and how it can drive new engagement among the global society in general. This is not to suggest that the road ahead for DAOs will all be easy. After all, this is an unbeaten path into a wild jungle with dark storms potentially brewing.

The wild jungle is the market, and the market seems to have an interest in clearing this unbeaten path, expanding DAOs to social, infrastructure, NFTs, metaverse, gaming, and many other use cases. It seems that every day a new DAO is formed.



There are storms brewing, however. All governments do not really have a good handle on what a DAO is and how to deal with the issues of liability, culpability, and taxation. An organization that exists everywhere and nowhere is subject to exactly what laws?

The Bitcoin cypherpunks who started this cryptocurrency revolution would say it is not in the purview of the state to make these decisions. It is more than likely that the rest of the world is not ready for this and will seek regulation in some form. This regulation, if light enough, may still allow for the implementation of the DAO concept to continue unabated and down its natural course.

After the brush is beaten, after the wild jungle is tamed, and after the storm is dealt with, there is a sunny and bright future ahead for DAOs. Just like the blockchain industry is growing exponentially, DAO adoption will see continued ups and downs on its way to a standard operating practice each new firm will have to consider. It also may be one that current TradFi may have to adopt in order to stay competitive — we do not know for sure. Not every industry and perhaps not every business size is best-suited to utilize a DAO process. All we can and should do is let the market take its course and allow DAOs to shape their own destiny.

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