Decentralized Autonomous Organizations (DAO) A Market Meta-Analysis

Wulf Kaal* and Josh Bykowski

University of St. Thomas, Minnesota - School of Law

*Corresponding Author
Wulf Kaal, University of St. Thomas, Minnesota - School of Law.

Abstract
Decentralized Autonomous Organizations (DAOs) enable unprecedented technology driven decentralized decision-making tools, transparent governance, and direct participation of stakeholders, making them highly adaptable to the evolving digital age.

DAOs disrupt established centralized legacy models across industries. For example, DAOs provide alternatives to traditional banking and investment systems, allowing for decentralized asset management and peer-to-peer transactions. DAOs streamline claims processing, reduce fraud, and enable more accurate risk assessment. DAOs can address issues of misinformation and censorship by fostering community-driven news platforms.

Yet, open questions and challenges for DAOs linger. Among those are the establishment of standardized governance mechanisms to ensure fairness, security, and accountability within DAOs. Additionally, scalability issues, legal frameworks, and interoperability between different DAOs are areas that require further exploration and development.

The paper provides a dataset (N=[65]) analysis for the DAOs in the dataset selected by assets in DAO treasury across different industries. Descriptive statistics and a comprehensive analysis shows DAO industry trends and highlights governance and other shortcomings in the evolving DAO analysis. The paper provides a normative analysis and outlook.

1. Decentralized Autonomous Organizations
1.1. The Firm Leading to DAOs

The history of the firm is a long and diverse one, reflecting the many different ways that humans have organized their labor and resources over time. From the earliest days of human civilization, people have created various forms of business entities to facilitate trade, commerce, and the production of goods and services. The history of business entities is intertwined with the history of human civilization itself. As humans evolved from hunter-gatherer societies to settled agricultural communities, they began to develop increasingly complex systems of trade and exchange. These early systems of trade relied on informal networks of exchange, but as societies became more complex, the need for more formal business entities arose.

One of the earliest forms of business entity was the partnership, in which two or more individuals would pool their resources and labor to engage in a particular business venture. These partnerships were often informal, with few legal protections, and were frequently dissolved once the venture was completed. However, they laid the foundation for more complex forms of business organization that would emerge in later centuries. Partnerships have a long and rich history as one of the earliest forms of business entities. In ancient civilizations such as Mesopotamia, partnerships were used as a way to pool resources and share risks in trade ventures. Similarly, in ancient Rome, partnerships were used by individuals to engage in various forms of commercial activities, such as trade, banking, and manufacturing. In the Middle Ages, partnerships became increasingly important as a way to facilitate trade and commerce in Europe. Merchants and artisans often formed partnerships to engage in long-distance trade, and these partnerships played an important role in the expansion of European trade networks. During this time, partnerships were often informal and had few legal protections. Instead, they were governed by oral agreements and trust between partners.

Another early form of business entity was the guild, which arose in medieval Europe as a way to regulate trade and ensure the quality of goods and services. Guilds were typically organized around a particular craft or trade, and membership was limited to those who had completed a rigorous apprenticeship and met other qualifications. Guilds played an important role in shaping the economic and social structures of medieval Europe, but their power declined in the face of broader economic and political changes.

Membership in guilds was highly exclusive and tightly controlled. Prospective members had to complete an apprenticeship, during which they would learn the skills and techniques of their chosen trade. once the apprenticeship was completed, the apprentice could become a journeyman, working for a master craftsman and honing their skills. Finally, after several years of experience and further training, the journeyman could become a master and set up their own workshop. This system ensured that guild members were highly skilled and knowledgeable in their craft, and helped to maintain high standards of quality. Guilds also played a role in regulating wages and prices, setting minimum prices for goods and services produced by their members, and negotiating with city officials to ensure fair wages for their workers.

The joint-stock company emerged in the 17th century as a way to finance long-distance trade expeditions and other large-scale ventures. The joint-stock company was a significant development in the history of business entities, emerging in the 17th century as a way to finance long-distance trade expeditions and other large-scale ventures. Prior to the joint-stock company, many commercial ventures were financed through individual partnerships or by wealthy individuals who provided the necessary capital. This often made it difficult to raise enough funds for large-scale projects, such as long-distance trade expeditions or colonization efforts. The joint-stock company was a solution to this problem. It allowed individuals to invest in a business venture by purchasing shares of stock, which represented a portion of the ownership of the company. This meant that the risk of the venture was spread among many investors, rather than being borne by a single individual or partnership. The profits from the venture were also distributed among the shareholders, in proportion to their ownership of the company.

The first joint-stock company was the Dutch East India Company, founded in 1602. The company was formed to finance trade expeditions to the East Indies, and it was highly successful. Other European countries soon followed suit, forming their own joint-stock companies to finance trade expeditions and colonization efforts. The British East India Company, founded in 1600, was one of the most successful of these ventures, and it played a major role in the colonization of India.. The success of these joint-stock companies paved the way for the development of modern corporations. Over time, the legal framework for joint-stock companies evolved, with the introduction of limited liability for shareholders and the establishment of boards of directors to oversee company operations. By the 19th century, the joint-stock company had become the dominant form of business organization, and it remains a key feature of modern economies today.

1.2. Industry, Entities, and Technology

Business entities have reflected the development of technology over time in various ways. As new technologies have emerged, businesses have adapted to take advantage of them, leading to the evolution of business models and the creation of new types of business entities.

In the early days of human civilization, people relied on basic technologies such as agriculture and animal husbandry to provide for their basic needs14As societies grew and became more complex, trade and commerce became increasingly important, and new technologies emerged to facilitate business transactions. One of the key technologies that facilitated early trade was the wheel. The invention of the wheel allowed people to transport goods more easily and efficiently, opening up new trade routes and markets. The development of writing was also critical, as it allowed for the recording of transactions and the creation of more complex economic systems.

As trade and commerce became more important, business entities such as partnerships and guilds emerged to facilitate economic activity. One of the key technologies that facilitated the growth of guilds was printing. The invention of the printing press in the 15th century allowed for the mass production of books and pamphlets, which could be used to disseminate information about guild practices and standards. This helped to standardize production methods across different regions and promote greater uniformity in the quality of goods and services. Another technology that played an important role in the expansion of guilds was the compass. This allowed merchants and craftsmen to navigate more easily across long distances, opening up new trade routes and markets. Guilds were able to expand their influence beyond their local areas and establish connections with other guilds in different regions.

The joint-stock company emerged in the 17th century as a response to the growing need for large-scale investments required for long-distance trade and exploration. The development of new technologies such as navigational tools and shipbuilding techniques made it possible for European powers to explore and colonize distant lands, leading to the expansion of global trade. In addition to navigational tools and shipbuilding techniques, other types of technologies also facilitated the joint-stock corporation. One important technology was the printing press, which allowed for the widespread dissemination of information and the production of share certificates and other financial documents. The printing press also facilitated the development of newspapers and other forms of mass communication, which helped to create a larger market for stocks and other investments.

Another important technology was the development of banking and financial institutions. Banks provided a way for individuals to store and manage their wealth, and they also facilitated the exchange of currencies and the transfer of funds across long distances. This made it easier for joint-stock companies to raise capital from a wide range of investors, even those who were not located in the same city or country as the company. Finally, the development of legal and regulatory frameworks also played an important role in the growth of joint-stock corporations. Laws and regulations were needed to ensure that investors were protected, and that the management of the company was held accountable for its actions. This required the development of legal codes and institutions, which in turn facilitated the growth of more complex forms of business organization, including modern corporations.

Throughout human history, the evolution of business entities has been closely linked with the development of technology. From the earliest days of human civilization, people have created various forms of business entities to facilitate trade, commerce, and the

production of goods and services. The nature and characteristics of these entities have always reflected the technological advancements of their time. Today, we are experiencing a digital revolution that is transforming the way we live, work, and do business. Information technology has made it possible to create new forms of business entities that are more efficient, transparent, and decentralized than ever before.

Information technology has revolutionized the way we exchange and interact with information. The rise of the internet and digital communication has made it easier than ever to connect with people all around the world, and to share ideas and resources in real-time. However, traditional business entities such as corporations and partnerships were designed for a world that did not have access to these technologies, and as a result, they may not be the most effective or efficient way to manage business operations in the digital age. One of the outcomes of this digital revolution is the emergence of Decentralized Autonomous Organizations (DAOs), which are a new form of business entity that leverages information technology to operate in a decentralized and transparent manner.

1.3. DAOs and the Information Age

The Information Age, also known as the Digital Age, is a period in human history characterized by the widespread adoption and use of digital technologies to process, store, and communicate information. This era began in the late 20th century with the development of the internet and continues to this day, marked by the rapid advancement of technologies such as mobile devices, cloud computing, artificial intelligence, and the Internet of Things. The Information Age has revolutionized the way humans live, work, and communicate, providing unprecedented access to information, knowledge, and services. It has transformed nearly every aspect of modern society, including business, education, healthcare, entertainment, and politics.

One of the defining features of the Information Age is the speed and accessibility of information. With the internet and digital devices, people can access vast amounts of information instantly and from anywhere in the world. This has created new opportunities for education, research, and innovation. Another important aspect of the Information Age is the way it has transformed the economy. Digital technologies have enabled the rise of new business models, such as e-commerce, social media, and the sharing economy. They have also disrupted traditional industries, leading to the decline of some businesses and the rise of new ones. The Information Age is impacting traditional business by transforming the way businesses operate, communicate, and compete. It has increased the speed and accessibility of information, facilitated global connectivity, and enabled new forms of innovation and disruption. This has forced traditional businesses to adapt to new technologies and business models to remain competitive in the modern economy.

As information technology continues to evolve, businesses are forced to adapt to keep pace with the changing landscape. The emergence of decentralized autonomous organizations is a prime example of how the information age is impacting traditional business. DAOs are a new type of business entity that is entirely digital and operates using block chain technology. They are decentralized, meaning they are not controlled by any central authority or hierarchy, and are instead governed by a set of rules encoded in smart contracts on the block chain. This allows for transparency, security, and a high degree of automation.

The information age has created an environment where data and information are increasingly important commodities, and the speed and efficiency with which they can be processed and analyzed are crucial to business success. DAOs are uniquely suited to this environment, as they can collect and analyze vast amounts of data in real-time and make decisions based on that data . They are also able to automate many of the processes traditionally performed by human workers, leading to increased efficiency and cost savings. Additionally, the information age has created a global economy where borders are increasingly irrelevant, and businesses can operate across international boundaries with ease. DAOs are particularly well-suited to operating in this environment, as they can operate across borders without the need for a physical presence or local partners. This allows for greater flexibility and agility in responding to changing market conditions and regulatory environments.

1.4. Key Concepts for DAOs

DAOs are a recent concept in the technology and business realm. Nevertheless, they have swiftly become recognized and accepted as a potentially groundbreaking form of organization and administration. The concept of a decentralized autonomous organization can be dated back to the early stages of the internet and the ascent of decentralized systems. Computer scientist Nick Szabo initially proposed the concept of a "smart contract" in the late 1990s and early 2000s. A smart contract is a self-executing agreement with its terms written directly into lines of code. Szabo suggested that these smart contracts could aid transactions and agreements without the requirement for intermediaries like lawyers or financial institutions.

As time passed, the notion of creating a decentralized autonomous organization on top of a block chain started to form. In 2013, Stephan Tual, who is a co-founder of the Ethereum project, introduced the term "DAO." Tual described a DAO as "a decentralized organization that lives on the internet and exists autonomously, but also heavily relies on hiring individuals to perform certain tasks that the automaton itself cannot do."

The concept of a DAO is only feasible in the modern era of information technology. The advancement in technology has led to the development of block chain technology, which is the fundamental technology underlying the DAO. The DAO operates based on smart contracts, which are self-executing digital contracts that operate based on pre-defined rules and conditions. Smart contracts are coded into the block chain, and once a condition is met, the contract automatically executes without the need for any human intervention. The use of modern technology such as block chain, smart contracts, and cryptography enables the creation of a decentralized autonomous organization that can operate independently without the need for a central authority. The DAO entity is only possible due to the combination of these advanced technologies. Just as technologies such as the printing press, navigational instruments, and reliable maritime shipping

necessitated and facilitated the development of the joint-stock corporation, information technology has facilitated and arguably necessitated the DAO.

1.5. Corporations vs. DAOs

One of the key distinctions between traditional business entities such as a corporation and DAOs is their governance. In general, a corporation is governed by a board of directors elected by its shareholders. The board of directors is responsible for making major decisions that affect the corporation, such as setting strategic goals, appointing officers, and overseeing the corporation's financial performance. The officers of the corporation, such as the CEO, CFO, and COO, are responsible for implementing the board's decisions and managing the day-to-day operations of the corporation. They are accountable to the board and must report on the corporation's performance at regular intervals. Shareholders have a voice in the governance of the corporation through their ability to vote on major decisions, such as the election of the board of directors and the approval of significant transactions. They also have the right to receive information about the corporation's operations and financial results. These key mechanisms exist in nearly all governance structures of modern corporations. This can be heavily contrasted with the current state of DAOs.

Unlike the corporation, DAOs have much less consistent governance structures. In many cases, the governance of one DAO can be entirely different from another. DAOs are a relatively new concept, and as such, their governance structures and practices are still evolving. One of the challenges with DAO governance is that it can be inconsistent or even unpredictable, depending on the specific organization and the context in which it operates. There is no consistent standard for DAO governance. This leads many DAOs to develop their own governance structure. However, because of the complex nature of decentralized governance, many DAO governance structures fail to become truly decentralized, autonomous, or organized. Many organizations that want to develop a DAO are not only tasked with developing their tech, mission, and values, but also bear the responsibility of creating a new form of governance out of thin air. This notion is not shared with traditional corporations. When an organization wants to form a corporation, they have a general sense of how the organization will be governed. In the current DAO ecosystem, this is not the case.

1.6. DAO Governance Standards

There are several methodologies for DAO governance, each with its own unique approach and benefits. As decentralized autonomous organizations continue to gain popularity, it is important to understand the different governance methodologies available and their implications for the organization's decision-making process. In this context, we will explore some of the most commonly used methodologies for DAO governance, 1 person 1 vote, quadratic voting, fungible governance tokens and reputational governance. Each of these methodologies has its own strengths and weaknesses, and the choice of methodology will depend on the specific needs and goals of the DAO.

2. One Person 1 Vote

One person one vote governance is a democratic governance model in which every individual, regardless of their social status, wealth, or other factors, has an equal say in the decision-making process. In this model, each individual is entitled to one vote, and decisions are made based on the majority rule. One person one vote governance is based on the principle of political equality, which holds that every individual should have an equal opportunity to participate in the decision-making process and to have their voice heard. This governance model is commonly used in political elections, where every eligible voter is entitled to one vote and the candidate with the most votes is elected.

One person one vote governance can help to ensure that decision-making is fair and transparent, and that the interests of all individuals are taken into account. It can also help to promote social cohesion and reduce the potential for conflict and social unrest. However, one person one vote governance also has some limitations and challenges, such as the potential for majority tyranny, where the majority can impose their will on minority groups. Additionally, it may not be suitable for all decision-making contexts, such as those that require specialized knowledge or expertise.

2.1. Quadratic Voting

Quadratic voting is a democratic governance model in which individuals are given a certain number of "voice credits" that they can use to vote on a particular issue. However, the number of credits required to cast an additional vote increases exponentially as the number of votes cast by an individual increases. Under quadratic voting, individuals are given more control over the decision-making process, as they can allocate their votes according to their preferences and priorities. The model also allows for greater nuance in decision-making, as individuals can choose to allocate their credits in different ways, rather than simply voting yes or no on a single issue.

The quadratic voting model is based on the idea that the cost of an additional vote should increase as the number of votes increases, to reflect the diminishing marginal value of each additional vote. This approach can help to ensure that decisions are made in a way that takes into account the preferences and priorities of all individuals, rather than just the preferences of the majority.

One potential benefit of quadratic voting is that it can help to reduce the influence of special interests or wealthy individuals, as they would need to spend significantly more credits to cast multiple votes. Additionally, the model can help to promote compromise and cooperation, as individuals may need to work together to pool their credits in order to achieve a particular outcome. However, quadratic voting also has some limitations and challenges, such as the potential for manipulation or strategic voting, and the need for a robust and transparent voting system to ensure that all votes are counted accurately.

3. Fungible Governance Tokens

Fungible governance tokens are a type of cryptocurrency token that is used to represent ownership or control in a decentralized autonomous organization (DAO) or other blockchain-based governance system. Fungible tokens are interchangeable with each other, meaning that one token has the same value and properties as

any other token of the same type. In a DAO or other blockchain-based governance system, fungible governance tokens can be used to represent voting rights or other forms of control over decision-making. Token holders can use their tokens to participate in the governance process, such as by voting on proposals or electing representatives.

Fungible governance tokens can be bought, sold, and traded on cryptocurrency exchanges, allowing for a market-based approach to ownership and control in the governance system. This can help to promote liquidity and transparency in the governance process, as well as allowing for wider participation and ownership by individuals around the world. However, fungible governance tokens also have some limitations and challenges, such as the potential for vote buying or other forms of manipulation. Additionally, the market-based approach to ownership and control may not always align with the long-term goals or values of the governance system. It is important to carefully evaluate the specific context and goals of the organization or community to determine the most appropriate governance model and use of fungible governance tokens.

3.1. Reputational Governance

Reputational governance is a unique approach to decentralized governance that relies on social capital and trust rather than financial capital or ownership. The idea behind this approach is that individuals or entities with a proven track record of making good decisions and contributing positively to a community should be given more decision-making power and influence. In a reputational governance system, individuals or entities are evaluated based on their past actions and contributions within the community. This evaluation is typically done through a combination of community feedback, user ratings, and other forms of reputation scoring. Based on these evaluations, individuals or entities with high reputation scores are granted more decision-making power and influence within the governance system.

Reputational governance systems can be implemented in a variety of ways, depending on the specific context and goals of the community or network. For example, social media platforms may use reputation-based systems to give more influence to users with a high number of followers or likes, while online marketplaces may use reputation-based systems to give more control to sellers with a history of positive customer feedback. One of the main advantages of reputational governance is that it can help to promote transparency and trust within a community or network. Because decision-making power is based on past actions and contributions, individuals are incentivized to act in ways that maintain or improve their reputation. This can lead to a more collaborative and cooperative community, as individuals work together to build their reputations and contribute to the collective good.

Additionally, reputational governance can help to reduce the potential for manipulation or abuse of power by individuals with large amounts of tokens or currency. In a system where decision-making power is based solely on ownership, individuals with large amounts of financial capital may be able to dominate the governance process. In a reputational governance system, however, individuals must earn their influence through their actions and contributions, rather than simply buying it. However, reputational governance also has some limitations and challenges. For example, it can be difficult to objectively measure reputation and evaluate the contributions of individuals, particularly in large and diverse communities. Additionally, there is the potential for groupthink or echo chambers within the community, as individuals may be more likely to support those with similar views or backgrounds. Despite these challenges, reputational governance remains an innovative and promising approach to decentralized governance.

3.2. Importance of Governance

Governance is critical to the success of Decentralized Autonomous Organizations because it enables decision-making and coordination among members without relying on centralized authorities or intermediaries. DAOs are built on the principles of decentralization, transparency, and community ownership, and governance mechanisms help to ensure that these principles are upheld and that the community can effectively manage and operate the organization.

The importance of governance in DAOs can be seen in several ways. First, governance provides a mechanism for members to make decisions collectively and democratically. This allows for a more inclusive and participatory decision-making process, where all members have a voice and can contribute to the direction and operation of the DAO. This can lead to greater transparency and accountability, as decisions are made openly and with the input of the community. Second, governance mechanisms can help to manage conflicts and address disputes within the community. In a decentralized system, there may be disagreements or competing interests among members, and governance mechanisms can provide a way to resolve these issues fairly and efficiently. For example, a DAO may use voting or consensus mechanisms to make decisions, or it may establish a dispute resolution process to address conflicts. Third, governance is important for the long-term sustainability and growth of the DAO. As the DAO grows and evolves, governance mechanisms can help to ensure that the community remains aligned and committed to the mission and goals of the organization. Governance can also help to manage risks and address challenges that arise over time.

As DAOs become increasingly popular as a way to manage and operate decentralized organizations, it is essential to analyze the governance models they use to make decisions and coordinate activities. Governance is the backbone of any DAO, and the way that a DAO decides to govern itself will impact its success or failure. Therefore, it is critical to understand the various governance models used by DAOs.

4. Current state of DAOs

As the popularity of DAOs has increased, several platforms have emerged that provide tools and infrastructure to support DAO creation and governance. These platforms aim to simplify the process of creating and managing a DAO, allowing individuals and organizations to leverage the benefits of decentralized decision-making without the technical expertise required to build one from scratch. Some examples of these platforms include Aragon, DAO Haus, Colony, DAO Stack, Super DAO, and Hypha DAO. These platforms offer a range of tools and features, such as voting

systems, budgeting and resource allocation, proposal creation and submission, and member management.

DAO governance platforms provide templates and guidelines to help founders design their governance structure and policies. This can make it easier to create a DAO that aligns with the founders' goals and values. However, some of these platforms can create more risk than they mitigate. DAOs that are not well-governed are doomed to fail. Bad governance in a DAO can lead to a wide range of risks and negative consequences. One of the most significant risks is centralization, where a small group of individuals or entities hold a disproportionate amount of power or influence within the DAO, which can undermine the decentralized nature of the organization. In addition, poor governance can create opportunities for manipulation and corruption, as decision-making power may be concentrated in the hands of a small group of individuals who may have personal or financial interests that conflict with those of the broader community.

Another risk of bad governance is a lack of transparency in decision-making processes, making it difficult for members of the community to understand how decisions are made and why certain actions are taken. Without clear and effective governance mechanisms, decision-making processes can become slow and inefficient, leading to delays in implementing important changes or addressing issues within the DAO.

Furthermore, DAOs that do not have effective governance structures and policies may be at risk of violating local laws and regulations, which can lead to legal and regulatory consequences. Poor governance can also damage the reputation of the DAO and its members, leading to a loss of trust and credibility within the broader community. Overall, the risks associated with bad governance can undermine the effectiveness and sustainability of a DAO, making it difficult to achieve its goals and objectives. Effective governance is critical to ensuring that a DAO operates in a transparent, efficient, and accountable manner, and that the interests of the broader community are represented and protected.

4.1. Aragon

Aragon is a decentralized governance platform that enables the creation and management of decentralized autonomous organizations (DAOs) on the Ethereum blockchain. It provides a suite of tools and services to help organizations manage their governance, decision-making, fundraising, and operations in a decentralized manner, without the need for intermediaries or centralized authority. Aragon includes features such as token creation and management, voting, dispute resolution, finance management, and more, which can be customized and configured based on the specific needs of each DAO.

Many of the DAOs created on Aragon leverage fungible governance tokens. For example, the process of minting DAO governance tokens with the Aragon App involves creating a DAO, accessing the "Community" section, clicking "Mint Tokens," entering the number of tokens to mint, choosing a start time and end date for the vote, creating a proposal, reviewing and publishing the proposal with a wallet transaction, and waiting for the proposal to pass.

DAO governance tokens are used for voting and can be minted for an organization to vote on proposals. The Aragon App provides a simple process for minting DAO tokens. As mentioned above, DAOs should be mindful of the risks associated with fungible governance tokens like purchasable power and takeover vectors.

4.2. Colony

Colony is a decentralized platform built on the Ethereum block chain that aims to revolutionize the way organizations are structured and operated. It provides a framework for creating and managing decentralized autonomous organizations (DAOs) that can efficiently coordinate and collaborate on tasks.

At its core, Colony utilizes a unique system of "tasks" and "roles" to organize work within a DAO. Tasks represent specific work units or projects, while roles define the responsibilities and permissions associated with different participants. Participants can contribute to tasks, and their contributions are assessed and rewarded based on predefined rules and criteria.

Colony's reputation system plays a crucial role in governing the DAO. Participants earn reputation points based on their contributions and performance, and their influence in decision-making processes is proportional to their reputation. This ensures that individuals with a track record of successful contributions have a greater say in shaping the direction of the organization. The platform also incorporates a flexible and customizable governance model. DAOs on Colony can define their own decision-making processes, including voting mechanisms, consensus requirements, and rules for resource allocation. This enables communities to tailor their governance structure to suit their specific needs and preferences.

In addition, Colony integrates with other decentralized finance (DeFi) protocols, allowing DAOs to manage and distribute funds, set up bounties, and incentivize contributions using cryptocurrencies. Smart contract-based escrow and payment systems ensure transparent and secure transactions within the platform. Colony's vision is to enable organizations that are agile, transparent, and resistant to centralized control. By leveraging block chain technology and decentralized decision-making, it aims to unlock new possibilities for collaboration and value creation.
Overall, Colony provides a robust infrastructure for building and operating decentralized organizations. With its task-based framework, reputation system, customizable governance, and integration with DeFi protocols, Colony empowers communities to collaborate effectively, allocate resources efficiently, and make collective decisions in a transparent and decentralized manner.

4.3. DAOStack

DAO Stack is a platform that enables the creation and operation of decentralized autonomous organizations (DAOs) on the Ethereum block chain. It provides a comprehensive toolkit and infrastructure for building and managing DAOs, allowing communities to collaborate, make decisions, and allocate resources in a decentralized and transparent manner.

At the heart of DAO Stack is the concept of holographic consensus.

Holographic consensus combines both individual voting and collective intelligence to reach decisions within a DAO. Participants can stake their tokens on different proposals, and based on the wisdom of the crowd, decisions are made by evaluating the relative support and expertise of participants.

The platform also integrates with other decentralized applications (dApps) and services, enabling DAOs to interact with external systems and leverage additional functionalities. This integration allows for seamless collaboration, fundraising, and integration of various decentralized services into the DAO's operations.

DAO stack's reputation features are a key component of its platform for creating and managing decentralized autonomous organizations on the Ethereum block chain. The reputation system incentivizes positive contributions to the DAO, rewards good behavior, and helps to create a culture of trust and accountability.

However, the complexity of DAO stack's platform may be a barrier for non-technical users. Setting up and customizing a DAO requires a level of understanding of block chain technology and smart contracts, which can limit accessibility and adoption. DAO stack offers solutions for decentralized governance, scalability remains a challenge. As more participants join a DAO and the number of proposals and decision-making processes increase, it can become difficult to maintain efficiency and consensus. Scaling solutions are necessary to address this limitation.

4.4. SuperDAO

Super DAO is a decentralized autonomous organization (DAO) that aims to empower communities and individuals by providing a platform for decentralized governance, collaboration, and funding. It operates on the Ethereum block chain and utilizes smart contracts to facilitate transparent and efficient decision-making processes.

The core focus of Super DAO is to enable crowdfunding and resource allocation for projects and initiatives. Through its platform, individuals or groups can propose projects and seek funding from the community. The community members, who hold Super DAO tokens, can then vote on the proposals and allocate resources accordingly.

Super DAO also offers a reputation system. where participants earn reputation points based on their contributions and activity within the ecosystem. Reputation points influence voting power and decision-making, ensuring that individuals with a proven track record of positive contributions have a greater say in shaping the direction of the organization.

One of the challenges faced by Super DAO is the limited adoption and user base. Without a significant number of active participants and projects, the platform may struggle to reach its full potential and provide a vibrant ecosystem for decentralized governance and collaboration. Additionally, Super DAO may face scalability issues as the number of participants and projects increases. As the network becomes more active, the efficiency of decision-making and resource allocation processes could be compromised, potentially leading to delays and inefficiencies.

4.5. Hypha DAO

Hypha DAO utilizes the principles of liquid democracy, quadratic voting, and decentralized decision-making to enable efficient and inclusive governance. Participants can contribute to decision-making by voting on proposals and allocating resources based on their stake in the ecosystem. Hypha DAO offers a range of powerful modules designed to enhance the functioning of decentralized autonomous organizations. These modules provide various functionalities to support different aspects of DAO operations.

The Compensation Module allows members to actively participate in the organization by applying for roles within the DAO. By selecting from available role archetypes and submitting role assignment proposals, individuals can contribute their skills and expertise to the DAO. Furthermore, the module enables the creation of salary bands tailored to different roles, ensuring flexibility in meeting the organization's specific needs.

With the Contribution Module, members can engage in DAO activities even without being assigned to a particular role. This module allows active participation by allowing members to propose ad-hoc non-recurring contributions to the organization. They can suggest associated remunerations, recognizing the value they bring to the DAO.

The Profile Module offers an overview of the DAO's members. It provides a centralized dashboard that lists all active members and offers filters for easy navigation. Members can access vital information about their assignments, including token payouts, timeframes, descriptions, votes, and comments. Additionally, the module facilitates efficient management of wallets, providing access to DAO-specific tokens and allowing members to redeem cash tokens.

The Governance Module empowers DAOs with customizable governance parameters. Organizations can tailor settings such as unity, quorum, and voting period to align with their unique requirements. The module also offers pre-defined organization templates, simplifying the setup and development process. Furthermore, policy proposals within this module introduce a distinct voting method for key courses of action.

Through the Branding Module, DAOs can create a distinct identity that aligns with their brand style. This module allows customization of the DAO's appearance by providing options for colors, fonts, logos, headers, and messages. By incorporating their brand elements, DAOs can create a cohesive and recognizable visual identity.

The Treasury Module provides essential tools for management of the DAO's finances. It offers a budgeting dashboard that provides a comprehensive view of the organization's budget, allowing for financial oversight. Additionally, the module includes a block chain explorer, enabling transparent tracking of transactions. Members with Treasurer Badges possess multi-signature capabilities, enhancing security and control over financial operations. The module also includes an upcoming Account and Finance feature that will provide a detailed financial view with support for multiple

currencies and secure on-chain transactions.

The Advanced Role Features in Hypha DAO recognize the achievements and status levels of members within the organization. Through Smart Badges and Administrator Roles, members can showcase their accomplishments and gain access to important tasks like treasury management and configuration settings. These features contribute to a sense of achievement and responsibility within the DAO.

Finally, the Circles Module streamlines decision-making and governance within specific circles or teams. This module allows for circle-specific proposals, expediting the voting process for matters that affect a particular group. Additionally, an upcoming feature for Circle Budgeting will enable efficient allocation and management of budgets within circles, enhancing their autonomy and effectiveness. By leveraging these modules, Hypha DAO empowers organizations with a comprehensive suite of features to optimize their operations, enhance collaboration, and ensure effective governance within the decentralized ecosystem.

5. The Impact of DAOs on Traditional Industry

Decentralized Autonomous Organizations (DAOs) are making a significant impact on various sectors, bringing about a paradigm shift in traditional industries. In the finance sector, DAOs are revolutionizing the way financial systems operate. They are enabling decentralized lending, borrowing, and investment platforms, which provide greater accessibility, transparency, and inclusivity in financial services. By bypassing traditional intermediaries, DAOs offer new opportunities for individuals and communities to participate in the global financial ecosystem.

In the insurance sector, DAOs are disrupting the traditional insurance model. They are creating decentralized insurance platforms that facilitate peer-to-peer coverage and claims management. These DAO-driven insurance models reduce costs, eliminate the need for intermediaries, and provide more personalized and efficient insurance solutions.

Service providers are also being impacted by DAOs. Through smart contracts and decentralized governance, DAOs allow service providers to offer their services directly to the community. This eliminates the need for middlemen and enables more efficient and transparent interactions between providers and customers.

In the media industry, DAOs are transforming content creation and distribution. They are creating decentralized content platforms where content creators can be directly rewarded by the community. This challenges the dominance of centralized media outlets and empowers content creators with greater control, ownership, and fairness.

DAOs are not limited to commercial sectors; they are also making an impact in community building and non-profit organizations. DAOs provide communities with the tools and infrastructure to self-organize and make collective decisions. They foster collaboration, collective ownership of shared resources, and enable more efficient and transparent operations for non-profit organizations.

DAOs are also utilizing oracles, which are trusted data sources, to connect real-world data with block chain-based applications. Oracles provide reliable information to DAOs, enabling them to make informed decisions and execute smart contracts based on real-world events. This expands the capabilities and use cases of decentralized applications.

Furthermore, DAOs are facilitating decentralized political action by providing a platform for communities to organize and support political causes. They enable collective decision-making, transparent fund allocation, and grassroots movements without centralized control or influence.

DAOs are disrupting traditional industries in finance, insurance, service providers, media, community building, non-profits, oracles, and political action. They offer new possibilities for decentralization, transparency, efficiency, and community-driven decision-making, transforming the way these sectors operate and empowering individuals and communities in the process.

5.1. Finance

The financial industry is undergoing a transformation with the emergence of decentralized autonomous organizations (DAOs). DAOs, powered by block chain technology and smart contracts, offer new possibilities for creating decentralized financial systems that are transparent, efficient, and accessible to a global audience.

DeFi platforms built on DAOs enable users to access a wide range of financial services, including lending, borrowing, trading, and asset management. DAOs provide the infrastructure for these platforms, allowing users to interact with smart contracts and participate in financial activities without relying on intermediaries.

DAOs enable the tokenization of assets, allowing traditional financial instruments such as stocks, bonds, and real estate to be represented as digital tokens on the block chain. This facilitates fractional ownership, liquidity, and efficient transferability of assets. DAOs also provide mechanisms for decentralized asset management, allowing investors to participate in collective decision-making and governance of investment strategies.

DAOs have given rise to decentralized exchanges (DEXs) that operate without a central authority. These DEXs facilitate peer-to-peer trading of digital assets, providing enhanced security, privacy, and user control over their funds. DAOs govern the rules and operations of these exchanges, ensuring transparency and fairness.

Despite their potential, DAOs face challenges such as scalability, governance scalability, and the need for robust security measures. Additionally, widespread adoption of DAOs in the financial industry requires addressing regulatory concerns and building trust among traditional financial institutions. Looking ahead, DAOs are poised to disrupt the financial industry further. As the technology matures, DAOs are likely to play a more significant role in areas such as decentralized lending, insurance, derivatives, and cross-border transactions. The financial industry will continue to explore and experiment with DAOs to unlock new possibilities for creating a more inclusive, transparent, and efficient financial ecosystem.

5.2. Insurance

The insurance industry is undergoing a transformation with the advent of Decentralized Autonomous Organizations (DAOs). DAOs have emerged as a disruptive force, offering innovative solutions to longstanding challenges faced by the insurance sector.

One of the key applications of DAOs in insurance is the creation of decentralized risk pools. Through smart contracts and block chain technology, DAOs enable individuals to pool their risks and collectively manage insurance coverage. Members contribute premiums, and in the event of a claim, funds are automatically disbursed based on predefined conditions. This decentralized approach allows for more efficient risk management and transparent claims settlement processes.

DAOs leverage the transparency and immutability of block chain technology to streamline claims processing. Claims data can be recorded on the block chain, ensuring transparency and eliminating the need for intermediaries. Smart contracts can automate claims verification and settlement, reducing administrative costs and increasing the speed and accuracy of claims processing.

DAOs enable the creation of community-based insurance models where individuals with similar risks or interests come together to form insurance pools. These communities can establish their own insurance rules, premiums, and coverage terms, tailored to their specific needs. DAOs facilitate the governance and decision-making processes within these communities, allowing members to have a direct say in the insurance operations.

By leveraging DAOs, the insurance industry can reduce its reliance on intermediaries. Smart contracts and automated processes enable direct interactions between insurers and policyholders, eliminating the need for traditional intermediaries such as brokers and agents. This disintermediation leads to cost savings, increased efficiency, and enhanced transparency in insurance operations.

DAOs are revolutionizing the insurance industry by introducing decentralized risk pools, transparent claims processing, community-based insurance, disintermediation, fraud prevention, democratization, and more. As the adoption of DAOs in insurance continues to grow, stakeholders need to collaborate with regulators and policymakers to develop robust frameworks that foster innovation, while ensuring consumer protection and industry stability.

5.3. Service Providers

The service provider industry is experiencing an interesting transformation as well thanks to decentralized organizations. DAOs are being leveraged by service providers to revolutionize various sectors, including finance, healthcare, logistics, and more. By harnessing the power of decentralization, transparency, and collective decision-making, DAOs are disrupting traditional service models, fostering innovation, and empowering both providers and consumers.

DAOs enable decentralized service delivery models by removing intermediaries and connecting service providers directly with consumers. Through smart contracts and block chain technology, DAOs facilitate peer-to-peer transactions, eliminating the need for centralized platforms or intermediaries. This direct interaction enhances efficiency, reduces costs, and enables service providers to offer their offerings directly to the target audience.

Additionally, DAOs leverage trust and reputation systems to enhance trustworthiness and reliability in service provision. By utilizing block chain-based identity verification, reputation tracking, and smart contract mechanisms, DAOs enable service providers to establish a verifiable track record of their performance and build trust with potential consumers. This transparency and accountability foster a more trustworthy ecosystem for service provision, enhancing customer confidence and encouraging participation.

Moreover, DAOs introduce transparent pricing mechanisms and cost optimization strategies in the service provider industry. By leveraging block chain technology, DAOs enable real-time tracking of service costs, ensuring transparency and eliminating hidden fees. Additionally, DAOs facilitate cost optimization through decentralized decision-making and resource allocation, enabling service providers to deliver services at competitive prices while maintaining profitability.

There are many incentivization improvements DAOs offer as well. DAOs leverage tokenization and incentive mechanisms to align the interests of service providers and consumers. By creating utility tokens specific to the DAO ecosystem, service providers can incentivize consumers to engage with their offerings. These tokens can be used for accessing services, participating in governance, or receiving rewards. Tokenization encourages active participation, loyalty, and engagement within the service provider community.

Finally, DAOs empower service providers to enhance service quality and customization through decentralized feedback and iterative improvement processes. By leveraging the collective intelligence of DAO participants, service providers can gather valuable insights and feedback to improve their offerings continuously. DAOs enable agile development and iterative refinement, ensuring that services are tailored to consumer preferences and evolving market needs.

Service providers embracing DAOs can enhance efficiency, innovation, and customer satisfaction while fostering a more inclusive and decentralized service landscape. Embracing DAOs and actively participating in their development will shape the future of service provision, offering opportunities for both service providers and consumers alike.

5.4. Media

The media industry is undergoing a significant transformation with the emergence of Decentralized Autonomous Organizations (DAOs). By leveraging the principles of decentralization, transparency, and community governance, DAOs are reshaping the media landscape and empowering creators and consumers alike.

DAOs provide a platform for decentralized content creation and curation. Creators can collaborate with a global community to produce and curate high-quality content across various media

formats. Through DAO governance, community members have a direct say in the selection and promotion of content, ensuring diverse perspectives and reducing the influence of centralized gatekeepers.

Decentralized organizations enable new funding models for media projects through decentralized crowdfunding mechanisms. Creators can launch token-based campaigns, allowing supporters to contribute directly to their favorite content creators or media projects. These contributions are often accompanied by governance rights within the DAO, giving supporters a stake in decision-making processes.

Additionally, these new organizations introduce transparent revenue sharing models in the media industry. Through smart contracts and block chain technology, revenue generated from content consumption, advertising, or other monetization avenues can be automatically distributed among content creators, contributors, and community members based on predefined rules. This transparent approach fosters trust and ensures fair compensation for all participants.

Moreover, DAOs facilitate direct engagement between creators and their audience. Community members can actively participate in discussions, provide feedback, and influence the direction of content creation. This direct connection between creators and consumers fosters a sense of community ownership and enhances the overall quality and relevance of media content.

IP management will also be affected. DAOs enable new models for intellectual property management and digital rights protection. By utilizing block chain technology, creators can establish immutable records of their work, ensuring copyright protection and enabling more efficient licensing and royalty distribution. This creates a secure and transparent environment for managing intellectual property in the media industry.

Another important area of impact is journalism. DAOs have the potential to address issues of trust and verification in journalism. By leveraging decentralized consensus mechanisms, DAOs can facilitate fact-checking, source verification, and the creation of reliable information repositories. This ensures greater transparency, accuracy, and accountability in journalism, combating misinformation and fake news.

DAOs are transforming the media industry by empowering creators, fostering community engagement, enabling fair revenue sharing, decentralizing distribution, and enhancing trust and transparency. As the adoption of DAOs in media expands, stakeholders must collaborate with regulators and industry bodies to establish guidelines and frameworks that promote innovation, protect consumer interests, and uphold ethical standards. The future of media lies in the decentralized, community-driven paradigm facilitated by DAOs, paving the way for a more inclusive, diverse, and sustainable media ecosystem.

5.5. Non-Profits

The non-profit industry is experiencing a transformative shift with the advent of Decentralized Autonomous Organizations.

By harnessing the power of decentralization, transparency, and community governance, DAOs are reshaping the non-profit landscape and driving social change with increased efficiency and inclusivity.

DAOs provide non-profit organizations with decentralized and transparent governance structures. Through DAOs, decision-making processes can be democratized, enabling members of the community to participate in key organizational decisions, such as project funding, resource allocation, and strategic planning. This inclusive approach ensures that decisions are driven by the collective wisdom and diverse perspectives of the community.

Additionally, DAOs introduce innovative fundraising models for non-profits. By leveraging block chain technology, DAOs enable the creation and distribution of digital tokens that represent project ownership or participation. These tokens can be sold or donated to supporters, providing them with a stake in the organization's mission. This approach fosters deeper donor engagement, promotes transparency in fund utilization, and facilitates micro-donations, expanding the donor base and increasing financial sustainability.

Transparent resource allocation can also have a great effect on non-profit organizations. DAOs enable transparent and accountable resource allocation in the non-profit sector. Through smart contracts and block chain technology, funds received by the DAO can be automatically allocated based on predefined rules and community consensus. This ensures that resources are distributed efficiently and in alignment with the organization's mission and community priorities.

Moreover, DAOs facilitate global community engagement in non-profit initiatives. Geographical barriers are overcome as individuals from different regions can participate and contribute to projects through DAO platforms. This broadens the non-profit organization's reach, enables cross-cultural collaboration, and facilitates the sharing of knowledge and best practices.

DAOs are revolutionizing the non-profit industry by empowering communities, enabling transparent decision-making, fostering donor engagement, and promoting accountability in resource allocation and impact measurement. As non-profit organizations embrace DAOs, it is imperative to address regulatory challenges, educate stakeholders, and foster collaboration to realize the full potential of this transformative technology. The future of the non-profit sector lies in the decentralized, community-driven paradigm facilitated by DAOs, driving social impact with greater efficiency, inclusivity, and transparency.

5.6. Political Action

By harnessing the power of decentralization, transparency, and collective decision-making, DAOs are transforming political action and empowering individuals to shape the future of governance. DAOs provide a platform for decentralized decision-making in political action. Through DAOs, participants can engage in collective decision-making, propose policy ideas, and vote on key issues. This inclusive approach ensures that decisions are made by a diverse and distributed community, rather than concentrated in

the hands of a few individuals or organizations. DAOs empower individuals to directly participate in shaping the political agenda, fostering a more democratic and inclusive political landscape.

DAOs introduce innovative fundraising models for political action. By leveraging block chain technology, DAOs enable the creation and distribution of digital tokens that represent participation or ownership in political campaigns or initiatives. This opens up new avenues for grassroots fundraising, enabling individuals to support causes they believe in and contribute directly to political campaigns. DAOs also enhance transparency in resource allocation, ensuring that funds are allocated based on community consensus and in alignment with the organization's goals.

Like many other industries, transparency is a key implication. DAOs promote transparency and accountability in political action. All transactions and decisions recorded on the block chain are immutable, providing an auditable trail of activities. This transparency ensures that political organizations and campaigns are held accountable for their actions and financial management. By increasing trust and reducing opacity, DAOs enhance the credibility and legitimacy of political movements.

Additionally, DAOs facilitate grassroots mobilization and activism by providing a platform for collaboration and collective action. Participants can organize themselves, coordinate activities, and pool resources to amplify their impact. DAOs enable decentralized coordination, breaking down geographical barriers and allowing individuals from diverse locations to contribute to political campaigns and causes. This fosters a sense of ownership and empowerment among activists, driving greater engagement and mobilization.

Moreover, DAOs offer secure and immutable voting systems for political action. Block chain-based voting mechanisms ensure the integrity and transparency of the voting process, mitigating concerns related to fraud or manipulation. DAOs enable secure and tamper-proof elections, enabling individuals to exercise their democratic rights with confidence. This technology has the potential to revolutionize electoral processes, making them more trustworthy and resilient.

DAOs can facilitate advocacy and lobbying efforts in the political action industry. By organizing and coordinating activities through decentralized platforms, stakeholders can amplify their voices and influence policy decisions. DAOs enable the creation of decentralized networks that empower individuals and interest groups to collectively advocate for their causes, promoting a more pluralistic and participatory political landscape.

DAOs are revolutionizing the political action industry by democratizing decision-making, enhancing transparency and accountability, enabling grassroots mobilization, and providing secure voting systems. As the potential of DAOs in political action becomes more apparent, stakeholders in the industry must embrace this technology and work collaboratively to address challenges and unlock its full transformative power. By leveraging DAOs, the political action industry can foster greater citizen participation, enhance democratic processes, and shape a more inclusive and responsive governance system.

6. DAO Market Analysis – Dataset

The DAO market analysis data was generated by a team of law students, under the guidance of Professor Wulf Kaal, at the University of St. Thomas. The provides an analysis of six major factors of each individual DAO and scores them on their performance in each category. The six factors considered are: Decentralization, Work to Earn, Attack Resistance, Regulatory Compliance, Governance, and Organizational Communication. Each DAO was given a score between zero (0) and ten (10) by the analyzing teams based on publicly available information and the organization's whitepaper, if it has one.

The DAOs were further separated into market categories based on their primary purpose in the industry. The market categories are: Investment DAOs, Political Action DAOs, Oracle DAOs, Decentralized Insurance, Charity DAOs, Media DAOs, and Services DAOs. The support for each metric's score can be found in the appendix. The following graphs illustrate how each DAO was scored in comparison with their peers and provide valuable insight into the strengths and weaknesses of each DAO and their respective market category.

6.1. Decentralization
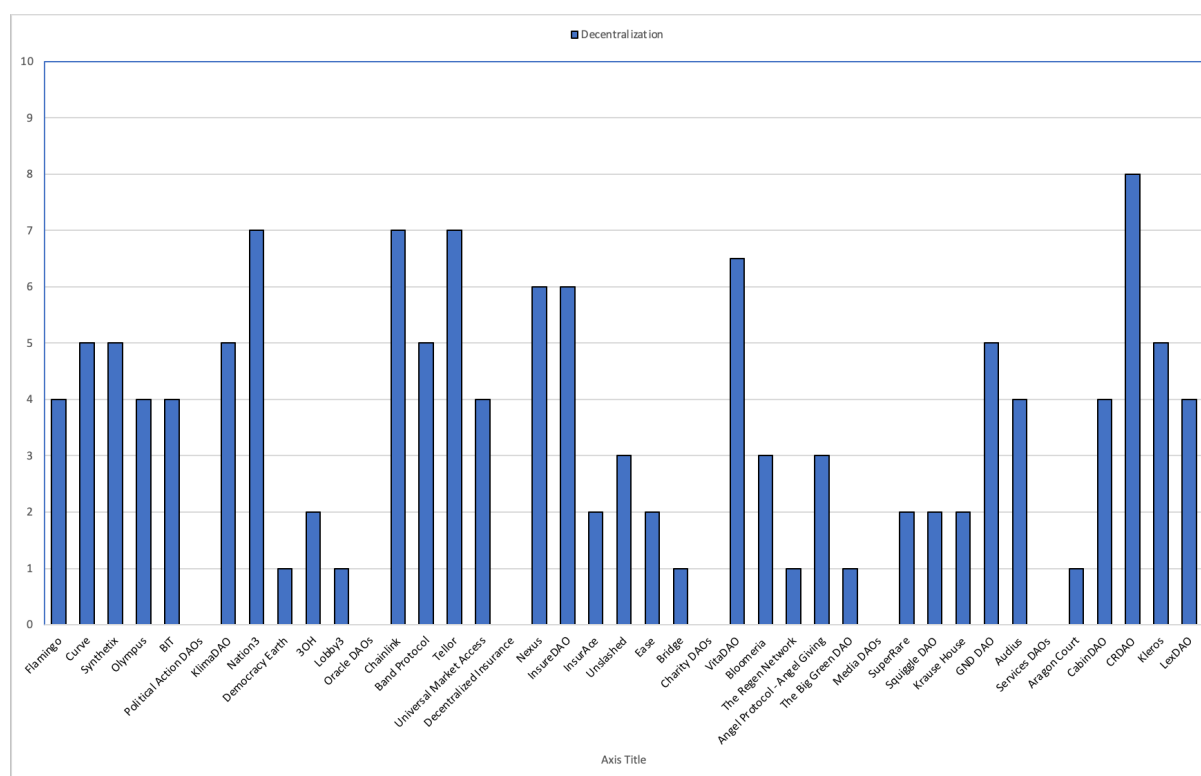
Each DAO was scored based on how decentralized their operations are, the distribution of power, accessibility of its decentralized members, token holders' ability to participate in decision-making processes, and the existence or implementation of a viable reputation system. For example, a DAO scores highly in decentralization if it has a fully decentralized and transparent system that utilizes smart contracts and block chain technology to automate their operations, on-chain decision-making processes, transparent data sharing, a decentralized power structure or lack of "whale token holders," and low barriers to entry. Conversely, if a DAO has individuals or committees that make decisions for the organization, or a lack of transparency regarding decisions and information then it will receive a lower score.

Based on our observations of the data, the maximum score was CRDAO at 8/10 while there were a few DAOs that scored 1/10. Across the board, DAOs are well below average at implementing true decentralization practices in their organizations with a 3.78 out of 10. A key benefit of forming a DAO is in utilizing the decentralized power structure to encourage cooperation, free flow of information, and allow decision-making to transgress traditional top-down power structures to promote adaptability and efficiency to organizations. The current state of DAOs, with a few exceptions, doesn't seem to do this.
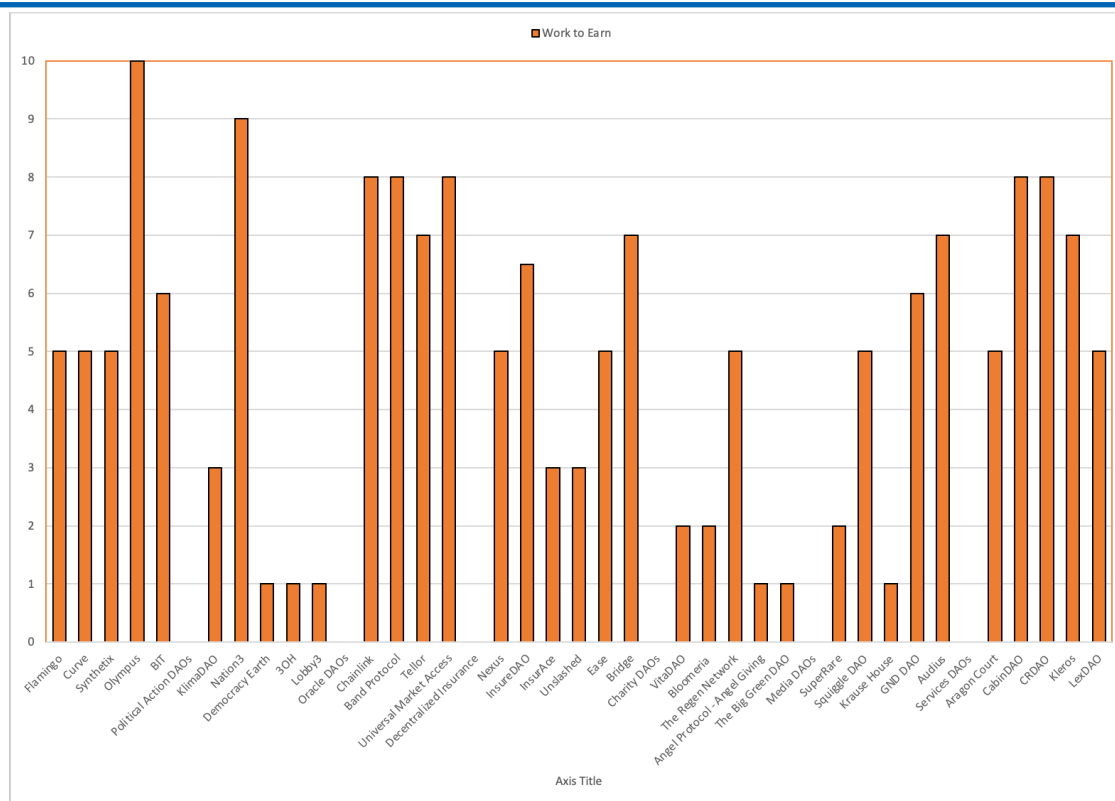
This graph shows DAOs' ratings regarding their work to earn potential and accessibility for its members. Each DAO was scored based on ability to obtain tokens, liquidity of the tokens, the use of native tokens as a viable incentive for participants, the proportionality of work contributed to token reward received, and the use of tokens in decentralized governance and decision-making. For example, a DAO scores highly on "work to earn" if its token can be liquidated on a cryptocurrency marketplace, a contributor to governance and decision-making processes earns tokens as an incentive, and tokens are rewarded for development and maintenance of the platform. Conversely, if a DAO provides no token incentive for outside contributions to the platform or decision-making then it would receive a low score.

Based on the data in the graph above, the work to earn category scored much higher than all other DAO scorecard categories on average with a score of 4.9 out of 10. It also showed Oracle DAOs and Services DAOs scoring above 7 and 5 across the board, respectively. Meanwhile, Political Action DAOs were weak in this category with four scoring a three or less.
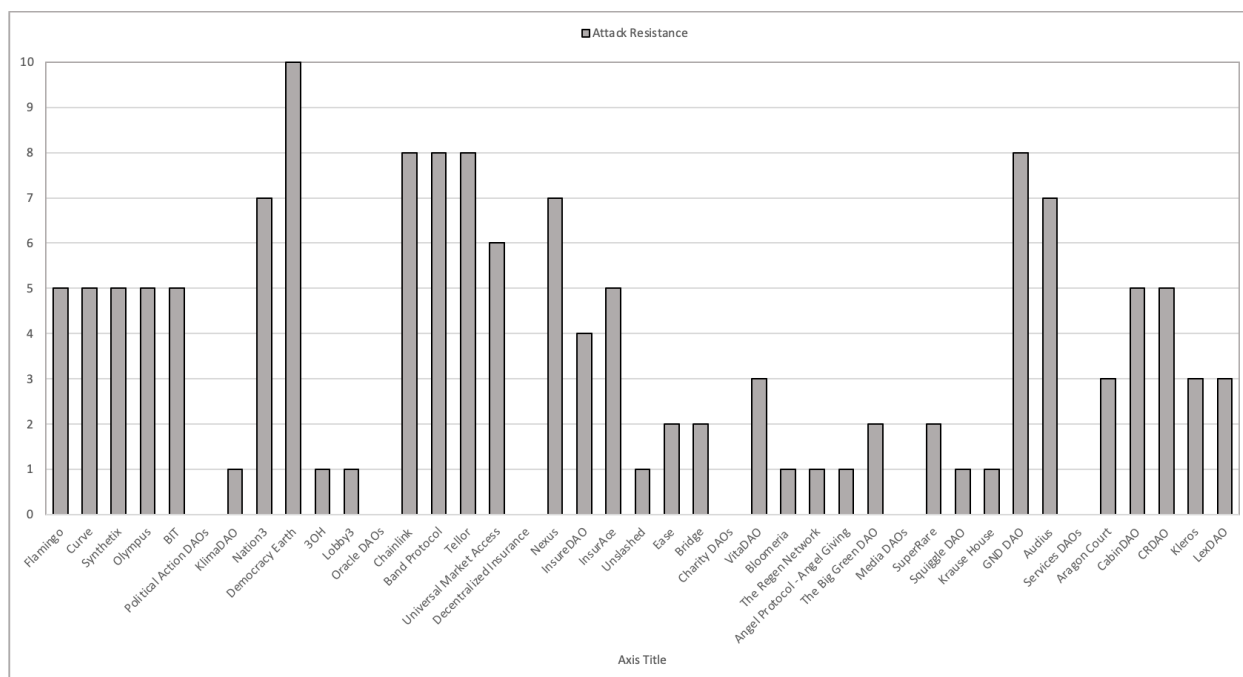
This graph shows DAOs' attack resistance, or ability to withstand internal or external attacks on the organization. Each DAO was scored based on the susceptibility of internal attacks from founders or majority stakeholders, usage of one token one wallet voting systems, proof of stake mechanisms, existence of crypto-economic defenses, potential for DoS attacks, and investigation procedures for potential attack vectors.

Based on the compiled data shown in the graph above, the average score for attack resistance is 4.05 out of 10. Charity DAOs showed the worst performance in this category with the highest, Vita DAO, scoring a 3 out of 10 and the rest at 2 or less. Meanwhile, Political Action DAOs showed the highest variance with Democracy Earth scoring a 10 out of 10 and Nation3 scoring a 7 out of 10 while the other three DAOs scored 1 out of 10. Investment DAOs showed the most consistency with 5 out of 10 across the board, but at an average overall score.
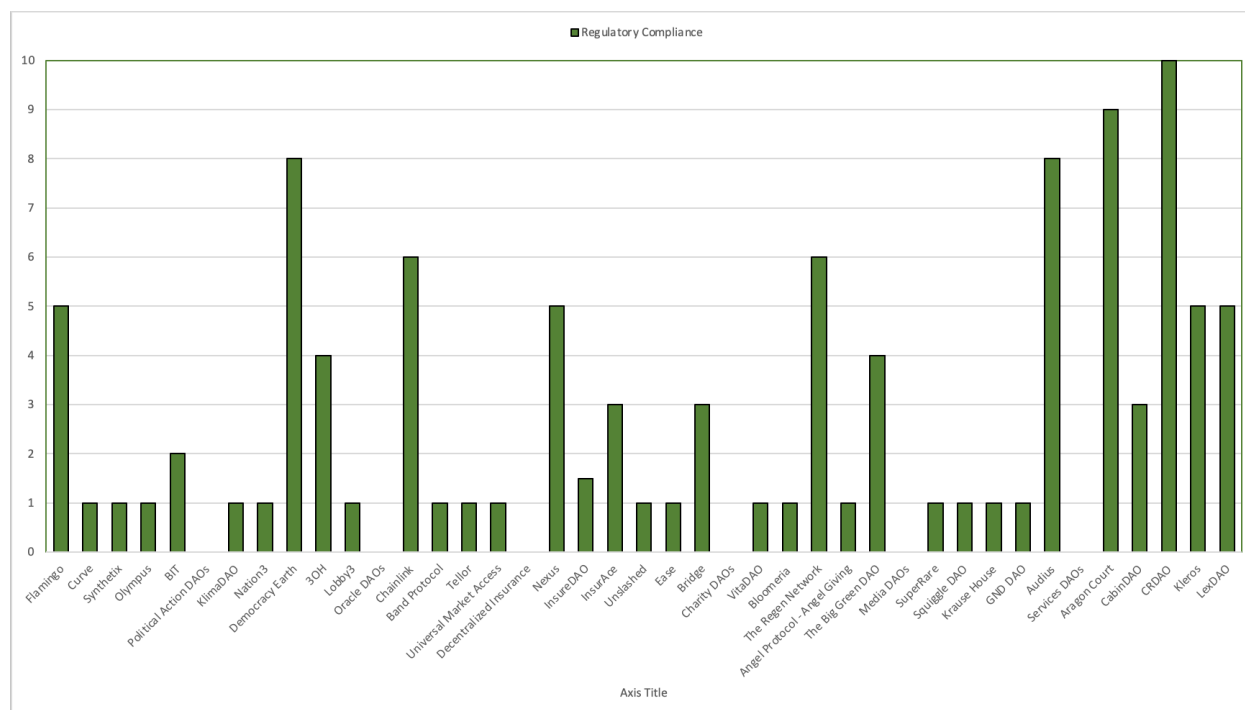

This graph shows the DAOs' scores for regulatory compliance and whether or not they have legal protections and standing based on how the organization was formed and whether the DAO fits within the existing legal systems. While DAOs are typically decentralized and operate without a formal legal entity, regulatory compliance was scored based on the DAOs' formation of a legal entity, operating under a legal wrapper, establishing liability protections for its members, and ensuring compliance with relevant laws and regulations.

The average score for DAOs in this category is the lowest of any category at 3.01 out of 10. Services DAOs was the sole category of DAOs that outperformed this average score with 4 out of 5 DAOs scoring 5 or greater. The nature of DAOs and the lack of clear regulatory direction from the SEC and state governments is relevant in analyzing these scores since many DAOs appear to take minimal action in establishing regulatory compliance within the organizations.
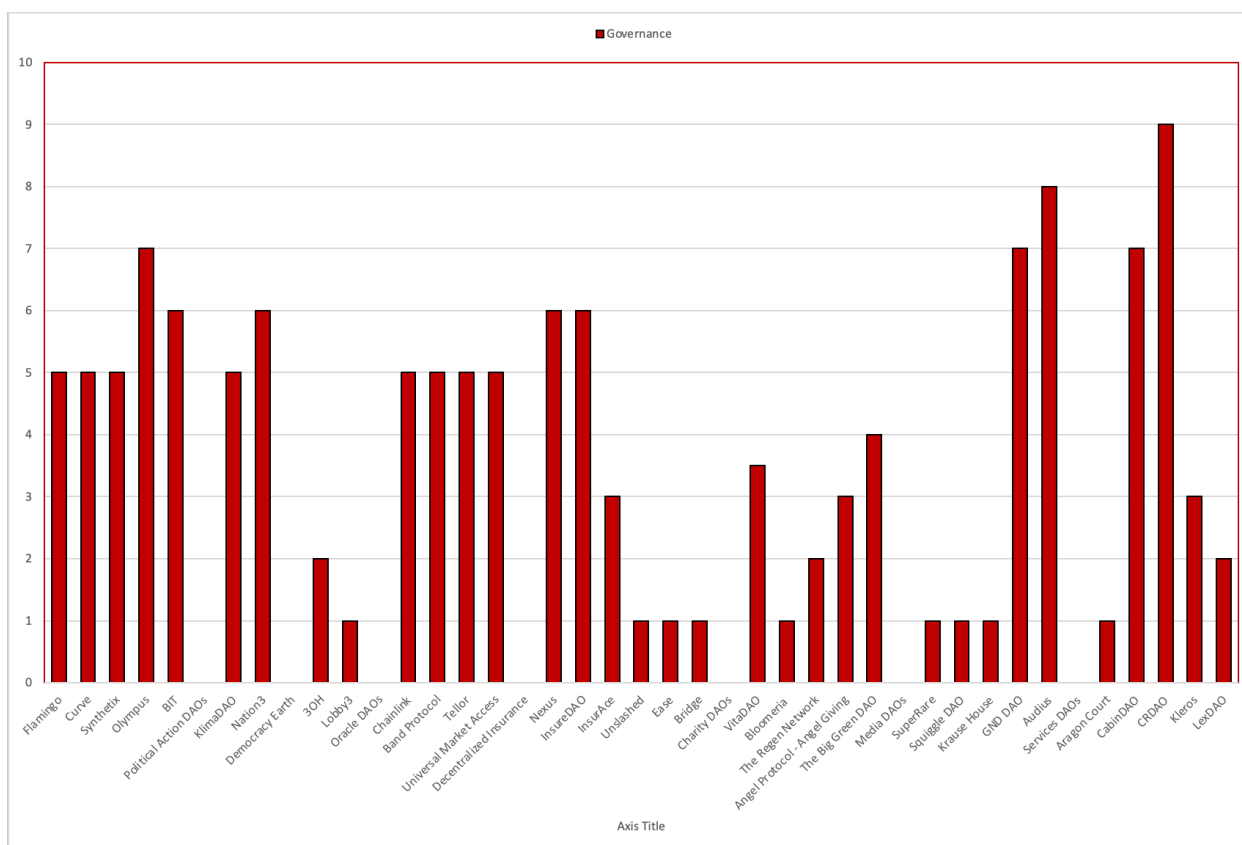
The graph above shows the scores for DAOs on the governance metric. Governance is scored based on the DAO's governance structure, voting procedures and power distribution, action protocols, and reputational systems. The average DAO scores for governance is 3.81 out of 10. With only a couple DAOs scoring 7 or higher, the vast majority of DAOs scored at 5 or less.

The highest variance amongst categories was Media DAOs with three DAOs scoring 1 or less and two scoring 7 or 8. Meanwhile Oracle DAOs scored average at 5 out of 10 across the entire category. Based on this data, it appears that DAOs seem to have the barebones beginnings of proper governance structures, but many must be improved.
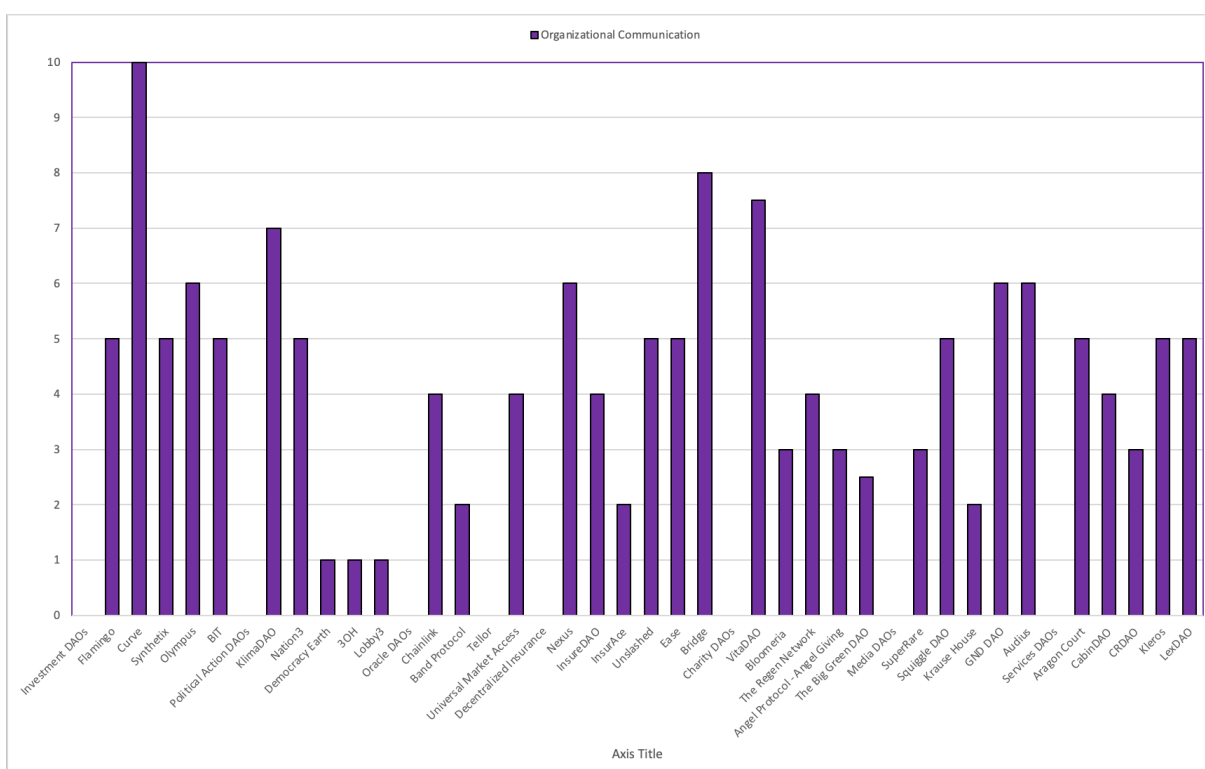
The above graph shows the DAOs' scores on organizational communication. This score was determined by the organization having a robust communication system to engage members, frequency of communication, opportunity for members to collaborate independently, if the organization has a proprietary communication platform or relies on third party software, and any barriers to entry regarding communication with the DAO. For example, if the DAO has built an organizational communication system integrating third party platforms such as Discord, uses a reputational system to reward communication, a frequently active forum page where quality communication takes place, and contains frequent updates regarding projects, grants, and organizational news, then it will receive a high score.

Based on the data above, the average DAO score in this category is 4.29 out of 10. Investment DAOs seem to provide the most consistent high scores in this category while Political Action DAOs provide the lowest with one DAO scoring 7 out of 10 and three DAOs scoring 1 out of 10. Given the nature of Investment DAOs, it isn't surprising to see their communication to be more robust than their competitors since their clients will typically require more frequency. However, it is surprising to see Political Action DAOs with such a low score since their organizations should be communicating frequently to their constituents and outside partners.

Market Analysis – Synthesis
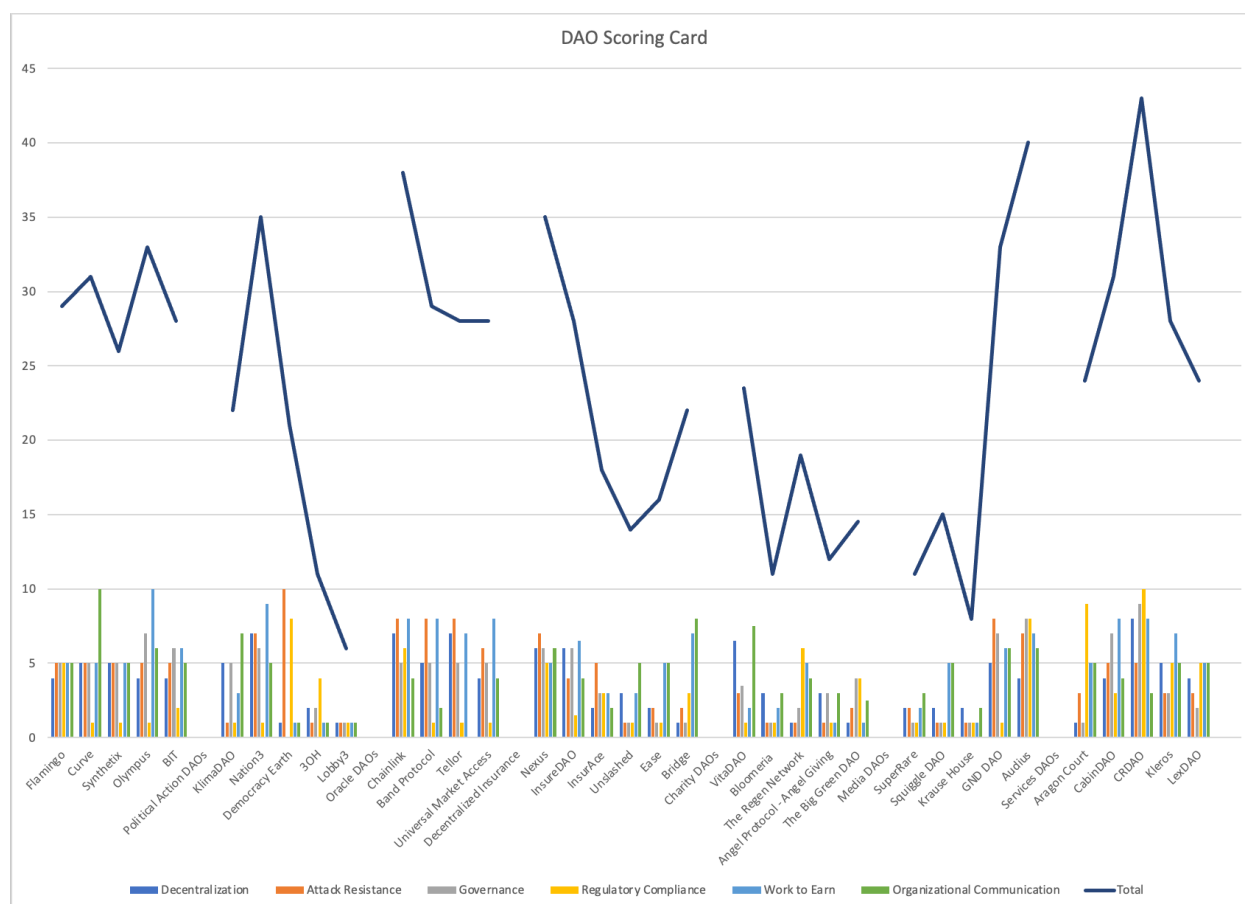
DAO Scoring Card	Decentralization	Attack Resistance	Governance	Regulatory Compliance	Work to Earn	Organizational Communication	Total
Investment DAOs							
Flamingo	4	5	5	5	5	5	29
Curve	5	5	5	1	5	10	31
Synthetix	5	5	5	1	5	5	26
Olympus	4	5	7	1	10	6	33
BIT	4	5	6	2	6	5	28
Political Action DAOs							
KlimaDAO	5	1	5	1	3	7	22
Nation3	7	7	6	1	9	5	35
Democracy Earth	1	10	0	8	1	1	21
3OH	2	1	2	4	1	1	11
Lobby3	1	1	1	1	1	1	6
Oracle DAOs							
Chainlink	7	8	5	6	8	4	38
Band Protocol	5	8	5	1	8	2	29
Tellor	7	8	5	1	7	0	28
Universal Market Access	4	6	5	1	8	4	28
Decentralized Insurance							
Nexus	6	7	6	5	5	6	35
InsureDAO	6	4	6	1.5	6.5	4	28
InsurAce	2	5	3	3	3	2	18
Unslashed	3	1	1	1	3	5	14
Ease	2	2	1	1	5	5	16
Bridge	1	2	1	3	7	8	22
Charity DAOs							
VitaDAO	6.5	3	3.5	1	2	7.5	23.5
Bloomeria	3	1	1	1	2	3	11
The Regen Network	1	1	2	6	5	4	19
Angel Protocol - Angel Giving	3	1	3	1	1	3	12
The Big Green DAO	1	2	4	4	1	2.5	14.5
Media DAOs							
SuperRare	2	2	1	1	2	3	11
Squiggle DAO	2	1	1	1	5	5	15
Krause House	2	1	1	1	1	2	8
GND DAO	5	8	7	1	6	6	33
Audius	4	7	8	8	7	6	40
Services DAOs							
Aragon Court	1	3	1	9	5	5	24
CabinDAO	4	5	7	3	8	4	31
CRDAO	8	5	9	10	8	3	43
Kleros	5	3	3	5	7	5	28
LexDAO	4	3	2	5	5	5	24

7. Conclusion

DAOs are uniquely suited for the information age due to their ability to leverage block chain technology and smart contracts. They enable decentralized decision-making, transparent governance, and direct participation of stakeholders, making them highly adaptable to the digital landscape.

DAOs have a profound impact on traditional industries by disrupting established centralized models. In the financial industry, DAOs provide alternatives to traditional banking and investment systems, allowing for decentralized asset management and peer-to-peer transactions. In the insurance industry, DAOs streamline claims processing, reduce fraud, and enable more accurate risk assessment. The media industry sees DAOs as a solution to address issues of misinformation and censorship by fostering community-driven news platforms.

Similarly, in the non-profit sector, DAOs facilitate transparent fund allocation, collaborative decision-making, and increased accountability. In the political action industry, DAOs offer opportunities for decentralized voting systems, enhancing transparency and inclusivity in democratic processes. Even service providers can benefit from DAOs by enabling peer-to-peer service exchanges, empowering individuals to monetize their skills directly.

However, despite the potential of DAOs, there are still open questions and challenges that need to be addressed. One crucial aspect is the establishment of standardized governance mechanisms to ensure fairness, security, and accountability within DAOs. Additionally, scalability issues, legal frameworks, and interoperability between different DAOs are areas that require further exploration and development.

In conclusion, DAOs are ideally suited for the information age, offering disruptive solutions and transforming traditional industries. Their impact is far-reaching, from finance and insurance to media, non-profits, and political action. However, the full potential of DAOs can only be realized through the resolution of challenges such as standardized governance mechanisms, scalability, and legal frameworks. Continued research, innovation, and collaboration are necessary to overcome these hurdles and fully harness the power of DAOs in the information age.

8. Appendix
8.1. Investment DAOs
Decentralized autonomous organizations (DAOs) have become increasingly popular in recent years as block chain technology continues to evolve. These organizations use smart contracts and block chain technology to automate their operations and create a

fully decentralized and transparent system that operates without intermediaries. Investment DAOs, in particular, have emerged as a way for investors to pool capital and invest in various projects and assets through a decentralized and transparent process.

Investment DAOs offer several benefits, including increased accessibility, transparency, and efficiency for investors. They allow investors to participate in investment decisions and receive proportional returns. This creates a more democratic, decentralized investment process through an automated process granted by smart contracts that eliminate the need for intermediaries, and enhance trust through transparency and immutability. Investment DAOs also provide investors with access to a wider range of investment opportunities and allow for greater flexibility in investment strategies. As block chain technology continues to expand, investment DAOs will likely play an increasingly important role in the investment landscape, providing investors with new and innovative ways to invest their capital.

In the subsequent paragraphs, we will introduce six diverse investment DAOs, delving into their unique characteristics and evaluating them based on the parameters discussed in class.

8.2. Flamingo DAO
Flamingo DAO is a decentralized organization that enables people to pool their resources and invest in various assets. The organization comprises members who make decisions collectively via a decentralized governance protocol. Users can participate in the platform by providing liquidity to various pools, earning rewards and fees, and voting on proposals to decide the direction of the platform.

9. Scoring
9.2. Decentralization 4/10
To become a member, each solicitant had to apply and submit documentation in order for Flamingo to verify their status as an accredited investor. Non-U.S. based investors are permitted to become Members of Flamingo. Non-U.S. based contributors must verify their identity in order to contribute and will need to confirm their accreditation status. There is no information about who or how the information is going to be evaluated.

9.3 Attack Resistance 5/10
9.4. Work to Earn 5/10
The voting procedure allows members to collectively make decisions on the direction of the platform. Voting rights will be based on the total number of Flamingo Units that each Member holds for any relevant vote posed to Members.

Members will be prompted to vote via Flamingo DApp (or, over time, other online services) at various points during the lifecycle of Flamingo, including to evaluate purchase decisions, weigh-in on the structure and form of Flamingo, and/or other strategic decisions related to Flamingo. There is delegation voting, which leads to conclude that it is possible to bring some benefits in case of voting for a passing proposal.

9.5. Governance 5/10
The token needed to vote is the FLM token (also called Flamingo units) which is the native token of Flamingo DAO. There is no information related to the total number of tokens distributed, but according to its white paper, the creation of this token depends on voting proposals.

There is no information about the voting procedure, but according to the information found on its webpage, the voting procedure works as follows: first, the proposal is submitted to the discussion, where members share their thoughts and opinions, engage with one another, and build a sense of community within the DAO. Second, the member established the quorum of people that is ready to vote. Later, the vote is held, passing the proposal if it gets a majority.

9.6. Regulatory Compliance 5/10
Flamingo DAO works under the laws of Delaware as some sort of organization. According to its white paper, the liability of its member are going to be established by Delaware law. No Member (or former Member) of Flamingo will be liable for the obligations of Flamingo for any amounts in excess of the amount of the Member's contributions to Flamingo, plus: 1) the Member's share of the undistributed profits of Flamingo, if any; and 2) any amounts distributed by Flamingo to such Member.

10. Organizational Communication 5/10
10.1. Curve DAO
Curve DAO aims to create and maintain a stable coin exchange protocol that is decentralized and governed by its community members. The protocol's primary function is to allow users to exchange stable coins with low slippage and minimal fees, allowing its members to come together to create, manage, and govern a stable coin exchange protocol.

11. Scoring
11.2. Decentralization 5/10
The vote procedure in Curve DAO is an essential mechanism to grant decentralization and effective governance in the protocol. It is based on a quadratic voting system, where the voting power of each member is proportional to the square root of the number of CRV tokens they hold. CRV is the native token of Curve. With this quadratic mechanism, members with more CRV tokens have more voting power, but the increase in voting power is not linear. For example, if a member holds 100 CRV tokens, their voting power would be 10, while a member holding 10,000 CRV tokens would have a voting power of 100.

12. Attack Resistance 5/10
12.2. Governance 5/10
The quadratic voting system aims to prevent a small group of members with a large number of tokens from dominating the governance process, while still giving them a significant say in decision-making.

12.3. Work to Earn 5/10
CRV is a fungible token, and members CRV can obtain them in several ways. Firstly, members can buy CRV tokens on various

cryptocurrency exchanges such as Binance, Coinbase Pro, and Uniswap. Secondly, members can earn CRV tokens by providing liquidity to the Curve protocol. Members can stake their stable coins in the Curve liquidity pools and receive trading fees generated by the pool as well as a share of the CRV rewards that are distributed to liquidity providers. Thirdly, CRV holders can participate in the governance process by voting on proposals that are submitted to the Curve DAO.

12.4. Regulatory Compliance 1/10

As many DAOs, Curve does not have a legal wrapper that is congruent with its internal governance, instead, Curve DAO relies entirely on code, and smart contracts on the block chain. Curve is not registered as a legal entity in any jurisdiction and does not rely on traditional legal structures to govern its operations.

12.5. Organizational Communication 10/10

Curve DAO has a robust communication system that allows members to collaborate and make decisions. Members can participate in discussions and debates on the protocol's forums and Discord channel. Proposals and decisions are also announced on the protocol's Twitter and Medium pages. Additionally, Curve DAO has an analytics dashboard that provides members with real-time data on the protocol's performance, such as trading volume and liquidity. However, Curve DAO does not have a forum managed by itself.

13. Synthetix

Synthetix DAO's main purpose is to provide a decentralized platform for trading synthetic assets. Synthetic assets are tokens that track the price of real-world assets like commodities, stocks, and currencies. To maintain its decentralized nature, Synthetix relies on smart contracts, a decentralized oracle system, open-source development, and community-driven committees.

13.1 Scoring
13.2. Decentralization 5/10

Oracles allow the platform to obtain real-world data in a trustless and secure manner, without relying on any centralized entities. This helps ensure that the platform's synthetic assets are backed by accurate and reliable information and that its operations are transparent and secure. By using a decentralized oracle system, Synthetix DAO avoids the need to rely on centralized data providers or intermediaries, which could potentially compromise the security and decentralization of the platform.

13.3. Work to Earn 5/10

In addition, Synthetix DAO's use of open-source development and incentivization as a tool to keep its decentralized model. The platform's code is open-source, allowing anyone to review and contribute to the codebase, which ensures transparency, security, and innovation. The incentivization model of the platform rewards users with the native token, SNX, for contributing to the development and maintenance of the platform, whether through staking, liquidity provision, governance participation, or proposing innovative ideas. The rewards are distributed proportionally to the amount of work or value contributed by the user, making the development and maintenance process community-driven

and democratic. By providing incentives and rewards, Synthetix DAO ensures that the platform remains transparent, secure, and resistant to central points of failure while encouraging innovation and growth.

13.4. Governance 5/10

Another use of SNX is during the voting procedure. It is governed by the platform's governance protocol. Any user who holds SNX tokens can submit a governance proposal, which must then be seconded by another user with a minimum threshold of SNX tokens. Once the proposal is seconded, it enters a voting period of 3 days. During the voting period, all users who hold SNX tokens can cast their vote on the proposal. The voting system is weighted based on the amount of SNX tokens held by the voter, meaning that users with more SNX have a greater say in the vote outcome. Said so, they have implementing a quadratic voting.

Synthetix also has implemented a "slashing" mechanism during the voting procedure to discourage malicious behavior during the voting procedure, such as vote buying, double voting, and other forms of vote manipulation. If a user is found to be engaging in such behavior, they may have their SNX tokens "slashed," meaning that a portion of their tokens will be burned as a penalty.

Synthetix DAO utilized community-driven committees to ensure that its governance remains decentralized. The committees are composed of individuals who have expertise in various areas related to the platform and are responsible for reviewing and making recommendations on proposals related to their respective domains. The committees are elected by the community through a voting process, and their recommendations are non-binding, meaning that the final decision on proposals is still made through the governance protocol. By incorporating community-driven committees, Synthetix DAO ensures that the platform's development and direction remain in the hands of its users, further enhancing its decentralized nature.

13.5. Regulatory Compliance 1/10
a. Organizational Communication 5/10
b. Olympus DAO
14. Scoring
a. Decentralization 4/10

Olympus DAO has as an objective to create a decentralized autonomous organization that can maintain a stable currency for its users through a process called "algorithmic stabilization." The objective is to create a sustainable and decentralized financial system that operates on the block chain, allowing for greater transparency and accessibility for all participants. The DAO achieves this by incentivizing users to hold and stake its native token, OHM, which allows them to participate in the governance and decision-making of the platform.

Additionally, it is true that Olympus DAO does not have a centralized committee, however, the DAO has a core team responsible for managing its operations and development, and there are various community-led groups and initiatives focused on different aspects of the protocol.

15. Attack Resistance 5/10
a. Governance 7/10
Proposals submitted to vote must meet certain criteria such as being technically feasible, aligned with the DAO's mission, and in the best interest of the community before being submitted for voting. Once submitted, OHM holders can vote on the proposal using a quadratic voting system that takes into account the square root of the number of tokens staked by the voter, promoting decentralization. If the proposal receives sufficient support from eligible voters, it is approved, and the results of the vote are publicly visible on the block chain to ensure transparency and accountability in the decision-making process.

When OHM holders stake their tokens, they receive voting rights proportional to the amount of OHM they have staked, ensuring that users with a larger stake in the DAO have a greater say in the decision-making process. Moreover, OHM holders who participate in governance also earn rewards in the form of additional OHM tokens, creating an incentive for them to participate in the DAO's decision-making process actively.

b. Work to Earn 10/10
There are several ways to acquire more OHM tokens in Olympus DAO. One can purchase OHM tokens on a cryptocurrency exchange using other cryptocurrencies, participate in liquidity provision by staking their OHM tokens on decentralized exchanges (a procedure called Olympus Pro), earn OHM tokens through participation in governance and decision-making processes of the DAO, and participate in yield farming by staking cryptocurrencies in the DAO's liquidity pools. It is important to conduct due diligence and seek professional advice before investing in OHM tokens as they come with risks, and regulatory and legal requirements may apply depending on the jurisdiction. It is important to highlight, that OHM tokens are fungible tokens, meaning that each token is identical in value and can be exchanged for another OHM token with the same value.

c. Organizational Communication 6/10
Worth to say that Olympus DAO communication is made in third-party software (such as Telegram, Discord, or Reddit), it primarily relies on its own website and governance platform, which includes forums, voting systems, and other tools to facilitate communication and collaboration among members.

d. Regulatory Compliance 1/10
Finally, Olympus DAO does not have a legal wrapper or organizational structure that is congruent with its internal governance model. DAOs are typically decentralized and operate without a formal legal entity, relying instead on smart contracts and decentralized decision-making processes. While there may be legal entities associated with the DAO, such as the core team or community-led organizations.

16. Bit Dao
a. Scoring
b. Decentralization 4/10
Bit DAO is a DAO that aims to support builders of the decentralized economy. Like most DAO's, Bit DAO has a decentralized governance model, meaning that decisions are made through a consensus-based process where token holders can vote on proposals and initiatives. This allows for greater transparency and accountability within the organization and ensures that decisions are made based on the collective will of the community.

Also, Bit DAO has a modular architecture that allows for creation of small, independent modules that can be combined to create larger applications or platforms. This modular approach enables greater flexibility and adaptability within the organization and allows for faster development and deployment of new products and services.

c. Attack Resistance 5/10
d. Work to Earn 6/10
Bit DAO uses innovative incentive mechanisms to encourage participation and contribution within the organization. Token holders can earn rewards for staking their tokens, participating in governance and decision-making processes, and contributing to the development of new products and services. This incentivization model helps to align the interests of the community with the long-term success of the organization.

Its native token is Bit, a fungible token acquired by its token holders throw several ways as such, purchased on various cryptocurrency exchanges, such as Uniswap, Sushiswap, and Quickswap; through staking, when holders lock up a certain amount of Bit in a smart contract for a specific period of time, by providing liquidity to Bit DAO by depositing Bit and another cryptocurrency and participating in governance, where Bit holders can participate in the decision-making processes within the organization. By participating in these processes, users can earn rewards in the form of additional Bit.

e. Governance 6/10
Under the same topic, Bit is used in the voting procedure applied by this organization. In sum, anyone can participate in the decision making submitting a proposal to any of the organization's forums. The proposal is discussed and then submitted to a snapshot vote to determine the community's sentiment toward the proposal. If the snapshot vote shows that the proposal has sufficient support, a governance vote is conducted. This vote is conducted using Bit DAO's governance platform, which allows token holders to cast their votes securely and transparently. In this process, each Bit token holder can cast their vote proportionally to the amount of Bit they hold. The proposal with enough votes is approved and executed.

Also, Bit DAO has a vote delegation method that enables token holders to delegate their voting power to other members or entities. This allows for increased participation and engagement in the decision-making process, while also promoting transparency, accountability, and a more democratic distribution of decision-making power across the membership.

f. Regulatory Compliance 2/10
Finally, Bit DAO has taken steps to acquire legal recognition and interact with real-world entities, such as forming partnerships

with other organizations and engaging with regulators. This allows the organization to operate more effectively and efficiently, while also ensuring that it remains compliant with relevant laws and regulations.

g. Organizational Communication 5/10

DAO Scoring Card	Flamingo	Curve	Synthetix	Olympus	BIT
Decentralization	4	5	5	4	4
Attack Resistance	5	5	5	5	5
Governance	5	5	5	7	6
Regulatory Compliance	5	1	1	1	2
Work to Earn	5	5	5	10	6
Organizational Communication	5	10	5	6	5
Total	29	31	26	33	28

17. Political Action DAOs
a. Klima Dao
Klima is a DAO built to encourage use of carbon offset credits. At its core, the concept is simple: Klima works with three companies (Toucan Carbon Bridge, moss.earth, c3.app) who provide verified carbon offsets in various projects around the globe, each representing 1 tonne of carbon dioxide emissions mitigated or removed. The offsets are tokenized and brought on-chain in the BCT, or Base Carbon Tonne, which is what backs the Klima token representing the basket of offsets. Tokens can only be minted by the Treasury if at least 1 tonne of carbon per token is deposited into the Treasury.

Once in the Treasury, in an attempt to maintain the 1 to 1 par value of 1 tonne/token, the protocol is designed to automatically mint and burn Klima as needed. When trading above the intrinsic value, additional tokens are minted to dilute the supply and adjust value; when trading below the protocol buys and burns Klima to contract the supply. Klima has absorbed and accounted for in excess of 17mm tonnes of carbon at this point; they are the embodiment of doing good while doing good, and utilizing Web3 technologies to effect positive change.

b. Scoring
c. Decentralization 5/10
Core Team controls wallets, executes adjustments to policy variables with majority approval
        -Multi-sig wallets
   Unclear concentration of powers; changes can be voted on by token holders or completed under delegated powers.

18. Attack Resistance 1/10
a. Sockpuppet Attacks:
b. Meaningful voting is stake-based, no reputation token to manipulate
c. More accounts creates no benefit outside of initial Discord vote
d.   51% Attack:
e.   Holdings don't equate to access, protocol would mint more due to high demand

f. Standing bug bounty for white-hat; NFT reward and cash bonus paid in Klima
g. Concentration of powers in Core Team creates possible vector arguably worthy of lower score

19. Governance 5/10
 a. Core Team, subset holds wallet keys
 b. Layered proposal vetting, culminating in Snapshot vote 1 to 1 for token holders
 c. Seeking to decentralize Klima Improvement Proposals via a stewardship model; have decentralized changes to   the staking APR-changed via smart contract after on-chain vote

20. Regulatory Compliance 1/10
 a.   Unclear legal framework
  b. Have worked on efforts to provide legal framework for DAO's and legal definitions of cryptocurrency.
  c. Clarity to framework would increase score substantially if valid

21. Work to Earn 3/10
  a.   Staking contract accepts Klima and returns sKlima
  b.   No reputation based tokens for community participation. Can stake to avoid dilution.

22. Organizational Communication 7/10
  a. Unofficial Discord forum where proposals start for informal votes
  b. Not tied to holdings
  c. Official forum for debate/RFC
  d.   Snapshot voting for proposals which pass informal vote
  e.   Voting power determined by ownership 1 to 1

23. Total 22/60
  a. Clarity on legal status would improve standing tremendously
  b.   Increased incentives for engagement via community participation would improve
  c.   Unclear concentration of governance powers in core team; if limited score should be higher

d. Nation 3

Nation 3 is a community movement towards creating a sovereign nation on the cloud. It's mission is to research, launch, and fund initiatives, products and services that are essential to a thriving cloud nation. Nation 3 is owned and managed by its citizens as a DAO, with its own cryptocurrency called $NATION. It is also building the internet's legal system, enforced by a judicial court and powered by open-source legal agreements; their stated mission in fact is to "Become the internet's legal system." Nation 3 issues digital passports to citizens with financial skin-in-the-game, and rewards contributions by citizens in public forums. The DAO is planning to eventually acquire land as well across the globe to expand their physical presence.

The features the DAO offers to achieve these goals include professional elected judges with skin in the game incentivizing fair rulings, crypto collateral deposits achieving a limited liability, a national Constitution with separation of powers and checks and balances, and end-to-end encryption for all parties. Stakeholders within the Nation include the citizens who govern via the DAO, judges who resolve disputes and are elected via the DAO, and Guardians who oversee the work contractors carry out for the DAO.

24. Scoring

24.1. Decentralization 7/10

a. Currently plans only 420 passports total; claiming one requires Web3 wallet and minimum 2 $NATION tokens (market value $888 as of 4/20)

b. Plans to transition to binding, anonymous voting, as well as Citizens able to vote on dismissals in addition to election of Judges/Guardians, and all governance proposals subject to 2-day dispute period

c. Agent app instance controls non-sensitive, governed by holders/majority vote. Critical Agent instance controls sensitive proposals, governed by supermajority vote (66%) and a minimum 20% quorum.

d. Constitutional amendments including equality of all, right to counsel in disputes, right to fair hearing within 30 days

e. Voting proportional to holdings, delegable to another ETH account

24.2. Attack Resistance 7/10

a. Distinction between Agent and Critical Agent, with tighter controls for Critical

b. Supermajority requirement and minimum quorum for sensitive(e.g. supply caps/mint schedule)

c. Annual elections of judges and guardians

d. Sensitive votes require quorum and supermajority

24.3 Governance 6/10

a. Votes to amend Constitution, elect Guardians and judges annually as well as dismiss if necessary

b. Every citizen can submit governance proposals

c. 2 day vote/majority rule

d.. Critical agent: Supermajority & 20% quorum

e. Modifications during proposal adoption require restart of adoption process

24.4. Regulatory Compliance 1/10

Clause 1.2 in the Nation3 Constitution reads as follows

a. The legal personality of Nation3 shall be that of a sovereign nation state.

b. The Nation3 DAO is not intended to, and shall not be deemed to, be a legal person or have a legal personality under any other jurisdiction. Without limiting the generality of the foregoing, the DAO is not intended to be, and shall not be deemed to be, a partnership.

c. Unclear status beyond this

24.5. Work to Earn 9/10

a. Nation red system aggregates contributions across multiple channels (GitHub, Discord, Discourse, Nation3 forum).

b. Available to citizens

c. Weekly payouts in $NATION

d. Deworm to post additional tasks for contributors to take/ earn

24.6. Organizational Communication 5/10

a. Website, Twitter, Blog, Forum and Discord

b. Published proposals receive community feedback over 48 hrs, then proposal "frozen" by proposer to advance to next stage. Modifications require restarting process.

c. Not tied to holdings

d. Then off-chain Snapshot vote, 48 hrs, Single choice, simple majority, token-weighted by balance

e. Then ratification. Approve/Reject, token-weighted by balance.

24.7. Total 35/60

a. Clarity on legal status beyond Constitution would improve score

b. Two Agent App Instances improve decentralization, attack resistance and governance

c. Regular voting for principals as well as dismissal options and tiered proposal process

d. Voting proportional to holdings problematic, as is ability to delegate to another ETH account

25. Democracy Earth

Democracy Earth Foundation is building free, open source software for incorruptible blockchain-based decision-making (voting) within institutions of all sizes, from the most local involving two people to the most global involving all of us. They aim to both lower the costs and boost the benefits of human coordination, making them a rather unique entity among DAO's.

They offer the "tools for a borderless democracy. For everyone, anywhere." These tools include proof of humanity verifications built for ETH, and UBI concept streamed to all PoH, and the "Sovereign" voting options enabling customizable decentralized blockchain voting for your organization.

25.1. Scoring

25.2. Decentralization 1/10

a. Product decentralized; internal operations unclear

b. "Sovereign" customizable voting. "Organization-centric as a technology, but an organization can become decentralized if its identity verification process lacks the need for an authority."

c. Allows for Direct voting, basic delegation, tag limited delegation, transitive delegation, overriding votes, public votes and secret votes.

d. Debating component named Agora, displays threaded conversations.

e. User agreement with comment triggers instantaneous delegation of a vote to commenter

f. Downvote can either retract previously delegated vote or send vote from commenter back to org. implementing Sovereign instance.

g. Set in smart contract of implementing org.

h. Entity implementing new instance is "Organization." They define what "Members" will be allowed and grant them VOTE tokens.

i. All required at minimum to have domain name & smart contract Constitution

25.3. Attack Resistance 10/10
a. Initial Rights offering introduced VOTE token

b. Implementable across all blockchain that permit Turing Complete scripts; agnostic

c. Genesis Identity: 1st Proof of Identity approved by the network. Equality variable ensures latecomers validated after Genesis are awarded equivalent votes to Genesis on a block-by-block basis.

d. Rewards new participants, dilutes existing. Equal share guaranteed for all.

e. Debating component in Sovereign named Agora, displays threaded conversations.

f. User agreement with comment triggers instantaneous delegation of a vote to commenter

g. Downvote can either retract previously delegated vote or send vote from commenter back to org. implementing Sovereign instance.

h. Set in smart contract of implementing org.

i. Sovereign identity requires video proof

j. Requires incorruptible file, singular ID validation per video, organization validating attaches its reputation to the ID with signature

k. Expires, recommended timeframe 1 year

l. Then Proof of Identity must be re-created

m. Film the Proof, hash on blockchain to guarantee incorruptible, validate via voting

n. Once validated, VOTE tokens unlocked in UBI dynamic (periodic allocation)

o. Tokenizing time: Inelastic supply, all members possess equally

p. Organizational reputation measured by how often they allow 'replicants' as members

q. Replicants are ID's that are duplicates, claiming more VOTES than they deserve

25.4. Governance N/A
a. None readily apparent; not a standard DAO model. Provides extensive governance options; not internal.

25.5. Regulatory Compliance 8/10
" The Democracy Earth Foundation is an effort made possible by collaborators, donors and supporters of all kinds. We are a 501 (c) 3 not for profit organization from California and with presence in New York, Paris, Sao Paolo, Buenos Aires and San Francisco."

26.6. Work to Earn 1/10
a. Keep ETH or DAI in smart contract vaults & help burn UBI tokens using yield

a. Earn 5% APY interest

b. Half the yield used to buy UBI; UBI then burned, reducing supply

c. No other outside engagement for performance of work

27.7. Organizational Communication 1/10
a. Reddit, Twitter, Telegram, Facebook

28.8. Total 21/50
a. Software provides sufficient decentralization and governance options; not apparent within the DAO itself

b. Extensive attack resistance including Proof of Identity and Proof of Humanity models

c. Non-Traditional DAO legal wrapper

3o. 3OH DAO
a. 3OH DAO has a promising idea behind it: utilize DAOs to support lobbying and advocating for Web 3.0 policies.

b. 3OH DAO operates by funding politicians, Bills, and organizations whose interests align with the community's.

c.Each is given a score based on their voting track record and social media support for blockchain and 3OH's core values.

d.The 3OH token has 4 main uses: 1) voting on bills, politicans, and donations to the PAC, 2) voting on core values of the DAO and election Prioritization Council, 3) community voting on angel investing projects, and 4) staking, earning yield, and APY. The leadership behind 3OH has identified three key stages for the DAO (each with its own issues). The first phase will allow votes based on wallet size. The second phase will implement staking in the voting process. The third phase is 3OH's vision for the perfect DAO where account holders must have staked tokens to vote, but voting is changed to one wallet, one vote.

31.1. Scoring
a. Decentralization 2/10
The voting system of 3OH is closest the DAO has to proper decentralization. Putting aside the faults of the various voting stages, 3OH's partnerships introduce unnecessary centralization into the mix. Of the 9 board seats, 3 are reserved for DeFi Advocacy, a 501(c)(4) corporation, that acts as a legal arm for the DAO. However, it appears that 3OH has no control of DeFi Advocacy, likely indicating that it is founder's attempt to maintain some influence. More concerning, CoinMarketCap has a notice on the 3OH token disclaiming that the founder hasn't renounced ownership of the smart contract behind the token. The only reason 3OH scores more than one point is the limited actions the DAO can take are determined by community vote.

b. Attack Resistance 1/10
If a DAO could have negative attack resistance, 3OH would be

the DAO. With the founder having access to the smart contract, an internal attack by the founder would be remarkably easy. Additionally, the DAO would be susceptible of a 51% attack during the first phase when votes are determined by wallet size. Despite planning to fix this issue in stage two, the DAO plans to make sock puppet attacks easy by implementing one wallet, one vote in stage three.

c. Governance 2/10
While it's difficult to determine the status of the DAO, 3OH early use of purchasable power leads to a conclusion that governance was poor. The DAO appeared to implement staked voting but was still striving to revert to one wallet, one vote.

d. Regulatory Compliance 4/10
3OH is in a strange situation in which it appears to have three "partner" legal wrappers, but no legal wrapper for the DAO. They have an associated 501(c)(3) non-profit in DAO Education, a social welfare 501(c)(4) in DeFi Advocacy, and a Web 3.0 Super PAC. Despite working on legislation to organize as a DAO, 3OH did not seek any wrapper for the DAO in the meantime.

e. Work to Earn: 1/10
Rather than give community members the option the participate in the DAO's work, 3OH sees itself as an investment vehicle for the community. The DAO wants the community to have their tokens staked to earn a return, but the investments appear dubious at best. One listed investment they were working towards is an NFT library that gives no benefits, but allows users to view legislation influenced by 3OH on the blockchain.

f. Organizational Communication 1/10
3OH claims to have a Telegram, Discord server, and Twitter account. The Twitter account appears to be deleted. While it's hard to determine what that signifies today, the Discord server is just one of 3OH's investment projects, a lottery system. The DAO hasn't made any updates since July 2022.

g. TOTAL 11/60
Whether the rug was pulled, or interest was never big enough, it does not appear that 3OH is even operational at this point. The cracks were there before the DAO started, but the roadmap only introduced more problems into the system.

32. LOBBY3
Lobby3 is the spiritual successor to Andrew Yang's political action DAO for Asian American issues, GoldenDAO. Despite GoldenDAO disappearing overnight, lobby3 promises to promote Web3 legislation.

Membership in Lobby3 brings a few perks. The most important is it allows members to submit policy suggestions to the DAO. Additionally, the community can vote speakers or events they would like to see, and the founders will attempt to make those happen. Funds generated in excess of initial cost will be allocated to the treasury, spent at the community's discretion.

Of note, one of the leading token holders has introduced a proposal for a "rage quit protocol." The proposal includes claims of corruption relating to the appointment of a controller for $16k and the plan to allocate the treasure to the Lobby3.org organization, outside the control of the DAO. The proposal, submitted March 18th, 2023, would allow members to burn their membership for a pro-rata share of the treasury.

32.1. Scoring
a. Decentralization: 1/10
Due to the lack of a whitepaper, discerning the exact structure of the DAO is difficult. The key "glue" appears to be Andrew Yang with membership primarily based on supporting Yang's political endeavors. The claims from the rage quit proposal shows that centralized powers behind the DAO have effectively lead to the DAO's collapse.

b. Attack Resistance: 1/10
Lobby3 cannot be attack resistant as it has essentially been attacked already. Because the founders maintained heavy control and slowly diverted funds to themselves, the DAO suffered from a very slow rug pull. Additionally, the DAO utilized one token, one wallet voting which opened up 51% attacks (assuming it was possible with how much control the founders had).

c. Governance 1/10
Lobby3 is supposed to operate on a wallet-size voting system. Additionally, the DAO has different levels of membership, each costing more and incurring more benefits. It's unclear whether these membership levels include any tokens at all. Lobby3 also has no incentive structure for participation, claiming any action is optional.

d. Regulatory Compliance 1/10
There is no mention of any legal wrapper for Lobby3. Lobby3.org appears to be what should be the legal wrapper, but the rage quit proposal claims this organization to be outside the control of the DAO.

e. Work to Earn 1/10
Lobby3 has no way for members to participate other than voting and submitting proposals. The Discord hints that there were plans to implement some form of bounty system, but currently, the tokens are limited to providing benefits.

F. Organizational Communication: 1/10
Lobby3 does have a Discord server, but it looks to be dead. The server has been designated as "Legacy," but no information has been provided as to a new server or service.

g. TOTAL 6/60
Whether intended to be a scam or not, Lobby3 is a DAO in name only. While token ownership does allow some community participation, there is no incentive to participate. Membership in Lobby3 is more akin to joining the Andrew Yang fan club than a DAO looking to influence legislation.

DAO Scoring Card	KlimaDAO	Nation3	Democracy Earth	3OH	Lobby3
Decentralization	5	7	1	2	1
Attack Resistance	1	7	10	1	1
Governance	5	6	0	2	1
Regulatory Compliance	1	1	8	4	1
Work to Earn	3	9	1	1	1
Organizational Communication	7	5	1	1	1
Total	22	35	21	11	6

33. Oracle DAO's

Oracles create a bridge between the blockchain (on-chain) and the outside world (off-chain). It verifies data for purposes of using them on blockchain environments, in which it enables smart contracts to interact with off-chain resources. They enter data through an external transaction.

There is something known as the oracle problem, which is the fact that blockchains themselves can't access off-chain data. Using centralized oracles nullifies the advantages of decentralized systems, and are major security risks (such as bribing, intimidation, etc.) That is why the functions of a blockchain facilitates communication between blockchains and any off-chain system.

What oracles do is listen, monitor the blockchain to see if there are any requests for off-chain data. They retrieve data from one or multiple external systems, from which they change the external data into a blockchain readable format. They attest to the performance of an oracle using any combination of data signing and perform some type of secure off-chain computation for smart contracts. They broadcast a transaction on the blockchain to send data and any corresponding proof on-chain for consumption by the smart contract and send data to an external system upon the execution of a smart contract. (Chainlink, 2023)

33.1. Chainlink

The first oracle we will talk about is Chainlink. This was created by Sergey Nazarov and Steve Ellis, and it can be used by any individual or group that needs real-world data to power and secure the execution of their smart contracts can benefit from Chainlink. Today, hundreds of teams working on dApps, blockchains, industry consortiums, enterprise projects, and more rely on Chainlink to provide tamper-proof inputs and outputs for their smart contracts.

This is known to solve the oracle problem because it has developed a network of decentralized oracle networks (DONs). They have an open source which independently verifies the security and reliability of Chainlink's source
code and functions. It believes that employing decentralization at the node and data source level ensures not one node or data source is a single point of failure, providing users strong guarantees that data will be available, delivered on time, and resistant to manipulation.

Since it has external adapters, it allows nodes to securely store API keys and manage account logins, which enables smart contracts to retrieve data from any external system and API. Nodes

cryptographically sign the data they provide to smart contracts, and it allows users to identify which nodes send data and look at their history to determine their performance quality.

The oracle node operators are the entities that maintain and run the blockchain oracles that make up the oracle network, providing smart contracts on various blockchains access to external data and resources. These operators consist of professional validators for various blockchain networks, teams of highly experienced engineers, and leading organizations that focus specifically on building infrastructure. A node operator runs software that keeps a full copy of the blockchain and broadcasts transactions across the network.

Decentralization DAOs are still in a nascent stage. Most are blockchain-native and exist entirely on-chain in both their functions and the services they offer. The Chainlink Network consists of hundreds of professionally operated and community-run nodes, allowing for the creation of numerous Sybil-resistant and tamper-proof oracle networks.

33.2. Scoring
33.3. Decentralization 7/10

The voting mechanism and distribution of power The LINK token launched with an initial coin offering that took place in September 2017. LINK has a total supply of 1 billion tokens. LINK tokens were distributed in the following fashion:
a. Token sales investors 35%
b. Node operators and ecosystem rewards: 35%
c. Company (SmartContract.com): 30%
Chainlink's token governance model allows LINK holders to participate in decision-making processes, such as upgrades to the protocol, through on-chain voting. This ensures that decisions about the Chainlink network are made in a decentralized manner, with the influence of token holders distributed across the community. Link is not used as a governance token, but to further network development.

The reputation system in Chainlink oracles' historical performance is publicly available via signed data on-chain, allowing users to select oracles based on historical performance metrics such as average response time, completion ratio, average security deposit, and more. Node operators also have the option of providing additional data like their identity, geographic location, and third-party certifications.

b. Attack Resistance 8/10
Regarding attack resistance in 2020, requests tricked the Chain-

link nodes into paying exorbitant gas fees by minting Chi tokens. All up the attack cost Chainlink nodes 700 ETH in gas fees. Temporary solution known as "white-list", but if the attack had impacted 50% of Chainlink node operators, that feed wouldn't have updated until enough came back up and nodes would not be able to feed information.

There is a proof of stake mechanism is a consensus mechanism for processing transactions and creating blocks on a blockchain. POS was created as an alternative to Proof of work. n a POS mechanism an individual´s mining ability is randomized by the network. Meaning that the owners of coins can stake a certain amount of them offering them as collateral for a chance to mine. Miners are selected randomly and mine trough validating block transactions. POS makes the network less vulnerable, given the fact that there are fewer incentives for attacks, this is because of how the compensation is structured. Economic penalties for misbehavior make 51% style attacks exponentially more costly for an attacker compared to proof-of-work. The community can resort to social recovery of an honest chain if a 51% attack were to overcome the crypto-economic defenses.

c. Governance 5/10
Regarding governance, Chainlink (LINK) is an Ethereum token that powers the Chainlink decentralized oracle network. This network allows smart contracts on Ethereum to securely connect to external data sources, APIs, and payment systems. Continued Chainlink adoption incentivizes oracle nodes to compete for growing user fees from Chainlinked dApps. This competition encourages oracle nodes to strengthen their reputation and increase their LINK stake. Node providers can't accurately compensate for being wrong and requestors can't prove the accuracy of the inputs and how much a wrong input cost them. Chainlink's oracle network is still quite limited (~332 nodes) relative to a blockchain like Ethereum (with 1,000's of nodes) and could benefit from increased redundancy and security should it be further decentralized.

d. Regulatory Compliance 6/10
In regulatory compliance, there is a disclaimer in they clarify they do not represent or warrant that the Services will be uninterrupted, available at any time or error-free. There is also a limitation of liability, in which they will not be held liable for any incident arising out of or in connection with the services. They have an arbitration and dispute resolution, in which that any dispute arising will be resolved solely through individual action. Regarding governing law the interpretation and enforcement of the terms will be governed, construed, and enforced in accordance with the laws of the Cayman Islands.

e. Work to Earn 8/10
Chainlink's economic model revolves around the use of the LINK token to pay for the operation of a wide variety of oracle services in demand by smart contract developers and Web2 systems, as well as around using LINK as a crypto economic mechanism for incentivizing the correct performance of oracle services and providing user assurances. On the demand side, users pay node operators in LINK to access oracle services. The Chainlink Reputation Contract considers the size of a node's stake (among other criteria) when matching nodes with requests for data. Nodes with a greater stake are therefore more likely to be chosen to fulfill requests (and thus earn LINK tokens for their services). Moreover, the Chainlink network punishes faulty or dishonest nodes by taxing their stake of LINK for poor service.

F. Organizational Communication 4/10
Regarding discussion and communication, currently there is not a platform inside Chainlink where the users can communicate or discuss. Nevertheless, the Chainlink users can make use of social platforms such as Discord, Telegram and Twitter to communicate with other members of the community and help build a better ecosystem on Chainlink. These social platforms since they are third party, they are not able to measure the interactions or engagement of the users in the Network.

Topic	Score	Explanation
Decentralization	7/10	·Decentralization mechanism relies on the different node operators that provide information, making the information sources decentralized ·Distribution of token makes it hard for a 51% attack
Attack Resistance	8/10	·They have a temporary solution implemented known as the "white-list" ·When facing an attack, some data feeds might have been more biased towards the API ·Other nodes can keep working, if it's not attacked more than 50%
Governance	5/10	·People can vote only one time ·Chainlink Reputation Contract considers the size of a node's stake (among other criteria) when mat ching nodes with requests for data. Nodes with a greater stake are therefore more likely to be chosen to fulfill requests
Regulatory Compliance	6/10	·Limited Liability ·Cayman Islands jurisdiction ·Interacts with real world entities
Work to Earn	8/10	·Chainlink uses an incentivation model in which reputation is very important. Node operators can earn rewards based on the level of reputation they possess and the reliability of the information the provide
Organizational Communication	4/10	·There is not currently a platform where users can communicate or discuss, but they use a third party platform that cannot measure the level of engagement

34. Band Protocol

The second Oracle DAO is Band Protocol, a decentralized, cross-chain data oracle platform, the decision-making power is transferred to the users, that aggregates and connects real-world data and APIs to smart contracts. In a trustless and decentralized manner, BandChain does all the heavy lifting jobs of pulling data from external sources, aggregating, and packaging them into a format that is easy to use and cryptographically verified across multiple blockchains.

34.1. Scoring

a. Decentralization 5/10

Band token, BandChain utilizes the native BAND token to secure the decentralized oracle network through delegated Proof-of-Stake and settlement for transaction fees. Validators are required to stake BAND token to fulfil data requests in return for a portion of the query fees and earn block rewards.

b. Attack Resistance 8/10

There are several places where the Band Protocol team accounted for and mitigated potential DoS attacks and incentive misalignment issues due to computational burden on nodes. For example, the execution of oracle scripts is bound to consume fewer resources and limit possible abuse. We also observed several other examples of due diligence while investigating for potential attack vectors, including limiting the number of validators that an oracle script may request, the presence of a governance parameter defining the expire block for requests such that all validators have a chance to report without being maliciously marked as inactive, and limiting sample retries required from validators. These mitigation strategies are sufficient to defend against potential DoS attack vectors.

34.2. Governance 5/10
a. Regulatory Compliance 1/10

Regarding regulatory compliance, they do not have limited liability protection, and so this means that the contributors to a DAO can be held personally liable for the debts and obligations of the DAO.

b.Work to Earn 8/10

BandChain Phase 2 consists of the streaming-revenue feature that allows on-chain and real-time payment for data directly to premium data providers. This opens many new possible use cases that lead to more secure and richer data ecosystems, prompting Band Protocol to sustainably serve the maturing DeFi and cross-chain landscape. As a provider, to enable revenue streaming, you will need a Band address, a configured data source account which you will have full control of the fees and payment, and a server that interacts with Band Protocol's infrastructure and the data provider's API. Validators are responsible for checking that transactions on the Band Protocol are accurate, and for adding new transactions to the Band Protocol blockchain. A validator on Band Protocol must be in control of a certain amount of BAND tokens, which they can either buy or themselves or be delegated by another user. The top 100 candidates with the most BAND tokens are selected by the network to become validators. Validators must abide by certain rules, such as making sure they don't go offline, responding to network events and confirming transactions accurately. If they do not, the network may confiscate some of the BAND tokens they hold.

c. Organizational Communication 2/10

They rely mainly on Telegram as a global community to keep them productive. They also rely on Twitter, Discord, and YouTube, but unfortunately, they do not count on any communication on the page directly to express any thoughts about the platform.

Topic	Score	Explanation
Decentralization	5/10	·Band is the native and governance token of the protocol which grants the holders the right to decision-making and data provided in the network ·The top candidates with the most BAND tokens are selected by the network to become validators. Validators must abide by certain rules, such as making sure they don't go offline, responding to network events and confirming transactions accurately ·If they do not, the network may confiscate some of the BAND tokens they hold
Attack Resistance	8/10	·The execution of oracle scripts is bound to consume fewer resources and limit possible abuse ·Limiting the number of validators that an oracle script may request
Governance	5/10	·People can vote only one time
Regulatory Compliance	1/10	·They do not have Limited Liability protection, and so the contributors to the DAO can be held personally liable for the debts and obligations of the DAO
Work to Earn	8/10	·Validators are responsible for checking that transactions on the Band Protocol are accurate, and for adding new transactions to the blockchain. A validator on Band Protocol must be in control of a certain amount of BAND tokens
Organizational Communication	2/10	·They do not count on any communication on the page directly to express any thoughts about the platofrm

35. Tellor

The third Oracle DAO we will talk about is Tellor, which is a decentralized network designed to provide oracle services for blockchain platforms. It achieves decentralization through several key features.

35.1. Scoring

a. Decentralization 7/10

Tellor allows a distributed set of miners, known as "tribes," to provide data to the oracle network. These tribes compete to submit data to the Tellor blockchain through a mining process that involves solving a Proof of Work (PoW) challenge. This decentralizes the sourcing of data, ensuring that it is not controlled by a single entity.

Transparent Data Storage: Tellor stores the data provided by tribes on-chain in a transparent and immutable manner. Transparency is ensured by making the data publicly accessible and verifiable by everyone who wants to access it, reducing the risk for making the information tamperable.

b. Attack Resistance 8/10

Attack resistance is achieved by the Proof of Work algorithm that makes it very expensive for an attacker to manipulate or tamper with the data reported by the oracle network. This ensures that the data provided by Tellor remains trustworthy and reliable for smart contract applications.

c. Governance 5/10

Tellor operates under a token called Tribute, which allows token holders a governance system that lets them participate in decision-making processes. Tributes allow its members to vote and propose changes in the protocol and parameter adjustments. This allows governance to be community-driven and ensures decentralized decision making.

d. Regulatory Compliance 1/10

Tellor does not have a formal legal wrapper or entity that governs or represents them. Instead, the project operates based on its code, smart contracts, and the decentralized network of participants. For this it can be said that it has an unlimited liability form in which owners or partners are liable for the debts and tax´s compliance.

e. Work to Earn 7/10

Tellor uses a token-based incentive mechanism to reward miners for their data submission and Proof of Work efforts. Miners are compensated with the native token, TRB, for their contributions to the network. This incentivizes participation and promotes a distributed network of miners.

36. Organizational Communication ?

Tellor allows anyone to become a tribe by participating in the mining process and contributing data to the oracle network. There are no barriers to entry, and any participant with the required hardware and software can join the network as a miner, promoting open participation and reducing the concentration of power.

In summary, Tellor achieves decentralization through its distributed network of data providers (tribes), transparent on-chain data storage, community governance, open participation, incentive mechanisms, and blockchain agnosticism. These features work together to promote a decentralized oracle network that is transparent, community-driven, and resistant to single points of failure.

Topic	Score	Explanation
Decentralization	7/10	·Transparency is ensured by making the data publicly accessible and verifiable by everyone who wants to access it, reducing the risk for making the information tamperable
Attack Resistance	8/10	·The Proof of Work algorithm makes it very expensive for an attack to manipulate or tamper with the data reported by the oracle network
Governance	5/10	·Tellor operates under a token called Tribute, which allows token holders to participate in a governance system by involvement in decision-making processes ·Tributes allow its members to vote and propose changes in the protocol and parameter adjustments
Regulatory Compliance	1/10	·Tellor does not have a formal legal wrapper or entity that governs or represents them. The project operates based on its code, smart contracts, and the decentralized network of participants
Work to Earn	7/10	·Tellor uses a token-based incentive mechanism to reward miners for their data submission and Proof of Work efforts. Miners are compensated with the native token, TRB, foor their contributions to the network
Organizational Communication	1/10	·No organizational communication to note

a. Universal Market Access

The fourth is Universal Market Access: it is an open-source protocol based on the Ethereum network, that allows anyone to build their own financial contracts and create synthetic assets. The main goal of the UMA project is to facilitate a decentralized architecture that can grant universal market access to DeFi markets. UMA tracks off-blockchain assets such as gold and tokenizes them into synthetic on-chain assets, bridging between real-world and digital assets, enabling automated trading without banks and other intermediaries.

36.2. SCORING:

a. Decentralization 4/10

UMA uses the Data Verification Game (DVG), which is designed to incentivize participants when they report on the network accurate data. These participants are known as Data Validators. Validators stake UMA tokens as collateral and compete to provide accurate data points.

b. Attack Resistance 6/10

UMA utilizes the Data Verification Mechanism to validate the data accuracy and integrity of the off-chain data by a consensus mechanism. This with the hand of an incentive mechanism that encourages honest behavior in part from the data provider. This mechanism gives penalties to the malicious or wrongful data providers. The decentralized nature of the network, coupled with the incentives for honest behavior, helps mitigate the risk of malicious data manipulation. However, it's important to note that the UMA oracle network primarily focuses on providing decentralized price feeds rather than acting as a blockchain itself.

c. Governance 5/10

UMA is governed by its native token holders, known as "UMA token holders." who can participate in decision-making processes, such as proposing and voting on changes to the UMA protocol, through on-chain governance. This ensures that decisions about the protocol are made in a decentralized manner, with the influence of token holders distributed across the community.

d. Regulatory Compliance 1/10

UMA does not have a formal legal wrapper or entity that governs or represents them. Instead, the project operates based on its code, smart contracts, and the decentralized network of participants. For this it can be said that it has an unlimited liability form in which owners or partners are liable for the debts and tax´s compliance.

e. Work to Earn 8/10

UMA uses a native token called UMA token and it is based on Ethereum. UMA token holders who stake their tokens and participate in the Data Verification Mechanism (DVM) voting process can earn rewards for their participation and accurate data reporting. This mechanism gives penalties to the malicious or wrongful data providers.

37. Organizational Communication 4/10

There is not currently a platform where users can communicate or discuss, but they use a third party platform that cannot measure the level of engagement.

Topic	Score	Explanation
Decentralization	4/10	·UMA uses the Data Verification Game (DVG), which is designed to incentivize participants when they report on the network accurate data. ·These participants are known as Data Validators
Attack Resistance	6/10	·This mechanism gives penalties to the malicious or wrongful data providers. The decentralized nature of the network, coupled with the incentives for honest behavior, helps mitigate the risk of malicious data manipulation
Governance	5/10	·UMA is governed by its native token holders, known as "UMA token holders," who can participate in decision-making processes, such as proposing and voting on changes to teh UMA protocol, through on-chain governance
Regulatory Compliance	1/10	·UMA does not have limited liability protection so contributors to the DAO can be held personally liable for the debts and obligations of the DAO
Work to Earn	8/10	·UMA uses a native token called UMA token based on Ethereum. UMA token holders who stake their tokens and participate in the DVM voting process can earn rewards for their participation and accurate data reporting
Organizational Communication	4/10	·There is not a platform where users can communicate or discuss, but they use a third party platform that cannot measure the level of engagement

DAO Scoring Card	Chainlink	Band Protocol	Tellor	Universal Market Access
Decentralization	7	5	7	4
Attack Resistance	8	8	8	6
Governance	5	5	5	5
Regulatory Compliance	6	1	1	1
Work to Earn	8	8	7	8
Organizational Communication	4	2	0	4
Total	38	29	28	28

a. Decentralized Insurance

Historically, communities would manage the risk of their individual members by pooling resources to offer protection, with senior community members making decisions on how to allocate the pool's resources in the instance of a realized risk. In developed nations, this practice became institutionalized due to economic factors such as the need for scaled benefits and governmental regulations to provide policyholders with confidence that claims could be met. This led to a shift from a resource pool model to a centralized, institutionalized model, creating an imbalanced power dynamic between the insurance agency and customers.

However, the introduction of self-executing smart contracts using blockchain technology has created an opportunity to revisit the original resource pool model, also known as a discretionary mutual, to reclaim the benefits of transparency and trust it offered. Decentralizing insurance using blockchain technology can circumvent the efficiency and transparency challenges that necessitate governmental regulations, making insurance available to more people on their own terms and with more trust.

Despite the potential benefits, decentralized insurance organizations face several challenges. First, true decentralization requires the absence of a primary decision-maker, which is difficult to achieve in an organization's infancy. Second, all resources and technology are vulnerable to attack, which requires limiting governance rights to certain community members. Third, decentralized organizations themselves come with inherent risks that require establishing a legal entity, which inherently contradicts the notion of decentralization. Finally, incentivizing and compensating participants is essential for the long-term existence of a decentralized organization.

To examine how first-to-market decentralized insurance companies are managing these challenges, this report provides an analysis of their strategies, successes, and failures.1

b. Nexus Mutual

Nexus Mutual was started as a discretionary mutual fund wrapped as an LLC in the United Kingdom in 2017 by Hugh Karp, an actuary and insurance expert. Built on the Ethereum blockchain, the organization offers covers for risk associated

with DeFi smart contract transactions. Members govern the process of productizing coverage offerings, which essentially encompasses the underwriting process. Claims are evaluated by a transparent and decentralized decision-making process on a case-by-case basis. Presently, the coverage products offered are limited to DeFi coverage, but the organization is evaluating offering coverage for real-world risk in the future.

c. Tokenomics
$NEXM is only available through Nexus membership
$WNXM wrapped is freely traded and, as of April 18, 2023, traded at $26.55 with a Coin Market Cap rank of 3162
Figuer.1, see footnote 2

d. Business Model
Mutuals have many benefits to offer, but they suffer from a lack of scalability because of limited access to capital and customers. Nexus Mutual leverages public blockchains to solve those issues by providing flexibility in sourcing capital via tokens and coordinating multiple communities together to gain scale.
The Nexus Mutual peer-to-peer (P2P) risk-sharing mutual employs the following components:

1. **Membership tracking** that allows the mutual to assign rights proportional to ownership
2. **Claims assessment methodology** empowering community members to decide on the approval or denial of claims
3. **Capital model** that dynamically defines the capital requirements for backing risks that may vary over time
4. **Funding** capabilities that function to back the short and long term risks and to reward capital for the risks in both.
5. **Investment returns** generated by the conservative investment of customer money being held until a claim event.
6. **Product** that is viable and includes underwriting
7. **Pricing** based on fair risk modeling that accounts for adjustments over time
8. **Distribution** initiatives that serve to attract new members
9. **Identity** modules involving a know-your-customer (KYC) vetting process that requires a government ID and a 0.0020 ETH membership fee that are designed to support legal and regulatory compliance
10. **Governance** structure that dynamically supports continuous code improvement and varying wills of members while facilitating interaction off of the blockchain
11. **Transparency** in reporting capital health and risk
12. **Legal framework** that establishes safety for the organization with regards to laws and regulations
Wrapped NXM, Coin Market Cap, Sunday, April 18, 2023 10:35 am, https://coinmarketcap.com/currencies/wrapped-nxm/
HUGH KARP & REINIS MELBARDIS, NEXUS MUTUAL A peer-to-peer discretionary mutual on the Ethereum blockchain. https://uploads.ssl.webflow.com/62d8193ce9880895261da-f4a/641444d29741e43db9b43394_nmx_white_paperv2_3.pdf April 3, 2023 3

36.3. Products
Nexus Mutual offers its members the ability to purchase coverage for DeFi-related risks like smart contract failures, code bugs,

and malicious hacking events. It is continuously exploring new cover products and partners with other blockchain projects and providers to innovate. Such exploration includes cover products for real-world risk by utilizing chainlink data feeds and oracle services for triggering claims.

The products currently offered by Nexus Mutual are those that allow one-time underwriting for a class of coverage. However, the organization's long-term goal is not to directly serve consumers, but to become a B2B2C platform for distribution partners to integrate via open API. This also allows syndicates to build their own product offerings.

36.4. Protocol
Nexus Mutual's protocol consists of coverage risk evaluation conducted by a pool of experts and community members staking NXM tokens against the risk. Individuals buy coverage in exchange for fees that go into the staking pool to reward those who staked
tokens in the instance that a claim is not realized.
Figuer. 3, see footnote 4
In the instance that a claim is made, the
community votes on whether a payout is warranted.

is voting on claims different than voting on protocol governance?
Figueer. 4, see footnote 4

37. Governance
The governance forum hosts discussions that can then, after 12 or more days, mature into proposals subject to a vote through the Nexus Mutual DAO Proposal (NMDP) process. Any member may create a proposal via the NMDP. For protocol governance votes, voting power is afforded to members equal to 1 vote plus the sum of their NXM tokens with a maximum of 5% of NXM supply to prevent

Fig. 5, see footnote 6 large
HUGH KARP & REINIS MELBARDIS, NEXUS MUTUAL A peer-to-peer discretionary mutual on the Ethereum blockchain. https://uploads- 4ssl.webflow.com/62d8193ce9880895261da-f4a/641444d29741e43db9b43394_nmx_white_paperv2_3.pdf April 3, 2023
HUGH KARP & REINIS MELBARDIS, NEXUS MUTUAL A peer-to-peer discretionary mutual on the Ethereum blockchain. https://uploadsssl.webflow.com/62d8193ce9880895261da-f4a/641444d29741e43db9b43394_nmx_white_paperv2_3.pdf April 3, 2023 4 holder influence.
"Snapshot" votes before official proposal votes are allowed but are not required. Votes regarding upgrades, technical changes, or use of funds require 15% of total NXM supply for a quorum and more than 50% of voting weight for a majority. Votes regarding critical decisions require 75% of total NXM supply for quorum and 75% of voting weight for a super-majority. As an incentive for participation in governance voting, 100 NXM is split between the members who vote.
Members that use their NXM to vote on a protocol improvement proposal will not be able to redeem or transfer their NXM

for three days after they cast their vote. This prevents anyone from using a flashloan to borrow a large amount of wNXM and unwrap the wNXM to NXM to sway a vote with a significant voting weight. Members can still use their NXM to stake and delegate to a staking pool and participate in claims assessment, but transfers and redemptions will not be possible for the duration of the three-day period.

38. Regulatory Compliance

Nexus Mutual is set up as an LLC in the UK operating under a discretionary mutual structure. Under this structure, members are enabled to trade under the banner of one legal personality, but they must be identified to become legal guarantors of the company under UK company law. Members have legal rights to proportional ownership of the company and provide $1 guarantee of liability. This means that each member would only be responsible for providing $1 if the mutual ran out of money.

As a discretionary mutual, Nexus Mutual is allowed cover provision anywhere in the world, subject to jurisdictional regulations. With transactions being between members of the same legal entity, the mutual is simply facilitating internal trades and is not "providing insurance." Therefore, it is not subject to insurance premium taxes.

To comply with UK laws, an advisory board exists to facilitate non-blockchain decisions and to support "extreme" scenarios. However, the board has no custodial rights, and board members can be replaced by community vote. It operates under the principles of "sustainability" and "growth."

39. Work To Earn

In addition to earning rewards for staked tokens, members can earn compensation for reviewing governance form discussions, providing comments and feedback, and voting on governance proposals. Members can receive grants in exchange for contributing special skills through an NMDP request. The NMDP process allows members to create new teams for unmet needs. Currently, there are five teams focused on community, marketing, investment, operations, and R&D.

40. Sustainability

Figuer. 6, "Nexus Mutual moves to sunset legal entity, lift KYC requirements," Andrew Thurman, COINTELEGRAPH, April 23, 2021. https://cointelegraph.com/news/nexus-mutual-moves-to-sundown legal-entity-lift-kyc-requirements

In a recent "Ask Me Anything" (AMA) event on Reddit, Karp offered the caveat that "Nexus Mutual does not provide a contract of insurance, it provides discretionary cover where members have the final say on claims." Hugh Karp
Nexus Mutual Governance, Nexus Mutual (April 3, 2023 5:00 PM Central), https://app.nexusmutual.io/governance
The Nexus Mutual Protocol | Nexus Mutual Documentation, Nexus Mutual (April 3, 2023 5:16 PM Central), https://docs.nexusmutual.io/protocol/

As Karp explained in the AMA, the reason for this approach is to incentivize alignment in the community. Short-term focus would motivate decision-makers to never pay out any claim to maximize current profit. However, incentivizing long-term alignment motivates decision-makers to pay out genuine claims because of the significant value of the resulting positive reputation. Because the mutual has no reason to exist without paying genuine claims, incentives are designed to require locking significant NXM to force long-term alignment and allowing locked NXM to be burned in the case of a clear attack (i.e. approval of obviously fraudulent claims or fraudulent disapproval of obviously genuine claims). Additionally, no single claim event should put a large part of the mutual at risk because it would introduce an imbalance between the benefits of short-term profits relative to long-term investment in organizational reputation.

Topic	Score	Explanation
Decentralization	6/10	• Moderate barrier to entry (KYC and ETH) • Any member may make proposals • Board has no custodial rights • Diverse incentives for participation • Member-created communities • No clear way of slashing inactive members • Snapshot votes optional • No reputation token or equivalent metric • Members experiencing problems redeeming NXM due to hardcoded coverage pool calculation
Attack Resistance	7/10	• KYC does not allow pure anonymity • ETH requirements for entry • Token not available on public exchanges • % cap on voting power • 2-tier snapshot votes exist • Voting transparency on blockchain • Locking tokens after voting • Ability to burn tokens in case of attack • Segregation of capital pools to ward against fallout from single claim event • Higher thresholds for votes to pass critical governance matters
Governance	6/10	• Tokenized governance • Tokens only available to members • Voting transparency on blockchain • Snapshot vote allowed • Tokens locked from voting can be used but not transferred or redeemed • Board and IT consultation available for proposals • Quorum and approval of vote based on % of tokens • Higher threshold for votes to pass critical governance matters • Dynamic NMDP proposal process to compensate for code's inadequacy to be law • No clear way of slashing inactive members • Snapshot votes optional • No reputation token or equivalent metric • Members experiencing problems redeeming NXM due to hardcoded coverage pool calculation
Regulatory Compliance	5/10	• LLC legal wrapper • "discretionary mutual" structure • Regard for code as an authority but not strict law • Symbolic advisory board exists to satisfy legal requirements but not connected to legal wrapper • Transactions within the mutual between members do not qualify as "insurance," so not subject to insurance tax • All members are identified and become legal guarantors of company per UK company law
Work to Earn	5/10	• Diverse incentives for participation • No incentive to earn based on contributions to staking pool • Payout tokens for successful proposals • Grants available for proposals to employ specialized skills • Tokens minted for votes and when members contribute ETH to coverage pool • Tokens burned on successful claims • 100 NXM split between successful voting members
Organizational Communication	6/10	• Relies on third party platform for communication and governance discussion, but the third party is a plugin with visually seamless integration into the UI • Engagement is not clearly incentivized with reputation value • Long term incentives result in more member engagement • Members seem to prefer Discord for discussion • Governance UI is in beta

40.1 Nexus Mutual score 36/60
nsuredao

InsureDAO is a P2P insurance protocol founded on the Ethereum network in 2022. InsureDAO is a platform for managing smart contract risk. It creates and sells coverage and manages surplus funds. Unlike other DeFi insurers, InsureDAO isolates each insurance pool, such that, a claim for a particular cover pool will not impact pools for other covers. This segregation allows the DAO to provide an open insurance creation system where any user can create any pool without any DAO-level risk assessment process that is supported by InsureDAO's dynamic pricing algorithm.

Most recently, InsureDAO has started to cover case-by-case coverage for audited codes. While the process of auditing reduces the risk of a code bug to nearly 0%, the risk still exists and the fallout from it being realized can be heavy.

41.1. okenomics

$INSURE is not tracked on CoinMarketCap
Total supply of INSURE for first five years: 210 million. The allocation of tokens is depicted in the chart to the right, which reflects 40.40% of tokens to community members and multi-year vesting for the founding team members, advisors, and investors. In 2022, community voting established two INSURE derivatives: veINSURE and vlINSURE. veINSURE is not a token. It is withdrawable, can boost farming, gauges voting, and provides voting power. It is not rewarded and is not eligible for future upgrade. vlINSURE is an ERC20 token. It is not withdrawable, cannot boost a member's farming, does not gauge voting, and does not currently offer voting power. It is rewarded and is eligible for future upgrade.

42. Business Model[12]

InsureDAO has divided its functions into three categories: *build, market,* and *investments*. The BUILD layer allows third parties to incorporate the coverage offerings into their protocols. The MARKET layer sells coverage direct to buyers and rewards members for underwriting and funding the market coverage through staking. The INVESTMENTS layer is funded by the MARKET pool and makes strategic investments to provide a return back to the MARKET poolFiguer . 8, see footnote 13

42.1. Scoring
a. Decentralization 6/10

InsureDAO was founded by Kohshi Shiba in Singapore, Taishi Sato in Tokyo, and Rubio Kishigami in the United Kingdom. The organization regards itself as completely decentralized. There is no KYC. Anyone with access to Ethereum can anonymously create, purchase, and underwrite covers.

1. https://medium.com/insuredao/introducing-new-insurance-type-audited-code-coverage-7abcc3f8753c May 13, 2023 5:14 PM 11 https://insuredao.gitbook.io/insuredao/overview/tokenomics, May 17, 2023, 2:58 PM
2. https://golden.com/wiki/InsureDAO-VKM4GR4 May 13, 2023 4:26 PM
3. https://www.insuredao.fi/ MAY 17, 2023 3:31 PM

b. Attack Resistance 4/10

InsureDAO offers its members a bounty for finding bugs and hacking smart contracts. It does 14 not regard code as ultimate law in this regard. In fact, it publishes heavy disclaimers warning that any pool may be drained in the instance of attack, and the DAO absolves itself from any liability.

InsureDAO segregated the rights afforded by its tokens by creating the veINSURE and vlINSURE versions of the INSURE token. This is a complex mechanism for rewarding community participation. For example, while members' voting power is determined by their INSURE, participation in voting on proposals is rewarded with veINSURE. veINSURE can then be tokenized into vlINSURE, which can be staked to receive an INSURE distribution.

InsureDAO regards the process of minting INSURE tokens and selling them on the open market as a mechanism for reinforcing any insufficiency in its compensation pool.

c. Governance 6/10

InsureDAO is sparse on documentation detailing specifics of its governance structure. In some places, its documentation asserts that a governance forum is forthcoming. Its governance module is forked from Curve's. Curve inherited Aragon's voting module, but replaced 1 token: 1 vote method with time-weighted voting to encourage long-term participation. Time- weighted voting power involves locking tokens to an escrow voting contract instead of directly voting. It is unclear whether there is any cap on voting power.

Snapshot voting does exist and it is rewarded in at least some instances, but documentation does not indicate if it is mandatory.

InsureDAO delegates authority over payouts on insurance claims to ReportingDAO. ReportingDAO includes members with expertise in smart contracts and security who are tasked with vetting incidents giving rise to claims and evaluating their compliance with the fact and payment guidelines defined by the smart contracts. Members of ReportingDAO hold an INSURERPT token. This token is granted and burnt by vote of the CommunityDAO (which is the broad InsureDAO community of token holders). InsureDAO regards ReportingDAO as its proprietary oracle for reliable investigation and payment decision-making.

d. Regulatory Compliance 1.5/10

The organization does not identify itself with any particular jurisdiction. It has no legal wrapper. Within the published disclaimers, it appears to exclude availability to a remarkably large portion of the global population.

"InsureDAO Tokens and InsureDAO Platform are not intended for sale, distribution and/or use by Excluded Persons. Accordingly, Excluded Persons should not purchase, acquire and/or use InsureDAO Tokens and InsureDAO Platform." "Excluded Persons" includes individuals located or physically present in Excluded Jurisdiction.

"Excluded Jurisdiction" includes the People's Republic of China, the United States of America, Canada, Democratic People's Republic of Korea, Cuba, Syria, Iran, Sudan, Republic of Crimea, et. al. This exclusion also applies to any jurisdiction where sale, distribution, or use of InsureDAO Tokens would constitute capital markets products or securities." https://insuredao.gitbook.io/insuredao/protocol-module/bug-bounty May 17, 2023 3:00 pM https://www.insuredao.fi/docs/InsureDAO-DISCLAIMERS-20220130.pdf May 13, 2023 4:32 PM   https://insuredao.gitbook.io/insuredao/overview/understanding-insure/understanding-vlinsure May 13, 2023 4:57 PM https://insuredao.gitbook.io/insuredao/faq/what-is-cds May 17, 2023 3:51 PM
https://drive.google.com/file/d/12KujJrtw6SWAVrVjhhGWx-N6Y5uwAU_cr/view May 13, 2023 4:35 PM
https://classic.curve.fi/files/CurveDAO.pdf May 13, 2023 4:42 PM   https://insuredao.gitbook.io/insuredao/reportingdao/reportingdao May 17, 2023

e. Work to Earn 6.5/10
InsureDAO embers can earn rewards by underwriting mining, vlINSURE and INSURE staking, and liquidity mining. The DAO employs Curve finance's governance contract sets, which provide an option to boost a reward by locking tokens.

There is a very complex "gauge" system supported by Curve that powers some opportunities for members to earn rewards for contributing to InsureDAO's liquidity. There is a medium article that touches on how this system works, but it is a bit beyond the scope of detail for understanding here.

Members who have been appointed to the ReportingDAO earn an evenly distributed base fee and are eligible to earn a bonus fee based on contribution to investigations, voting for a winning side, and participating in snapshot voting.

f. Organizational Communication: 4/10
The DAO calls its community a separate CommunityDAO and uses commonwealth.im as a community forum. The forum appears to have been relatively inactive in the past couple of 26 months, as does the organization's Twitter account. The forum shows proposals, the votes, and the power each member had on their vote, proportional to their INSURE. It also shows how many levels of voting occurred for any proposal, though there were few proposals. There is not a clearly identified governance forum and there is a sparsely active forum for ReportingDAO.

Topic	Score	Explanation
Decentralization	6/10	• No barrier to entry • Operation requires small pockets of centralized subject matter based communities, though they are community elected • No advisory board • Fully anonymous • Initial team members, advisors, and investors still have some decision-making power, largely because the community is relatively inactive • Multi-year vesting for original team members, advisors, and investors preserves their involvement and influence but bolsters resistance to attack from their influence
Attack Resistance	4/10	• veINSURE and vlINSURE tokens as derivatives of INSURE create complexity that makes benefit from an attack more difficult • No KYC • Full anonymity • Community members are incentivized to find bugs and to hack smart contracts • Token is available for purchase on open exchanges • Identifying minting tokens to sell on the open market as a method to reinforce weak capital pools seems risky • Tokens locked after voting • Time-weighted voting to encourage long-term participation • Segregation of ReportingDAO tokens and decision-making rights
Governance	6/10	• Tokenized governance • Tokens available to anyone on the open market • Differentiating rights afforded by different tokens helps to stage gate governance participation • There does not appear to be a reputation token or equivalent metric • Voting transparency on blockchain • Snapshot vote (unsure if required) • Does not employ a 1 token: 1 vote, uses time-weighted voting to encourage long-term participation• No governance forum available • Very few recent proposals or decisions immediately visible • Tokens locked from voting can be used but not transferred or redeemed • Dynamic NMDP proposal process to compensate for code's inadequacy to be law • Rewards for successful voting history allude to reputational value • Segregation of ReportingDAO responsibilities and tokens
Regulatory Compliance	1.5/10	• Heavy disclaimers • No jurisdictional compliance • No legal wrapper • Does not appear to solely rely on code, but a combination of code and dynamic governance • Extremely limiting jurisdictional exclusions, to the point of appearing to rely on members' ignorance of the disclaimers
Work to Earn	6.5/10	• Diverse incentives for participation • Earning through underwriting, staking, and liquidity mining • No clear incentive to earn based on reputation • Payout tokens for successful proposals • Reliance on minting and selling INSURE on the open market to compensate for any capital insufficiency for claims payouts • Grants available for proposals to employ specialized skills • Segregated earning opportunities for appointees to ReportingDAO
Organizational Communication	4/10	• Simple UI for discussion and voting forums • Engagement is not clearly incentivized with reputation value • Incorporation with third party systems insures continuous improvement • Governance forum is forthcoming • Participation is low • Organization communication channels show no recent activity • Documentation is incomplete and riddled with typos and errors • Alludes to measuring and possibly rewarding engagement, but vaguely • Too many different places to go for participation with no clear source of truth

43. INSUREDAO SCORE 22/60
a. Insurace.Io
InsurAce.io is a platform that offers mutual cover protection for blockchain users' activities. The organization uses a portfolio-based approach, offering a collection of packaged covers issued by smart contracts rather than a centralized entity. Purchase

of coverage and claim submission is autonomous to users, while claim administration and assessment is governed by decentralized community voting and expert investigations.

b.Tokenomics
$INSUR is freely traded and, as of 6:18 PM CT on May 12, 2023, traded at $0.07042 with a Coin Market Cap rank of 1091.27 The token is listed on 6 exchanges across 4 chains and data is tracked on 14 platforms.

c.Business Model
InsurAce.io employs a similar business model to Nexus Mutual and other insurance DAOs. It has an arm focused on coverage and an arm focused on investment. The platform is permissionless with no KYC requirements. Users can define their own product portfolios or can use off-the-shelf cover products.

d.Protocol
InsurAce.io aims to differentiate itself from other coverage protocols by using crypto security to free users from limitations and help them realize better capital utilization, whereas other protocols rely on capital adequacy and consolidation.

All activity is on-chain with data visualization published the application for full transparency. The claims process prioritizes the interests of stakeholders to ensure fairness to policyholders.

43.1. Scoring
a.Governance 3/10
The governance function of InsurAce has not yet been launched. An overview states that the DAO's governing principles are to place security as top priority and to give decision-making power to the community. It states that it will continue day-to-day operations without community involvement, but will encourage community participation in business, limited operations, and technology and protocol development. It states that if community governance fails, contingency plans must exist. It does not define "failure."

The InsurAce Advisory Board consists of representatives from the "InsurAce team" and 3rd party independent advisors with specialized expertise. The board provides oversight and contingency voting power when community voting fails. It is also tasked with performing preliminary risk assessment when defining new cover products. That assessment report and a recommendation is provided to the community to do an additional assessment and ultimately vote on whether to adopt the new product. In order to become a Claim Assessor to participate in votes on claims payouts, token holders must stake their INSUR tokens to join the InsurAce DAO. Members may vote to earn token rewards if their votes win. The more tokens staked the more voting power an individual has (capped at 5% of total votes) and the more tokens they are rewarded. Governance proposals are also determined by community vote. Voting outcomes are built on quorum, majority voting, and voting weights. There is not a 2-vote system described in the 31 governance overview. There is no reputation incentive in community voting.

https://coinmarketcap.com/currencies/insurace/ May 12, 2023 6:19PM
https://files.insurace.io/public/InsurAceWhitepaper_v2.4.pdf May 17, 2023, 5:47 PM
https://docs.insurace.io/landing-page/documentation/overview May 12, 2023
https://docs.insurace.io/landing-page/documentation/protocol-design/governance May 17, 2023, 6:19 PM

b.Work to Earn 4/10
INSUR can be acquired via the referral rewards program, through which inviting friends to buy covers gives the referrer and the friend an INSUR token and rewards of up to 5% of the cover's price. Users can stake INSUR tokens as well as ETH, DAI, USDT and other tokens as capital to underwrite risks in the underwriting pool in exchange for rewards. Volunteers who conduct risk evaluations in votes on new cover products are eligible for INSUR rewards, as well. INSUR tokens and their related governance power are rewarded to stakes to incentivize more staking.

c. Attack Resistance 5/10
The platform affords anonymity to its members. INSUR can be purchased on open exchanges and is not exclusive to members.

InsurAce promotes its priority on security by describing its self-reported "best in class" practices, including smart contract audits by third-party auditors, regular deployments of security enhancements, and established security incident response procedures. Its contingency plan includes the ability to suspend or terminate complete or partial functions of smart contracts, mark a suspicious or large transaction as "pending," and revert suspicious transactions with the ability to trace back to their origin.

LPTokens are used by members staking tokens to prove that they own the capital being staked in mining pools. LPTokens are non-transferrable, non-exchangeable, and cannot be staked on other platforms. Long-term participation is incentivized by this.

Tokens staked are subject to a lockup period. After this period ends, stagers can unstake the funds but if they initiate another staking action before the first lockup period ends, the unstated amount cannot be withdrawn until the new lockup period ends. Voting weight afforded by token quantity is capped at 5% of the total vote.

d. Regulatory Compliance 3/10
InsurAce is not an insurer and it is not in the business of providing insurance or arranging insurance contracts, but it adopts the capital management standards of EIOPA's Solvency II in the EU. Specifically, InsurAce adopts the solvency capital requirement (SCR) and touts this as a more rigorous compliance than most other cover-providing DAOs.[36]

The DAO has not publicized much about its legal entity beyond this pledge to adhere to EIOPA's Solvency II, except its privacy policy, which requires agreement to be governed by the laws of the United Kingdom and to be subject to jurisdiction of the

courts of the British Virgin Islands. Otherwise, its white paper acknowledges the nascent status quo of DeFi and the volatility and uncertainty in the space by glossing over the issue, saying: "InsurAce will carefully examine the existing applicable laws and regulations as well as stay tuned to latest updates to ensure full compliance with relevant legal and compliance jurisdictions."

https://docs.insurace.io/landing-page/documentation/protocol-design/governance May 12, 2023 7:01PM
https://docs.insurace.io/landing-page/documentation/protocol-design/staking/risk-of-staking May 12, 2023 7:11PM https://docs.insurace.io/landing-page/documentation/security-1 May 12, 2023 7:16PM
https://docs.insurace.io/landing-page/documentation/protocol-design/staking/staking-formula#lptokens May 17, 2023 6:05 PM 35 https://docs.insurace.io/landing-page/documentation/protocol-design/staking/risk-of-staking May 12, 2023 7:11PM https://files.insurace.io/public/InsurAceWhitepaper_v2.4.pdf, May 17, 2023, 5:53 PM

e. Organizational Communication 2/10
There does not appear to be a way to earn from voting on proposals/community involvement, which begs the question of "who is incentivized to participate and why?" There is currently no defined process for submitting a general proposal, nominating a committee member, or voting on those proposals.

While many features related to the decentralization of governance appear to be pending, the organization is communicative and active on Twitter, Discord, and Telegram.

Topic	Score	Explanation
Decentralization	2/10	• No barrier to entry • Advisory board oversight and contingency voting power • On-chain activity for transparency • Tokenized economy • Company continues "day-to-day" operations without community involvement • Tokens available to non-members, freely traded • No clear path for community participation in governance
Attack Resistance	5/10	• Self titled "best in class" security practices • No KYC • Smart contract audits • Anonymous • Security deployment schedule • Security incident response procedure • Tokens available on open exchanges • Contingency plan including ability to terminate complete or components of smart contracts • No 2-tier voting • Can mark suspicious transaction as "pending" • No reputation incentive • Can revert suspicious transactions • LPTokens staked as proof of capital ownership • Token lockup period • Voting weight capped at 5%
Governance	3/10	• Advisory board provides oversight and contingency voting power • No KYC • LPTokens staked as proof of capital ownership • Anonymous • Token lockup period • Tokens available on open exchanges • 1 token : 1 vote • Voting outcomes based on quorum, majority, and voting weight • No 2-tier voting • Voting weight capped at 5% • No reputation incentive • Non-members may own tokens, but can only participate in claims process by staking • Governance module documentation lacking • Governance forum pending
Regulatory Compliance	3/10	• EIOPA's SOLVENCY II • Not much information published • Heavy disclaimers and oddly exclusionary jurisdictional limitations • Touts "more rigorous compliance than most other cover-providing DAOs
Work to Earn	4/10	• Referral rewards program • No clear incentive to earn based on reputation • Staking INSUR tokens, ETH, DAI, USDT to underwrite • No way to earn from community participation • Eligibility for rewards by volunteering to conduct risk evaluations in votes on new cover products
Organizational Communication	2/10	• Communications from centralized entity are quite active on social media • Engagement is not clearly incentivized with reputation value • Community seems very fractioned • Twitter • Discord • Telegram • Organization does not provide many places for its community to gather and participate together, this seems to be forthcoming

44. Insurace.Io Score 19/60
a.Unslashed
Unslashed is a decentralized insurance provider operating as a DAO, offering coverage for various types of risks prevalent in the DeFi ecosystem. Its aim is to provide protection against smart-contract failures, wallet exploits, oracle malfunctions, and exchange hacks. While Unslashed limits its community engagement to contribution to coverage pools and the purchase of insurance by insured individuals, it outsources claims assessments and asset management to external parties.

b. Tokenomics
The native cryptocurrency of Unslashed is the $USF token, which is freely traded on paraswap. As of 10:43 am on May 17, 2023, the $USF token traded at $0.02914. $USF is not currently tracked on Coin 38 Market Cap.

c. Business Model
Unslashed adopts a business model similar to Nexus Mutual and other insurance DAOs. It operates by maintaining several capital buckets, each containing different types of policies. Each policy has its own capital pool, which covers the policy and the premium deposits from the insured individuals. Unslashed utilizes Enzyme for asset management, allowing them to yield up to 20% on the capital from the Spartan Bucket. In the event of a claim request, anyone within the DAO can challenge it, and if challenged, the claim request is sent to a third party for decision-making.

https://www.coingecko.com/en/coins/unslashed-finance (last visited May 17, 2023).
https://documentation.unslashed.finance/one-protocol-different-layers/high-level-view (last visited May 17, 2023).

d. Protocol
The protocol underlying Unslashed revolves around capital buckets that store funds for different types of policies. These funds are used to cover the policies and the premium deposits

from insured individuals. Unslashed partners with Enzyme for asset management, leveraging their expertise to generate potential yields of up to 20% on the capital in the Spartan Bucket. When a claim request is made, it may undergo 40 a challenge process initiated by any member of the DAO. If challenged, the claim request is referred to a third party for impartial assessment and decision-making.

44.1. Scoring
44.2. Decentralization 3/10
a. Governance 1/10
Unslashed's governance model relies on the $USF tokens held by community members to determine voting power. The process for developing and advancing Unslashed Governance Proposals involves several steps. Initially, the idea is shared in the DAO's Discord channel to initiate discussion and gather input. The proposal is then posted on a discourse forum for further comments and updates. Subsequently, a signaling vote is conducted on Scattershot, with voting power weighted based on $USF holdings of community members. Finally, the proposal undergoes a final vote on Tally, where voting power is based on the weight of $USF tokens delegated.

b. Work to Earn 3/10
Members of Unslashed have the opportunity to earn rewards by contributing to policy coverage pools and receiving premium payments from insured individuals. Additionally, Unslashed has implemented a Capital Mining Program where participants, known as Capital Miners, can earn $USF tokens through mining. The rewards are distributed on a prorate temporis basis, providing incentives for members to actively contribute to the ecosystem.

c. Attack Resistance 1/10
While Unslashed operates with a fungible governance token ($USF). It does not have a clear method for protecting against a 51% attack or a sock puppet attack, which could potentially undermine the governance process. Furthermore, there is no explicit bug bounty program mentioned in the information provided, which could limit the ability to identify and address vulnerabilities in the protocol.

d. Organizational Communication 5/10
Unslashed primarily utilizes Discord as the main mode of communication between its community members. The Discord channel serves as a platform for informal discussions and collaborations. Additionally, Unslashed maintains a discourse forum, but it is primarily reserved for governance proposals. For voting purposes, Unslashed relies on two separate third-party clients: Scattershot for non binding signal votes and Tally for final votes. It's worth noting that Unslashed does not have any proprietary apps dedicated to community communication.
https://documentation.unslashed.finance/protocol-design/asset-management-integration (last visited May 17, 2023).
https://documentation.unslashed.finance/governance/proposal-lifecycle (last visited May 17, 2023).
https://documentation.unslashed.finance/tokenomics/usdusf-distribution-and-mining (last visited May 17, 2023).

e. Regulatory Compliance 1/10
Unslashed operates without utilizing a legal wrapper to protect its community members. This approach aligns with the decentralized nature of the blockchain ecosystem but may introduce potential regulatory considerations and risks associated with operating in an evolving regulatory landscape.

Topic	Score	Explanation
Decentralization	3/10	• Governance proposals and proposals on asset management decisions may be made by any member of the community. •Participation in the community is tied to ownership of fungible tokens •Voting power is tied to fungible tokens.
Attack Resistance	1/10	• The organization uses fungible governance tokens that allow entities to purchase governing and voting power within the organization.
Governance	1/10	• The organization uses fungible governance tokens that allow entities to purchase governing and voting power within the organization.
Regulatory Compliance	1/10	• The organization does not use a legal wrapper and relies entirely on code.
Work to Earn	3/10	• The organization allows members to earn rewards by mining tokens in the Capital Mining Program • The main way to earn money in this organization is by contributing to coverage pools and earning premiums paid by the insured.
Organizational Communication	5/10	• The organization relies on third party software for member engagement • The organization relies on Discord and Discourse for member communication and uses Scattershot and Tally to measure community voting on proposals.

45. Ease
Ease is a decentralized insurance organization that operates based on the governance and protocol of Nexus Mutual, a leading decentralized insurance protocol in the blockchain space. The primary goal of Ease is to combine insurance and decentralized finance (DeFi) to provide a secure environment for investors, where the assets invested in Ease are automatically insured.

a. Tokenomics
Ease utilizes its native cryptocurrency called $EASE token. As of 12:43 pm on May 17, 2023, the $EASE token trades at $0.00462. $EASE is not currently tracked on Coin Market Cap.

https://documentation.unslashed.finance/governance/proposal-lifecycle (last visited May 17, 2023).
https://www.coingecko.com/en/coins/ease (last visited May 17, 2023).

b. Business Model
Unlike traditional insurance models, Ease operates on a unique business model that allows community members to contribute assets to self-insured staking pools. Ease does not collect premium payments from the insured individuals. Instead, when a claim is made, a portion of the asset is liquidated and provided to the coverage providers. This approach makes DeFi insurance

more accessible and attractive since it eliminates the need for traditional premium payments, making it cheaper and easier to navigate for users.

c. Protocol

The protocol underlying Ease includes various mechanisms to ensure efficient operations. Firstly, it includes lockup periods for funds in coverage pools after requests to unstake, which helps increase yields for investors and ensures continuous coverage for the insured. Additionally, the protocol incorporates staking management and guidance, categorizing coverage into different "buckets" based on risk levels. Ease employs a Risk Rubric to determine the risk associated with each coverage, which subsequently determines the bucket in which the insured individual will be placed.

45.1. Scorin
45.2. Decentralization 2/10
A. Governance: 1/10

Ease has a decentralized governance model that allows community members to actively participate in decision-making. Proposals for governance votes are initially discussed on Ease's Discourse forum, where community members can provide feedback and engage in critical discussions. Once a proposal has been revised and refined, it is put to an on-chain vote hosted on Tally, a platform for decentralized governance. Voting power in the organization is determined by the number of $EASE tokens held by individuals, aligning voting influence with token ownership.

b. Work to Earn 5/10

Ease provides various opportunities for community members to contribute to the organization and earn rewards. One such method is Ez-farming, which involves staking contributed assets to earn yield in the form of $EASE tokens. This incentivizes insured individuals to actively participate in the ecosystem. 47 Additionally, Ease offers bug bounties to security researchers and auditors who help identify vulnerabilities and improve the safety of the code. Lastly, Ease allows members to increase their voting 48 power through a mechanism called "bribing," where they offer incentives to $gvEASE token holders to stake onto a specified vault (coverage pool). This allows individuals to increase their influence within the governance process.

https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/ease-defi-cover/arnxm-v2/ (last visited May 17, 2023).
https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/token-documentation-get-defi-cover-at-ease/ governance/ (last visited May 17, 2023).
https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/ez-farming/?seq_no=3 (last visited May 17, 2023).
https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/developer-resources-get-defi-cover-at-ease/audits-and- bug-bounties/ (last visited May 17, 2023).

c. Attack Resistance 2/10

To prevent potential hacks or vulnerabilities, Ease offers bug bounties to security researchers who discover and report any deficiencies in their code. By actively engaging the community in finding and 50 addressing security issues, Ease enhances its attack resistance and ensures a more secure platform for its users. However, it is worth noting that Ease's decision to base voting power on $EASE tokens, which are fungible, and the ability for community members to increase their voting power through "bribing" may introduce some governance challenges and potential risks.

d. Organizational Communication 5/10

Ease employs a range of communication channels to facilitate interaction among community members. The organization utilizes a Discourse-powered forum, which serves as a platform for more formal discussions, including proposal deliberations and feedback. Additionally, Ease maintains a Discord channel for more informal and casual community interactions, enabling members to communicate, share ideas, and foster collaboration. Furthermore, Ease leverages Tally, an on-chain voting platform, to facilitate decentralized decision-making and voting by community members.

e. Regulatory Compliance 1/10

Ease does not utilize a legal wrapper or traditional regulatory compliance measures. Instead, the organization relies on the robustness of its code and the security mechanisms in place to protect the interests of its community members. This approach aligns with the ethos of decentralization and self governance prevalent in the blockchain and DeFi space, but it also introduces some potential regulatory considerations and risks associated with operating in an evolving regulatory landscape.

Topic	Score	Explanation
Decentralization	2/10	• Proposals may be made by any community member regarding governance • The organization uses a fungible token as the basis of its voting power • The multisig guardians have the ability to veto proposals if they wish.
Attack Resistance	2/10	• The organization employs bug bounties to search for weaknesses in the code.• The organization uses fungible governance tokens that allow entities to purchase governing power within the organization • The organization uses "bribes" to allow entities to increase their voting power artificially without purchasing additional tokens.
Governance	1/10	• The organization uses fungible governance tokens that allow entities to purchase governing power within the organization • The multisig guardians have the ability to veto proposals if they wish.
Regulatory Compliance	1/10	• The organization does not use a legal wrapper and relies entirely on code.
Work to Earn	5/10	• The organization employs a bug bounty system that rewards the job performer for finding bugs in the system • The organization allows members to mine tokens to earn rewards • The organization also allows members to earn from bribes • The organization does not account for merit or reputation when rewarding work is done.
Organizational Communication	5/10	• The organization relies on third party software for member engagement • The organization relies on Discord and Discourse for member communication and uses Tally to measure community voting on proposals.

https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/prod-uct-guides/how-to-bribe-for-gvease-for-protocols/ (last visited May 17, 2023).

https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/devel-oper-resources-get-defi-cover-at-ease/audits-and-bug-boun-ties/ (last visited May 17, 2023).

https://ease.org/learn-crypto-defi/get-defi-cover-at-ease/to-ken-documentation-get-defi-cover-at-ease/ governance/ (last visited May 17, 2023).

f. Bridge Mutual

Bridge Mutual is a decentralized insurance organization that aims to provide coverage for stablecoins, centralized exchang-es, and smart contracts. It adopts a community-driven approach, allowing any person to create insurance pools and enabling us-ers to purchase coverage. By doing so, Bridge Mutual strives to make DeFi insurance accessible to both insurers and the insured.

g. Tokenomics

The native cryptocurrency of Bridge Mutual is the $BMI token, which is currently trading at $0.01136 as of 9:45 am on May 18, 2023. The $BMI token holds a Coin Market Cap rank of 1565.

h. Business Model

Bridge Mutual operates with a unique business model that em-powers community members to create and offer their own cov-erage pools. This approach decentralizes the provision of insur-ance, placing the power in the hands of individuals. To streamline the creation process and enhance accessibility, Bridge Mutual offers various options for setting up insurance pools. Members who create pools can earn premiums from individuals who pur-chase coverage, creating an incentive mechanism within the eco-system.

https://coinmarketcap.com/currencies/bridge-mutual/ (last visit-ed May 18, 2023).

i. Protocol

The Bridge Mutual Protocol consists of two main components: the Capital pool protocol and the Reinsurance Pool protocol. The Capital pool protocol manages and distributes funds within the ecosystem. It facilitates liquidity withdrawals for coverage, policy payouts, and investments in third-party DeFi platforms to generate yield. The Reinsurance Pool protocol allows individu-als to establish 54 coverage pools, enhancing the availability and diversity of insurance options.

The voting protocol in Bridge Mutual is limited to voting on claims. When a claim is submitted, along with supporting evi-dence, community members are given a 7-day voting period to assess and determine whether to accept or reject the claim. Vot-ing power is determined by the tokens staked within the specific coverage pool related to the claim.

Bridge Mutual also implements a reputation and reward system within its protocol. The reputation score of community members is based on their voting behavior, with rewards going to mem-bers voting in the majority, and penalties going to members vot-ing in the minority, with more weight given to extreme minority votes. Rewards for voting are disbursed based on reputation and $BMI tokens, while penalties are imposed if a member consis-tently votes in the extreme minority.

https://bridge-mutual.gitbook.io/bridge-mutual/v2/capi-tal-and-reinsurance-pools (last visited May 18, 2023).

https://bridge-mutual.gitbook.io/bridge-mutual/claim-vot-ing-process (last visited May 18, 2023).

https://bridge-mutual.gitbook.io/bridge-mutual/reputa-tion-and-reward-system (last visited May 18, 2023).

46. Scoring
46.1. Decentralization 1/10
a.Governance 1/10

Currently, Bridge Mutual operates as a privately held corpora-tion, and the governance structure does not allow for direct com-munity input. However, the organization has expressed plans to transition towards community-guided governance in the future, but this transition has not yet commenced. The transition aims to shed the legal wrapper entirely to rely solely on the protection of code and smart contracts.

b. Work to Earn 7/10

Members of the Bridge Mutual community are able to earn rewards by creating coverage pools that individuals purchase coverage through. Coverage providers earn 80% of the premi-um earned from the insured with 20% going to the Reinsurance pool. Members are also able to earn returns by staking their $BMI tokens.

c. Attack Resistance 2/10

Bridge Mutual utilizes a fungible token, $BMI, to determine voting power within the community. However, the organization limits voting power to claims requests, reducing the risk of gov-ernance attacks. To further protect against attacks, Bridge Mutu-al implements a reputation system that incentivizes community members to vote in alignment with the majority. However, the reputation system's reliance solely on voting outcomes may pres-ent some vulnerability, as it could potentially be manipulated by users creating multiple wallets and voting with the majority.

d. Organizational Communication 8/10

Bridge Mutual has developed its proprietary app, which serves as the main platform for community members to manage cover-age pools and purchase insurance. The app also facilitates voting on various matters within the organization. For community dis-cussions outside of voting, Bridge Mutual employs a Discord channel, enabling informal communication and collaboration among members.

E. Regulatory Compliance 3/10

Currently organized as a private corporation, Bridge Mutual op-erates with its founder, Michael Miglio, serving as CEO. Bridge has expressed plans to transition into a fully Decentralized Au-tonomous Organization over time, however, these plans have not been implemented.[62]

Topic	Score	Explanation
Decentralization	1/10	• The organization is controlled by a centralized corporation, although they have plans to transition to a decentralized organization in the future • The organization also bases voting power on a fungible token.
Attack Resistance	2/10	• The organization utilizes a fungible token that allows entities to purchase voting power • The organization is governed by a centralized corporation, so governance decisions are not able to be taken advantage of by adverse parties.
Governance	1/10	• The governance of the organization is out of the hands of the community members, and the organization uses fungible tokens that allow entities to purchase voting power within the organization.
Regulatory Compliance	3/10	• The organization is wrapped as a privately held corporation which provides liability protection to community members • The legal wrapper controls all governance and so the corporation is the governance structure of the organization.
Work to Earn	7/10	• The organization utilizes a reward system based on reputation score to incentivize community involvement • The reputation score is based solely on the members' voting habits and not on merit.
Organizational Communication	5/10	• Bridge Mutual has developed its own proprietary app for community engagement and community voting. • Bridge Mutual relies on Discord for inter-community communication as the app does not allow for messaging between members.

https://bridge-mutual.gitbook.io/bridge-mutual/other/governance (last visited May 18, 2023).

https://bridge-mutual.gitbook.io/bridge-mutual/providing-liquidity/rewards-for-liquidity-providers (last visited May 18, 2023).

https://bridge-mutual.gitbook.io/bridge-mutual/native-bmi-staking/native-bmi-staking (last visited May 18, 2023).

https://bridge-mutual.gitbook.io/bridge-mutual/claim-voting-process/how-to-vote (last visited May 18, 2023).

Bluebook citation applicable to our paper: URL (last visited date).https://bridge-mutual.gitbook.io/bridge-mutual/other/governance (last visited May 18, 2023). 25

47. Charity Daos
a.VitaDAO

VitaDAO is a DAO collective for community-governed and decentralized drug development. They collectively fund and digitize research in the form of IP-NFT's and spin out new biotech companies. Essentially, the mission of VitaDAO is to expedite Research and Development in extending human life expectancy and health-span. VitaDAO co-develops IP with researchers, growing a portfolio of assets, which VitaDAO then allows open access to all members or grant recipients to streamline successes, and more importantly failures, to reduce researching costs and to accelerate progress. Further, in their attempt to democratize information, anyone can govern VitaDAO by acquiring VITA governance tokens through the contribution of work, research data, IP assets or services to VitaDAO.

47.1. Scoring
a. Decentralization 6.5/10

VitaDAO's decentralization structure has its flaws, but I think it is possible that long term success is achievable. First, the token distribution at its creation, an event they correctly named "Genesis", was a good attempt at making VitaDAO decentralized on its first day. The creators of the DAO estimated that they would need to raise at least $2.5 million for the DAO to launch. At launch there would be 64,298,880 tokens available, specifically ERC20 tokens controlled by VITA. Initially 70% of the tokens would be put into the DAO's treasury with the remaining 30% split into thirds. The first 10% would be distributed to the community in a fair launch public auction to be bid on. Once the recipients received their tokens, they would then vote both on

the next 10% to be distributed to Service Providers and the last 10% to be given to Working Groups. Essentially, if successful (there's no information that I could find that demonstrates that it was not) it would be decentralized and democratically run from the beginning.

At the time of this writing, VitaDAO is still primarily a decentralized entity. They have no overseeing board, owner or CEO. The closest that Vita comes to having a centralized hierarchy is a position labeled "Steward" in their working groups. The "Steward" in each working group has all the same power and benefits as every other member of the DAO, however, they additionally are required to vote on proposals in the beginning stages of the proposal process in order for them to move forward. Without at least two Stewards initially voting in favor of a proposal, the proposal cannot move forward in the approval process. Outside of the Steward position, everything seems to be an honest attempt to decentralize all authority.

b. Attack Resistance 3/10

VitaDAO is equally susceptible to attacks as many other DAO's are. However, there are a few defense mechanisms that work in their favor to combat common issues. Because Vita uses a one token one vote, they are susceptible to the 51% problem, or "Whale Attack." This problem is further exacerbated because the Vita token is primarily a purchasable token. However, Vita uses the Moloch System Protocol which addresses this security issue by instituting a grace period before a proposal goes into effect for those who voted against it to exit the DAO with their funds, which is called the "Rage Quitting" period. It is only offered to those who have voted "NO", and they must remove all of their stakes in the DAO, leaving the remaining members to have to bear the costs of the proposal. The Moloch system also can be used to protect against collusion and unavailability of stakeholders. While this is not a perfect system as it leaves the DAO vulnerable, it does protect the individual.

Additionally, Vita is also susceptible to "Sock Puppet" attacks as well since they operate as democratically as possible and have a voting process for proposals which are accessible by all members. However, to combat this, Vita uses a four-phase voting system. Phases one and two operate on Discourse which utilizes a reputation system in the voting process. A "Sock Puppet" attack

would unlikely occur because of the amount of time it would take to generate the reputation necessary to help push forward an unfavorable proposal. Further, even if someone did take the time, they would have the "Rage Quitting" grace period to contend with. However, while the Moloch system and Discourse reputation system should deter any wrongdoers, there is nothing preventing any dedicated bad actor from bringing harm to the DAO.

c. Governance 3.5/10

VitaDAO is run democratically as briefly mentioned in the above sections. Essentially all action must go through a four-phase protocol for anything to occur within the DAO. From governance, grants, token distribution, etc., all is initiated and conducted solely on the majority vote of token holders. The first step, Phase – 0 which is the "Idea" phase, is where a discussion is initiated in Discord to gauge viability. If more than 10 members approve of the idea it moves onto Phase – 1, called the "Draft Phase." Here, the user would post an initial proposal to VitaDAO Proposal Channel in Discourse for community feedback and input where the draft will undergo refinement based on the community input until they are ready to advance it. The vote in this phase would be an official "off-chain" vote. Next, it would move to Phase – 2, or the "Refine" phase, where it is further refined and polished until the Discourse community ultimately decides whether it is worth a formal vote. This voting process is where two stewards are required to vote positively on the proposal; this is also completed "off-chain." Finally, Phase – 3, or "Final" phase, is where the proposal is uploaded to the Vita platform for a token-based "On-Chain" vote where the tokens staked are held until the voting process (2 weeks) is completed. The democratization of the proposal process is good, however, they do not have a traditional 2-vote model, nor do they have anything resembling a reputational NFT to be used or obtained.

d. Regulatory Compliance 1/10

There was no information that could be obtained on VitaDAO's Forum page, nor in their whitepaper that indicate any type of legal wrapper. The only information that could be obtained about their establishment status was that they are founded in Switzerland. However, they are very clear about this in their Forums often indicating that if any questions of legality, taxes, income, profit, etc., arise to contact a lawyer in your jurisdiction. Vita also advises no one to participate in this DAO for financial gain. While it is good that they recognize the potential legal troubles that could arise and attempt to direct the individual to a lawyer with any questions, the fact that they have no legal wrapper and acknowledge that it's a murky area that requires legal advice is concerning.

e. Work to Earn 2/10

Vita does offer a Work to Earn process, however it is very limited. All members of the DAO can earn tokens for valuable contributions. For instance, donating IP or helping to run the DAO. Additionally, anyone can work and receive funding for projects. However, no one regularly gets paid (in fiat), except for the Longevity working group. Additionally, to receive any type of compensation, whether it be in fiat currency or tokens, it must go through the proposal process and be successfully voted on. Vita also does not allow outside individuals to contribute to the DAO, limiting the amount of compensation that can be distributed.

f. Organizational Communication 7.5/10

VitaDAO has built an above average organizational communication system for itself by integrating third-party software such as Discord and Discourse which is used regularly. The use of the reputational ladder on the third-party programs is also a beneficial feature in the quality of communications that are being dispersed. Further, they have a very active forum page which is engaged quite frequently by a range of members. Vita also regularly engages on Twitter with updates about proposals, approved grants and more. One of the glaring negatives, however, is that they do not use a reputational token on any of their communications. While the reputation ladder on Discourse is beneficial it can be manipulated by a dedicated individual. Further, while having engagement by all members is essential to the democratic process of the DAO, not having any reputational system attached to their profiles or posts is a negative.

Topic	Score	Explanation
Decentralization	6.5/10	• Work Group "Steward" Votes Required
Attack Resistance	3/10	• 1 Token, 1 Vote (Susceptible to Whales) Purchasable Token
Governance	3.5/10	• No 2 Vote Model No Reputational NFT
Regulatory Compliance	1/10	• No Legal Wrapper Could Be Found
Work to Earn	2/10	• Does not allow outside individuals to contribute No One Gets Paid (fiat) Except for Longevity
Organizational Communication	7.5/10	• Third-Party Software (Discourse, Discord) Active Forums

48. Bloomeria Dao

Bloomeria DAO is an organization that intends to decentralize the fight against climate change by funding reforestation and conservation projects and connect environmental organizations and companies with the means to support these projects. Additionally, Bloomeria intends to utilize blockchain technology for companies and organizations participating within Bloomeria to prove the ESG commitments. Finally, Bloomeria's mission is to "finance impactful projects that will: Remove carbon from the atmosphere, boost or safeguard biodiversity. While ensuring: Public auditability of all sides of the organization and its projects; The right incentives are put in place to minimize bad behaviors."

49. Decentralization 3/10

Bloomeria has partnered with three organizations that handles the majority of the reforestation projects that are funded by the DAO. One of these organizations is RM.Terra, a Portugese organization that plants trees using the most ecologically friendly methods. The other two are of Filipino and Belgian origins and follow similar missions in their respective regions. While the DAO does allow for community members to submit new

projects for consideration, these three organizations carry lots of power for being so closely aligned and the proper channels of funds already established. Additionally, this is similar to a "pay-for-play" model where the members with the most amount of funds will have the greatest authority regarding which projects are chosen, and any disbursement of funds. However, the on-chain addresses of the organizations and companies funded by Bloomeria DAO are always capable of being audited by anyone involved in the network. Therefore, while the negatives certainly outweigh the positives in Bloomeria's decentralization, we felt it still deserved a score of three for the reasons stated above.

50. Attack Resistance 1/10

Bloomeria DAO's carbon token or "CO2 certificate" system they have designed, is very susceptible to the possibility of several forms of attack. First, the ability to purchase these tokens or earn them by funding projects and reaping the rewards regarding power within the community creates a great likelihood that a 51% attack can and will occur. Second, the community currently is incredibly small and if the popularity of Bloomeria picks up, it would be very easy for a member to make several accounts to earn the minimum tokens to vote and manipulate the system to fund the projects they want over the possible true majority. Therefore, Bloomeria deserves a score of one in the Attack Resistant category.

51. Governance 1/10

Bloomeria is in the very beginning stages of creating their governance and preferred forum. However, they do provide that "buying Bloomeria's digital certificates allow holders to be part of the Bloomeria community." Additionally, certificate holders are able to vote on Bloomeria proposals regarding the DAO itself as well as they have a say in the projects they personally supported. Thus, it does not appear that Bloomeria intends to enact a reputational system as a part of governance, and only intends to use purchasable NFT's or certificates. Thus, we felt that Bloomeria deserved a score of 1 in the governance section.

52. Regulatory Compliance 1/10

Bloomeria does not have any mention currently of a legal wrapper of any kind, and their system is entirely code-based. Where a member purchases certificates, and based on the overall market of certificates, that is their voting percentage and/or power. Therefore, Bloomeria deserved a score of 1 in the regulatory compliance category.

53. Work to Earn 2/10

Bloomeria does provide for non-community members to submit proposals of conservation projects to the group. However, if these projects are accepted there is no current method of the outsider receiving payment nor reputation of any kind. Thus, there is no incentive. As previously discussed, the most economically powerful members will always have the most say in Bloomeria's current design. For these reasons, we felt that Bloomeria deserved a two in the work to earn category.

54. Organizational Communication 3/10

Currently, Bloomeria uses several forms of communication provided to its members. While Bloomeria does not have a well-developed system for members and outsiders to submit project proposals to the DAO, however, it does have a medium page where it provides updates on the DAO. Additionally, Bloomeria also provides updates through its Twitter account. Therefore, we felt that for the Organization and Communication category Bloomeria deserves a score of three.

Topic	Score	Explanation
Decentralization	3/10	• Corporate Structure - Founding team controls large percentage of voting rights
Attack Resistance	1/10	• Pay-for-play system - Susceptible to 51% Attack
Governance	1/10	• No meaningful reputation system planned, No formal governance
Regulatory Compliance	1/10	• Entirely code-based principles
Work to Earn	2/10	• Only way to earn is by contributing funds to the DAO • Allows for submision of project proposals but does not provide incentive to do so
Organizational Communication	3/10	• Twitter, Medium - No way to determine member

55. The Regen Network

Regen Network sees the potential of cryptocurrency being at the forefront of innovation and future business models. However, they also are aware of the effects that mining cryptocurrencies and building and maintaining infrastructures to use crypto and smart contracts have on our environment. In their whitepaper they attempt to explain how Regen Network can combat centralized hierarchies that are solely driven by efficiency, profit and comfort by utilizing tokenized distributed ledger running protocols for "the verification of ecological outcomes and smart contract capacity . . . to tie their decision-making back to an accurate understanding of their impact on natural systems." This is an attempt to address their primary goal of combating and reversing climate change. Essentially, by mobilizing capital to move on-the-ground ecological projects forward, they can "remove carbon, restore biodiversity, and reverse climate change."

This is made possible through the Regen Marketplace where an individual or corporations can "buy, trade, and retire digital carbon and ecological credits to meet their climate commitments."

56. Decentralization 1/10

Stacks on stacks on stacks of centralized authority. The idea of Regen Network is appealing to those in favor of DAO's, until you read their whitepaper. The Regen Network is exactly what it is named, a network. Consisting of many different subgroups with the parent company called Regen Foundation. The Regen Foundation has a board of five directors, which are appointed by the founding team of Regen Network. The Regen Foundation will govern how they please for the first three years, afterwards one board seat will become available per year and will be appointed by the Regen Consortium. The Regen Consortium is the initial group of organizations governing $5 million $REGEN

tokens. The Consortium will initially be composed of those the Foundation chooses to invite. To recap: the consortium will be specifically invited to join the "DAO" by the foundation and will then appoint who is to serve on the foundation. Once this has all been created, the tokens are then established in the Regen Ledger which will be governed "autonomously by $REGEN token holders, including Regen Consortium." This is one of the more confusing whitepapers that I've read in this process. They claim to be a decentralized organization, yet there are four different groups (Foundation, Consortium, Network, Ledger) all stacked on top of each other in a centralized structure. Eventually, they speak about going public at some point in the future, and I believe that future token holders would be a part of the consortium, however there is very little detail on what type of equal, if any, authority token holders would have. The only thing that is mentioned about this time in the future is that original consortium members are to maintain 1/3 of tokens created.

57. Attack Resistance 1/10
The Regen Network whitepaper discusses their approach to how to combat the different attacks it may face. They call their approach a "hybrid stake-consortium" model of governance with just "1/3 of the voting power reserved and allocated to DAO wallets governed by known entities representing network users." I am not sure I fully understand their reasoning for this model. They discuss briefly how this holding of tokens will somehow "overcome the potential for economic centralization and guard against network attack via the vector of large token purchases." But with only a 1/3 of the tokens being held in reserve it still leaves 66% tokens available, which I suppose would make it more difficult to gain 51% of tokens, but not at all impossible. They also mention and discuss why they chose NOT to use a reputation model. Essentially, while acknowledging the benefits of a reputation model, they chose not to use it because their "analysis led to the conclusion that an algorithmic reputation system was not necessarily better than using a decentralized and social-visible human council." It would also open up new attack vectors, according to their analysis.

58. Governance 2/10
As I briefly mentioned before, Regen Network's governance is a bit confusing and also heavily centralized. The Regen Foundation seems to be the top of the pyramid of authority and is run by 5 board of directors, two internal and three external, which are appointed by the founding team of the Regen Network. Beginning three years after the formation of the legal entity a board seat will become available by appointment each year. Beyond year three, board seats will serve for five years, with appointments after the first three years coming from the Regen Consortium, which are the members of the Foundation. At least

in this stage, it appears to be run by a corporation, with yearly stakeholder meetings, with listed objectives the board intends to meet. Nothing about this, especially in the first three years, is anything like a decentralized organization.

59. Regulatory Compliance 6/10
Given the governance structure of Regen, specifically the board of directors, it should not be a surprise that they are a Delaware non-stock corporation that has applied for US 501(c)(3) status as a public charity. They broke down the reasons for this choice in three ways. First, Securities Laws. They felt it was safer to just adhere to the laws on the books and consider their tokens are securities. Second, their Corporate Governance structure. They felt that the "Regen Ledger must be adopted and governed by institutional organizational stakeholders and the application of blockchain is an innovation to existing market and governance mechanisms and must be understandable and trusted by their stakeholders." Finally, it is a US-Centric Team. While they intend Regen to be a global project, the founders being mostly U.S. citizens, the project needs to comply with U.S. law.

60. Work to Earn 5/10
Regen is kind of vague on who can earn from the network. For instance, Regen discusses how "validators, oracles, data providers, and Ecological State Protocol curators are compensated for their value through a fee mechanism." However, they do not describe anywhere that I could find who can act in these capacities and how. They provide a list of "Key Stakeholders" and give a description of what each can do. For example, data providers are" agents (people/machines) providing information into an algorithm or as an attestation on the network. Includes the spectrum from sensors and satellite information to third party verification and human observations." There is no information on who can work in this capacity, where such information should be sent, or how to be compensated if you were to complete these tasks. This leads me to believe that it is a hired position much in the way that almost all jobs are conducted, such as an interview process.

61. Organizational Communication 4/10
Given the vagueness in the whitepaper on how the voting process work, and how the work to earn is modeled and countless other issues, I would say that their organizational communication is very low. After all they are essentially a corporate structure, and therefore the input of every stakeholder is not as important. They do have the traditional social media platforms, Facebook, Twitter, Telegram, and Discord. However, the absence of Discourse and the lack of a traditional forum environment seen in many DAO's ultimately leads me to believe that communication is not high on their priority list.

Topic	Score	Explanation
Decentralization	1/10	• Board of Directors Corporate Structure • Opportunity for collusion
Attack Resistance	1.5/10	• ⅓ of token to be held by Consortium • Does not address how this will effectively combat Whale or Sock Puppet • Consortium could lead an attack
Governance	2/10	• Corporate Structure • Not a lot of information on Voting process • Theoretically, this structure is only to last the first three years
Regulatory Compliance	6/10	• Because they filed legally and adhere to U.S. laws and the SEC • They acknowledge their tokens are securities • Not a real DAO framework, but at least appears to be a legal LLC.
Work to Earn	5/10	• They do have a work to earn model. It seems to be a set fee for bounty type work. • Do not go into the specifics of this work
Organizational Communication	4/10	• They do use Telegram, Discord, etc. However, they do not seem to put a lot of emphasis on the communication or explain how it is incorporated into the governance/operations

62. Angel Protocol - Angel Giving

Angel Protocol by creating Angel Giving in-house is "a global social enterprise that leverages revolutionary decentralized finance (DeFi) yield mechanisms such as Anchor Protocol's 20% 'Earn' functionality to create perpetual charity endowments." Further, when a charitable institution is able to enable donations to compound over time when these endowments are implemented. These charitable endowments are not just supplied by donations, but stable yields from cryptocurrencies, which provides these charities with a cash-flow never before possible. Through the use of Angel Protocol, these charities "can spend less time focusing on fundraising and more time on what they do best."

63. Decentralization 3/10

Angel Protocol attempts to use the right words in their overall set up of the Decentralized Autonoums Non-Profit Organization (DANO), the "decentralized body that governs Angle Protocol." A board of directors will be voted on-chain by token holders for a set term. However, there is no evidence from the Angel Protocol website or any other media used that shows any votes have taken place for the Board of Directors of DANO. It also does not state how long this term will be. Additionally, this Board of Directors have sole discretion to establish and select members for an "Audit & Finance committee." However, there are several major flaws that undoubtedly will lead to its downfall, or the need to completely scratch and restart. First, the "Team" which from Angel Protocol's WhitePaper is four individuals will possess 20% of the total tokens in supply. This concentration of tokens in the individuals who created this DANO, will never fully allow Angel Protocol to become fully decentralized. Additionally, their staking process, that will be described further below, provides greater incentives for the DANO members to stake their tokens in well-known and reputable charities, as they are entitled to 50% return from "the fees generated by the endowments of the charities they support by staking." Finally, this system's design could never be completely anonymous, as they hope to still provide tax benefits to the members or investors, and therefore, there will always be the need to identify individual members for the government's jurisdiction the members are subject to. Angel Protocol includes potential solutions for some flaws they admit exist, however, we have found no evidence for these being implemented, therefore we did not include the positives to the score. For these reasons, we felt Angel Protocol deserves a current score of 3 for decentralization.

64. Attack Resistance 1/10

The White Paper for Angel Protocol does not provide great detail regarding the specifics of voting for the DANO, which first of all is a bad sign to start. However, it does provide that the only way to obtain HALO tokens, which enable the member to participate in the governance, is by staking to charities, and then receiving these tokens in return with a similar value. For each charity there is a "sub-DAO" created that it will benefit from. Then token holders can stake into these individual charities if their purposes align. Therefore, Angel Protocol is very-likely subject to the threats of a 51% Attack, as tokens (i.e., votes) can theoretically be purchased. With the ability of token holders to stake directly into the sub-DAOs themselves, the 51% Attack could be exploited in an amount equal to the amount of sub-DAOs. Because HALO token holders are financially rewarded for staking, and there is no evidence that Angel Protocol has or will implement a reputational governance system. The only way forward for Angel Protocol is by investors purchasing voting power, and therefore, in our opinion earned Angel Protocol a score of 1 for Attack Resistant.

65. Governance 3/10

Angel Protocol is overseen and governed by the DANO. Additionally, Angel Protocol does not use a meaningful-reputational system for individuals to achieve status and voting power within the DANO. Unfortunately, the only way for individuals to have voting rights is determined by their staking of $HALO tokens into particular charities, and how much. Further, the Angel Protocol White Paper states that any $HALO token holder can veto any decision of a board member. However, it does not provide for any mechanism or path for a DANO member to bring a challenge to veto a decision of a board member. Finally, the placement of a board of directors demonstrates this is never going to be a fully decentralized autonomous organization, as Angel Protocol will always be subject to the will of these pre-selected board members, with very few, if any, mechanisms for determining effectiveness of board member decisions. For these reasons, we felt that Angel Protocol's Governance deserved a score of 1 again.

66. Regulatory Compliance 1/10

There is no evidence from the Angel Protocol White Paper, nor its current website and announcements, that Angel Protocol has a legal wrapper. Additionally, the White Paper provides: "Fees received across all verticals are programmatically distributed according to the following waterfall designed with one goal in

mind: benefiting charities." This goal is great, however, Angel Protocol follows the logic of Code-Is-Law principle, and therefore, there is no flexibility in changing the code, regardless if there are simple errors or flaws in the code there can never be any changes made to this distribution plan. Therefore, if there is a bug in the system and an individual (outside or inside the network) is able to exploit this, they may be able to steal a large portion of Angel Protocol's funds, and more importantly the underlying charities funds. That is why we felt Angel Protocol deserved a score of 1 as well for Regulatory Compliance.

67. Work To Earn 1/10

Angel Protocol does not deserve a high score for the "Work to Earn" category as well, because the only way for members to gain voting rights is by staking $HALO tokens to specific charities. The White Paper is also unclear if this gives the individual voting rights in Angel Protocol itself or in the "sub-DAO's" created for these charities. Further, there is not a bounty system implemented nor a proposed system for members to provide the network with new charities or opportunities and be compensated

in return. Also, because there is not a reputational system attempted or created, the individual's with the most voting power will be the one's most economically advantaged, which is directly contrary to a main goal of DAO's in the first place.

68. Organizational Communication 3/10

Currently, the only active communication tool available for members is the Angel Protocol Twitter page. Which, has posted sporadically as of recent, however, in the bio of this Twitter Page is a link to the Angel Protocol website. Once at the Angel Protocol webpage, you are immediately greeted with a message that states: "We are not currently ready to on-board new members" and then has a dropbox for one's email to be inserted to receive updates. Thus, while individuals could communicate over Twitter, there is not a secure system that allows members to engage anonymously nor a system that allows Angel Protocol to monitor member engagement levels. That is why Angel Protocol deserved a score of 3 in the Organization/Communication category.

Topic	Score	Explanation
Decentralization	3/10	• Token distribution process has limited correct elements. • Founding members control a significant portion of $HALO currency.
Attack Resistance	1/10	• Purchasing Power determines voting power • 51% Attack very likely
Governance	3/10	• No meaningful reputation system - Centralized in small numbers of persons or entities
Regulatory Compliance	1/10	• Code-is-law principle
Work to Earn	1/10	• No reputational system - Only way to participate is through purchasing $HALO.
Organizational Communication	3/10	• Uses Twitter - No way of determining member engagement

69. The Big Green DAO

Big Green is a national 501c3 non-profit, located in the United States. Further, "since 2011, the organization has provided critical resources to the front-line growers, teachers, and advocates that are helping their communities grow food. The Big Green DAO is a project operated under the oversight of Big Green.

"The founding principles of the Big Green DAO are: 1. Growing food changes lives; 2. Putting organizations in decision-making positions disrupts established hierarchies of power in philanthropy; 3. streamlining the philanthropic model decreases the level of effort and financial cost for donors and organizations; 4. preserving the mission of Big Green DAO and its 501(c)(3) status requires that grantees will be vetted according to the Big Green Charter; and 5. and of these principle or governance mechanisms of the DAO can be modified with a 2/3 majority participating vote of the DAO community ($GARDEN token holders) and 2/3 majority ratification by the DAO committee ($GARDENEXEC token holders); or by a consensus vote of all DAO committee members."

Big Green, who Big Green DAO operates under, believes it has the potential to further its mission by "increasing transparency to the public and seeing input into critical decisions, particularly around the use of donor funds." Essentially, that those working in the field, or "on the front lines" have a better understanding of where funds and resources would be most beneficial and therefore should have the most say in the process.

70. Decentralization 1/10

First, it is important to note that Big Green DAO is a subgroup of Big Green. It is unclear in their Lightpaper how much involvement Big Green has in the everyday practice of the DAO. However, Big Green does have a permanent spot in the DAO Committee which is composed of two to five grantee organizations from within the DAO Community. Essentially, this reads as a board of directors. Especially when considering the role of the Committee which is to be "responsible for leading the DAO Community in governance discussion and decision-making and advancing the mission and values of the DAO and the DAO Constitution as a whole." Further, any proposal that advances in the process, before enactment, must have a consensus vote of all Committee members. Also, Big Green DAO also limits who can join the DAO; meaning, that according to the LightPaper, individuals are unable to join as members. They can only join to gain $GARDENDONOR tokens which can be used to vote where grants should go. But it does not seem that they have any say in governance. Instead, only accepted organizations who have been vetted may join. All of which demonstrates a poor structure for decentralization.

71. Attack Resistance 2/10

There is little to no mention of any protocols put in place to combat types of different attacks. The only indication that some measure has been put into place is their vetting process for allowing organizations to join the DAO and to receive $GARDEN tokens. By limiting who can join and by making the tokens non-transferable it is easier to protect the DAO and Big Green

parent company. Also, because the Committee is the final stop for any type of proposal put forward, and because they require a unanimous vote, it is unlikely that any malicious attack like a sock puppet, or whale attack could ever happen. However, these principles really limit what a DAO is supposed to be so in a way it is secure, but also at the expense of the organization they were trying to create.

72. Governance 4/10

As mentioned before the governance of Big Green DAO is very much like a board of directors in a corporation. They have three levels of tokens available to organizations and individuals. The lowest of the tokens is called $GARDENDONOR, which essentially acts as a token to decide where grants should go and governance. The next step up is $GARDEN tokens, which are the nonprofit grantees. This type of membership is limited to grantees of the DAO, and are responsible for participating in governance and grantmaking to steward the values and practices of the DAO. The highest token is called $GARDENEXEC which is reserved for the DAO Committee members and can only be used for governance voting, not grant making. As mentioned before this group essentially acts as a board of directors with a high amount of centralized authority.

73. Regulatory Compliance 4/10

Big Green DAO operates under the umbrella of Big Green's 501(c)(3) status as a nonprofit organization. They follow strict criteria to be in accordance with IRS rules and regulations and on the advice of counsel. Big Green is entrusted with the administration, accounting, management and oversight of Big Green DAO's operations.

74. Work to Earn 1/10

There is no information in their LightPages on any type of work to earn status for its members. They do have a vague list with certain paid areas within the DAO. For example "5% of the DAO treasury each quarter will be set aside for DAO management and administration costs." However, this is the only information that I could find that provides any information on payment. Because it is not mentioned, I think it is safe to assume that there is no Work to Earn for members at any token level outside of the 5% set aside for operations.

75. Organizational Communication 2.5/10

It is unclear how interactive the community is with each other during the proposal process, or even in the day to day. They do have a discord listed, but I do not see any indication that its used in a way other than to converse. No voting or poll taking seems to take place. Further, that is the only social aspect listed on their website. They do have a "DAO Community" link, but when followed it offers very little information. It essentially just provides information on how the DAO helps communities across the world. Therefore, it would score quite low on this area because it does not seem to offer any community feedback, until the actual voting process; but even then the voter is limited to a programmed response – Yes or No.

Topic	Score	Explanation
Decentralization	1/10	• Big Green and Big Green DAO are not autonomous • Big Green DAO has a faux Board of Directors • Big Green has a permanent seat on "Board" • 3 separate level of Token holders which allows different authority or voting
Attack Resistance	2/10	• The bottle-neck feature of their non-decentralized hierarchy will allow for some defense against attacks • Otherwise they make no mention on how to combat attacks
Governance	4/10	• They do not have a fully functional voting mechanism that allows each member to vote a single time throughout the voting process • They do eventually move into a voting process where it is 1 token 1 vote
Regulatory Compliance	4/10	• They have a LLC through Big Green (parent company) • They are outside of the internal governance structure except for the spot on the "board" which is why I could not give a full 5
Work to Earn	1/10	• Does not allow or does not express a way for individuals to earn • Certain token sections do not allow individuals to even obtain the tokens.
Organizational Communication	2.5/10	• They do rely on third-party programming to use for communication. Discord • They do not promote any other communication

DAO Scoring Card	VitaDAO	Bloomeria	The Regen Network	Angel Protocol - Angel Giving	The Big Green DAO
Decentralization	6.5	3	1	3	1
Attack Resistance	3	1	1	1	2
Governance	3.5	1	2	3	4
Regulatory Compliance	1	1	6	1	4
Work to Earn	2	2	5	1	1
Organizational Communication	7.5	3	4	3	2.5
Total	23.5	11	19	12	14.5

76. Media DAOs

Media DAOs, although still in their infancy, are intended to revolutionize the way media is produced, distributed, and consumed. The idea behind this movement is to remove many of the barriers to entry associated with art/media production and ownership that we experience today. There is no one definition of what these DAOs encompass, but we have chosen to view them as DAOs that encourage user contribution as a means to create and curate content and to provide technical expertise to the community.

Chat GPT describes Media DAOs as "a decentralized autonomous organization, is a community-driven platform that enables decentralized ownership and management of media content. It is essentially a decentralized platform where participants can vote, propose, and fund the creation, curation, and distribution of media content, such as articles, videos, podcasts, and more."

Media DAOs work to transform the media industry by empowering creators and consumers, minimizing the impact of large media corporations, and incentivizing innovation and collaboration. Decentralized organizations and management structures allow media DAOs to create platforms for diverse individuals to come together and share their unique perspectives, narratives, and ideas. In doing so, media DAOs will eventually lead to a more equitable distribution of resources and power .

77. SuperRare DAO
SuperRare was founded in 2018 as an NFT art platform built on the Ethereum blockchain. This space allowed artists, collectors, and curators to come together and create a crypto museum, exhibitions, galleries, and much more. In 2021, after SuperRare proved to be a successful NFT marketplace, the founders decided to push the platform to become a DAO so that the community members may begin to govern and direct SuperRare and its significant treasury. Today, SuperRare's treasury sits at $45.1 million and is ranked 38th on DeepDAO.

77.1. Scoring
a. Decentralization 2/10
SuperRare is governed by the Council, a centralized authority put in place at the DAO's inception. The Council is made up of seven appointed individuals who determine the direction in which the DAO develops. Community members have some influence over the admittance of new members, and they control SuperRare Spaces—these spaces are independent storefronts that curate and sell artwork. There are only 10 Spaces created each month, and members who hold $RARE governance tokens vote on who wins the Spaces. $RARE is available for purchase and contributes to SuperRare's 1 token = 1 vote system.

New artists and collectors have to apply to be a part of the DAO, and the Council and token-holding members determine new membership. Token-holding members are able to submit SuperRare Improvement Proposals (SIPs) to suggest changes for the DAO. Furthermore, token-holding members have the ability to replace members of the Council, though the process for this does not appear to be published.

b. Attack Resistance 2/10
Because SuperRare governance tokens are purchasable, the DAO is left vulnerable to 51% and sock-puppet attacks. The initial and subsequent tiered distributions of $RARE afforded some protection from the possibility of having one individual amass the majority of the tokens. Unfortunately, as the drops have been completed, a 51% attack remains a significant risk for this DAO. Fortunately, SuperRare has put some measures in place to minimize the risk of fake accounts by requiring a strict verification process for new artists and collectors, requiring proof of identity

before admitting them to the DAO P.

SuperRare appears to be highly susceptible to the risk of centralization. The Council operates as directors who represent the members and the network. In polls where token-holding members appear to vote in a manner that the Council believes conflicts with the network's long-term health, the Council may choose to operate in the best interest of all stakeholders in the network.

c. Governance 1/10
While it is the goal to have SuperRare members govern all aspects of the DAO, the current structure of the DAO does not allow for this. Currently, token-holding members only have governing power over Spaces, the onboarding of new members, and somewhat over treasury operation. Token-holding members are able to submit and vote on proposals in an effort to develop and enhance SuperRare. However, voting power is purchasable, and, as mentioned above, if a vote does not align with what the Council believes is in the best interest of the network, they need not abide by the results of the vote.

d. Regulatory Compliance 1/10
In terms of regulatory compliance, SuperRare is lacking entirely. I was unable to find any information on their website, published materials, or any other published material online. As far as I can tell, there is no legal wrapper in place making this venture incredibly risky for investors. As of now, code is law in the SuperRare community and there is no public discussion of changing that in the future.

e. Work to Earn:2/10
SuperRare has good intentions as to how an infrastructure of 'work to earn' can be implemented both for artists as well as for curators. However, this has not happened. $RARE is meant to eventually incentivize curation and participation inside of the network where token holders may vote to allocate $RARE tokens as they see fit. Although not available, it has been noted by SuperRare that governance may vote to allocate $RARE tokens as they see fit. However, the retroactive drop of coins (15% of coins) was distributed based on how early members joined as well as how active they were in terms of transactions. I did appreciate that the transaction volume was based on the number of transactions rather than total value of each transaction.

f. Organizational Communication 3/10
SuperRare does seem to make a conscious effort to prioritize communication within their community. The main issue with their communication is a lack of any protocol to ensure efficient communication. Currently there is only a Discourse page that is open to all $RARE token holders. There is no specific incentive for user engagement or any specific categories. In theory this platform is intended for debates and discussions regarding SIPs, however, there have not been many.

g. Total Score 11/60
 SuperRare is, in theory, a great project. However, their existing protocol and infrastructure is ultimately unstable and inefficient.

Unless major changes are made to the platform, ownership of this DAO is proving to be ultimately worthless. In the past year, SuperRare has decreased in value tremendously and seems to be dormant as of 2023.

Squiggle DAO

SquiggleDAO was launched in March 2021 as a unique platform built on the Ethereum blockchain This DAO creates a space for members to come together to admire and create Chromie Squiggles. The DAO works to support the growth and cultural relevance of generative NFT art, and as the DAO develops and becomes more decentralized it is expected that a greater variety of artforms will be included on the platform.

77.2. Scoring

a. Decentralization 2/10

The SquiggleDAO founders expect the DAO to eventually become a self-sustaining decentralized community. However, since its inception, SquiggleDAO has been run by a number of centralized authorities and systems, with only small pockets of decentralization throughout the community. Initially, members who wished to participate in governance had to purchase $SQUIG tokens, but the DAO has recently shifted to requiring a SquiggleDAO NFT as a governance token. Token-holding members are able to propose new initiatives, join squads to participate in strategic planning, budgeting, governance calls, and marketing. The leaders of these squads are not elected by the community but are appointed by the centralized Board of Squiggle Strategy.

While the token-holding members of the community have 1 token = 1 vote power and the ability to propose new initiatives, the members are not fully directing the DAO's development. The founders maintain control over the Board of Squiggle Strategy and guide committees within the community to further the DAO's evolution and determine how to distribute the treasury.

b. Attack Resistance 1/10

SquiggleDAO's primary vulnerability is to 51% attacks. Because this DAO operates as a 1 token = 1 vote system, and their tokens are purchasable, any member who has enough money may purchase the majority voting power. While there may be mechanisms in place to prevent any one individual from purchasing enough tokens to give them majority voting power, I have not been able to find anything published to determine whether the DAO has such systems in place. Until SquiggleDAO has a mechanism in place to override any such purchases, the DAO remains highly susceptible to a rogue member buying a majority voting/governing power.

The SquiggleDAO community appears to be practically defenseless against centralization. While the founders have an admirable vision for the community to have control over the DAO's development, this concept has not yet been effectively established. The day-to-day system of the DAO is predominantly run by the centralized board and its appointed squad leaders. Despite the community members' ability to engage in discussions, propose new projects, and vote on some aspects of the platform, they do not have the ability to remove or check the board's power.

c. Governance 1/10

SquiggleDAO does not appear to have many effective governing systems in place. One positive is that all voting takes place on Snapshot, which offers a decent level of transparency to community poll. However, only members who have purchased governance tokens may vote. Furthermore, only token-holding members have access to the community's primary discord channel and are able to engage in governance discussions. Overall, most decisions and initiatives are brought by the DAO's board or by squad leaders and voted on by token-holding members. Because members currently have the ability to purchase majority voting power, the DAO lacks an effective and sustainable governing structure.

d. Regulatory Compliance 1/10

SquiggleDAO is struggling with regulatory compliance. The DAO does not currently have a legal wrapper, which is concerning considering the artistic content that is being created and marketed on this platform. According to the DAO's website, the founders are working on establishing entities in Cayman and BVI this year--they have not published any specifics about these entities.

f. Work to Earn 2/10

SquiggleDAO was created with two primary goals in mind: 1) acquire as many Chromie Squiggles as possible, and 2) promote Squiggle culture . Because Squiggle culture is such a niche community, the members of the DAO are connected by a shared passion for creating and acquiring new Squiggles. However, other than the members' personal satisfaction there are no incentives offered by the DAO for these community contributions. In theory, the DAO will evolve to have a reputational system in place that will enable the more active contributors to have a greater say in the community, but this has not yet been put in place.

g. Organizational Communication 4/10

Because SquiggleDAO has created a community for individuals who are passionate about Squiggles to come together and exhibit their pieces, the community is naturally interactive. The platform allows members to view Squiggle collections and come together to learn about and further the art's growth. The DAO has two discord channels--one channel offers general information and updates, and the second channel is where the community can participate in discussions regarding governance and other DAO-related topics (e.g., new initiatives). However, only token-holding members have access to the second channel, and they are the only ones able to participate in these discussions.

g. Total Score 15/60

While SquiggleDAO has great intentions of how the DAO will evolve to be a more decentralized space for community members to create a "work to earn" system and for its members to develop their reputations on the platform, the DAO has not gotten there yet, and the DAO has not published any clear plans as to how it will achieve these aspirations. Despite this, SquiggleDAO has managed to maintain reasonable value (except for a significant dip in 2021).

78. Krause House

Krause House is a DAO that was created in 2020 with a mission to create a DAO of basketball fans that own and manage an NBA team. In short, "Krause House is quickly becoming Web3's home team." Although they have not been able to purchase an NBA team yet, Krause House recently purchased a professional basketball team "Ball Hogs" which is a 'Big 3 Team'. Their vision for the DAO is to align a group of basketball fans together in order to allow individuals access to equity and governance over a professional NBA team. They seek to entirely disrupt the established infrastructure for professional sports as we know it and reinvent what ownership can look like in both a tangible and intangible sense. DeepDAO has ranked this organization as #169 and reports a treasury of $923.9k with 1.9k token holders.

78.1. Scoring
a. Decentralization 2/10
The decentralization of this DAO is not great. In essence, they have determined that only a minority of shares will be available to the public while a few price individuals will hold the majority original ownership stake in the NBA team. Krause House will use a liquid democracy form of voting in which members may assign their voted to another member. This method undermines the purpose of a decentralized model in that it continues to encourage collective action rather than any one individual being able to make a difference in an organization. On the other hand, Krause House argues this method is best because it allows the decisions to be made by 'specialists' who hold the most knowledge about a decision. Overall, their organization is incredibly susceptible to centralization.

b. Attack Resistance 1/10
In this DAO, all voting will be held and displayed on an open ledger available for review for all members. In order for an action to succeed, there needs to be a 'majority' or 'reputation' based vote in that decision. As mentioned, this DAO is implementing a liquid democracy which would in theory greatly increase the threat of sock-puppet attacks in which fraudulent users can assign their votes to another user requiring no unique participation of their own. Although there are mechanisms within Web3 that could be easily used to lessen these risks, I was not able to find any information as to if Krause House plans to implement any safety measures.

c. Governance 1/10
Krause House has recognized that the power of their organization lies within long term organizational loyalty that is specific to sports teams across the globe. That said, it is their mission to allow voting to remain in the hands of the fans that ultimately give the team value. Krause House acknowledges the current infeasibility of allowing each minor decision to require a vote for a team however they want to ensure all major decisions require a vote by stakeholders. There is little information or tangible evidence that would support their claim of 'fan focused' governance.

d. Regulatory Compliance 1/10
Krause House is approaching their regulatory compliance with the Howey Test in mind P. They recognize that with the use of their token, $KRAUSE, all financial actions will pass the Howey Test for regulatory purposes. Krause House intends to first create a C-Corp in Delaware that can house the DAO inside of it. They further intend to create a second holding company with which a Security Token Offering will occur in order to raise capital. They recognize that this method is heavily regulated by the SEC and as such Krause House is intending to start a Special Purpose Acquisition Company (SPAC) that can raise capital for their DAO similar to a traditional IPO. Although they do not expect their tokens to be issued on any major exchanged, the intent is for these shares to be available on OTC exchanges that support blockchain tokens such as Coinbase and Uniswap.

Although interesting in theory, none of this exists at the current moment and as such current investors are left open to incredible risk until any such action is taken. Furthermore, a C-Corp is hardly the best avenue in terms of a legal wrapper, however, better than nothing at all.

e. Work to Earn 1/10
As of now, there is no mention within the Krause House website or discord to support any infrastructure for earning reputation or stake in the DAO based on a user's contributions.

f. Organizational Communication 2/10
Krause House heavily relies upon Discord for their user communication in the DAO. There is no information available regarding any other forum that may be used in relation to the DAO.

g. Total Score 8/60
This DAO is one to keep an eye on in the future. They have big aspirations and are on track to meet them in the next few years. This project tis one that I think can pull a lot of interested parties into the Web3 community, however, they seem to have an inefficient and incredibly unstable infrastructure right now that simply cannot support the weight of an NBA team.

h. Gdn Dao
The Global Designer Network (GDN) DAO is a project of Digitalax launched in October 2020 built on the Polygon blockchain. This DAO was created with the goal of revolutionizing the web3 fashion industry and is made up of designers who work to engage, create, trade, supply, and fuel Digitalax. These designers are dedicated to transforming the fashion industry in web3 to create a more innovative and transparent marketplace.

79. Scoring
a. Decentralization 5/10
The GDN DAO is governed by token-holding community members using the infrastructure and mechanisms created by Digitalax and by a centralized committee that oversees some aspects of the DAO. This committee issues member-admitting NFTs and creates weekly quests for members to complete in order to collect $GDN governance tokens. These tokens are not automatically given to members, nor are they available for purchase; members are only able to earn governance tokens through actively contributing to and participating in the community.

On the platform, designers create and manage their own shops to exhibit and sell their creations. Members join various committees to oversee and ensure the day-to-day operations of the DAO (e.g., marketing, onboarding, polling, etc.). Members are encouraged to propose new projects and initiatives for the community to vote on. Not only do projects and initiatives take place virtually on the platform, but some of them take place in the form of physical events that promote the community and connect it with new designers around the world.

b. Attack Resistance 8/10
The way GDN is structured and operated affords the DAO quite a bit of resistance to attacks. While the voting structure of the DAO is a 1 token = 1 vote, tokens are not available for purchase. All governance tokens must be earned through contributions to the community. While, in theory, an individual could amass majority voting power through their contributions to the platform, this is unlikely and creates only a minimal risk for 51% and sock-puppet attacks.

The DAO, though somewhat governed by centralized committees, does not seem to be in danger of a centralized power overtaking the will of the community. Active token-holding members vote on the direction and development of the DAO; there is no centralized authority threatening to override the members' votes1.

c. Governance 7/10
The DAO is governed by token-holding members who participate in transparent voting on Snapshot. Committees are formed to oversee specific aspects of the DAO and members are encouraged to participate in any (or all) of these committees. GDN implemented Arcs to ensure a segmented progression of the DAO, which affords the members more access and mechanisms over time to accommodate for new growth and demand. GDN is in Arc two, which focuses on reputation building and enables designers a transparent avenue to develop their on-chain contribution history and the value of their supply. Despite the improvements of this reputational system, the voting structure in Arc two remains a 1 token = 1 vote1.

d. Regulatory Compliance 1/10
GDN struggles with regulatory compliance. The DAO does not appear to have a legal wrapper in place, which is concerning considering the artistic nature of the content and the active marketplace. The lack of an apparent legal wrapper leaves the members and investors in a precarious position.

e. Work to Earn 5/10
The DAO mints and distributes new tokens to encourage member contribution. Each week, new contributions quests are issued so that members may earn these new tokens. These quests appear to be set up as a bounty system, and do not seem to take a members' reputation or value into account the completion of these quests. The DAO also incentivizes members to earn these tokens, as governance tokens are required to participate in the decision-making process of the DAO, to propose new projects, and to have more access to the Digitalax ecosystem and market-

place, of which GDN is a part of.

f. Organizational Communication 6/10
GDN enables members to connect with other designers and communicate, follow, and like content on the platform and marketplace. GDN allows all members, regardless of whether they hold governance tokens, to actively participate in discussions on their discord channels. Members join various committee channels to engage in specific areas of the DAO.

g. Total Score 32/60
Overall, it seems that GDN and Digitalax have created a system in which a predominantly decentralized organization can thrive. The emphasis on incentivizing member engagement and the lack of purchasable governance tokens really sets GDN apart from other young DAOs. However, it seems there may be issues with advancing GDN to the next Arc—there does not appear to have been much movement in the DAO in the last year, nor have any updates been published.

80. Audius
Audius DAO is "a fully decentralized music streaming protocol built with public blockchain infrastructure and other decentralized technologies." Its purpose is to create a venue where artists can distribute their content directly to consumer and in turn receive compensation directly from their fans. Audius' token economy is powered by their platform token ($AUDIO), 3rd party stable coins and artist tokens. Their governance protocol is a result of artists, node operators, and fans individually and collectively making decisions to impact the community as a whole. Audius is intended to be a decentralized, community-owned, artist controlled, music-sharing protocol. DeepDAO ranks Audius #237 and specifically cites its treasury at $48.1k with 36.9k token holders.

80.1. Scoring
a. Decentralization 4/10
Despite an outwardly decentralized internal structure, there seem to be a lot of barriers in place for members of Audius. One of these barriers is that there are several tiers of membership that are not accessible to all users within the DAO. Although it is all on-chain and transparent, only a few users who are 'node operators' have the ability to stake their votes or earn weighted votes that will give them more power in the community. Most users will not have access to that technology despite their participation level. Furthermore, tokens are entirely purchasable on the marketplace giving those with more money an opportunity to gain more power within the organization. This model seems to rely upon 'pockets' of centralization and authority in order to govern the DAO as a whole making it not truly decentralized.

Furthermore, there is a committee of member who are able to intervene the voting process as further discussed in other sections, by circumventing the voting process if circumstances make that necessary and even the power to veto proposals if they are 'against the ethics' of Audius. Furthermore, there is an 'emergency' multisig available for the DAO that holds the power to undo damaging on-chain transactions. These are both more signs

of centralization in the community.

b. Attack Resistance: 7/10
A main issue facing Audius is whether they are susceptible to sock-puppet or 51% attacks. In the sense that voting for the majority of users is directly correlated to how many tokens they own, there is a possibility that a rouge member who has the most money to be able to put the organization in a tough position. I was not able to determine whether node operators (who have the ability to stake and wright their tokens) would be able to override an attack such as this with someone who is able to purchase a high volume of coins, however, it is a real possibility.

One great initiative they have is called short-circuit voting where a small group of members who are community voted into position are able to vote on issues immediately in the case of an immediate threat to the DAO or if they would need to veto a proposal that goes against the ethics of the DAO. Another positive they have is that they use both tightly and loosely couple voting metrics in order for proposals to be successful. Furthermore, there are multiple rounds of voting for most proposals (except for the short-circuit). Finally, Audius uses proxy re-encryption for streaming of artist tracts that requires a specific key and proof of payment that uses the fan's public wallet for verification. This will help ensure users of the DAO feel secure in their intellectual property being on this platform.

c. Governance 8/10
Audius is entirely governable. Even the protocols that were implemented at the start of Audius may be changed whenever people want them to. There is a mix of loosely and tightly couple voting and there is staking allowed for node operators. The organization uses a 1 person=1 vote default system for all tokens but for certain users who participate the most frequently, there is a higher weight given to their tokens. There is full voting transparency on chain. The downside of their structure is that only a minority of users are able to use staking or weighted tokens for voting. Thus, a majority of token holders remain in the same position as any general shareholder of a corporation relative to their power. That said, it seems Audius does have the intention to make this broader. Another issue with Audius is that their tokens are marketable in the sense that whoever has the most money can gain the most voted within Audius. It seems that money still has the potential to outweigh participation of node operators.

d. Regulatory Compliance 7/10
Audius does have a legal wrapper for its platform in the form of a corporation, Audius, Inc. This centralized entity is responsible for compliance with regulations as well as external stakeholder relationships. Due to the nature of artist content, regulatory compliance is extremely important to ensure the safety of all users involved. It was not entirely clear what, if any, power this corporation has over the DAO and how they interact with one another. This could potentially be an issue if a centralized corporation is able to overthrow the will of the DAO.

e. Work to Earn 6/10
Audius has made efforts to incentivize active participation as well as reward staking within their organization. However, the main problem here is that this staking mechanism is only available for Audius politicians, aka Node Operators. For the majority of token holders, their 'work to earn' potential is simply not available because they are not able to stake tokens on projects. That said, node operators need to be the most active and invested in the community due to their efficiency model. This also allows for more proposals to get through to the end if users can get a couple node operators to back the project with staking. However, this does not seem to align entirely with a work to earn ideology. Finally, there is an interested structure for artists who actually contribute their work in that they are compensated by fans who consume their art based on how much they contribute. However, it is confusing how artists interact with the DAO itself.

f. Organizational Communication 5/10
Communication in this DAO is paramount. They have built-in several social mechanisms within their platform where users can stream tracks, like tracks, add tracks to their personal library, follow artists, receive notifications about their releases, create playlists, and even repost tracks to their followers. As far as communication for voting and governance purposes, there is a Git-hub forum used by Audius for proposal discussions between users. Specifically, users who are able to stake their tokens or earn more weight on their tokens will need to be active on this forum in order to retain those privileges.

g. Total Score 40/60
Audius has the power and vision to be able to create an incredibly powerful platform that could completely disrupt the music industry as we know it today. Their complex and cutting-edge governance and attack-resistance procedures are incredible to see in place. However, the fact that they are run by a traditional centralized corporation is troubling. Their ideas are commendable, and they have made admirable strides in the Web3 community, however, they are nevertheless a decentralized platform that can only survive with pockets of centralization built into infrastructure. There is potential to be changed with further technology advances.

h. Final Thoughts and Suggestions for Improvement
In general, the message behind all of these DAOs is an admirable one that our society could greatly benefit from if done correctly. Despite that ideation, it seems Web3 may not be ready for a truly decentralized organization just yet. There is an overarching theme between platforms in which there is always a promise of decentralization, yet tangible measures prevent that from becoming true.

Many platforms seem to agree with the idea that they must first create a centralized organization that will later become decentralized once they implement proper protocols and procedures. This mindset, however, undermines the power and ultimate accessibility to ownership that is the foundation of a DAO. Changing this mindset may mean spending more time developing proper infrastructures in Web3 in order to successfully capture the vision of a true DAO.

Overall, there needs to be more power earned by members that can be used in a meaningful way to contribute at the start of the organization—not three years from now. Furthermore, such accessibility will not be possible if voting rights and ownership are merely passive purchasable assets, not unlike traditional stock today. Allowing rights to be bought up by a member with the most liquid cash to invest in the company will result in the same meaningless fate faced by traditional investors today.

DAO Scoring Card	SuperRare	Squiggle DAO	Krause House	GND DAO	Audius
Decentralization	2	2	2	5	4
Attack Resistance	2	1	1	8	7
Governance	1	1	1	7	8
Regulatory Compliance	1	1	1	1	8
Work to Earn	2	5	1	6	7
Organizational Communication	3	5	2	6	6
Total	11	15	8	33	40

81. Services DAOs
81.2. Aragon Court
81.3. Scoring
a. Decentralization 1/10

Aragon Court is a decentralized dispute resolution system built on the Ethereum blockchain, designed to handle disputes that may arise in Aragon organizations. Aragon Court subjective disputes that cannot be solved by smart contracts. This is achieved by having a set of guardians drafted for each dispute who will vote to guarantee a certain ruling.

The decentralization of Aragon Court means that decision-making power is distributed among its members, rather than being centralized in a single authority or group of individuals. Decentralization is achieved through the use of a distributed network of jurors who are selected randomly to adjudicate disputes. Jurors are required to hold a stake in the Aragon Network, which ensures that they have a vested interest in ensuring fair and impartial dispute resolution.

According to Aragon Court's Terms of Use, "The Aragon Network is a protocol that provides infrastructure and services to users of the Aragon platform and that is governed by Aragon Network Token ("ANT") holders through the Aragon Network DAO." Notably, "the Aragon Network DAO is only governed by a set of trusted members of the Aragon community who agreed to launch the Aragon Court on mainnet through its governance powers in the Aragon Network DAO." Aragon Court's decentralization score is a One. This is because Aragon Court is only governed by a set of trusted members of the Aragon community. Although the terms of use state that this was done "governance powers in the Aragon Network DAO" it has created centralized control. Thus, accounting for the low score.

b. Attack Resistance 3/10

The attack resistance of Aragon Court is an important aspect of its overall security and resilience. Common attacks on decentralized organizations include the sockpuppet attack and the 51% attack.

According to the Aragon Court website, "Guardians sign up to get drafted into the court by activating ANT tokens in Aragon Court's smart contract. The more tokens a guardian has activated, the higher the probability of getting drafted." Here, the ANT token has a Coin Market Cap price of $3.40. Given that the ANT token is a fungible token, and "Gurdians" are more likely to be drafted based on their ANT token amount, Aragon Court is highly susceptible to a 51% attack. To try and prevent this, Aragon Court uses "multiple countermeasures including iterative appeals, commit and reveal voting, and locked withdrawal periods."

Aragon Court has taken measures to fight against a sockpuppet attack. Here, to defend against these attacks Aragon Court uses "a simple staking system where guardian impact is weighted by their active stake of tokens." Aragon Court's attack resistance score is a three. This is because Aragon Court utilizes a fungible token that makes it susceptible to 51% attacks. On the other hand, Aragon Court recognizes this weakness and has created an appeals process, etc. However, in realizing the drawbacks of a fungible token, Aragon Court does not seek to change away from the fungible token.

c. Governance: 1/10

The governance of Aragon Court is a crucial aspect of its operations as a DAO. Governance refers to the decision-making processes and structures that determine how the organization operates, allocates resources, and manages its members.

Aragon Court's governance is under the control of "set of trusted members of the Aragon community who agreed to launch the Aragon Court on mainnet through its governance powers in the Aragon Network DAO." This governance method is not a decentralized governance, but rather a highly centralized governance method that is open to corruption and a hierarchical structure. Aragon Court's governance score is a one. This is because the governance of Aragon Court is left to a set of trusted members of the Aragon community, making it a centralized form of governance.

d. Regulatory Compliance: 9/10

Regulatory compliance considers the organization's ability to acquire legal recognition from their respective jurisdiction and to interact with real world entities. Moreover, this attribute also considers the ease by which an external founder can create a regulatory compliant organization with full legal status of their respective jurisdiction. Here, Aragon Court has a legal wrapper in the form of the Aragon Association, which is a non-profit or-

ganization registered in Switzerland. Aragon Court's regulatory compliance score is a nine. This is because of its Swiss association legal wrapper.

e. Work to Earn 5/10

Work to earn refers to the opportunities an individual has within an organization to perform services, earn reputation, and future potential jobs. The critical mechanism of work to earn is the ability to increase your status within the organization from repeated completion of successful work.

Here, the work to earn comes from the rulings. Aragon Court states, "to incentivize consensus decisions and honest behaviors, a portion of your active tokens are locked when drafted for a dispute and you can get rewarded or penalized depending on the fi-

nal ruling." Thus, by being voting on the side that wins majority consensus, "guardians" are able to earn tokens. Aragon Court's work to earn score is a five. This is because "guardians" earn (or lose) tokens based on their rulings. This encourages them to be active participants in the Aragon Court system.

f. Organizational Communication 5/10

For organization communication, Aragon Court uses Discourse. Discourse is a centralized open-source platform for online discussion forums, where users can create and participate in conversations on various topics.

Aragon Court's organization communication score is a **five**. This is because Aragon Court uses a centralized organization—Discourse—to aid in organization communication.

Topic	Score	Explanation
Decentralization	1/10	• Aragon Court is only governed by a set of trusted members of the Aragon community • Aragon Court utilizes a fungible token that makes it susceptible to 51% attacks.
Attack Resistance	3/10	• Aragon Court has created an appeals process.
Governance	1/10	• Aragon Court is only governed by a set of trusted members of the Aragon community.
Regulatory Compliance	9/10	• Aragon Court uses a Swiss association legal wrapper
Work to Earn	5/10	• "Guardians" earn (or lose) tokens based on their rulings.
Organizational Communication	5/10	• Aragon Court uses a centralized organization—Discourse—to aid in organization communication.

82. CabinDAO

CabinDAO is a network of remote work and vacation cabins that can be booked and paid for using cryptocurrency. It is built on the Ethereum blockchain and aims to revolutionize the tourism and remote work industries.

One of the goals of CabinDAO is for people to use its decentralized platform to be able to rent cabins in beautiful locations around the country and world. These locations are away from busy cities. Using cryptocurrency allows CabinDAO to streamline the booking and payment process, while also allowing customers to maintain more privacy.

CabinDAO is trying to address the problem that Americans are less happy with their lives today than they have been in 50 years, primarily due to increased loneliness and a decreased standard of living. This trend started in the 1960s, when people moved out of crowded cities and into suburbs. The rise of social media, the Internet, and cell phones has actually made people more lonely and less social. CabinDAO aims to increase "in-person connections to build empathy through body language and emotional signals."

CabinDAO's vision is to create a "network city made up of independently owned and operated coliving neighborhoods that share three characteristics: 1) Strong community 2) Fast internet 3) Access to nature." These neighborhoods are located in rural areas and allow for "more affordable, higher quality, more flexible housing options that you can get in traditional cities."

The founders are Jon Hillis and Zach Fleishman. Before CabinDAO, there was Creator Coop, a community of people who made a living off the Internet. The group eventually met in per-

son at a cabin in the Texas Hill Country built by Jon Hillis. They came up with a residency program, launched a crowdfund so that "community members could help sponsor creator residencies at the cabins," and got 101 people to make donations. The community then voted on which creators got residencies in the cabin.

The DAO formed out of those initial residencies. Over 500 people now hold the CABIN token, which is used for governance. This includes monthly votes for creators to earn free residencies at the cabins managed by the DAO. The first physical property built by the DAO was Neighborhood Zero in the Texas Hill County, which includes three cabins on 28 acres.

CabinDAO is looking to add additional physical locations. There is a city directory where potential neighborhoods can list offers for coliving and residencies. Citizens can apply for these offers and the census shows every members' roles, voting power, and citizenship status. Currently, there are six potential roles for members of the DAO: Caretaker, builder, gatherer, naturalist, creator, and resident.

"Guilds are self-governing pods that grant roles" to people who want to contribute to the DAO. Members of the DAO must work their way up within the guild from apprentice to artisan to custodian. "Citizenship is a subscription membership managed through a web-of-trust vouching system." Only a current citizen can nominate you for citizenship and that person can only nominate five people per year. Citizens receive access to certain offers, the annual gathering, merchandise, and other perks. In the next five years, CabinDAO's goal is to "curate our first 5,040 citizens and 500 active neighborhoods."

82.1. Scoring

a. Decentralization 4/10

The decentralization of CabinDAO means that the community can propose and vote on changes to the platform, such as adding new properties or changing the rules for booking and payment. Decisions are made through a decentralized governance system that ensures everyone's voices are heard and that the platform remains fair and equitable.

The guilds described above are essentially committees. Custodians have the power to manage guilds and distribute roles, which does not allow for full decentralization. In addition, while the fact that only current citizens can nominate potential citizens might help prevent sock puppet attacks, it does present a barrier to entry. The cabins also aren't technically owned by the DAO, but rather one member of the DAO individually. This presents a big risk of centralization.

On the positive side, there are people working in the DAO on projects that the founders do not find out about until they are about to be released to the public. For example, there was a merch launch that Zach Fleishman did not see until the very end of the process and he was not required to approve it.

CabinDAO's decentralization score is a four. This is because it can only operate if small pockets of centralization occur within the organization itself. The guilds are essentially committees. In addition, since you must be nominated by a current citizen in order to become one yourself, there is a barrier to entry.

b. Attack Resistance 5/10

CabinDAO does not have a lot of measures that we could find to protect against common attacks, such as sock puppet attacks and the 51 percent attack. The best measures CabinDAO uses for attack resistance are rewarding token holders for participating in governance decisions and by contributing to the development of the platform. While anyone can create a profile in the Census, one can only build his or her reputation by contributing to the community. CabinDAO's attack resistance score is a five. It would be difficult to create a sock puppet attack because of the requirement to be nominated in order to become a citizen. In addition, a 51 percent attack would be difficult because CabinDAO does not use a fungible token and reputation is rewarded. At the same time, there is nothing we could find to indicate that CabinDAO has systems in place to prevent against these common attacks.

c. Governance 7/10

The two main features that distinguish CabinDAO's governance are polycentric governance and quadratic voting. The former allows "many diverse centers of partial authority" to "collectively govern a network." The later increases "equity among token-holders" and allows people to express how strongly they feel about a certain proposal.

Anyone who holds or has been delegated 1,000 CABIN can submit a governance proposal to the DAO. There is a City Directory that determines which neighborhoods are allowed into the city. Voting is one vote per token held (not one person, one vote). CabinDAO's governance score is a seven. Voting is based on the number of tokens held, not one person, one vote. In addition, the polycentric governance and quadratic voting described above allow for sustainability of the governance structure over time. On the other hand, the fact that CabinDAO allows delegation of CABIN tokens is a negative because it does not incentivize members to be informed and could allow for certain members to gain a tremendous amount of power if they convince enough people to delegate their tokens to them.

d. Regulatory Compliance 3/10

The DAO is structured legally "as an Unincorporated Nonprofit Association (like a neighborhood association) made up of a constellation of other independently operated organizations and people who govern it onchain." Zach, one of the founders, used to work at a big law firm and both founders recognize the importance of working with lawyers and accountant. CabinDAO's regulatory compliance score is a three. While they do use an association as a legal wrapper (better than a foundation), it is connected to the internal governance structure of the DAO. While they do recognize the importance of working with lawyers, this aspect does not seem to be well developed yet.

e. Work to Earn: 8/10

CabinDAO seems to have a solid work to earn system in place. Reputation is accounted for in each member's profile on the Census. One can earn reputation points and CABIN tokens by contributing to governance, providing feedback, creating content, and referring new users. CabinDAO's work to earn score is an eight. As described above, there are several ways that one can earn reputation tokens. At the same time, CabinDAO does use a bounty system for some of its tasks.

f. Organizational Communication 4/10

For organization communication, CabinDAO uses Discord, Clarity, Twitter, Instagram, and also has a blog and a podcast. Notably, aside from the blog and podcast, these are third-party centralized platforms. There is no indication that reputation is tied to individual engagement on these platforms or that they are added to different categories or committees based on engagement. CabinDAO's organization communication score is a four. They use third-party software, such as Twitter and Discord, for member discussion and engagement. There is also no indication that they add community members to committees or categories based on engagement.

Topic	Score	Explanation
Decentralization	4/10	• Guilds operate as committees • Barrier to entry to become a citizen
Attack Resistance	5/10	• No fungible token, reputation is accounted for • No systems in place to prevent common attacks
Governance	7/10	• Voting based on number of tokens held • Polycentric governance, quadratic voting • Delegation
Regulatory Compliance	3/10	• Unincorporated nonprofit association – connected to internal governance structure of the DAO
Work to Earn	8/10	• Many ways to earn reputation tokens, incentivizes continued engagement with the DAO • Bounty system for some tasks
Organizational Communication	4/10	• Measures engagement, but doesn't add people to committees based on engagement

83. CRDAO

CodeReviewDAO (CRDAO) facilitates code reviews for smart contracts on the Ethereum blockchain. It "exists to serve the greater digital asset and web 3 communities, as well as the computer science community at large, with fully transparent, competitive, high quality code and standards reviews."

CRDAO seeks to solve some of the many challenges in the existing code review process, both human-code issues and human-human issues. Human-code issues include patch size and code confusion. Human-human issues include developer participation, lack of feedback, and organizational structure. There is also essentially a cartel that has formed, allowing the top five audit firms to charge extremely high prices and create high barriers to entry for new people seeking to enter the market.

The advantages of CRDAO include full transparency, price discovery through a bidding process, speed in code reviews, community and crowd wisdom to monitor code review quality, community governance, smart contract deposits and accountability, and client control over the code review process.

a. Decentralization: 8/10

The key to the decentralization of CRDAO is the "community-driven code review process that utilizes a bidding process on code reviews to drive prices down." Once an internal or public job is posted, the bidding process begins. There is an auction, where any external person is allowed to bid to provide a functionality review. If the CRDAO client selects an external code review bid as the winning bid, there's a procedure to onboard the code reviewer as a new voting associate (VA). Then, the CRDAO VA community votes on the code review performance.

Feedback loops are also key to the decentralization of CRDAO. These filter out the subjectivity that is common in the large code review firms. Reviews are "subject to crowd review and policing votes." Through the collection of reviews by CRDAO, common standards develop and guide future reviewers.

b. Attack Resistance 5/10

CRDAO is fairly attack resistant because of its use of reputation. As a result, sock puppet attacks are technically possible, but would have little influence. CRDAO does not appear to have a fungible token, so the 51 percent attack is nearly impossible.

C. Governance 9/10

For governance, CRDAO follows the decentralized framework developed by Wulf Kaal and Craig Calcaterra. This means that there is reputational governance in the form of a non-fungible token (NFT), there is a two vote model with both loosely coupled (no reputation stake) and tightly coupled (staked reputation) rounds, salary is proportionate to the member's reputation score, and there's full voting transparency on the blockchain. The non-fungible token, however, does not appear to have been created yet.

d. Regulatory Compliance 10/10

For regulatory compliance, CRDAO has terms and conditions that are developed and deployed by Open Source Standards Association in Switzerland. This legal wrapper also provides CRDAO with limited liability.

e. Work to Earn 8/10

There are a multitude of work-to-earn opportunities in CRDAO. As described above, someone from the public or an already existing member of the DAO can participate in the bidding process. In addition, reputation is on the line during this process and in the feedback loops. There is an incentive for workers to continue contributing to the DAO because of the reputation. There does not, however, appear to be an actual reputation token that is minted by the DAO.

84. Organizational Communication 3/10

As for organization communication, CRDAO has accounts on Twitter, LinkedIn, YouTube, and GitHub. They have not, however, posted any content on these platforms. In addition to these third-party platforms, anyone can join the discussion by posting on the CRDAO portal.

Given the above information, the following is the score given to CabinDAO in each of the following categories:
CRDAO's decentralization score is an eight. This is because it does not appear to have committees or other methods of centralizing power. The code review process is community driven, and the feedback loops described above ensure common standards. In addition, there are extremely low barriers to entry, which fosters inclusivity. Members are onboarded contingent on work performed. Importantly, power and decision-making authority are distributed away from a central authority.

CRDAO's attack resistance score is a five. Sock puppet attacks

are unlikely to be successful because the community will notice that these accounts are not doing any work for the DAO. In addition, since there is no fungible token, a 51 percent attack is even less likely. We did not find any information, however, about how CRDAO protects against attacks, aside from using the reputation system and decentralized governance described above.

CRDAO's governance score is a nine. As described above, CRDAO uses the decentralized governance framework developed by Wulf Kaal and Craig Calcaterra. The only drawback is that there does not appear to be an actual reputational NFT, but rather just a reputation score. There is, however, two rounds of voting and salary to proportionate to each member's reputation score.

CRDAO's regulatory compliance score is a ten. The organization appears to have a legal wrapper in Switzerland that is congruent with DAO internal governance. This is also one of the most developed and detailed parts of CRDAO's website. It goes into great detail in the terms and conditions PDF on the website.

CRDAO's work to earn score is an eight. The organization incentivizes people to keep contributing to the DAO through reputation scores. Again, however, the lack of an actual reputation token prevents this score from being higher. This appears to be coming in the near future, though, based on how well structured the DAO is. As described above, there is a clear onboarding system that allows new members to enter the DAO easily.

CRDAO's organization communication score is a three. They use third-party software, such as Twitter, for member discussion and engagement. While accounts have been created on several third-party platforms, there has not been any engagement. There is also the CRDAO portal, where engagement can be measured.

Topic	Score	Explanation
Decentralization	8/10	• No committees • Low barrier to entry • Community driven process, feedback loops
Attack Resistance	5/10	• Common attacks unlikely due to importance of reputation and lack of fungible token, but unclear what systems are in place to prevent attacks
Governance	9/10	• Two rounds of voting • Reputation tied to salary
Regulatory Compliance	10/10	• Legal wrapper in Switzerland congruent with DAO internal governance
Work to Earn	8/10	• Members incentivized to keep contributing due to reputation scores • Clear onboarding process
Organizational Communication	3/10	• Uses CRDAO portal

84.1. Kleros

Kleros is a DAO built on the Ethereum blockchain. Kleros uses smart contracts and game theory to provide a fast, transparent, and affordable way to resolve disputes. Kleros allows individuals and organizations to resolve disputes of various types, including e-commerce disputes, freelancing disputes, and domain name disputes.

Kleros works by creating a panel of jurors, who are randomly selected from a pool of qualified users and are incentivized to make fair and impartial decisions. Jurors are required to stake tokens as collateral, which are forfeited if they rule unfairly or fail to participate in the dispute resolution process.

a. Decentralization 5/10

The decentralization of Kleros allows for members to have a say in the DAO. Anyone is able to join Kerlos, so long as they pay for the PNK token. Once in Kleros, members who consistently perform well as jurors are able to earn more tokens. The only barrier to entry is the ability to buy enough PNK tokens to be eligible to vote or to be on the jury. Kleros voting is not one-person-one-vote. Voting is based on the number of PNK tokens one has.

b. Attack Resistance 3/10

To combat sockpuppet attacks, Kleros makes potential jurors stake tokens. By staking tokens, members essentially "bid" to be selected for the jury. However, this does not completely deter individuals from making multiple accounts and staking using said multiple accounts to be on the jury.

Kleros is a fungible token. Currently, the Kleros token, PNK, is available on CoinMarketCap for $0.02757. This opens Kleros up to a 51% attack because an individual could buy enough tokens to stake and become a juror. The probability of being drawn as a juror for a specific dispute is proportional to the amount of tokens a juror stakes. The higher the amount of tokens he stakes, the higher the probability that he will be drawn as juror. As such, Kleros has weak attack resistance. This could be changed by utilizing a reputation system to stake rather than tokens in order to select the jurors.

c. Governance 3/10

The governance of Kleros is complex. Kleros does not use one-person-one-vote, nor does it use one round of voting. However, Kleros does use a fungible token without any reputation scores. There are five steps to receiving approval for a proposal: 1) Create a proposal in the Kleros Forum, (2) Receive community feedback and update the proposal, (3) Publish it on the Kleros Snapshot page to have PNK token holders vote on it, (4) If the proposal is accepted, submit a list of transactions implementing the proposal on Kleros Governor, and (5) Kleros governor enacts the changes if they aren't successfully challenged.

d. Regulatory Compliance 5/10

Kleros has a legal wrapper called Kleros Cooperative. Kleros Cooperative is a not-for-profit entity, registered as a cooperative under French law.

e. Work to Earn 7/10

Kleros is strong in the area of work to earn. Here, Kleros mem-

bers are rewarded for their work as jurors. If members are on the "winning" side of the dispute resolution, they receive PNK tokens. If members are on the "losing" side, they lose tokens that they staked in order to be selected on the jury. Members that are on the "losing" side do not lose all their staked tokens so that they are not discouraged from coming back and being active members in the DAO. As such, Kleros members are incentivized to be active members of the DAO.

f. Organizational Communication 6/10

Kleros communication occurs on their own servers. Members are able to post forums on forum.kerlos.io. However, voting measures take place on snapshot. Snapshot is a centralized third-party platform. Kerlos also has a Twitter and a Github page for communication.

Kleros's decentralization score is a five. This is because there is a low barrier to entry, and anyone can become a member so long as they can meet this barrier to entry. Once in, all members of Kleros have the ability to be selected to a jury and to vote on proposals.

Kleros's attack resistance score is three. This is because Kleros is open to a 51% Attack and to a sockpuppet attack. However,

users will lose tokens for being on the "losing" side of the dispute vote.

Kleros's governance score in three. This is because Kleros uses a fungible token that is not in any way tied to reputation. In fact, there is no use of reputation without Kleros. Kleros does not use one-person-one-vote, nor does it use one round of voting. However, the fungible token does allow for individuals to pay for their voting power.

Kleros's regulatory compliance score is a five. This is because Kerlos uses a legal wrapper, Kleros Cooperative.

Kleros's work to earn score is a seven. This is because members of Kerlos are rewarded for being active Jurors and thoughtfully deciding disputes before them. Though members may lose tokens, members are not totally out if they are on the "loosing" side of the dispute. This ensures that they may come back and still be active members of Kleros.

Kleros's organizational communication score is a six. This is because Kleros uses its own forum to post on as well as uses centralized third-party platforms.

Topic	Score	Explanation
Decentralization	5/10	• No committees • Low barrier to entry
Attack Resistance	3/10	• Very open to a 51% attack but more protected against a sockpuppet sybil attack.
Governance	3/10	• No use of reputation score • Fungible tokens
Regulatory Compliance	5/10	• Legal wrapper in French non-profit
Work to Earn	7/10	• Members incentivized to keep contributing due to reputation scores
Organizational Communication	5/10	• Uses Kleros's own server for forum posting

LexDAO

LexDAO is a DAO operating on the Ethereum blockchain and focusing on providing legal services. LexDAO was founded in 2018 by lawyers and blockchain enthusiasts with the goal of creating a decentralized platform for legal services.

85. Decentralization 4/10

The decentralization of LexDAO means that decision-making power is distributed among its members, rather than being centralized in a single authority or group of individuals. Members of the organization are able to propose and vote on decisions, such as the allocation of funds, the selection of legal cases to take on, and changes to the organization's structure or policies.

The level of decentralization in LexDAO is determined by the distribution of voting power among its members. Each member of the organization holds a certain number of tokens, which represent their voting power. This allows for a more democratic system, where decisions are made by a majority vote of the members.

LexDAO does not have a truly open membership. To be able to join LexDao, and remain a member, individuals must pay a $300 yearly membership fee. The membership fee must be paid using ETH, USDC, USDT, DAI, or RAI. It should be noted that LexD-

AO Member may have their membership revoked or suspended. This process happens "through the vote of LexDAO Members." The use of a membership fee creates a barrier to entry and the ease of inclusion within the body of members. However, by allowing the DAO members to suspend, or ban a member helps create some decentralization.

LexDAO also utilized committees. "LexDAO Members may form one or more committees ("Committees") as described in the LexDAO Handbook (Operating System)." The committee bring three members in each quarter and send three members out each quarter. Any member may apply for the Operating Committee and will be voted on by a vote of the LexDAO members. Notably, this section of the handbook refers to this Committee as "Leadership," thus evidencing a centralized structure. By using committee structures within the organization, LexDAO does not allow for full decentralization.

85.1. Attack Resistance 3/10

The attack resistance of LexDAO is an important aspect of its overall security and resilience. Common attacks on decentralized organizations include the sockpuppet attack and the 51% attack.

LexDAO utilizes one member one vote. "Each member in good

standing shall have one and only one vote on each matter submitted to a vote of members." However, LexDAO uses a two-vote model. Here, a request is posted in the Operations Committee Discord. If the Operations Committee approves, then the proposal moves to the Guild-Governance channel on the Discord, which allows for LexDAO members to provide feedback . If the vote gets a soft consensus, the proposal is then placed on Snapshot for a vote, which is open for at least three business days. It is important to note that the use of the Operations Committee as a barrier creates a centralized structure.

LexDAO uses the NFT, CRED. By utilizing an NFT, LexDAO is less susceptible to a 51% attack because not one person can buy up enough CRED tokens to launch an attack. However, LexDAO does leave itself open for a sockpuppet attack. This is because someone can gain multiple memberships by paying the $300 yearly membership fee for each account. LexDAO aims to combat this by allowing membership to suspend or ban accounts.

LexDAO's Constitution also provides a special provision concerning its attack resistance. The LexDAO Constitution states:

In the event of an existential threat or attack/exploit, a member or committee that is granted authority by the LexDAO Handbook (Operating System) to operate governance may, at their discretion, temporarily discount a completed vote and schedule a revote with additional security measures in the interest of the sustainability and viability of the future of LexDAO. Such security measures may include the discounting of voting power of new members, discounting votes of undoxxed members, and requiring proof of humanity for vote eligibility .
This ability to suspend rules allows for corruption in LexDAO should the DAO feel there is an existential threat or attack.

85.2. Governance 2/10
The governance of LexDAO is a crucial aspect of its operations as a DAO. Governance refers to the decision-making processes and structures that determine how the organization operates, allocates resources, and manages its members.

As previously noted, everything in LexDAO happens through a member vote. However, proposals must first turn through the hierarchical Operations Committee. Although members are voted onto this committee by other members, this allows for a rigid hierarchical system that can be corrupted. This system is also evident of a centralized system and not a decentralized system. Furthermore, membership in LexDAO can be through a pseudonym but members are also allowed to use their real name as well.

85.3. Regulatory Compliance 5/10
The Regulatory Compliance of a DAO is an important feature for DAO members, especially when the DAO provides legal services such as LexDAO does. Here, LexDAO is organized LexDAO Club as an unincorporated nonprofit association under Wyo. Stat. Title 17, Ch. 22. This structure is the nonprofit version of an LLC, which provides joint and several liability to its members.

85.4. Work to Earn 5/10
LexDAO provides members with CRED for their work . However, CRED awards must go through the Operations Committee. LexDAO provides examples of how to earn CRED awards by doing things such as: founding the LexDAO Newsletter; founding the LexDAO educational initiative, LedED; and being a principal Author of LexDAO's comments to Wyoming on proposed DAO law.

85.5. Organizational Communication 5/10
Organizational communication is an important attribute of any organization, including LexDAO. As a DAO, communication is crucial to ensure that all members are informed and able to participate in decision-making processes. Here, LexDAO's communication structure utilizes centralized organizations such as Discord, Snapshot, Github, and Twitter. Notably, these are centralized third party platforms.

Given the above information, the following is the score given to LexDAO in each of the following categories.

LexDAO's decentralization score is a four. This is because LexDAO can operate only if small pockets of centralization can occur within the organization itself— i.e., centralized committees. Furthermore, LexDAO has a barrier to entrance by forcing membership fees.

LexDAO's attack resistance score is three. This is because LexDAO utilizes one person one vote, while also creating a committee barrier to allowing voting proposal to come through. Although LexDAO does have two-round voting, it also has a Constitutional provision that allows for great corruption while also being vulnerable to sockpuppet attacks.

LexDAO's governance score in two. This is because LexDAO's Operations Committee operates as a barrier to any proposal. Although members get to vote for who is on the Operations Committee, the Committee creates a centralized hierarchical structure that allows for corruption in the DAO. Furthermore, by allowing members to sign up with their real name provides for further corruption by influencing people to vote for someone they know.

LexDAO's regulatory compliance score is a five. This is because LexDAO, through the laws of Wyoming uses a legal wrapper, LexDAO Club, which provides LexDAO with joint and several liability.

LexDAO's work to earn score is a five. This is because members receive the NFT CRED token for their work. However, it is not clear as to how many tokens are received for member and seems more so to be determinable by the Operations Committee. This in turn, makes it more centralized.

LexDAO's organizational communication score is a five. This is because LexDAO relies on a third-party software—i.e., Twitter, discord, Snapshot— for member discussion engagement [1-95].

Topic	Score	Explanation
Decentralization	4/10	• LexDAO can operate only if small pockets of centralization can occur within the organization itself— i.e., centralized committees.
Attack Resistance	3/10	• LexDAO utilizes one person one vote, while also creating a committee barrier to allowing voting proposal to come through.
Governance	2/10	• LexDAO's Operations Committee operates as a barrier to any proposal • The Operations Committee creates a centralized hierarchical structure that allows for corruption in the DAO.
Regulatory Compliance	5/10	• LexDAO, through the laws of Wyoming uses a legal wrapper • LexDAO Club, which provides LexDAO with joint and several liability.
Work to Earn	5/10	• Members receive the NFT CRED token for their work
Organizational Communication	5/10	• LexDAO relies on a third-party software—i.e., Twitter, discord, Snapshot— for member discussion engagement.

References

1. Jacobsen, T. (1964). The economic organization of the Inanna temple at Nippur. *The Journal of Economic History, 24*(2), 128-149.
2. Hopkins, K. (1980). Taxes and trade in the Roman Empire (200 BC–AD 400). *The Journal of Roman Studies, 70,* 101-125.
3. Epstein, S. R. (1998). Craft guilds, apprenticeship, and technological change in preindustrial Europe. *The journal of economic history, 58*(3), 684-713.
4. Lopez, R. S., (1955). The guilds of Florence. The Quarterly Journal of Economics, 69(4), 561-592.
5. Pirenne, H. (1937). Medieval guilds. The Cambridge Historical Journal, 5(2), 147-165.
6. Lamoreaux, N. R. (2014). Revisiting American exceptionalism: Democracy and the regulation of corporate governance: The case of nineteenth-century Pennsylvania in comparative context. In *Enterprising America: Businesses, banks, and credit markets in historical perspective* (pp. 25-71). University of Chicago Press.
7. Jacob, Margaret. C., (2005).The Rise of the Joint-Stock Company in Early Modern Europe. Cambridge University Press.
8. Bruijn, Jaap. R., Femme, S. Gaastra., and Femme, L. van., Goor, (2002). The Dutch East India Company: A History. University of California Press.
9. Keay, John. (1993).The British East India Company: A History. HarperCollins.
10. Smith, Bruce D. "The Origins of Agriculture." Scientific American 284.4 (2001): 70-77.
11. Wilkinson, Toby. (2005).The Wheel: An Illustrated History. Thames & Hudson.
12. Goody, Jack. (2000).The History of Writing. Polity Press.
13. Eisenstein, Elizabeth. L., (1979). The Printing Revolution in Early Modern Europe. Cambridge University Press.
14. Tracy, James. D., (May 1993), "The Compass and the Expansion of Trade." The History Teacher, Vol. 26, No. 4 .477-489.
15. Fernández,Armesto. Felipe., (2006).The Age of Discovery: European Exploration and Colonization, 1450-1650. Blackwell Publishing.
16. Wright, Robert. E., (2008).The History of the Stock Market: From Its Origins to the Present Day. Routledge.
17. Kindleberger, Charles. (1984).The History of Banking. Oxford University Press.
18. Chandler, Alfred. D., Jr, (1970).The Rise of the Joint-Stock Company in the United States: 1789-1836. Harvard University Press.
19. Campbell-Kelly, Martin. (2003).The Information Age: A History. Routledge,
20. Klaus, S. (2016). The fourth industrial revolution. In World Economic Forum (Vol. 11).
21. Van Alstyne, M. W., Parker, G. G., & Choudary, S. P. (2016). Pipelines, platforms, and the new rules of strategy. *Harvard business review, 94*(4), 54-62.
22. Montague Law. (2023)."A History of DAOs, Related Legal Issues, and their Possible Future with AI." Montague Law.
23. Harvard Law School Program on Corporate Governance. Corporate Governance: A Practical Guide for Directors and Officers. Harvard Business Review Press, 2017.
24. Thompson, Dennis. (Aug., 1982). "The Principle of One Person, One Vote." The Journal of Politics, Vol. 44, No. 3 905-923.
25. Madison, James. (1787)."Tyranny of the Majority." The Federalist Papers.
26. Weyl, Glen. "Quadratic Voting: A New Approach to Democratic Governance." Journal of Economic Perspectives, Vol. 31, No. 2 (Spring, 2017), 165-184
27. Heilman, Elizabeth, et al. (2021). "How Decentralized is the Governance of Blockchain-based Finance: Empirical Evidence from Four Governance Token Distributions."
28. Makridis, C. A., Fröwis, M., Sridhar, K., & Böhme, R. (2023). The rise of decentralized cryptocurrency exchanges: Evaluating the role of airdrops and governance tokens. *Journal of Corporate Finance, 79,* 102358.
29. Benton, Seth. "The DAO Missing Link: Reputation Protocols." Medium, SourceCred, 2019,
30. World Economic Forum. "Decentralized Autonomous Organizations: Beyond the Hype." World Economic Forum, 2022,
31. https://www.coindesk.com/learn/understanding-the-dao-attack/
32. https://aragon.org/
33. https://aragon.org/how-to/mint-dao-governance-tokens-with-the-aragon-app
34. https://colony.io/
35. https://daostack.io/
36. https://superdao.co/
37. https://cointelegraph.com/news/getting-over-ethereums-bad-days-wings-superdao-status-test-platforms.

38. https://hypha.earth/.
39. Siliämaa, Rosa. (2020)."Decentralized Autonomous Organizations (DAOs) and Their Potential Impact on the Insurance Industry." Trepo - Tampereen yliopisto.
40. Sergeyev, Ilya, et al. (2022). "Decentralized Autonomous Organizations (DAOs): A New Paradigm for Service Provision." ArXiv.
41. Nabben, Kelsie.(2022)."Decentralized Autonomous Organizations (DAOs) and the Future of Media." Digiday,
42. Tapscott, Alex, and Jilly Raskin0. (2022)."Decentralized Autonomous Organizations (DAOs): A New Paradigm for Non-Profits." The New Atlantis.
43. Mougayar, William. "Oracles in Decentralized Finance (DeFi)." Medium, 2022.
44. Radia, Ryan. "A DAO Has a PAC, and It's Spooky." POLITICO, 6 June 2022,
45. Meola, Matthew J., et al. "Decentralized Finance." Journal of Financial Regulation, vol. 6, no. 2, 2022, pp. 172-192.
46. Sazandrishvili, George. Asset Tokenization in plain English. *Journal of Corporate Accounting & Finance,* Volume 31, Issue 2, p. 68 - 73. (2019).
47. Lo, Yuen. Medda. Francesca., (2020). Uniswap and the rise of the decentralized exchange. *Munich Personal RePEc Archive.*
48. Jha, Nishant, Deepak Prashar, Osamah Ibrahim Khalaf, Youseef Alotaibi, Abdulmajeed Alsufyani, and Saleh Alghamdi. 2021. "Blockchain Based Crop Insurance: A Decentralized Insurance System for Modernization of Indian Farmers" Sustainability 13, no. 16: 8921.
49. https://nexusmutual.io/
50. Feng, Runhuan, Ming Liu, and Ning Zhang. "A Unified Theory of Decentralized Insurance." *SSRN Electronic Journal, January 20,* 2022.
51. Chung, Terry. "Service DAOs - Landscape, Challenges, and Solutions." Medium, 1kxnetwork, 17 May 2022,
52. Calcaterra, C., & Kaal, W. (2021). *Decentralization: Technology's impact on organizational and societal structure.* Walter de Gruyter GmbH & Co KG.
53. Rizzi, Matteo, Luca De Biasi, Luca Mottola, and Davide Spagnolatti. (2022)."Decentralized Autonomous Organizations (DAOs): A Survey of Literature." Journal of Cryptographic Asset Management.
54. Chung, Terry. (2022). "The Future of Content Monetization: A Decentralized Approach." Medium, 1kxnetwork.
55. Kaal, Wulf A. "How Decentralized Autonomous Organizations Optimize Charitable Giving." *U of St. Thomas (Minnesota) Legal Studies Research Paper 22-16* (2021).
56. Skandul, Emily. "Here's How DAOs Are Becoming the New PACs." Observer, July 13, 2022,
57. *'What is a Media DAO?',* Chat GPT, response generated May 2023.
58. https://superrare.notion.site.
59. https://deepdao.io .
60. https://coinmarketcap.com/currencies/superrare/.
61. SquiggleDAO, (last visited May 15, 2023).
62. SquiggleDAO Community Guide, (last visited May 15, 2023).
63. SquiggleDAO, (last visited May 15, 2023).
64. SquiggleDAO Community Guide (last visited May 15, 2023).
65. DeepDAO (last visited May 15, 2023).
66. https://www.krausehouse.club/
67. https://krausehouse.mirror.xyz/crowdfunds/0x9F-6F91078A5072A8B54695DAfA2374Ab3cCd603b
68. https://www.krausehouse.club/
69. Krause House (last visited
70. *Krause House,* DeepDAO, (last visited May 18, 2023).
71. Krause House, , (last visited May 18, 2023).
72. *GDN DAO Mechanics, Digitalax,* (last visited May 15, 2023). https://www.digitalax.xyz/whitepaper/
73. https://blog.digitalax.xyz/
74. https://www.digitalax.xyz/whitepaper/
75. https://blog.digitalax.xyz/
76. https://blog.digitalax.xyz/
77. *Audius Whitepaper, Audius,* (October 8, 2020).
78. https://deepdao.io/organization/4359a67a-f2b0-40ce-a86f-a16cc74a11a4/organization_data/finance.
79. *Audius Whitepaper, Audius,* (October 8, 2020).
80. Aragon Court, Terms of Use,
81. Aragon, Aragon Court, (last visited April 23, 2023).
82. CoinMarketCap, Aragon (ARG), (last visited April 23, 2023).
83. Aragon Association, Aragon Association. The legal steward of the Aragon project, (last visited April 23, 2023).
84. Aragon Court, Court Dashboard (last visited April 23, 2023).
85. AfvHbX0Q2JxAbcfwiAmOXRy7BzYafhZNlvHnmM (last visited Apr. 30, 2023).
86. Seed Club, Builder's Journey – CabinDAO (Jon Hillis, Zach Fleishman), YOUTUBE, (Feb. 8, 2022),
87. Bee Loud, Building decentralized cities by Cabin DAO, YOUTUBE, (Aug. 1, 2022),
88. https://crdao.ossa.dev/
89. Wulf Kaal, Code Review Decentralized Autonomous Organization (CRDAO), OPEN SOURCE STANDARDS ASSOCIATION 1, 3 (2021), CRDAO,
90. https://crdao.ossa.dev/Public/ossagtc-v2.pdf (last visited Apr. 30, 2023).
91. CRDAO, https://crdao.ossa.dev/Public/Disclaimer.pdf (last visited Apr. 30, 2023
92. Cl´ement Lesaege, Federico Ast, and William George, Kleros Short Paper v1.07, KLEROS.IO 1, 10 (2019),
93. CoinMarketCap, Kleros (PNK),
94. https://kleros.gitbook.io/docs/governance