UNIVERSITY OF LJUBLJANA

SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

DECENTRALIZED AUTONOMOUS ORGANIZATION AS A MODERN APPROACH TO ORGANIZATIONAL DESIGN

Ljubljana, June 2023 TILEN KODRIN, ALEKSANDER TEPIĆ

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AI - (sl. Umetna inteligenca); Artificial Intelligence
BAT - (sl. Osnovni pozornostni žeton); Basic Attention Token
BBLLC - (sl. Družba z omejeno odgovornostjo na podlagi veriženja podatkov); Blockchain-Based Limited Liability Company
CMO - (sl. Organizacije kibernega gibanja); Cyber Movement Organizations
COALA - (sl. Koalicija avtomatiziranih pravnih aplikacij); Coalition of Automated Legal Applications
CV - (sl. Življenjepis); Curriculum Vitae
DAC - (sl. Decentralizirana avtonomna korporacija); Decentralized Autonomous Corporation
DAO - (sl. Decentralizirana avtonomna organizacija); Decentralized Autonomous Organization
DApps - (sl. Decentralizirane aplikacije); Decentralized applications
DAI - (sl. Porazdeljena umetna inteligenca); Distributed Artificial Intelligence
DeFi - (sl. Decentralizirano financiranje); Decentralized Finance
DLT - (sl. Porazdeljena knjiga transakcij); Distributed Ledger Technology
EOA - (sl. Zunanji lastniški računi); Externally Owned Accounts
ETH - (sl. Ethereum); Ethereum
EU - (sl. Evropska unija); European Union
GDPR - (sl. Splošna uredba o varstvu podatkov); General Data Protection Regulation
ICO - (sl. Začetna ponudba kovancev); Initial Coin Offering
IT - (sl. Informacijska tehnologija); Information Technology
JSC - (sl. Delniška družba); Joint Stock Company
LAO - (sl. Pravna DAO); Legal DAO
LLC - (sl. Družba z omejeno odgovornostjo); Limited Liability Company
MiCA - (sl. Uredba o trgih s kripto-sredstvi); Regulation on Markets in Crypto-Assets
NDA - (sl. Pogodba o nerazkrivanju); Non-Disclosure Agreement
NFT - (sl. Neprenosljivi žeton); Non-Fungible Token
P2P - (sl. Povezava od osebe do osebe); Peer-to-peer
PLC - (sl. Javna delniška družba); Public Limited Company
SEC - (sl. Komisija za vrednostne papirje in borzo); Securities and Exchange Commission
SMO - (sl. Samoupravljajoča organizacija); Self-Managing Organization
SWOT - (sl. Moči, slabosti, priložnosti in grožnje); Strengths, Weaknesses, Opportunities, and Threats
TadFi - (sl. Tradicionalno financiranje); Traditional Finance
UKJT - (sl. Delovna skupina za pravno ureditev Združenega kraljestva); United Kingdom Jurisdiction Taskforce
USA - (sl. Združene države Amerike); United States of America

INTRODUCTION

Decentralized Autonomous Organizations (DAO) represent a new approach to collective ownership and governance (Santana & Albareda, 2022). Unlike traditional organizations, which are often led by a group of individuals at the top, DAOs are owned and governed by all individuals who contribute to their value (Metjahic, 2017). This is facilitated through blockchain technology, which enables transparent and decentralized decision-making (Balcerzak et al., 2022). In addition, members hold tokens that determine the level of influence they have over the organization's decisions, allowing them to play an active role in shaping the direction of the DAO (Cointelegraph, n.d.-b).

The benefits of such a structure include increased member involvement and investment in the organization's success. They allow people to experiment with new value systems, pool resources, and coordinate and track action while also allowing individuals to think beyond state boundaries and jurisdiction (Metjahic, 2017; Wright, 2020). DAOs can be considered a good fit for individuals who are excluded legally, financially, or geographically. They can also be a lightweight means of codifying a community's values and accelerating its purpose or goals. Despite being in the early stages of development, DAOs have already gained significant popularity, with hundreds currently in existence. At the moment, they are becoming the pillars of niche civic movements like VitaDAO, which funds longevity research based on human needs rather than profitability; Dirt, a media DAO governed by its members; and HerStory DAO, an art collective dedicated to incubating and preserving art by Black women (Cointelegraph, n.d.-b; *VitaDAO*, n.d.). These organizations are challenging traditional power structures and demonstrating the potential for DAOs to shape society and culture in new and meaningful ways.

This master's thesis aims to explore DAOs as a modern approach to organizational design, investigating the various aspects of their creation, operation, and legal implications. The thesis begins by introducing the concept of DAOs and providing a historical overview of their development. The reasons for their establishment, including the theory of the firm and joint stock companies, are explored. The thesis then delves into the organizational aspects of DAOs, including governance, management, decision-making, and organizational design challenges. The factors determining the organizational structure and the differences between centralized and decentralized organizations are also examined.

Then we look at the technological aspects as building blocks of every DAO, encompassing distributed ledger technologies, blockchain, cryptocurrency, tokenization, smart contracts, smart wallets, and decentralized applications. The legal aspects of DAOs are also analyzed, including investment contracts and the setting up a DAO as a limited liability company.

We continue with an empirical qualitative study, summarizing interviews conducted with various DAOs, crypto exchange platforms, and traditional businesses. The study findings are then discussed, providing a SWOT analysis and our conclusions for theoretical and practical implications of DAOs. Finally, the study's limitations are acknowledged, and future research is suggested.

It is our sincere hope that the thesis will be of interest to academics, policymakers, and practitioners interested in the intersection of traditional business and organizational design of the future and the emerging trend of decentralized autonomous organizations.

1 DECENTRALIZED AUTONOMOUS ORGANIZATION

A Decentralized Autonomous Organization (DAO) operates through rules encoded as computer protocols (a set of software instructions) on a blockchain, allowing for decentralized decision-making and governance without the need for a central authority. Such entities are transparent, controlled by members, and do not rely on centralized leadership. Instead, they function as member-owned communities without centralized control (Chohan, 2017; Prusty, 2017). In the time of blockchain technology and crypto-anarchist decentralized systems incorporating member-owned communities and consensus-based administration, decentralized autonomous organizations are rethinking organizational design (Atzori, 2017). They are free of centralizing structural forces and serve as a substitute for them (Chohan, 2017). DAOs are managed by a set of rules and protocols enforced through a distributed ledger technology, such as blockchain, rather than by any specific individual or group. These rules allow the DAO to operate without needing a human administrator and are established through community consensus (Metjahic, 2017).

DAOs are a new type of organization that has emerged from the world of cryptocurrency and blockchain technology. They are designed to be more efficient, transparent, and decentralized than traditional organizations (Diallo et al., 2018). Early manifestations of this phenomenon include Cyber Movement Organizations (CMOs) on the internet and Distributed Artificial Intelligence (DAI). It is predicted that traditional hierarchical management methods will be disrupted by DAOs, delivering significant cost savings for enterprises (Fenwick & Vermeulen, 2019). Furthermore, by decentralizing the decision-making process and giving equal weight to all stakeholders' voices, DAOs can quickly and accurately respond to changes in the market (Shermin, 2017). This ensures that the organization remains competitive, even in an ever-changing landscape. Additionally, DAOs can provide greater transparency, as all decisions and actions are publicly available for all stakeholders to inspect. This increased transparency can help reduce the potential for corruption, ensuring the organization is run fairly and equitably.

With fully decentralized management, a DAO's decision-making and operational standards are based on the cooperation and collective input of all its members. Moreover, these standards are encoded onto tamper-resistant blockchains, providing protection from malicious attacks that centralized forms of governance might experience.

While DAOs offer numerous benefits, they also come with challenges. For example, their decentralized nature can make it difficult to establish and enforce rules or to make decisions quickly in the face of rapid change. The complexity of decision-making and the need to reach a consensus amongst multiple stakeholders, with possible power imbalances, can make it challenging to arrive at an agreement quickly and efficiently (Yu et al., 2022). Furthermore, trust and accountability can be challenging due to lacking a central authority. In addition, there is a risk that stakeholders' incentives may be skewed, leading to decisions that are not in the best interests of the organization as a whole. Finally, DAOs also continue to face other obstacles, including security and privacy concern, their undetermined legal status, and so forth (Wang, Ding, et al., 2019).

Despite these challenges, the prospective advantages of DAOs make them an intriguing option for many organizations. By exploring the benefits and challenges of decentralized management in a DAO, organizations can better understand the potential implications of adopting this or a similar organizational structure.

1.1 Reasons for company establishment

This subchapter provides an overview of the theory of the firm, which explains why firms exist and how they are organized. The chapter begins by describing the perfect competition model, which assumes that many manufacturers produce identical goods on the market and numerous consumers consume them but is criticized for its unrealistic assumptions. The chapter then introduces the transaction cost theory of the firm, which argues that firms exist to address problems arising in goods and services exchanges. The theory also explains that firms emerge when it is more cost-effective to coordinate certain activities within the firm rather than on the market. The chapter discusses the work of Demsetz and Lehn (1985), who built on the transaction cost theory to include factors such as shirking, moral hazard, and opportunism. Finally, the chapter defines a firm as a network of contracts. It explores its characteristics, including specialization, continuity of association, and reliance on a direction.

The theory of the firm is vital for understanding the development of Decentralized Autonomous Organizations as it provides a framework for analyzing the motivations for and the implications of organizations and their structures. Understanding the basis of why firms exist and the various theories behind their formation and organization can help to

inform the design and implementation of DAOs. For instance, the firm's transaction cost theory highlights the role of transaction costs in creating firms.

In contrast, Demsetz's definition of a firm as a network of contracts emphasizes the importance of specialization, continuity of association, and reliance on the direction of an organization. These insights into the nature of organizations can be applied to the design of DAOs to ensure their efficiency and effectiveness. Moreover, the discussion of shirking, moral hazard, and opportunism in Demsetz and Lehn's (1985) work can inform the management and governance of DAOs to mitigate these issues. Overall, a deeper understanding of the theory of the firm is crucial for the successful development of DAOs and their successful integration into the modern economy.

1.1.1 The theory of the firm

Since the modern economy was born in 1776 and up until now, almost 250 years later, there have been some theories as to why firms exist and are formed as they are. Therefore, understanding the theory behind the firm establishment is an integral part of the analysis of DAOs, mainly to gain also a theoretical perspective on firm formation, which will serve as a fundament for the later discussion on what DAOs seem to bring to the development of organizational design (Holmstrom & Tirole, 1989).

The theory of the firm, also known as the theory of the organization, is a branch of economics that seeks to explain the nature of firms and the reasons for their existence (Donaldson & Preston, 1995). The theory of the firm is a fundamental concept in microeconomics. It is central to understanding the workings of the economy as a whole. It aims to explain why firms exist and how they operate and helps to explain the different forms that firms can take and the behavior of firms in the marketplace.

Firstly, the perfect competition model must be explained since other theories are based on this model. It assumes that many producers produce identical goods on the market and numerous consumers consume them. Every participant on the market has complete information. A market in perfect competition is easy to enter and easy to leave. Of course, those assumptions greatly simplify actual market conditions and present some unrealistic assumptions; however, this model is used whenever we apply the demand and supply model (Mankiw, 2016).

Demsetz (1982) argues that the perfect competition model is a complete abstraction of centralized control of the economy. Every participant in the perfect competition model tries to maximize their wealth or utility without regard for the consequences of one’s decisions. Model does not include doing better than others and therefore believes that perfect decentralization is a better name for it. Within this theory, decisions are made only based on parameters that are already given on the market – prices and technology

(production possibilities). In this model, management makes decisions with no errors and at no cost since all information is already known at no costs. Therefore, the concept of the firm is merely formal. Enhancing our understanding of firms involves considering management as a scarce resource in a context where obtaining knowledge is expensive and incomplete. Knight (1921) and Coase (1937) explicitly recognized this in their theories based on monitoring costs. Knight's theory of the firm as an efficient risk-sharing institution is founded on the idea of costly knowledge and risk aversion. Coase's transaction cost theory of the firm centers on the significance of costly management and exchange, which both involve significant information costs.

Transaction cost theory of the firm, formalized by Coase, regards transaction costs as costs of organizing resources within or outside the firm (across markets). Transaction costs refer to the costs associated with exchanging goods and services in a market, including the cost of negotiating, monitoring, and enforcing contracts. These costs can arise from various sources, including information asymmetry, bargaining power imbalances, legal and regulatory barriers, and the cost of exchanging goods and services.

When negotiating, monitoring, and enforcing contracts becomes expensive in the market (e.g., high transaction costs), it may be difficult for an individual to be competitive. Consequently, firms are established to coordinate people's actions and lower the associated costs. Setting up specialized departments and hierarchy within the firm can reduce costs, leading to more efficient results. This way, the firm can handle things internally that would have otherwise required negotiation in the market, lowering the transaction costs in the process. In such situations, firms can provide a way to coordinate the activities of individuals and reduce transaction costs. The theory emerged as a vehicle to explain why firms even exist if the markets are perfect, resources are distributed perfectly, and all the information is known to every participant. The theory argues that firms emerge when it is more costly to coordinate certain activities on the market than it is within the firm. However, for producing certain goods, also inputs have to be purchased. Therefore, buying inputs substitutes purchases of goods (across markets), and it does not eliminate transaction costs. Furthermore, the price also bears the management service cost if you purchase a specific good on the market. Therefore, the question is whether the sum of management and transaction costs when producing in-house in lower than purchasing goods across markets (Coase, 1937).

The theory of firm diverged from transaction cost theory only in the 1970s. Demsetz and Lehn (1985) further dwelled on questions such as “Why do firms exist” and “Why is there vertical integration” and developed an insight into the problem of separating ownership and control. Authors build on shirking, moral hazard, and opportunism as other factors to be included when explaining why firms exist and how they are organized.

Shirking refers to the behavior of an individual in an organization who does not fully contribute their effort or resources to the organization, either intentionally or by free riding. According to the authors, shirking is a factor that can contribute to the existence of firms, as it is more likely to occur in organizations due to the lack of intervening competitive markets. In a firm-like organization, the revenues generated by the firm must be shared among the various owners of inputs used by the firm. These owners do not have the same level of guidance or protection as they would in intervening competitive markets. This can lead to a higher risk of shirking, as the owners of inputs may be less motivated to contribute their full effort. However, the organization can still be more productive under certain conditions, despite the increased risk of shirking. It offers special productivity that cannot be achieved in other forms of organization. Firms are often organized in a hierarchical structure with clear lines of authority and decision-making to mitigate the risk of shirking and ensure that all individuals within the organization contribute their full effort. This can help to ensure that all individuals within the organization are accountable for their actions and are motivated to contribute their full effort. In addition, firms may also use various incentives, such as bonuses or profit-sharing, to encourage individuals to contribute their full effort. Finally, the authors conclude that firms are preferred when the advantages of managing internal opportunism are more significant than managing opportunism through the market (Alchian & Demsetz, 1972).

Finally, Demsetz (1986) defines a firm as a network of contracts. He focuses on understanding the characteristics of this network of contracts rather than its boundaries. He explores interests in the persistence of certain types of arrangements within their variation and the scope of horizontal and vertical activities defined by the contracts. He concludes that specialization, continuity of association, and reliance on the direction are an organization's main characteristics because, in most circumstances, they are more productive. Those characteristics are derived from transactional and monitoring costs, however, they also consider the use of knowledge.

Furthermore, he argues that knowledge is costly to produce, maintain and use. Therefore, there are economies of scale to be achieved through specialization. Such specialization also defines how vertically integrated the organization will be, since employees that are to be produced based on knowledge and do not possess it, will have to be subordinated to the ones that do possess it. Continuity of association can be viewed in durations of contracts for employees. For example, firms with different transactional labor costs may include different arrangements. How specialized the knowledge is, how hard it is to learn it, how fast changing the environment in which the firm operates, how high the task variability is, and many other related questions all influence the flexibility and, consequently, the duration of a contract.

1.1.2 Parallels between a joint stock company and a decentralized autonomous organization

DAOs seem to remind us of Joint stock companies (JSC) in some ways. Both are types of organizations that are designed to operate independently, with a specific set of rules and governance structures in place to ensure their smooth functioning. In addition, they both have some decentralized structure, meaning they are not controlled or owned by any single individual or entity. This is achieved through the use of shares held by a wide variety of shareholders. In the case of DAOs, this is achieved through blockchain technology, which allows for a decentralized network of users to come together and make decisions about the organization's operation (Singer, 2022).

Some characteristics of joint stock companies originated from Anglo-Saxon times when the first guilds were established and granted properties for the guildship. With industrialization, development in that area was also required, and the first specialized associations of traders were formed. Within those associations, a principle of corporate action was established since members had to vote on assistants to the governor and on members who would form statutes and formed a quorum that further confirmed the association's by-laws. Next, the development transitioned to independent partnerships, which formed due to restrictions on members joining with non-members. Partners joined within the independent partnership shared profits earned. This step-in development was contrary to the development of a regulated company. Finally, the forerunners of the first joint stock companies were formed as large partnerships. Such partnerships formed due to industrialization, requiring large amounts of capital to start and get the business going. However, society quickly reached the limitations where partners had to provide large amounts of funds to get the business going, which they did not have. The need for capital increased together with industrialization progress, and therefore, the need for the formation of joint stock companies was formed (Walker, 1931).

The first joint stock companies were created to fund expeditions to the New World and to trade with India and the East Indies. These early joint stock companies were formed by a group of investors who pooled their money together to fund expeditions in exchange for a share of the profits. The investors in these companies were known as joint stockholders, and they shared the risks and rewards of the ventures in which they invested. Joint stock companies differed from traditional partnerships because the investors did not have personal liability for the company's debts. This limited liability feature made joint stock companies an attractive option for investors, allowing them to invest in the company without worrying about losing their personal assets if the company failed. The concept of the joint stock company was a significant development in the history of business, as it paved the way for the modern corporation and the widespread use of limited liability as a legal structure for businesses (Walker, 1931).

However, several key differences exist between DAOs, JSCs, Public Limited Companies (PLC), and Limited Liability Companies (LLC). For one thing, DAOs are typically much more transparent in their decision-making process, as all decisions are recorded on the blockchain and can be easily viewed by anyone. On the other hand, traditional organizations may have more opaque decision-making processes, especially regarding matters of strategic importance.

Another key difference is that DAOs are typically not subject to the same regulatory oversight as the others are. This can be both a benefit and a drawback, as it allows DAOs to operate flexibly and independently. However, it also means they may not have the same level of legal protection as other organizational forms.

1.2 History of Decentralized Autonomous Organizations

The current business environment, characterized by rapid change, technological advancement, and increasing demand for personal fulfillment at work, requires a shift toward decentralization. For years there has been a strong need for businesses to adapt to the fast-paced environment by empowering their workers to respond rapidly to changing customer requirements rather than relying on regional distributors. Furthermore, the increasing importance of knowledge-based employment means that managers are less likely to have the expertise to solve organizational difficulties, requiring contributions from all levels of the organization. Moreover, millennials, who comprise the most significant portion of the labor market, demand more flexibility and autonomy in their jobs, which are more conducive to decentralized systems. They seek personal fulfillment and meaning in their work and believe having more control over their job makes it more meaningful and fulfilling. Therefore, there has already been a strong tendency for decision-making to be more broadly dispersed across the business to keep the workforce engaged for a while.

In turn, this led to the first decentralized autonomous organization, which was a company called Slock.it. They began developing their DAO infrastructure and framework in 2015. After that, they began receiving contributions and published their whitepaper in March 2016. The community first communicated through an application called Slack. It later moved to the forum they named DAOhub, which was backed by sound names in the blockchain world, such as the founder of Ethereum, Vitalik Buterin. The first DAO created was called The DAO, which consisted only of 900 lines of code, determining the organization's functioning and defining how the autonomous part of the organization would look. It aimed for investors to collect funds and manage new enterprises emerging from the Ethereum blockchain. The Dao was launched through anonymous submissions from DAOhub, and collected over $250 million in funding, having between 10,000 and 20,000 investors. A few weeks later, an unknown member exploited a bug in the code

and drained The DAO of over $150 million. Immediately the so-called “big players” stepped in and tried to minimize the damage done. The DAO was built on the Ethereum network, where Ethereum developers acted, rolled back the history of the Ethereum network, and changed smart contracts for victims of the attack to be able to withdraw their funds. This was a controversial move since the essence of blockchain technology is immutability. Furthermore, this moment points out the instability of decentralization and autonomy within those organizations since a few individuals acted on their own regardless of the rules and opinions of others. On the other hand, attackers claimed their move was legitimate since they only acted based on code defining The DAO (DuPont, 2017).

Even though a few less prominent and especially poorly developed DAO initiatives existed before The DAO, this was a breaking point in its history. The DAOs plan was to end all DAOs, which happened for a very short period since investors pooled as much as 14% of the whole Ethereum supply into The DAO. Its goal was to create a decentralized crowdfunding platform where people would create a joint “bank account” in the form of a DAO and together manage money pooled. It would be the next step in crowdfunding practices, moving forward from centralized platforms like Kickstarter. The most significant difference would be that DAO members would gain control over the projects, whereas, on Kickstarter, people funding projects have none (DuPont, 2017).

After the incident with The DAO, fear spread, and other DAO initiatives were rarely seen. It has only been for the past year or two that uptake in DAOs has risen again. Many industries have seen proposals and real DAOs emerge, but none has made a material impact yet. The reasons for that will be analyzed in the following chapters.

1.3 Examples of decentralized and self-managed organizations

This subchapter focuses on already-known practices of decentralized and self-managing structures. Therefore, gaining a perspective on already known practices, their contributions, and reasons for establishment are important. Furthermore, such a perspective will give us another point of view on DAOs, which will eventually help us place DAOs among alternative approaches to organizational design.

The managerial hierarchy has been under growing pressure. Its limitations have become increasingly more evident to scholars and practitioners, leading to numerous and diverse attempts at a less hierarchical organization (Lee & Edmondson, 2017).

The first such example were “organic” organizations, observed by Burns & Stalker, (1961), who believed that team-based operations that cut over functional and hierarchical boundaries with more horizontal communication patterns were better suited to complex and dynamic scenarios than classical bureaucratic hierarchies. Later came more concrete

attempts at decentralized entities, like the *self-managed teams* that have been used to assign management responsibility to groups of people who are familiar with and knowledgeable about the tasks that must be done on behalf of the company and its customers (Barker, 1993; Hackman, 1986).

Other similar initiatives include *participatory management,* which employs institutions to enhance worker engagement, such as committees where employees may influence parts of their work experience spanning from working conditions to the company's strategic goals (SHRM, 2023). Another example are Employee empowerment initiatives, where managers attempt to decrease informal hierarchy by developing new cultural and relational norms that allow workers to make decisions and act within their area of task expertise (Conger & Kanungo, 1988).

Self-managing organizations (SMOs) are classified as organizations that dramatically decentralize the power within the enterprise formally and systematically. SMOs differ from managerial hierarchies in that they do not insist on the hierarchical reporting structure between managers and subordinates, constituting the key control mechanism in a managerial hierarchy. All workers in self-managing organizations have well-defined decision rights which cannot be overruled by someone merely because they are the supervisor. In this perspective, if the managerial hierarchy is a feudal system in which the great majority of employees lack land ownership, then self-managing businesses provide property ownership rights for all employees (Lee & Edmondson, 2017).

1.3.1 Zappos

The discussion and experimentation around less hierarchical forms of organization have continued and even intensified in the last decade (Lee & Edmondson, 2017). One of the most well-known recent examples is the online retailer Zappos, which embraced the Holacracy organizational approach in 2013. (Bernstein et al., 2016). Holacracy was first used by a software company called Ternary and adapted by Zappos in 2013 (Robertson et al., 2015).

Zappos introduced a comprehensive set of well-defined prescriptions that formally removed managers while giving individual employees complete control over how they would carry out their duties. Individuals were to be guided by highly structured yet flexible role descriptions rather than managers managing their work. The greater formalization of labor into roles is seen in the fact that, two years after implementing Holacracy, Zappos raised the number of roles per employee from one to 7.4 per employee (Bernstein et al., 2016).

This increase represented a more sophisticated and thorough set of position descriptions rather than a significant increase in workload. Despite their growing formalization, job

roles remained relatively adaptable. At frequent "governance meetings," groups convened to establish and adjust roles. Any member in a workgroup had the option to modify how the group was organized, such as altering any role's responsibilities or proposing a new working team policy. The committee considered and agreed on all recommended adjustments. As a result of this revision process, formal positions were regularly developed in response to new challenges (Lee & Edmondson, 2017).

1.3.2 Morning Star

A tomato processing enterprise Morning Star is another recent example of extreme decentralization that academics and practitioners have researched. In the 1990s, Morning tar established its own self-management system. Rather than supervisors managing work, individual workers voluntarily entered bilateral contracts with other employees. These contracts, known as Colleague Letters of Understanding or CLOUs, contained individual duties, activities, goals, and performance indicators. They are revised at least once a year and serve as the foundation for work coordination. Furthermore, they have special elected committees that determine employee salary and address any workplace conflicts. The company aimed to create an atmosphere in which employees would be self-managing professionals, starting interactions and coordinating their operations with other colleagues, clients, suppliers, and fellow industry players in the absence of directions from their superiors (Di Stefano et al., 2014).

1.3.3 Valve

The third example is the most radical attempt at decentralizing authority and comes from a prominent computer game developer, Valve. The company was founded in 1996 and, right off the bat, created a one-of-a-kind organizational style in which workers enjoyed complete flexibility and autonomy in selecting the games on which they wished to work. Instead of managers or executives choosing which games to produce, an internal method of employee voting decides which games the company will develop. According to the Valve employment handbook, nobody ‘reports to’ anybody else. “We do have a founder/president, but even he isn’t your manager. This company is yours to steer—toward opportunities and away from risks. You have the power to green-light projects. You have the power to ship products.” (Foss & Dobrajska, 2015)

1.3.4 Johnson and Johnson

The most well-known example of a decentralized structure is the US mega-corporation J&J. From 2002 until 2012, William Weldon served as Johnson & Johnson's Chief Executive Officer (CEO). Under his leadership, Johnson & Johnson existed as a

decentralized organization. While we know the company for its baby shampoo and band-aids, Weldon had the mind-boggling task of overseeing over 200 different operating businesses across three different sectors (Wharton, 2008). As common sense suggests, it would be tough to run this machine made out of over 200 different parts that all have to be taken care of individually, therefore, it was only logical to split the decision-making between many different leaders who oversee each and every product individually. However, inside the single product, the management structure was still quite hierarchical; thus, we cannot say J&J was indeed a decentralized organization. Furthermore, their website claims that every operating company functions as its own small business, and we learned earlier in the chapter that most small businesses are very centralized (Johnson & Johnson, n.d.)

1.3.5 Eventbrite

If you've ever purchased tickets to a local event, you have undoubtedly heard of Eventbrite. This event management and ticketing website allow users to search for, create, and promote local events. The organization uses a decentralized approach where event organizers serve as independent managers. Furthermore, event organizers also serve as event promoters. They know the niche and local culture, so they are better at attracting customers than the company itself. Eventbrite has development offices in several countries and prefers to have local managers in control who are familiar with the region and its customers. While the hierarchy is still not wholly horizontal, Eventbrite is going in a very decentralized direction (Eventbrite , n.d.).

2 ORGANIZATIONAL ASPECTS

The success of a DAO depends on its ability to manage and make decisions effectively. This chapter will delve into the organizational aspects of a DAO, exploring the concepts of governance, management, and decision-making. It will also examine the fundamental challenges of organizational design and the factors that determine the structure of a DAO, such as its environment, technology, and size.

Additionally, the chapter will compare centralized and decentralized organizational structures and examine the movement toward decentralization. The organizational aspects of a DAO play a crucial role in determining its success and sustainability. Effective governance, management, and decision-making processes ensure that a DAO can achieve its objectives, resolve conflicts, and maintain the alignment of its community. In addition, a well-designed organizational structure can provide a framework for growth and scalability while allowing the DAO to adapt to changes in its environment and technology. Understanding the various factors that determine the structure of a DAO,

such as environment, technology, and size, is essential for ensuring that the DAO functions optimally and remains competitive in an ever-evolving landscape. Moreover, the organizational aspects of a DAO are of utmost importance as they provide a foundation for its effective functioning, growth, and long-term sustainability.

2.1 Governance in a Decentralized Autonomous Organization

Corporate governance and organizational structures are linked by allocating risks, decision rights, and residual claims. Governance, in general, is concerned with the appropriate division and distribution of decision powers to persons acting as agents for an institution and bearing the risks connected with these decisions. Decision-makers face reputational, professional, and financial consequences for poor judgments. However, they are rewarded for good ones by distributing residual claims through property rights (Baker & Anderson, 2010).

Governance in a DAO is decentralized. This means that no central authority makes decisions for the organization. Instead, decisions are made by the members of the DAO. Its issues are fundamentally similar to governance challenges that speak to any time and place: Accountability, supervision, engagement, and stability are all critical considerations (Chohan, 2017). Yet, DAOs are still considered somewhat ineffable or, at the very least, difficult to articulate.

Greater accountability is a key benefit of decentralized autonomous organizations (DAOs) because it allows all members to be more involved in the decision-making process and ensures that power is not concentrated in the hands of a few individuals. In a traditional hierarchical organization, accountability is often limited to a small group of leaders or managers responsible for making decisions and directing the organization. This can lead to a lack of transparency and a disconnect between the leaders and the rest of the organization. Transparent decision-making processes in a DAO ensure that members can see how their contributions influence the organization's direction, which can help hold decision-makers accountable for their actions. This is also linked to every member's reputation in the community. Through these, members of a DAO community can help monitor the actions of others and report any potential misconduct to the appropriate authorities within the organization. This helps to ensure that all members follow the rules and behave in a way that aligns with the organization's goals and objectives.

Supervision ensures compliance, prevents misconduct, promotes accountability, and enhances transparency. However, supervision in a DAO is a complex process involving technological and human mechanisms. One important technological mechanism is smart contract audits conducted by independent third-party firms specializing in smart contract security. These audits can identify vulnerabilities and ensure the code functions as

intended. Another technological mechanism uses governance structures, such as voting mechanisms and dispute resolution processes, to ensure that decisions are made transparently and democratically.

In addition to these technological mechanisms, DAOs often use reputation systems to incentivize members to act in the best interest of the organization. These systems assign reputation points based on members' contributions, which can be used to influence decision-making within the DAO. Community moderation is also an important mechanism, where members of the DAO community help monitor the actions of others and report any potential misconduct to the appropriate authorities within the organization. This can be done due to the transparency of all actions done by a user on the blockchain.

Ensuring engagement is crucial for DAOs as it helps safeguard members' active contribution to the organization's goals and objectives. It is ensured through a few different mechanisms, such as:

1. Transparent Decision-Making: DAOs rely heavily on community decision-making, which transparent and democratic voting mechanisms can facilitate. Members should have a say in the decisions made by the DAO and can actively participate in the decision-making process. Transparent decision-making processes ensure that members can see how their contributions influence the organization's direction, which can help keep them engaged.

2. Incentivization: DAOs can use various incentives to encourage members to participate actively in the organization's activities. For example, they can reward members for contributing to the DAO's mission by allocating tokens or reputation points, which can be used to influence decision-making.

3. Community Building: DAOs can create a sense of community by organizing events, forums, and discussion groups that encourage members to interact with one another. This fosters a sense of belonging and can motivate members to stay engaged with the organization despite working online. Building a strong community can also help to attract new members and expand the organization's reach.

4. Skill Utilization: DAOs can leverage the skills and expertise of their members by providing opportunities for them to contribute their skills to the organization. For example, a DAO focused on developing decentralized finance (DeFi) applications can offer coding challenges or hackathons that allow members to showcase their skills and contribute to the organization's objectives. In addition, utilizing member skills can help to keep members engaged and motivated to contribute to the organization's goals.

5. Transparency and Communication: DAOs can ensure engagement by maintaining transparency and clear communication channels. Members should be able to easily access

information about the organization's activities, decision-making processes, and governance structures. Members should be able to easily access information about the organization's activities, decision-making processes, and governance structures. Additionally, DAOs can use various communication channels such as forums, social media, and newsletters to keep members informed, engaged, and hold decision-makers accountable for their actions.

Lastly, stability is ensured through governance structures, which provide a framework for decision-making and ensure that all members have a voice in the decision-making process. The use of democratic voting mechanisms and dispute-resolution processes can help to ensure that decisions are made fairly and transparently. Furthermore, the beforementioned mechanisms, like Smart contracts, conduct audits to prevent potential security breaches and identify vulnerabilities that could destabilize the DAO. Community moderation, reputation systems, and transparency all ensure that all members follow the rules and behave in a way that is aligned with the organization's goals and objectives.

Marxian critique of the capitalist mode of production began with studying the organization as fundamentally non-democratic, even as capitalism aspired towards greater empowerment of society. Such contrasts have continued to resonate in the modern iterations of capitalism, particularly as virtual wealth creation has grown in comparison. The democratic processes of organizational structure are bound to confront problems of various types that may or may not echo challenges that have existed since time immemorial, such as the top-down directionality in capitalist organizations.

DAOs are seen as a counterpoint to a traditional skew in organizational ownership and participation through a decentralized basis; nevertheless, DAO governance issues still require a systematic exploration. Four major issues must be addressed: procedural monotony, legal uncertainty, structural rigidity, and voter manipulation. One can therefore see governance merits in structuring digital organizations in such ways, despite the hurdles that the early DAO projects (including the original The DAO) have faced (Zwitter & Hazenberg, 2020). However, let us first examine the four major challenges that must be addressed.

One issue arises from the procedural structure of voting on DAO-related changes. This creates much tedium, which isn't conducive to participation impulses. The BitShares exchange, for example, has encountered a lack of voter involvement, or an absence of voter engagement, due to work necessary to assess each proposal (Neiheiser et al., 2020). If technological advancement truly benefits citizens by making their lives easier, why must digital procedural issues constrain them?

The second accountability issue is related to DAO's legal uncertainty. This question is essential since, in the past, comparable organizational structures were deemed as illegal

offers of unregistered securities by the Securities and Exchange Commission in the United States (Chohan, 2022). This may be avoided, but only to a limited extent, by forming a general partnership structure rather than a corporation - but doing so would imply accepting limitless responsibility for members, even if the smart contract code or the DAO's promoters and suppliers indicate otherwise. This is a significant legal burden that may stymie the growth of DAOs, and the underlying accountability systems must be thoroughly examined to comply with the legal frameworks.

A third issue arises from the DAO's fundamental design. A DAO's code will be exceedingly difficult to change once its system is functioning/operating, so there is consequently a significant rigidity built into the DAO, which is an odd outcome given that these entities are, at their core, meant to be dynamic, flexible, and decentralized. This includes the fundamental problems, such as bug patches, and the critical issues, like procedural or structural concerns. It is crucial to remember that if bugs are not corrected, the DAO becomes exposed to all types of assaults. Simultaneously, implementing changes would require developing new code and relocating all assets, which is insecure and rigid. This presents a conflict between transparency and security: although the code is available to anyone, it is difficult to repair (Chohan, 2017).

A fourth issue arises from the concerns of voter manipulation: protections must exist to prevent groups of voters from plotting schemes against the DAO system. Given that DAOs aim for efficient virtual democracy (Chohan, 2017), the concept of manipulating voter behavior (an ever-present risk in secular democracies) creates a resonant issue with democratic systems in a broader historical sense. Indeed, the manipulative feature of smart-contract-dependent virtual organizations can be severe enough to destroy the whole process. DAOs, for example, can be prone to coups or hostile takeovers that disrupt or wreak havoc on their voting systems (Chohan, 2017), primarily if the voting power represents a concentration of tokens as the voice of voters. Democracy is founded on the principle of one person, one vote, yet this is an ongoing problem in democracies and a "mantra in quest of meaning" (Levinson, 2001).

With possible formations of voters into groups or major voting persons, DAOs risk the same kinds of oligarchic expressions of political power as history has shown us in the past centuries. The past suggests that such voter manipulation has harmed democracy's finances in pre-virtual circumstances, such as the corporate takeover of American political life (Kapferer, 2005) or the creation of Russian oligarchs in the post-Soviet privatization (BURAWOY, 1994). Build Finance DAO shows the most recent example of how dangerous this system is made: “A single individual collected sufficient token concentration to get a vote approved, and then voted to attribute themselves absolute control over the DAO, and then used this power to siphon out all of the DAO's money” (Chohan, 2022). This example opens the discussion for a possible necessity of horizontal

accountability to preserve the democratic nature of the DAO's subordinate crypto-anarchist philosophy.

To sum it up, legal indefiniteness is a function of the novel and comparatively higher-risk nature of technologies. However, it is, in a sense, a reiteration of the classic political administration (Demir & Nyhan, 2008) as regulatory power impedes the exercise of a democratic approach to digital governance. Structural rigidity is a feature of digital architectures thus far presented in the ambit of DAOs. The problem of voter manipulation and the formation of oligarchies is, as history students know, a timeless one.

2.2 Management in a Decentralized Autonomous Organization

Management in a DAO is decentralized by design. This means that there is no central authority or governing body that manages the organization. Instead, all management and operational decisions are made through the collective decision-making of all organization members. These decisions are encoded on tamper-resistant blockchains, which ensures that the organization's rules and regulations cannot be changed without the consensus of the majority of members. (Wang, Ding, et al., 2019). Furthermore, by utilizing collaborative methods of voting, consensus, and evaluation, the collective intelligence of its members is used to create and execute protocols that provide safety and efficiency in operations. This unique approach encourages transparency, consensus-building, and decentralization of decision-making, allowing distributed organizations to achieve their organizational goals.

In a DAO, members have a say in the organization's management through the use of tokens, which represent ownership and voting rights. Holding these tokens can be used to get a say in all things connected to the governance of a DAO, for example, to propose and vote on changes to the organization's rules and regulations, as well as to elect or remove members from positions of leadership (Cointelegraph, n.d.-a).

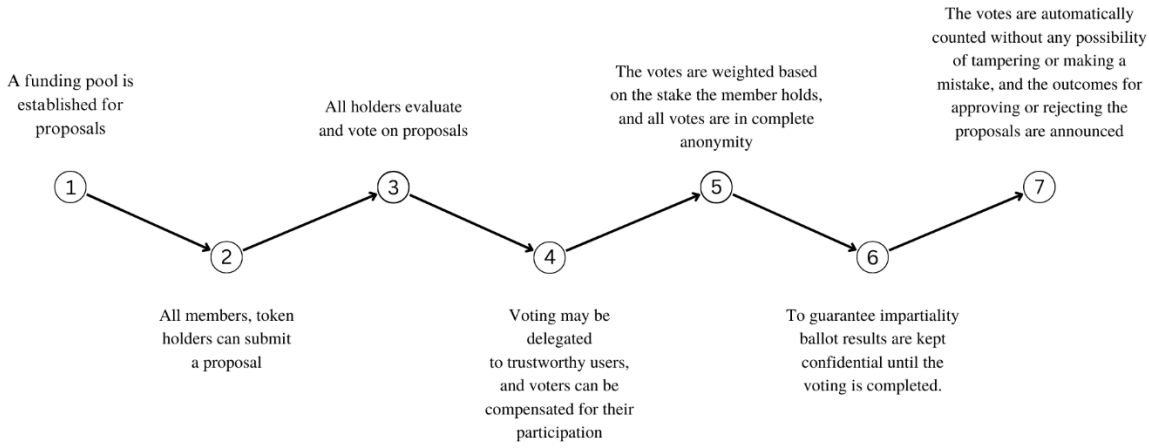
The decentralized nature of a DAO allows for greater transparency and accountability, as all members have an equal say in the management of the organization. It also eliminates the need for a central authority, leading to greater efficiency and flexibility in decision-making. However, this also means that there is no central point of control, which can make it more difficult to make quick and decisive decisions in the event of a crisis (Cointelegraph, n.d.-b).

Overall, management in a DAO is based on the principle of decentralization and collective decision-making, which allows for greater transparency and accountability while eliminating the need for a central authority.

2.3 The Decision Making in a Decentralized Autonomous Organization

Decision-making in a DAO is decentralized as well. This means that no central authority makes decisions for the organization. Instead, decisions are made by the members of the DAO. For a more precise understanding, Figure 1 shows one possible decision-making chain in a fictional DAO.

Figure 1: Chain of Decision-Making in a Fictional Decentralized Autonomous Organization



Source: Own work.

Some challenges related to this form of decision-making include:

- Unclear hierarchy of power - This problem corresponds with the notion of who executes the decisions. On the one hand, the original developers of the smart contract-based protocol can delegate continuing decision-making to a wide assortment of DAO's users and supporters through its software (Morrison et al., 2020). Members of these DAOs often have the ability to modify parameters required by the underlying smart contract as well as alter the smart contract itself. Often, but not always, that is the case, and all decisions are executed through the algorithm. But some more complex decisions can still require adaptability and resourcefulness the program isn't yet capable of, which leads to the question of who executes the decisions. Is it the developers, some newly elected DAO representatives, or some additional software? This allows central ruling to override the community's decisions (De La Iglesia, 2022).

- Another problem arises when decision-making is executed through an algorithm which leaves the possibility of mistakes in the code that can leave the DAO vulnerable as it happened with The DAO or some other problems that come with automated decision-making without any man-made approval at the end (Zhao et al., 2022).
- Since everything in the process is open to the public, such decision-making also allows for the leaking of information, leveling the competitive advantage of the first movers in the industry, or in other words, simply letting your friends, competition, and other stakeholders know of every move you make.
- As with all votes, DAOs can face problems when not all eligible to vote have or take the time to do their duty. However, due to the online voting system, this process is much more straightforward than paper or oral voting procedures, which are the most widespread practices at this time. Even if smart contracts streamline decision-making procedures, costs remain in the simple task of gaining community consensus, which might stymie the ability of participatory DAOs to operate. While blockchain technology has the potential to enhance and reduce the cost of democratic procedures, direct voting via distributed consensus may be challenging to achieve since it requires individuals to be continually engaged and attentive to the organization's operations and activities continuously. Gathering all the information required to make an educated decision may prove too time-consuming and challenging for many, discouraging members' participation. As a result, questions arise as to whether DAOs will be as efficient, if not less efficient, than more hierarchical organizations (Wright, 2020).
- Some DAOs even allowed members to withdraw their assets from the pool if they disagreed with the group decision. While fair to its members, this practice can also create enormous volatility problems and withhold the group's decisions if too many assets are withdrawn (Kerr & Jennings, n.d.).
- Lastly, there is another problem of power. Should the voting power in a DAO be proportional to the assets invested in it, or should each member/each smart contract wallet be eligible for one vote only?

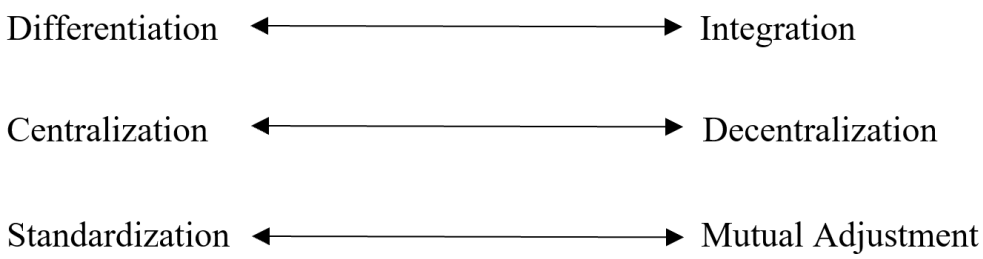
2.4 Basic challenges of organizational design

The first thing that comes to mind when discussing organizational design is the organizational chart. The chart presents organizational differentiation and differentiates between more vertical and more horizontal differentiation. Vertical differentiation refers to the hierarchy and authority in the organization. It describes the distribution of control and authority between roles in an organization. Horizontal differentiation, on the other hand, refers to organizations differentiating roles based on their tasks and responsibilities (Dewar & Hage, 1978). It enables organizations to divide people into different functions

and become more specialized. Therefore, organizations have to decide on the level of vertical and horizontal differentiation to allow the organization to control activities while performing best and reaching its goal (Jones, 2013).

Significant challenges in organizational design are presented in Figure 2. Every organization has to find a proper balance between certain organizational structure factors.

Figure 2: Major Challenges in Organizational Design



Source: Jones (2013).

The dilemma between differentiation and integration comes when an organization has to decide to what degree they will differentiate roles and risk the flow of information and communication in the organization, risking less cooperation and learning. On the other hand, more differentiation brings more specialization and better expertise. Therefore, such organizations must use advanced IT platforms to enable better communication and coordination of activities since more data, reports, and goals are shared (Lawrence & Lorsch, 1967).

Secondly, a balance between centralization and decentralization of authority has to be found. Centralization focuses more on authority, responsibility, and decision power to only a handful of top managers. By contrast, decentralization puts more authority, responsibility, and decision power on all, not just top managers. In a more dynamic environment, top managers must focus on changes, operations, processes, competitors, and clients to adapt quickly to the environment (Bray, 1999). In the case of centralized decision-making, such organizations would overload top managers since they would be unable to follow strategic guidelines and make long-term strategic decisions since they have to spend much time on day-to-day business. Decentralization, however, promotes flexibility and quick adaptation, empowering lower-level managers to make decisions and giving top management the space to strategize for the long term (Tommasi & Weinschelbaum, 2007).

The third challenge is to balance standardization and mutual adjustment. Standardization refers to a set of rules, norms, and structures in an organization. Every situation has a well-defined process and actions that need to be taken; therefore, tasks in such organizations are routine. On the other hand, mutual adjustment calls for people's use of

best judgment and cooperation to respond to a particular situation (Fioretti & Cabri, 2020). Companies must create a balance since standardization is more goal-oriented; however, mutual adjustment is needed for more flexibility and organizational response to a more dynamic environment (Lunenburg, 2012).

2.5 Factors determining Organizational Structure

The balancing of fundamental dilemmas discussed in Chapter 2.4 depends on more factors. Therefore, to provide a critical judgment on which conditions DAOs could provide an advanced framework to organizational structure and design, firstly, factors that determine the structure of organizations are analyzed. As Ranson et al. (1980) defined: "*The concept of structure is usually understood to imply a configuration of activities that is characteristically enduring and persistent*." However, Child (1972) provided a more detailed and applicable definition, where organizational structure is defined as: "*Formal allocation of work roles and the administrative mechanisms to control and integrate work activities including those which cross formal organizational boundaries*."

2.5.1 Environment

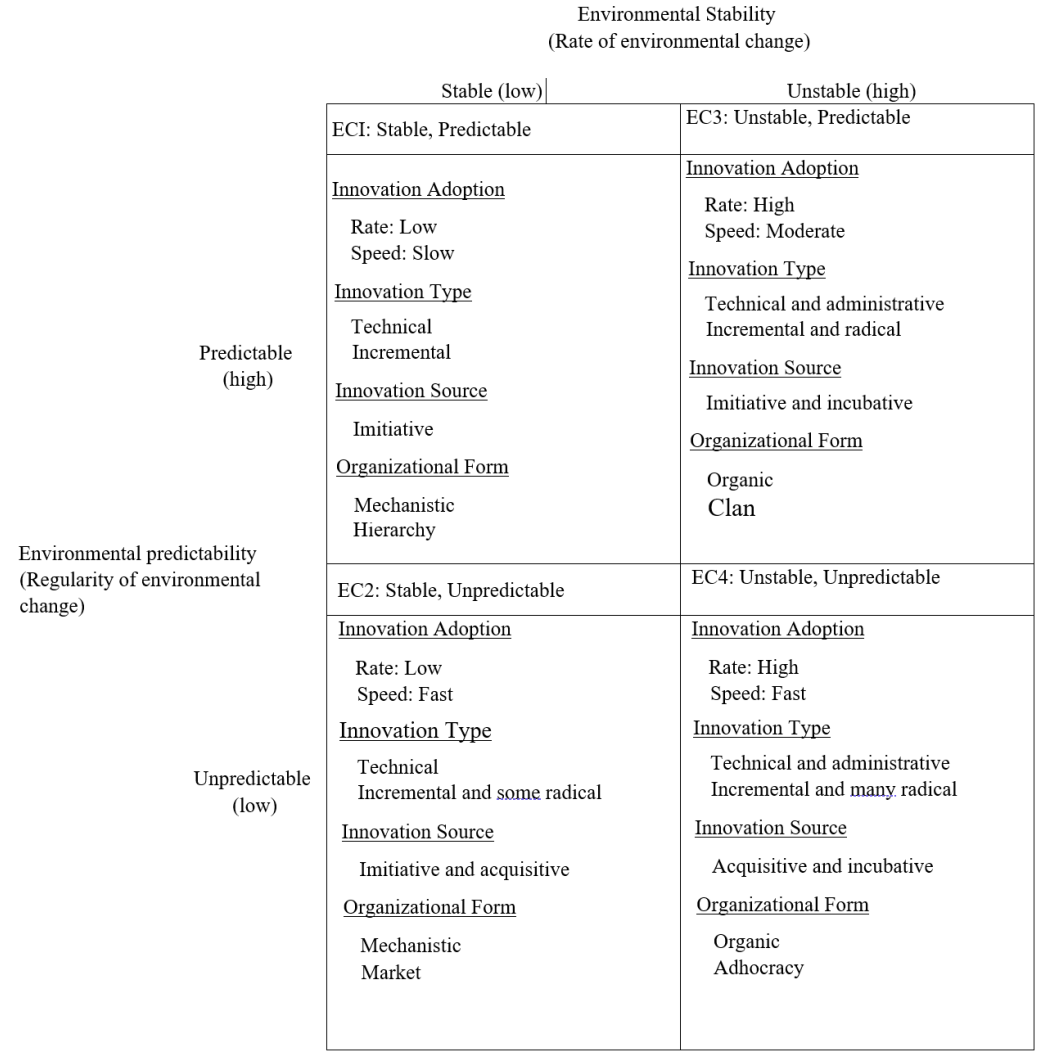
The environment is a factor based on organizations' dependence to transact with outside parties. Organizations will not be able to develop to meet every goal of their managers or other members since they will always have to abide by environmental rules and conditions. They are systems constantly communicating with the outside world, searching for equilibrium with their operating environment. They adjust their strategies, processes, structures, and roles in response to environmental changes (Aktas et al., 2011). Furthermore, environmental variability most closely affects organizational innovation capabilities, which seems to be one of the most important factors determining an organization's success and performance (Bourgeois et al., 1978).

Environmental variability refers to the frequency of changes, the degree of difference that comes with a change, and the regularity of the pattern of change. Findings on environmental variability have come to quite a unison conclusion, claiming that higher environmental variability demands a more adaptive organizational structure. A more adaptive structure is where roles can be continuously redefined and coordination meetings more frequent (Child, 1972). Figure 3 shows organizational structures that effectively innovate in different environmental conditions.

In a stable environment with predictable changes, there is less need for quick adaptation of strategies and processes since innovation adoption can be planned; therefore, organizations can prepare for the change to boost performance. Furthermore, the focus is

put on operations' efficiency since innovation is less frequent and incremental; therefore, the efficiency of operations will strongly influence performance. Organizations are hierarchical, highly formalized, inflexible, and mechanistic, with many well-formed rules. Some examples could be food processors, soft drink bottlers, container manufacturers, and others (Damanpour & Gopalakrishnan, 1998).

Figure 3: Organizational Structures Alignment with Environmental States



Source: Damanpour & Gopalakrishnan (2018).

A stable but unpredictable environment calls for organizations to have the capability to innovate fast once environmental change happens. Since the environment is stable, the rate of change is low, and organizations do not innovate frequently and irregularly. Examples include fashion, clothing, music, the advertising industry, and mail-order. Organizations mainly work on technical and incremental innovations; however, change is unpredictable. They are market-oriented, which means they observe the outside

environment, trying to notice environmental change fast. Centralization is high, as is the control, since once the environmental change is noticed, organizations must act fast and decisive (Schmidt & L. Cummings, 1976).

In an unstable but predictable environment, changes are predictable, however, the change rate is high. Organizations can plan for a change, but they might have to do that more frequently and provide maneuvering space for additional adjustments. Since innovation is continuous and radical, processes and structures must be changed more often. The speed of decision-making and adoption of innovations is moderate. Examples are appliance manufacturers, chemical and insurance companies, etc. Such organizations have to innovate quickly and frequently; therefore, they must have teams to make decisions on innovation. They require teamwork, and participation, while their success is measured firstly with customers' manifestation and creating a desirable work climate for members of organizations. They are low in formalization and centralization but high in professionalism and differentiation (Damanpour & Gopalakrishnan, 1998).

An unstable and unpredictable environment is hypercompetitive, with frequent and irregular changes in the environment, resulting in a high rate of innovation, with both radical as well as incremental innovation. Examples are the telecommunication industry, software development, pharmaceutical industry, and high-tech organizations. Organizations have an 'adhocracy' form and are organic, which means they are committed to experimentation and innovation and would replace formal planning with developing organizational morale and an environment of trust. Teams have to be interdisciplinary to catch the pace of innovation and its adoption. Members have an even higher sense of belonging and commitment and are empowered to shape values and form strategies (Birkinshaw & Ridderstrale, 2015).

2.5.2 Technology

The meaning of the word technology could, in the sense of its influence on organizational structure, have many connotations. The influence of technology determining organizational structure is referred to as technological imperative. Every department in an organization is responsible for activities that produce additional value for the organization, therefore, they must build competencies and technology to add greater value. To continue, organizations need structure to maximize the effectiveness of the technology. In this section three most influential and complementary theories will be presented. The first concept is operations technology, defined by Woodward (1981).

Joan Woodward analyzed the relationship between organizational structure and organizations technical complexity of a production process. In other words, she analyzed the relationship between technology that can be used to program and automate processes,

resulting in greater predictability, and how organizations are structured. Her findings concluded that organizations are more successful when their structures conform to technologies. Results imply that greater technical complexity exists when processes are highly automated, predictable, and standardized. For instance, car makers have highly automated and standardized processes, enabling greater output predictability and quality reassurance. On the other hand, low technical complexity exists when output is reliable mainly on people's skills and knowledge; therefore, the process cannot be automated but involves people to produce the desired output. She concluded that each technology is associated with a different structure, and the higher the technical complexity, the taller the structures and the more comprehensive the control of the CEO (Woodward, 1981).

However, many studies showed mixed results in identifying relationships between technology and organizational structures. For example, studies following the one from Joane Woodwards criticized her study but still concluded that technology does have some effect on organizational structure. They claim that the more automated and mechanized the technology is, the more likely the structure will be highly centralized and mechanistic.

Table 1: Routine and Non-Routine Tasks with Structural Features

Structural Characteristic	**Nature of Technology**	
	Routine Tasks	**Nonroutine Tasks**
Standardization	High	Low
Mutual adjustment	Low	High
Specialization	Individual	Joint
Formalization	High	Low
Hierarchy of authority	Tall	Flat
Decision-making authority	Centralized	Decentralized
Overall structure	Mechanistic	Organic

Source: Jones (2013).

Routine tasks and complex tasks are concepts defined by Perrow (1967). He analyzed task variability and task analyzability to determine what characteristics of tasks lead us to believe that some tasks are more complex and some more routine. His theory complements Woodward's since it defines which tasks are complex and which are routine. He defined task variability as the number of exceptions or unexpected events that occur while performing a certain task. Secondly, task analyzability is a measure of search activity needed for a person to perform their task. Those explanatory variables imply that highly variable tasks are not standardized or routine and are therefore more complex. The same goes for high analyzability since tasks cannot be programmed.

For example, a worker in McDonald's restaurant that puts together burgers faces very few exceptional events, has determined workflow and tasks defined in advance, and therefore does not need any knowledge and thinking effort to find the solutions to

complete the task. Therefore, this activity is referred to as routine. Perrow concluded that organizations should move from a more mechanistic to an organic structure as their tasks become more complex. The findings of the study can be found in Table 1.

On the other hand, nonroutine or complex tasks, such as programming new software in software development companies, are low in standardization since employees have to cooperate, develop procedures, and find solutions to problems together. Organizations are, therefore, more organic. Moreover, since its organizational structure is less formal, much flatter, and highly complex in each part of the workflow, the need for fast responses and adaptations makes decision-making much more decentralized (Perrow, 1967).

The last concept focuses on how task interdependence affects organizational structure. Task interdependence means the degree to which organizational tasks are related to one another. When it is low, people work in more individually specialized departments and work more independently to achieve goals. Thompson (1967) identified three types of technologies: mediating, long-linked and intensive. Mediating is where each step of the process in an organization can be performed independently. As presented in Table 2, mediating means that activities are pooled, which refers to each individual, team, or department working independently. For example, the sales department is where each salesman works independently from others and is evaluated individually but contributes to organizational performance. The coordination costs of such organizations are low due to the standardization of activities.

Table 2: Type of Technology and Its Corresponding Task Management

Type of technology	**Form of task interdependence**	**The main type of coordination**	**Strategy for reducing uncertainty**	**Cost of coordination**
Mediating	Pooled	Standardization	Increase in the number of customers served	Low
Long linked	Sequential	Planning and scheduling	Slack resources Vertical integration	Medium
Intensive	Reciprocal	Mutual adjustment	A specialism of task activities	High

Source: Jones (2013).

Long-linked technology reflects a process where activities must be performed in series. For example, mass production is based on sequential task interdependence. Since a

predecessor directly influences each following task in a process, more coordination is needed. Therefore, higher coordination costs are present. On the other hand, tasks with such organizations are routine, and variability and analyzability are low, therefore, structures are usually taller and more mechanistic.

At last, intensive technologies are the ones in which every part of the process is inseparable. Such technology makes automation impossible since each part of the process requires feedback from another part to operate. Therefore, the costs of coordination are higher, however, organizations are flatter and organic (Thompson et al., 2003).

2.5.3 Size

Organizational size is defined by the number of employees an organization pays. It is one of the factors of organizational design that has been researched many times; however, no consensus was reached as to whether the size of an organization affects organizational design. Large organizations seem more formalized and complex, though results throughout different studies are inconsistent. Hage and Aiken (1966) define formalization as "*measured by the proportion of codified jobs and the range of variation that is tolerated within the rules defining the jobs. The higher the proportion of codified jobs and the less the range of variation allows, the more formalized the organization.*" On the other hand, complexity is defined as the number of occupational specialties, where higher complexity means more specialization and therefore calls for more hierarchical levels to manage that. In this case, the relationship between bigger organizations and the number of hierarchical levels is clearer (Hall et al., 1967).

Even though there is some evidence of size influencing the organizational design, more research is needed. Different results could have been caused by weak definitions of concepts of size, formalization, specialization, and complexity; therefore, those variables should first be well-defined and measured.

2.6 Centralized and decentralized organizational structures

The tug-of-war between centralization and decentralization models is a conundrum for most businesses. An organizational structure sets the framework and principles for managing an organization's business activities (Ahmady et al., 2016). Business leaders are often in charge of developing their businesses' organizational structure, which is often an extension of the owner's personality, management style, and attributes (Barry, 1975).

In the corporate world, there are many different types of organizational structures. We can differentiate between the different types based on which business school we follow.

However, in general summary, we must mention functional, divisional, network, team-based, and matrix. Many also mention hierarchical and horizontal, yet, these two concepts coincide with the notion that organizational structure can be either centralized or decentralized, which is true for all other types of organizational structures (Ahmady et al., 2016). Each of these has its benefits and drawbacks, so a closer examination of the two will be made in this chapter to understand the origins of decentralized autonomous organizations better.

Once a company's management levels are established, it must decide whether the organization will be centralized or decentralized. Many organizations fall somewhere in the middle. Comprehending the structure of both centralized and decentralized organizations paves the way to understanding the differences in management employed by the organizations (Graybeal et al., 2019)

2.6.1 Centralized organizations

Companies with centralized governance systems concentrate power at the highest levels of management (Gitman et al., 2018). The military, for example, is an excellent example of a centralized organizational structure (McKinsey, n.d.). This is because people with high ranks issue commands to those below them, and everyone has to follow those orders. Concerning business decisions, centralized organizations can be incredibly efficient. Business owners often create the company's purpose and vision, as well as strategies and goals for their employees and managers to follow in order to achieve these objectives (Edwards et al., 2014). Because of the centralized chain of command, decision-making is more focused and in line with the bigger picture. In terms of resource usage, centralized organizations are more efficient (Gitman et al., 2018). They tend to have greater coherence when accomplishing organizational goals and reduced work, data, and staff inefficiencies. They have an efficient framework for direction and authority (Graybeal et al., 2019).

On the other hand, many layers of bureaucracy can have a detrimental impact on centralized organizations (Diefenbach, 2009). These organizations frequently have several management levels extending from the owner to frontline workers. Corporate owners who are in charge of making all decisions in the firm may need more time to complete these tasks, resulting in slower business operations and reduced response time to environmental changes. This also means that in a centralized organization, decision-making autonomy is reduced (Young & Tavares, 2004). Moreover, valuable lower-level employee input may never reach upper management, so the information from the frontline may never be even considered when decisions are made. This feedback issue corresponds with lower employee morale, not to mention the importance of individuals' ability to innovate is reduced, which leads to infringed employee well-being (Christiansen, 2019).

Lastly, there is also the issue of a high inclination to satisfy seniors rather than meet corporate goals (Graybeal et al., 2019).

2.6.2 Decentralized organizations

Decentralized businesses, as opposed to centralized businesses, have less concentrated authority. Lower levels of the organizational structure can make choices in a decentralized organization (Graybeal et al., 2019). A fast-food franchise chain is an excellent example of a decentralized company; Its franchised restaurants are each accountable for their own operations (Yin & Zajac, 2004). Companies, in general, begin as centralized organizations and then proceed toward decentralization as they grow (Siggelkow & Levinthal, 2003). When fully decentralized, the decision-maker in this horizontal structure becomes the person on the ground floor (Mihm et al., 2010). Because of this given responsibility, this structure is beneficial for leveraging individual talents. It aids in developing future leaders who are confident in their judgments. The decentralized structure also enhances individuals' creativity and innovation, as people are shown to be more creative when they are less controlled. Consequentially, there is increased employee motivation, work happiness, well-being, and overall morale (Høst & Hansen, 2012).

Even more importantly, threats are usually perceived quicker, and the decisions to address dangers are made more efficiently. Threats and opportunities must be addressed as quickly as possible in today's fast-paced business world. Organizations must seize the opportunity that fits within the organization's strategy to remain competitive (Darvishmotevali, 2019).

Another advantage is the improved ability to expand the business quicker, as it is essential for businesses always to seek new opportunities to provide goods and services to their clients. Finally, it relieves upper management of making minor judgments. In a centralized corporation, these little decisions can wear out top management. As a result, they are free to devote all their attention to critical decisions (Graybeal et al., 2019).

Decentralized organizations may struggle when multiple people have opposing views on a specific business decision (Hempel et al., 2012). As a result, these companies may struggle to get everyone on the same page when considering options and making decisions. Frictions within the company may arise and lead to poor communication and disputes, which infringe on the functionality of an organization. It is crucial that people in an organization work toward a unified purpose, but because decision-making is distributed, it is sometimes difficult to verify that all divisions of the corporation are working in unison to fulfill the organization's strategic goals (UN Department of

Economic and Social Affairs Division for Public Administration and Development, 2005).

Table 3: Pros and Cons of Centralized Versus Decentralized Organizational Models

	Centralized	**Decentralized**
Financial / Customer	Generates economies of scale	Possibility of resource duplication
	Fosters one-size-fits-all products and services	Promotes experimentation and innovation
	Further from the customer, less responsive	Closer to the customer; more responsive
Organization	Aids in the adoption of best practices	Slower to adopt best practices
	Allows for common standards and metrics	Difficulty comparing performance across units
	Slower decision making	More autonomy: speeds local decisions
	Increased collaboration between departments	Risks organizational silos
	Easier integration with external stakeholders	Harder to integrate other functions or third patties
Talent	Flexible talent deployment	Difficulty deploying talent across disparate units
	Fewer career opportunities for employees	Greater career options
	Reduced empowerment	Increased empowerment

Source: Bililies (2016).

Furthermore, because comparable choices and actions must be made across all business divisions, decentralized companies are prone to duplicating efforts, resulting in inefficiency and increased administrative costs and efforts (Graybeal et al., 2019). When autonomy is distributed throughout the business, as in decentralized systems, division managers may be inclined to customize/alter division operations to enhance efficiency and serve the division's best interests. It is critical under this structure to ensure that one division's shortcuts do not clash with or affect the operations of some other division

within the corporation. Another problem is that division managers in a decentralized organization might prioritize divisional aims above corporate goals (Duncan, 1979).

Table 4: Hybrid Organizational Models

CENTRALIZED	Type of coordination	Description
	Central operation	Global centralized unit located in corporate or in a specific region or business unit.
	Integration	Global manager with direct reporting-line authority over multiple regions or business units.
	Coordination	Prescribed coordination mechanisms such as management processes, leader forums, or common information technology systems that link different regions or business units.
	Differentiation	Informal exchanges of information, such as water cooler conversations between regions or business units
	Independence	Multiple autonomous units with no formal or informal coordination mechanisms
DECENTRALIZED		

Source: Bililies (2016).

The leadership of decentralized organizations must ensure that the organization's goals are prioritized for all divisions to achieve (Drucker, 1988). Significant, if not complete, dependence on divisional or department managers—because divisions in decentralized organizations have a high amount of autonomy, the division may become operationally isolated from other divisions within the company, focusing only on the division's interests. Suppose divisional or departmental managers lack a broad range of experience

or skills. In that case, the department/unit may be at a disadvantage due to a lack of access to other right expertise (Graybeal et al., 2019).

The common perception is that centralization works better when cost savings are achieved through scale or standardization, when specialized production capabilities are required, or when manufacturing strategy is a vital component of company strategy (McKinsey, n.d.). Decentralization, on the other hand, is more suited when various products for diverse markets are required or when the organization must adapt swiftly to changing or geographically diverse client demands (Bililies, 2016).

Understanding the advantages of each model is essential, but most businesses are more complex and can't easily fit into one model, so a third option called the hybrid model arose. We currently differentiate between five hybrid models, as seen in Table 4.

2.6.3 The movement toward decentralization

While centralization is popular, multiple trends indicate the need for a transition toward increased decentralization (Frazier, 1999). First is undoubtedly the fast-paced business environment full of change, rapid information flow, and never-ending technological development that clearly challenges the rigid managerial hierarchy. Observers in both the private and governmental sectors acknowledge the presence of significant instability and unpredictability (Ancona et al., 2002).

Out of that also stems that, many firms are beginning to condense their distribution channels and communicate directly with customers (Frazier, 1999). Businesses cannot, in this setting, rely on regional distributors to tailor marketing strategies or customize products and services. They must instead empower their workers to adapt rapidly to changing client requirements. For example, Zappos, the Web-based shoe and apparel firm recognized for its excellent customer service, had eliminated all managers (Anders, 2014).

Then, there is an increase in knowledge-based employment. In contrast to producing and distributing material goods, an increasing number of companies work in the so-called knowledge economy, where ideas and skills are the primary sources of value creation (Blackler, 1993). One consequence of operating in the information economy is that managers rarely have all the expertise required to handle organizational difficulties. In the present time, individuals at all levels of an organization must contribute know-how and ideas for the organization to prosper. Solutions from managers above are less likely to create the services, products, or solutions required for success.

Given that some conventional sources of purpose are disappearing in many aspects of our society, a trend toward perceiving work and organizations as venues for personal

meaning has fueled interest in enhancing employee experiences at work (Podolny et al., 2004).

For example, millennials are currently the generation representing the largest portion of the labor market. They, in particular, demand flexibility and autonomy in their jobs, which are job aspects that are more conducive to decentralized systems (Oeij et al., 2006). According to recent research, they seek or anticipate more personal fulfillment and meaning from their work than previous generations (De Hauw & De Vos, 2010; Rawlins et al., 2011). Although not all millennials are the same, subordination to executive power, as well as the hierarchical speaking rules that sometimes follow the formal hierarchy, such as not opposing the manager's views or bypassing one's supervisor, is often diametrically opposed to their work preferences. Many believe that having more control over their job makes it more meaningful and fulfilling (Turco, 2016). That leads to the conclusion that to keep that large part of the workforce engaged, decision-making may need to be more broadly dispersed across the business (Bililies, 2016).

Ultimately, digital technologies are reshaping businesses in unexpected ways. Even Zoo business strategies worldwide are becoming digitalized (Nicas, 2015). Companies that digitize their back offices, consumer contacts, employee communications, and products and services pave the path for decentralization. In addition, many of the conventional limits of decentralization are addressed by digitalization, which fosters shared standards and measurements, cross-departmental collaboration, and interaction with third parties (Gaur et al., 2018).

3 TECHNOLOGICAL ASPECTS

This chapter aims to provide a comprehensive understanding of the key technical elements that make up a DAO and how they work together to create a decentralized and autonomous organizational model. Through this analysis, we will analyze the potential benefits and challenges of this new technology, supporting the design of a DAO and its impact on traditional forms of business and governance.

To understand DAOs, we must first understand the technology that powers them. DAOs rely on blockchain technology and smart contracts, which are code collections that operate on the blockchain (Wang, Ding, et al., 2019). A blockchain is a digital ledger that is decentralized. Any one person or company does not control it. Instead, it is spread throughout many computers and is constantly updated with new information (Kassen, 2022). This technology brings three unique features to the table: transparency, security, and low-cost operation. This makes it ideal for running an organization without a central authority (Cole et al., 2019).

Transparency: Anyone can view the data stored on a blockchain. This feature allows a DAO to operate without a central authority dictating how it should be run because everyone can see all voting outcomes on every decision made throughout the DAO governance. Currently, most corporate entities are kept accountable through regulatory agencies and auditing. However, all decision-making can be done in private and disclosed to the public only when decided so by the decision-makers (OECD, 2015). On the other hand, blockchains are visible to anyone who wishes to view them. The transparency and security of the blockchain are a direct result of its decentralization, meaning that no one person or entity owns the platform (Wang, Ding, et al., 2019).

Security: The security of the blockchain is based on two features. First, there is a consensus protocol to establish legitimacy for each block in the chain. Second, each block contains cryptographic hash references to previous blocks, which helps secure the ledger from tampering (Kareem et al., 2018). This process makes it difficult for anyone to alter any data stored on a blockchain, as every record would need to be altered at once by all computers running the platform; this would require more computing power than all computers on Earth combined.

Low cost: The most important quality of a blockchain is its ability to verify transactions at a low cost. This means that it is not necessary to pay a high price for every action you take on the platform (IBM, n.d.). If a corporate entity wants to make an inconsequential change, it can still pay anywhere from $0.01 to $0.0001 with the rise in popularity of Bitcoin and Ethereum. DAOs, on the other hand, do not have to pay anything at all because they are free to use one of these third-generation platforms and still maintain their status as autonomous organizations.

3.1 Distributed ledger technologies and blockchain

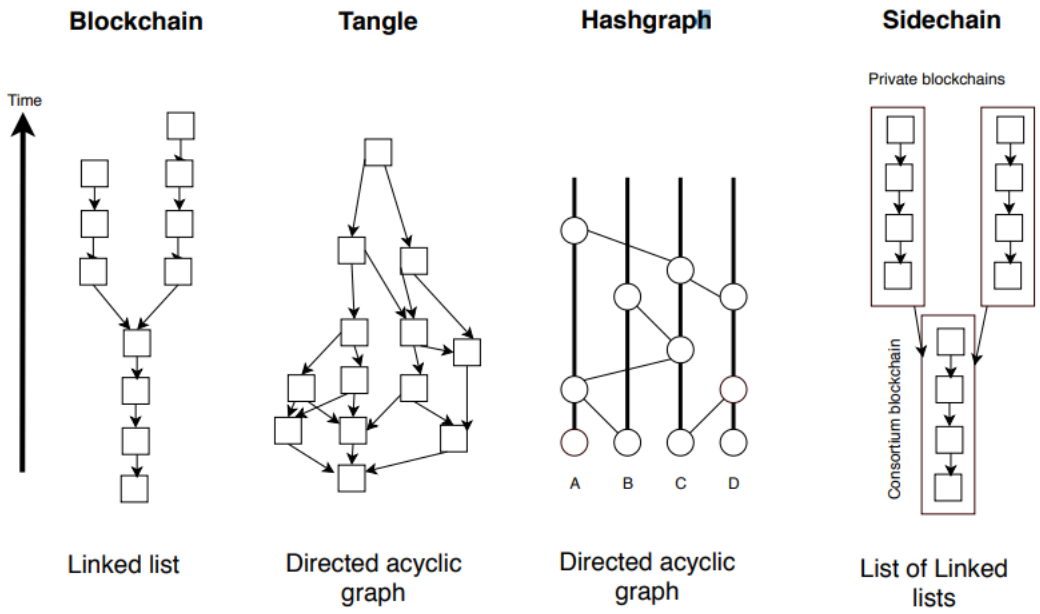
Since the main purpose of this master's thesis is to provide an understanding of blockchain technology and its business applications, we will first explain the technology running the disruptions.

Distributed Ledger Technology (DLT) is a protocol that enables the secure functioning of a decentralized digital database. A few DLTs are known; however, one of their main goals is to allow users who do not necessarily trust or know each other to interact without needing a trusted third party. Furthermore, DLTs provide transparency, traceability, and security. Therefore, the technology effectively solves mistrust between participating parties. The main merit of those capabilities is to exclude a third party that does not add to the value of the transaction (El Loini & Pahl, 2018).

Most DLTs are based on three principal technologies: public-key cryptography, distributed peer-to-peer networks, and consensus mechanisms. First, public key

cryptography is for every participant to establish a secure digital identity, enabling participants to control ownership over an object on distributed ledger and record transactions. Secondly, the peer-to-peer network prevents a single party or a small group of players from taking over the network. At the same time, consensus mechanisms allow distributed ledger nodes to agree on a single version of the truth, excluding the need for a third party (El Loini & Pahl, 2018).

Figure 4: Four Most Prevalent Distributed Ledger Technologies



Source: El Loini & Pahl (2018).

An overview of the four most referred DLTs is presented in Figure 4**.** However, for this master's thesis, only the most widely known and used DLT, blockchain, will be presented since one of the main perks of the technology is a smart contract, which is unique to blockchain, and as such, provide a foundation to DAOs.

3.2 Blockchain

Blockchain first became more publicly known in 2009 with the beginnings of Bitcoin. However, ideas, foundations, and the first simpler cases of blockchain existed even before. Blockchain is a linked list of blockchains that create a network, and where each block references the previous one, making it hard to interfere with blocks since every change will invalidate successor blocks. Therefore, the first main perk of blockchain is immutability. Secondly, in blockchain, multiple transactions grouped together are called blocks, that when confirmed by nodes, are added to the blockchain (El Loini & Pahl, 2018). Blocks are added to the blockchain once they are validated. Such architecture enables blockchain to be decentralized since no one party is responsible for validating the

block. Rather millions of miners working together to reach a consensus and prevent an asset on a blockchain from being duplicated or, in other words, prevent the digital currency from being spent twice. Each block is highly encrypted and therefore anonymized; headers are made public and therefore not owned by one party but rather available to everyone, making blockchain a transparent network.

When new transactions occur on the blockchain, new blocks are resolved and added to the blockchain. Miners, whose job is to verify blocks, are rewarded every time they discover a new block. The consensus mechanism just described is referred to as "proof of work." In this process, high computational power is needed to solve a complex cryptographic puzzle, which enables for creation and confirmation of new blocks (Hughes et al., 2019).

The second consensus mechanism most common is "proof of stake," which does not require such computational power and is, therefore, more scalable and cheaper since fewer fees are imposed. Proof of stake is a consensus where validators are picked randomly. Validator can be any machine of coin owners who "stakes" the coins. Staking coins refers to locking up crypto coins and earning interest on coins staked. Validators are rewarded based on the amount and duration, and quantity of crypto assets staked. In proof of stake consensus, more validators are randomly chosen to validate a certain block. Consensus mechanisms are a main component of DLT, and its main role is validating transactions, which in practice means that they validate that the same asset has not been used twice and ensure that the transaction is debited from one, and credited to another account, excluding the need for financial intermediaries. (Sriman et al., 2020).

Blockchain covers many application possibilities, with the main goal of creating an infrastructure allowing participants to exclude non-value-adding third parties from transactions. There are many use cases of blockchain known already. It is most known for use in the financial or banking sector, where digital currencies are built on top of blockchain technologies. However, this seems to be only the surface. As discussed in other parts of this Master's thesis, blockchain is foundation also for smart contracts, governance, and crowdfunding (Wang, Ouyang, et al., 2019).

To further build on the usability of blockchain, we analyzed (potential) use cases of blockchain already documented. For example, blockchain could be used as authentication or so-called notary services, where one could authenticate other persons' actions through smart contracts. Many cases are also known in supply chain and transport, where products once bought from store shelves could be easily traced back to their roots. For example, one could check where the food they are buying originated from, when it was produced, where, through which procedures it went, and how it got to the shelves. Besides, fashion brands such as Louis Vuitton use blockchain for their customers to be sure that the product they buy is 100% original. Car manufacturers use blockchain to trace every part

used in the assembly process and ensure they know where parts in their supply chain are positioned. Also, for any sharing services, blockchain could be and is used since there is no need for a third party to execute transactions and profit from that. There are also projects sharing cloud storage or computer processing power through blockchain, where nodes are created to provide processing power or space for data storage. Blockchain prevents duplicate files, providing security for those storing the data in such a network. Furthermore, blockchain can be used in insurance, health records, or any other Internet of Things service. Blockchain provides an infrastructure to hold a record of any transaction holding data inputs, enabling immutable and anonymous records for every individual without needing a third party (Aggarwal & Kumar, 2021).

3.3 Cryptocurrency

Crypto, short for cryptocurrency, is a form of digital currency that uses encryption techniques to regulate the generation of currency units and verify the transfer of funds. It operates on a distributed ledger technology called blockchain, which allows transactions to be recorded transparently and securely across multiple nodes.

Cryptocurrencies have gained significant attention and adoption in recent years due to their many benefits. One of its key advantages is its decentralized nature, which means a single entity or government does not control it. This makes it more resistant to manipulation and censorship and less susceptible to inflation caused by government policies. It also enables anyone with an internet connection to access and participate in the crypto ecosystem without intermediaries such as banks or financial institutions.

Another key benefit of crypto is its ability to provide greater financial privacy and security. Because crypto transactions are recorded on a public blockchain ledger, they are transparent and traceable. However, the parties' identities in the transaction are protected by using public and private keys to verify transactions, making it difficult for anyone to steal or manipulate funds. This has made crypto an attractive option for people who value privacy and security in their financial transactions. In addition, anyone with an internet connection can create a crypto wallet and participate in the crypto economy, regardless of location or socioeconomic status. This can especially benefit people in developing countries or those without access to traditional banking services.

Despite these benefits, crypto also has its challenges and risks. One of the main challenges is its volatility. Crypto prices can fluctuate wildly in short periods, making it difficult for investors to predict the market and manage risk. This has led to instances of significant losses for some investors. In addition, crypto has been associated with illegal activities such as money laundering and fraud, which can damage the reputation of the entire crypto ecosystem.

Furthermore, the regulation of crypto is a complex and evolving issue. Because crypto is decentralized, it falls outside the purview of traditional financial regulators, making it difficult to create and enforce regulations. However, some governments are starting to write such regulations, which could lead to increased scrutiny, oversight, and functionality.

3.4 Tokenization

Tokenization is a concept that is closely related to cryptocurrencies. In essence, tokenization involves the representation of real-world assets, such as real estate, art, or even shares in a company, as digital tokens on a blockchain. This allows for greater liquidity, transparency, and accessibility to these assets and creates new opportunities for financing and investment.

At its core, tokenization is an extension of the underlying technology behind cryptocurrencies. Just as cryptocurrencies use blockchain to securely and transparently record transactions of digital coins, tokenization uses the same technology to record transactions of digital tokens that represent real-world assets. In addition, these tokens can be traded on digital exchanges, enabling investors to buy and sell them easily, just like they would with traditional securities.

Even though both tokens and coins generated by blockchain are regarded as cryptocurrencies, viewed from the financial aspect, they differ in some other aspects. Firstly, the coin is used to store value and is native to a blockchain, while the token is created on another blockchain. For example, we could look at a blockchain called Ethereum with its native coin, Ether. A basic Attention Token, or BAT, is a token created on the Ethereum platform. At its core, every token is just a sort of security document, which essentially gives the right to access a certain utility, asset, or security, while a coin represents the direct means of exchange. On the blockchain, tokens are created through algorithms defined in smart contracts and managed and transferred from one party to another through smart contracts, while coins stay on the blockchain and do not have to be moved from one place to another. Utility tokens give access or a right to services; therefore, it has no investment attributes. On the other side, tokens backed by assets give a right to real-life assets, such as non-fungible assets, real-estates, art, commodities, etc. Finally, security tokens are like common shares, only built on blockchain, which are later liquidated to create equity tokens, where security tokens serve more as investment contracts and equity tokens as stocks (Xuefeng et al., 2019).

One of the main benefits of tokenization is its ability to create new opportunities for financing and investment. By tokenizing an asset, it can be divided into smaller, more affordable units, making it accessible to a wider range of investors. This can also make

raising capital for a project or investment opportunity easier, as investors can buy tokens representing a portion of the asset rather than having to purchase the entire asset outright.

Tokenization also allows for greater transparency and accountability in the ownership and transfer of assets. Because the ownership of tokens is recorded on a blockchain, it is transparent and immutable, meaning that it cannot be altered or tampered with

In Decentralized Autonomous Organizations, smart contracts forming DAO define how many tokens will be created. Those are “equity tokens,” representing ownership shares, voting rights, and rights to fees such as dividend or capital gain payments, like traditional corporations. Equity tokens are often first distributed among founders, followed by an Initial coin offering (ICO), where tokens are offered to the public. Equity raised is then operated by DAO, based on rules defined in constitutional smart contracts (Minks, 2018). This creates a more democratic and transparent system for decision-making within the organization, as all members have an equal say in the organization's direction.

Tokens can also be used to incentivize behavior within a DAO. For example, tokens can be awarded to members who contribute to the organization in a meaningful way, such as by providing valuable expertise or resources. This can create a more collaborative and engaged community within the DAO, as members are incentivized to contribute to the organization's success.

3.5 Smart contracts

Smart contracts are essentially pieces of code that run when specific predetermined criteria are satisfied and are simultaneously recorded on a blockchain. In other words, they enable the performance of transparent executions of predetermined procedures anchored on the blockchain. All decisions are made ex-ante, and a breach is rendered impossible because the computer code which governs the transaction cannot be altered or canceled. Smart contracts allow for the automation of business logic and the programmability of assets such as money, opening up hitherto inaccessible application potential. Smart contracts currently control billions of dollars in value (Ante, 2021). While Bitcoin was designed to disrupt the financial industry's status quo, the underlying blockchain technology allows for some level of disintermediation in practically every sector. Peer-to-peer (P2P) transfers of any asset or data are possible without a trusted middleman.

Furthermore, predetermined processes may be decentralizedly anchored on the blockchain by computer code that prescribes a particular reaction to new information, such as an incoming transaction. They expand the size and potential of decentralized systems by allowing predetermined procedures or even actual contracts to be implemented in complete transparency and without external influence. These

programmed processes can be easy or complex. A smart contract, for example, can send a transaction to another entity or address—more complicated arrangements, such as token (smart) contracts, anchor values on the blockchain. Digital tokens, i.e., cryptocurrencies, are issued this way and may subsequently be transferred by users.

In 2020 the ten largest blockchain-based tokens had a combined market valuation of more than $11 billion (Ante, 2021), while in March 2022, this number was at $225.2 billion. Whereas this number showed the utility of this technology already back then, the rapid growth of 20.5 times (etherscan.io, n.d.) demonstrates that the technology is here to stay and already represents an impactful player in the financial industry.

The phrase "smart contract" and the underlying concept predate the advent of cryptocurrencies and blockchain technology. They were first mentioned in 1994 as a computerized transaction protocol that meets contractual constraints such as confidentiality, payment terms, enforceability and lowers the need for trusted intermediates (Szabo 1994).

A smart contract is not necessarily establishing a legally enforceable agreement. According to certain legal experts, smart contracts are not binding contracts but rather ways of carrying out responsibilities derived from other agreements (Mik, 2019), such as technical means for automating payment obligations (Cieplak & Leefatt, 2017) or obligations involving the transfer of tokens or cryptocurrencies. Other researchers have claimed that the imperative or declarative character of programming languages might affect the legal validity of smart contracts (Governatori et al., 2018).

According to a 2018 US Senate report, while smart contracts may appear novel, they are based on classic contract law. Typically, the legal system resolves commercial disputes and enforces agreements, but it is also customary to have an alternative arbitration mechanism, particularly in international transactions. Software enforces the contract incorporated into the code with smart contracts. Arizona, Nevada, Tennessee, and Wyoming are among the states that have first approved legislation allowing the legal use of smart contracts already in 2018. In addition, the UK Jurisdiction Taskforce (UKJT) established the Digital Dispute Settlement Rules (the Digital DR Rules) in April 2021 to aid in the quick resolution of blockchain and crypto legal issues in the United Kingdom (Morgan et al., 2021).

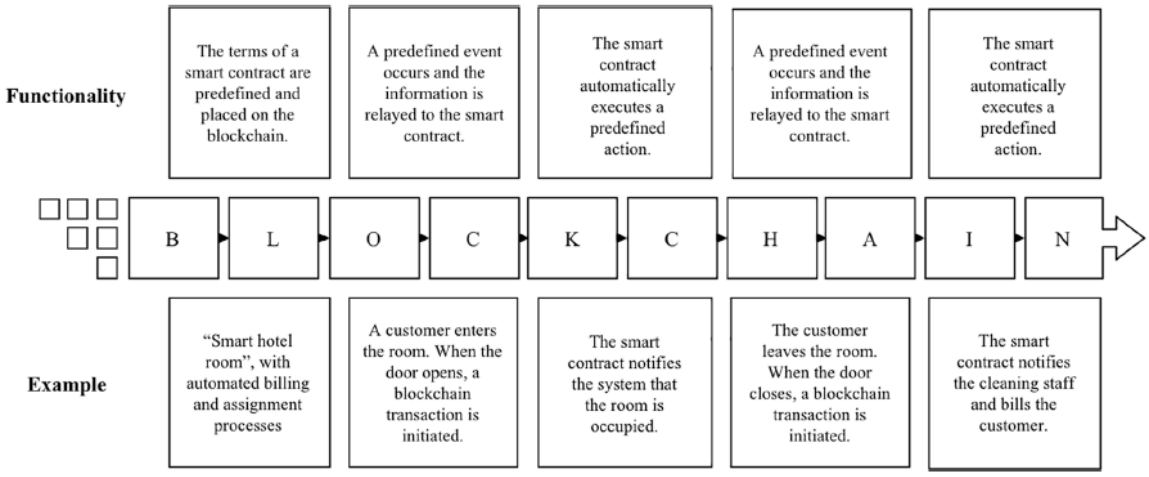
To summarize, smart contracts allow for the digital programming of values and self-executing processes on a distributed infrastructure. However, because smart contract applications have only been available for a few years, the myriad opportunities meet just as many problems. Such potential problems include trust, security, reentrancy, implicit runtime exceptions, incomplete handling of preconditions (no reimbursement), unilateral abortion, unpredictable state, secrecy, immutable bugs, lost currency, non-randomness,

and the question of whether a scripting language should be Turing complete (Lamela Seijas et al., 2017).

The biggest threat is cybersecurity, with one famous case connected to a DAO, where a hack into The DAO occurred due to a bug in the wallet's smart contracts that would allow them to be drained. Unfortunately, an attacker exploited that bug three weeks into the sale and took all the money. Luckily, due to the smart contract system, a solution was possible: A hard fork was imposed, which rolled back the history of the Ethereum network to before The DAO assault and redistributed The DAO's ether to a separate smart contract, allowing investors to withdraw their assets. This, however, was quite controversial; after all, blockchains are meant to be immutable and impervious to censorship.

A very simple example to practically explain how smart contracts work was done by Lennart Ante - he described it through a hotel automation system (Figure 5).

Figure 5: Exemplary Functionality of a Smart Contract



Source: Ante (2021).

3.6 Smart Contract Wallets

Blockchain is logical and useful only if consumers have full control over their assets and are as safe as they are within banks today. Digital Wallets are encrypted systems that save users' payment information and passwords for a wide range of payment methods and websites. They are intended to retain and utilize your digital assets like Bitcoin and non-fungible tokens. Digital wallets may be used to complete transactions even more conveniently and rapidly by utilizing Near Field Communication technology. Users may also generate safe passwords without worrying about forgetting them later. Some mobile payments have integrated the usage of Digital Wallets, allowing customers to pay for products straight from their Smartphones. Many digital wallets also

support the storage of digital coupons and loyalty card information. But this could be only the beginning.

At the height of the dot-com boom, digital wallets were born. Several entrepreneurial businesses launched early electronic payment solutions but failed due to insufficient consumer awareness. Additionally, minor and relatively unknown developers provided most of these solutions, lacking the aura of authority that customers expect when handling financial information. As a result, the first-generation projects received little attention and faded into obscurity after the turn of the millennium. It was only after the invention of Bitcoin and other well-known cryptocurrencies that the market became ripe for introducing the smart contract wallets we know today. The future holds many more possibilities for this technology.

Funds in smart wallets are accessible and managed by smart contract code, which allows for nearly limitless flexibility, provides users more control over their assets, and boosts trust in DeFi due to the high security they offer.

Different main networks support different types of programs. Some most well-known are Etherium, Polygon, Avalanch, Moonriver, and Binance Smart Chain. For example, the Ethereum platform supports two different types of accounts: Externally Owned Accounts (EOAs), which are accessed with a private key or seed phrase, and Contract Accounts, which are managed by smart contract code. It also supports only cryptocurrencies and NFTs based on the Ethereum main network.

Smart wallets offer valuable new features and give a user experience comparable to traditional financial (TradFi) service applications while adding adaptability and breaking user dependency on private keys. Among the functions given by several smart wallets are:

- Authorization with several signatures, which means two or more people can approve a transaction for stronger security.
- To save users time, smart wallets can also allow multi-sig transactions to be authorized offline.
- They enable account freezing in an emergency. For example, if a device is lost or stolen, an account can be locked, or you can even terminate access to the account from the compromised device.
- You can add extra layers of protection by using authenticator applications and/or native wallet services.
- Whitelisting, where users can instruct the system to send transfers exclusively to recognized addresses. This feature is widely used in the NFT market and minting.
- Some smart contract wallets also allow bundled transactions which means you can authorize the precise quantity of tokens necessary for interaction with a DApp (rather

than an infinite amount) and execute the call to interact with the DApp in a single "bundled" transaction for speed, lower gas fees, and convenience.

- Paid gas fees. For instance, Authereum allows DApp developers to pay the gas costs for transactions that use their platform, removing the need for users to keep an ETH balance and considerably enhancing the transaction experience.

3.7 Decentralized application

Decentralized applications, or DApps, are a type of software that runs on a decentralized network, such as a blockchain. Unlike traditional applications that rely on a central server or authority to operate, DApps are built on top of a blockchain and operate in a peer-to-peer manner, with no single point of control or failure. This allows for greater transparency, security, and resilience, making DApps an increasingly popular tool for a wide range of use cases.

By running on a decentralized network, DApps eliminate the need for a central authority or intermediary to oversee transactions or validate data, creating a more transparent and democratic system. Additionally, the decentralized nature of DApps provides increased security and privacy compared to traditional applications. There is no single point of failure that attackers can target, and data on a blockchain is encrypted and immutable, making it less vulnerable to tampering or manipulation. This is especially beneficial for applications handling sensitive information, such as healthcare records or financial transactions.

Because of their nature, DApps can be used to facilitate the operations of a DAO, providing tools for decision-making, voting, and financial management. For example, a DAO might use a DApp to allow members to vote on proposals or to allocate funds to different projects. The DApp could be designed to ensure that voting is transparent and democratic, with no single member having undue influence. Additionally, using a DApp can make it easier to track financial transactions and ensure that funds are being used per the DAO's rules and regulations.

4 LEGAL ASPECTS OF DECENTRALIZED AUTONOMOUS ORGANIZATIONS

For this master's thesis, the main focus will be on the legal requirements and frameworks in the United States of America (USA), as the USA seems to be the first to provide a legal framework for DAOs and address the issue of regulation of crypto assets. However, other jurisdictions will also be briefly discussed.

The goal of legislation allowing business entities to incorporate is to create a legal framework that enables groups of actors to manage risks. However, in exchange for these benefits, actors must comply with rules and constraints imposed by a regulator (Lin, 2016).

There are four types of actors in a DAO structure. The first is the creators, who write the code that the DAO operates on. The second is investors, who purchase DAO tokens in exchange for a certain amount of a certain token/coin. Third, contractors then make proposals on which investments to be made with the funds pooled in the DAO, and these proposals clearly define the expected returns on investment. Lastly, there are curators who verify the proposals without stating their opinions. It is important to distinguish between the actors involved in the DAO structure from a regulatory perspective, mainly due to the responsibility problems associated with DAOs (Minks, 2018).

DAO funds are collected through an Initial Coin Offering (ICO). The number of DAO tokens issued is predetermined in smart contracts, and investors must purchase a certain coin to purchase DAO tokens. These tokens hold the same characteristics as shares of companies and give holders control over the organization, entitlement to a share of profit and transaction fees, and voting power. In addition, creators issue themselves a certain amount of tokens (a "direct share"). However, anyone who meets the criteria defined by the smart contract can invest in the DAO, unlike IPOs which first offer shares to significant investors (Hinkes, 2016).

4.1 Investment contracts

Organizations wanting to issue shares in the USA must abide by The Securities Act of 1933. This act aims to protect investors from a lack of information and misinformation. Therefore, every company must file a registration statement to SEC and disclose information stated by the Act. An issuer of a security is defined as a "*person who issues or proposes to issue a security for sale to the public*"; consequently, DAOs could generally be treated as issuers of securities, namely issuers of investment contracts (Hemingway & Hoffman, 2011).

The following set of criteria, defined in the Howey test, determine whether a certain investment scheme is deemed as an investment contract: "(1) investors were led to invest money (2) in a common enterprise (3) with an expectation to earn a profit, (4) solely through the efforts of a promoter or someone other than themselves". For DAO tokens not to be treated as a security, they must avoid a least one of the elements (Securities and Exchange Commission v. Howey Co., 1946).

The main concern of the first condition is what can be considered as money. Besides fiat, other cryptocurrencies and tokens are also deemed as money. Furthermore, even services

such as marketing or promotions exchanged for a financial instrument are treated as money. However, this condition could potentially be avoided when people contributing to a DAO contribute with computational power. The US legislator has not issued any opinion on whether mining is treated as an investment of money. Therefore, the risk is certainly present, but there is a possibility that mining, which actively contributes to the development of the ecosystem, might not be treated as an investment of money (Reyes et al., 2017).

There have been discussions on whether a DAO is a Common Enterprise. The definition of Common Enterprise generally tries to define the connections among people who own assets. There are multiple tests used by courts to define Common Enterprise. In the case of the Horizontal Commonality test case, DAOs would most likely be defined as a Common Enterprise since DAOs are funded through crowdfunding, and investors share profits and risks based on the venture's success (Securities and Exchange Comission, 2017).

The Broad and Narrow Vertical Commonality tests, however, may not be satisfied. They state that either the investors' profits depend on the promoter's efforts or the investor's profits are tied to the manager's profits. This means that the promoter is an expert and the investors rely on their expertise or that the investor's outcome directly correlates to the promoter's efforts. It depends on how the DAO is presented to the investors and whether there is a component of expertise on which the investors would rely. Courts usually use the Horizontal Commonality test and classify DAOs as Common Enterprise (Securities and Exchange Comission, 2017).

The third point, referring to the expectation of a profit, is hard to avoid since DAOs are most often constituted for investors to pool money and invest it in a project to earn a return which will be redistributed back to token holders as revenue sharing, dividend, or a transaction fee. If investors would not be counting on asset appreciation and if there was no secondary market where those assets could be traded, DAO would not be subject to SEC regulations; however, investors almost always expect their investments to appreciate, making this condition hard to avoid (DeSimone, 2022).

The fourth and last point is often combined with the previous one. This condition tests the role of an active participant in the performance of an enterprise. The condition might be avoided with significant stakeholder participation since, in that case, profits will not be derived solely through someone else's efforts. Therefore, the greater the stakeholder participation, the less likely DAO tokens will be treated as a security. In DAOs, most people involved can only vote and therefore have limited contributions to the DAO. There is a code in place that manages funds, management that executes investments and contributes to the DAO's operations, and third-party providers, which are the endpoints of the project the DAO participants have approved. The dilemma with this condition is

that investors have more power than in a traditional limited partnership since they can vote, though they lack the expertise needed to exercise the management power they have as partners. However, if participants could prove that they are, in fact, partners in the DAO, the venture would not be subject to SEC regulation (Gordon III, 2011).

In 2017, the SEC issued a report on The DAO fraud, which concluded that the DAO tokens were investment contracts. The analysis relied on factual inquiry, making it difficult for the SEC to thoroughly analyze as they had to collect all relevant data, including the code and software, to apply the appropriate tests. The procedure was costly, slow, and painful. In the report, the SEC tested whether the tokens issued by The DAO were stock, but the test failed to recognize the tokens as stock. If the test had been successful, recognizing the tokens as the stock would have been a more efficient regulatory solution. The entity regulatory framework currently has no tools to classify DAOs as corporations, and even the de facto doctrines that sometimes classify a legal corporation in the absence of a de jure corporation cannot classify it as a legal corporation due to the absence of a statute under which it could be legally incorporated (Nielsen, 2020).

However, the characteristics of DAOs point to a general partnership, where all participants have unlimited liability. The state of Wyoming in the USA is one of a few jurisdictions that created a framework under which DAOs can be legally incorporated as a limited liability company called a DAO LLC. Due to the Treaty of Friendship, Commerce, and Navigation, the DAO LLC is also recognized in Germany and can operate within Europe (Fleischer, 2021).

Regulators currently face many challenges when it comes to regulating DAOs. The difficulties include identifying parties representing the DAO and complying with legal requirements. If there was a single party representing the DAO and making its own decisions, the anonymity, autonomy, and decentralization of the DAO would be lost. Additionally, there must be a party that files a registration form with the SEC to comply with legal requirements, which would break the benefits of DAOs. The pre-filing process is expensive, and during that period, the DAO would still have zero funds collected, making it impossible to be filled.

Furthermore, DAOs show the closest characteristics to a general partnership, posing unlimited liability to everyone involved. This is problematic due to the inability to identify every actor's identity and hold them responsible. The regulation now prevents DAOs from being constituted and fully operational, but on the other hand, it protects investors from the significant risks they face when investing in DAOs. Therefore, regulation has to be adjusted to provide DAOs with a legal framework acceptable for such ventures and investors with protection against fraudulent activities (Minks, 2018).

To summarize, there are currently a few ways to constitute a DAO. The first is a DAO without any legal entity, where the major risk is that every participant will hold unlimited liability since such a structure is treated as a general partnership. However, it can hold assets and employ people. The second way is for a DAO to be constituted as a legal entity, either in Wyoming, Vermont (creating a blockchain-based limited liability company), Delaware (creating a legal DAO), or in a few other jurisdictions, where the goal is to limit the liability of participants and provide clarity on regulation (Mienert, 2021).

4.2 Setting up a Decentralized Autonomous Organization as a Limited Liability Company

Wyoming was one of the first jurisdictions in the world to address governance issues for DAOs. Wyoming was also the first state to authorize the creation of Limited Liability Companies (LLCs) in 1977. Similarly, Wyoming passed the Decentralized Autonomous Organizations Supplement Bill (SF0038) in March 2021. The legislation's goals are to define an organization's legal status, the liability of people involved with DAOs, and the determination of applicable law. This was one of the first steps toward forming a legal framework for DAOs. Wyoming, therefore, recognizes DAOs as a variety of limited liability companies. Such recognition gives DAOs multiple benefits, with the first and foremost being a limited liability for its owners (Kane & Golda, 2021).

Recognizing DAOs as legal entities brings certain obligations and benefits to such organizations. Legislation generally protects DAOs from being treated as general partnerships, so members only hold limited liability. The law also allows DAOs to define the quorum needed to make certain decisions in their founding papers. However, Wyoming does not require an operating agreement or founding capital to establish a DAO LLC. Furthermore, managers' identities must not be listed, as they can be kept private. DAO LLCs may also enjoy favorable tax treatments similar to those of C-corporations but also allow for treatment similar to S-corporations. Furthermore, Wyoming is a known US tax haven, attracting entrepreneurs to start their businesses there. On the other hand, the legislation dissolves DAOs if certain decisions are not implemented within a year or if a proposal is not accepted, which may deter people from forming a DAO LLC in Wyoming (Decentralized Autonomous Organizations, 2021).

However, Vermont was the first state to make the first step towards legally recognizing organizations established on the blockchain as early as 2018. Since then, it has been possible to establish a Blockchain-Based Limited Liability Company (BBLLC). It allows LLCs to be recognized as BBLLCs when the organization specifically elects and defines in their statutory document that they will function as a BBLLC. A BBLLC provides a legal framework to integrate blockchain technology into its governance structures, processes, and other operational procedures. Specific legislative requirements include an

operational agreement that must specify the mission and vision of the company, the degree of decentralization, and whether the BBLLC will be public or private. Furthermore, the extent of a participant's access to information and permissions, voting procedures, and the roles of members and managers, as well as contingency plans for system security breaches, must also be disclosed (Freeman Law, 2023).

In its actions to attract talent and create more jobs, Vermont was among the first to act in this area. Furthermore, they provide a favorable tax regime for such organizations. The legislation provides a choice of BBLLCs to be taxed as partnerships or as a corporation (Freeman Law, 2023).

Delaware also joined the initiative, acting similarly by authorizing Legal DAO (LAO). The legislation firstly solves the liability problem since DAOs that meet conditions set out by Delaware legislators are treated as limited liability companies. Rights, liabilities, and obligations of token holders, representing ownership of a certain share in equity, are defined by Delaware's laws formalizing LLCs. Furthermore, similar to Vermont, LAOs can be taxed as partnerships (where a pass-through tax treatment is possible), corporations, or limited partnerships (O'Toole et al., 2018).

The most favorable and popular jurisdictions for DAOs to establish in seem to be Switzerland or the Cayman Islands, where they are established as foundation companies. This relatively new form allows for operation as an incorporated trust. This very flexible form allows, firstly, to limit risk, which means separating legal personality and limited liability. Beneficiaries in these jurisdictions do not have to be registered by their legal names, which allows them to stay anonymous. Beneficiaries in such cases are defined as token holders or node operators and can also be rewarded with tokens. However, organizations are required to have at least one director, supervisor, and secretary, who can be a natural or legal person. One must be aware that jurisdictions such as the Cayman Islands bring some beneficial tax treatment, though businesses headquartered there might lose credibility since strict regulations, such as the one in the EU or US pertaining to financial institutions, do not apply there (Mienert, 2021).

European Union (EU) did not manage to recognize DAOs as legally formed entities yet. Therefore, no specific legislation pertaining to the incorporation and legal treatment of DAOs exists. However, certain steps have been made to regulate crypto assets, which consequently refer to DAOs as well. A proposed regulation about the crypto assets and corresponding services named Regulation on Markets in Crypto-Assets (MiCA) aims to establish harmonized rules on the EU level (European Comission, 2022).

In certain parts, MiCA also covers issues related to DAOs; however, concrete proposals are still in the consultation phase. As with every other jurisdiction, the EU first struggled to understand DAOs, their processes, decentralized structures, and its nature of

conducting business, which is crucial to provide a sufficient framework. Then, however, they managed to understand the organization, blockchain, and smart contracts, running DAOs. As such, they noticed the transparency, auditability, and accountability in DAOs, which provides an addition for a regulator compared to current establishments (Hallak, 2022).

The international working group, Coalition of Automated Legal Applications (COALA), created the COALA DAO Model Law proposal, which is currently still in consultation with multiple experts from various fields that DAOs touch. The paper defines the requirements a certain DAO must satisfy to be legally recognized and hold limited liability. Furthermore, it lays down the formation process and requirements, limits the liability of members to only assets invested in DAOs, and does not require DAOs to operate with minimal capital. However, it leaves this decision open for each DAO (if they wish, they could define the minimal capital in their bylaws). The Model also covers how entries and exits of investors are managed, provides protection to DAOs so that no member could have the power to compel the dissolution of a DAO if it does not meet their expectations, defines roles in DAOs, voting rules, and minority protection rules, administration rules, and touches on the internal operational requirements (Choi et al., 2021).

Generally, it does not provide DAOs with any specific tax treatment. The Model follows already-known good practices on legal recognition and regulation; however, it provides added value in its understanding of the underlying technology. This is shown in the Article defining the rules of a contentious fork, which allows the DAO to split into two legal entities if certain disagreements arise and certain changes are not accepted by some groups. The division occurs when some groups stay and work on the old protocol while others move to the newer one. This clearly shows an understanding of the technology and the perks it brings to organizational design (Choi et al., 2021).

5 EMPIRICAL RESEARCH: QUALITATIVE STUDY

This chapter comprehensively overviews the research design, data collection, analysis methods, and study findings. It outlines the sample selection, data analysis techniques, and study limitations. Furthermore, we conducted a series of interviews with representatives from DAOs, crypto exchange platforms, and traditional businesses. There is a detailed sample and conduct of these interviews. After that, we first look into the findings based on the summary of interviews with DAOs, while the interviews with crypto exchange platforms and traditional businesses are presented in the next sections separately.

In the end, we provide an interpretation of the results, highlighting the key themes that emerged from the interviews and providing insights into the challenges and opportunities faced by each type of organization. These findings will interest businesses and organizations seeking to navigate the changing business landscape and stay ahead of the curve in a rapidly evolving market.

5.1 Methods

In the scope of this research project, we were trying to create a bridge of information between the established traditional business and the new but ambiguous DAOs. In this context, we aimed to capture a 360-degree snapshot of the current situation in the market, from the theory written on this matter to the opinions of all stakeholders involved. Because of that, the methodology of this research project involved the incorporation of interviews with different stakeholders, theory, and analysis in gaining a comprehensive understanding of decentralized autonomous organizations. The following sections will provide a detailed description of the sample selection, conduct of interviews, summary of interviews with DAOs, interviews with crypto exchange platforms, interviews with traditional businesses, and interpretation of results.

5.1.1. Research Approach

The research approach used for this study was to collect primary and secondary data. The theoretical part of this thesis draws from secondary data gathered by examining relevant material in academic articles, journals, and books. It presents the information using the deductive method, starting with more general and broader concepts and moving on to concrete examples. This helps to define various facets of observed phenomena, provide systemization, and conduct an analytical study of the subject.

In contrast, the empirical portion of the analysis was made with the abductive method we used through our interviews. It was first planned to be aggregated by conducting in-depth interviews with up to four companies. The plan was to talk to two companies operating as a DAO and two with a hierarchical structure but wish to transition to a decentralized design. But after the first two interviews with DAOs, we realized we needed more perspectives to see the bigger picture. Because of that, we decided to double the number of interviews with DAOs and separate the hierarchically structured companies into those with traditional structure and inclination to understand or work with blockchain technology and those we think of when we use the term traditional businesses, which have established business models and no connection to blockchain. The accumulation of these different perspectives helped us pinpoint strengths and weaknesses experienced in a decentralized autonomous organization and their effect on business and partnerships,

the perception of this organizational structure, the general climate and readiness of the market for such structures, and possible take-aways for traditional business it offers.

5.1.2. Sample Selection

The sample for this study was selected based on the industry, company structure, values, and business location. The goal was to obtain diverse perspectives, so in total, 10 interviews were conducted, including 4 with DAOs, 2 with crypto exchange platforms, and 4 with traditional businesses. The interviews were conducted in a semi-structured format and were recorded for transcription and analysis. Most DAOs are located in the United States, but interviews were also conducted with DAO employees from Europe and Asia for more diversity in their perceptions. The best link between traditional businesses and blockchain was found to be the crypto exchange platforms, so interviews were conducted with employees from two of the top 5 crypto exchange platforms in Europe. For traditional businesses, interviews were conducted with companies from various industries. However, most were uncomfortable talking about something they had limited knowledge of, so the final sample consisted of two technology companies, one consulting company, and one online sales company, all from the USA and Europe.

5.1.3. Data Collection Methods

We designed semi-structured interview questions to address the topic of decentralized autonomous organizations, focusing on getting to know the interviewee, their knowledge and experience on DAOs, and then delving into questions that looked at the DAOs from different perspectives.

We first interviewed two members of DAOs, which went very smoothly. However, we realized there are big differences between small and bigger structures, so we decided to conduct an additional two. Then we reviewed the results of these interviews and decided to have a pilot interview informally with several participants from traditional businesses who declined formal participation to assess the accuracy of the proposed questions. The feedback from these interviews led to further refinement of the questionnaire, including the exclusion of many initially written questions and the introduction of several new ones, more focusing on the perception and SWOT analysis of DAOs, and less on their current experience with such companies.

One of the interviews was conducted in person, and the rest were led using Zoom virtual conferencing software. To minimize the loss of information, we offered to send the skeleton of our interview upfront, but most interviewees preferred to interview without any preparation. As a result, the average interview length was 35 minutes, and the interviewer rarely intervened to minimize the influence, focusing instead on follow-up questions to uncover the core ideas.

Table 5: General information about interviews

Interview	Type of organization	Industry	Time of the interview	Length in minutes
A	DAO	Blockchain integration	October, 22	50
B	DAO	Finance	October, 22	90
C	DAO	Hedge fund	October, 22	25
D	DAO	Finance	November, 22	40
E	Traditional	Exchange platform	October, 22	40
F	Traditional	Exchange platform	November, 22	45
G	Traditional	Technology	October, 22	40
H	Traditional	Online sales and warehousing	November, 22	30
I	Traditional	Consulting	November, 22	25
J	Traditional	Pharmaceuticals	November, 22	35

Source: Own work.

In compliance with General Data Protection Regulation (GDPR) guidelines, prior to the formal interview, interviewees were asked to provide explicit consent. In addition, they were informed that their anonymity would be guaranteed, and that audio and video recordings would be destroyed after transcription.

5.1.4. Data Analysis Techniques

After conducting and recording the formal interviews, we transcribed and analyzed the transcripts. We placed a strong emphasis on uncovering deviations between different participants. We highlighted common and different perspectives, connected them into bigger groups, and polarized opinions. Ultimately, we aimed to develop a general understanding of how DAOs are perceived and create a comprehensive consideration of strengths and weaknesses in a DAO and the threats and opportunities that derive from them.

5.2 Sample and conduct of interviews

Our sample consisted of four interviewees who were actively involved with DAOs. One of the interviewees was earning a living by working in a DAO, while others earned a secondary income by working in DAOs. Their perspective was important as they were able to provide a perspective from a community member/employee of a DAO.

The second round of interviews was conducted with employees who work at one of the world's largest and most significant crypto exchanges. Their perspective was interesting because they are somewhat familiar with the crypto field and blockchain technology, and they work in a traditional company that deals with IT services and infrastructure connected to the blockchain.

Finally, employees working in traditional companies were interviewed. Their knowledge regarding blockchain and DAOs varied materially, which was also an important addition to our 360-degree perspective of DAOs. Their perception of the matter was important also to recognize further steps needed for DAOs to become more common practice.

5.3 Findings

The empirical research aimed to gain a 360-degree insight into people's perceptions of DAOs. We interviewed members of established DAOs, crypto exchanges, and traditional businesses and gathered their insights. Each group interviewed had different connections with crypto and blockchain, giving us multiple perspectives on the matter.

Since the groups differ greatly, we prepared adjusted sets of questions for each group. However, the core questions were the same in every set, and the goal was to gain the perspective of each specific interest group individually. In the following sub-chapters, we will summarize the interviews conducted with each group and their answers in a table.

5.3.1 Summary of interviews with decentralized autonomous organizations

The interviews with DAOs provided valuable insights into these organizations' operational and governance structures. The participants discussed the benefits and challenges of decentralized governance, the role of token economics in incentivizing participants, and the impact of regulatory environments on their operations.

We have conducted interviews with different kinds of DAO-structured businesses, from smaller ones with only 5 to 10 members to larger ones with thousands of members. All companies have been founded in the USA. Some organizations interviewed wanted to go a step further and get their DAO legally recognized. Therefore, they formed one in Wyoming since this is the first state where legislation allows for a DAO LLC. Other

organizations existed even before they formed DAO as one of the traditional organizational structures but decided to fully decentralize in their effort to become more censorship resistant. The following paragraphs summarize their answers and offer a glimpse into how the people working at its core see the world of DAO.

DAOs are a novel, experimental organizational form; nonetheless, a meritocratic approach to governance in which (potentially) ideas are assessed on their merit rather than who expressed them, referring to the decentralized structure of their business, appears to be a benefit that is frequently highlighted. In addition to the decentralization, Interviewee A perceived flexibility as a competitive advantage: “One of our first ways of getting to the decentralization was we formed subcommittees. So, we have an operations team, a business development team, finance, and marketing. That's all done by members of the community. But rather than having a few leads, it's a team of people all working towards the same goal. So, we feel like it gives us flexibility, as far as members can come and go, and the business would still be running because we're keeping everything transparent and open as far as what we're doing is all well documented and recorded so that somebody else can step in and keep going”. Interviewee B added: “It is arguably more resilient against regulatory action (censorship resistance),” while Interviewee C also emphasized the quick setup of a DAO and access to capital as important competitive advantages.

Table 6: Competitive Advantages Perceived

	Interviewee A	**Interviewee B**	**Interviewee C**	**Interviewee D**
Existed before being established as DAO	No	Yes	No	Yes
Formed as LLC	Yes	No	No	Yes
Important competitive advantages of being formed as a DAO	Flexibility Transparency Decentralization	Decentralization Censorship resistance Flexibility	Quick and easy setup Access to capital Community driven progress Decentralization	Decentralization Capital accumulation Become community-driven

Source: Own work.

When we asked our interviewees about the turnover of community members or employees and how they face this issue, we surprisingly received similar answers. All interviewees noted that they had not experienced a high degree of turnover and therefore had relatively little experience. Interviewee A summarized his point of view as: “We're still relatively new. We were officially formed in July 2021 but didn't launch the token

until October 30th. So, the sub-committees were formed a little bit at a time from there, and we've only really had one person that's left so far. Our business development lead left, and someone else took his place. But as far as that, it was relatively smooth. Because the committee, all the members were already working together. Someone else took over as lead, just making sure that the business development side of it gets done. We haven't really had a major shift of people, even though we suffered a large hack. But we surprisingly didn't lose very many people in the community. Most of the people on the committees are still there. We're all still working because everybody who joined a committee still believes that the project is credible and nothing about our project changed".

We proceeded with questions about employment in a DAO. We were wondering how many people actually are employed in the DAOs interviewed. Furthermore, we were wondering how active employees/community members are and how they are being paid. Interviewee A answered: "I would say right now, our advisor is full-time. The committee members are all part-time and work another job. We do get rewarded with tokens every month, and some hold and some sell it. One lead announced he would work in another DAO as well, and he works for business development with us and works for business development with our partner as well. We are working part-time, the people on the committee members, for instance, we have a lawyer, a doctor in, in private practice, we've got someone who's working in the US Air Force right now, a paralegal, a photographer, interior landscaping, biophilic design so there's a lot of diversity in our team". Since not every DAO is legally incorporated, they cannot employ people. Interviewee B said: "We don't have employees; we have contributors (nuance that makes a clear distinction for a lot of community contributors). About 130 are currently employed". Interviewee C claimed that because they are not legally incorporated, and their team is small (6 people), they do not have employees.

Since DAOs allow people to either actively contribute to the development, perform work, and cooperate in subcommittees if those are established while on the other hand also allows people to join DAO only by purchasing a certain amount of its tokens, there was a question on how they manage freerides. Furthermore, we wondered if share ownership increases their motivation and if they feel less committed due to DAOs being only part-time jobs. Interviewee A answered: "We keep everybody honest, as far as their work; that's why we have an operations lead who takes note if everybody is pulling their weight and doing their part. If they're not, they can withhold rewards for that month. I like that because that provides some flexibility as far as work goes. I'm able to work my job and then fit in working with the DAO where I can, and so it's neat to be able to pick up something that I can be a part of the community and a part of the team while not having to sit at nine to five job situation and be on a clock". Interviewee B claimed that: "Shared ownership helps but crypto assets are more liquid than other traditional financial

instruments (e.g., options) which doesn't lock people in the system as strongly. We aim to assess team and individual level performance to avoid free riders", while Interviewee C added: "Employees are definitely more committed because of shared ownership. Currently, we have no free riders, but we are a very small company, so if someone were a free rider, it would be noticed".

To continue, we wanted them to add to what they perceive as a competitive advantage where do they see the challenges of DAOs and working in one. Interviewee A said: "I do feel that there's much fluidity, that can be a good or a bad thing. If the token price rises and everybody decides to bounce, you got to find a whole new staff. We've been talking about that on the operation side, making sure all documentation is there in case if everybody's gone. Founders strive to formulate DAO that can function autonomously even without the founders' team. However, we haven't yet really figured out how to reach that side of it. Mainly because there always has to be someone working on voting, which is submitting the voting, and making sure that there are no bad characters when it comes to setting up a proposal proposing something on the blockchain. We have so many systems of checks and balances that I don't really think we cannot have anybody running the DAO; even though it is supposedly autonomous, it will continue in existence without everybody, but there has to be some type of a core team working on making sure there's nobody hacking the blockchain".

Interviewee B shared his opinion: "DAOs most often trade off efficiency (speed of execution) for resilience (censorship resistance). That means that things that are otherwise discussed behind closed doors are instead discussed publicly and openly. This brings heated discussions, which is also the only way towards collective coordination. DAOs are a new, experimental organization design, so it's difficult to generalize, but what I like a lot is the meritocratic approach to governance where (potentially) ideas are judged based on their merit, not who said them (e.g., as opposed to HIPPOs which often occur in centralized entities)".

While Interviewee C added: "The decentralization, the easy start opportunity-low investment, less bureaucracy, etc., for what we wanted, which is an easy start, low individual investment, little legal problems, DAO was our best option." Findings to this question can be found in Table 7.

We also wanted insight into their personal experience with DAOs and the challenges not anticipated before joining/forming one. While Interviewee A mainly discussed the aforementioned challenges, Interviewee B summed up his anticipation before joining DAO: "I anticipated the problem of collective action and the challenge of coordinating many people with mostly economic incentives. I didn't anticipate all the nuances of DeFi risk mitigation and how (increasingly) interconnected the DeFi ecosystem is".

Table 7: Perceived Advantages and Disadvantages of Decentralized Autonomous Organizations

	Interviewee A	**Interviewee B**	**Interviewee C**	**Interviewee D**
Advantages	Fluidity – in operations Autonomy	Resilience Meritocratic governance	Decentralization Low investment Little bureaucracy	Meritocracy Motivation for employees Being trendy
Disadvantage	Fluidity – token price volatility	Efficiency	*Not specified*	*Efficiency*

Source: Own work.

Furthermore, we opened an important topic with our interviewees regarding how they make decisions on voting. This topic is important, especially considering the viewpoint shared by Interviewee B in a previous question, where he stated that DAOs balance between efficiency and resilience. In response, Interviewee A shared his view: "We have an operating agreement, which defines how decisions can be voted on and who can vote. To vote, someone has to be a Gold member and have over a million tokens. The proposal is first discussed in the gold channel, then put into a proposal review channel for the entire DAO to review and provide feedback in 48 hours. Finally, it is posted on a snapshot for everyone to vote on. For example, in the marketing case, we gave the marketing team a marketing budget, and they voted to have a monthly budget without needing to come to the DAO for every little decision. Nothing would get done if everything was decentralized, as we quickly learned. We realized the need for committees, some type of structure, even though we don't want a traditional organizational structure. We are now seeing the need for committees for operations, business development, marketing, and finance, to have some room to work without having to come to the DAO and vote on everything. It is important to ensure that their proposals are written in a way that gives committees some flexibility while still making them accountable to the DAO. Regarding financial reimbursements, we have written rules in our operating agreement and subsequent proposals, so they have to be responsible and follow what has been written."

Interviewees B and C described a generally similar process tailored to their founding papers, size, and processes but follows the same logic and aims for the same goal of being fully transparent while maintaining high efficiency.

Next, we looked into how DAOs are perceived by traditional businesses when it comes to collaboration. Interviewee A shared their experience: "There is a problem because many people are not familiar with the concept of a DAO or even the differences between blockchain and cryptocurrency, which is why DAO LLCs struggle to get business partners in the early stages. Education of potential business partners is necessary for cooperation, which can be resource-intensive for the DAO. However, the situation seems to be improving as more people learn about DAOs and blockchain." He also added to the

challenges they faced when dealing with various potential business partners: “Our DAO found it difficult to incorporate the voting system when collaborating with companies that require quick decisions (within hours). In such cases, an NDA was signed, and the board members (founders) made a decision. However, we emphasize the importance of community decision-making, so we emphasize to all business partners to give us enough time to process the community voting. As a result, we have found that the community is well aware of the NDA system and even encouraged the decision that if one of their community members comes up with an idea for the company they do not want to share with everyone, they can sign the NDA and keep it private with the board.”

Interviewee B also contributed to his opinion, stating that pioneers who are currently forming successful partnerships and collaborations with traditional businesses bring significant value and credibility to DAOs. He believes that as more good practices become known, the perception of DAOs will improve, increasing their chances of securing business opportunities with traditional businesses.

All interviewees mentioned that important decisions typically take between 36 hours and 4 days, which can be a potential deterrent for potential partners or clients who operate in the traditional economy. When asked if the decision-making process could be improved and accelerated, one respondent said, "We have talked about that, but we don't want to set a precedent that decisions can be rushed. So at least from what we've discussed, that's just part of doing business with a DAO. You're going to have to be patient and wait for the DAO to make a decision. For example, we had an instance with one of the founders who wanted to quickly get the token linked to Polygon, Matic, and Binance Smart Chain. They suggested we post it in the proposal review, vote on it the next day, and get it done within a few days. However, we had to say no because we have a 48-hour review process. Rushing it through would set a bad precedent, so we've tried to ensure there's a certain structure in place, even if it means losing business. If you can't wait three days for a response, then you cannot work with a DAO."

Since only one DAO we interviewed is also legally incorporated as a DAO LLC, we asked them about their employment practices. However, they only have one full-time employee, who happens to be the founder of the DAO.

We were also interested in how they attract talent and conduct recruitment. We discovered that recruitment processes vary from company to company, but a common practice is to source future employees from within the community. Many DAOs initially recruit from volunteer initiatives, selecting the best individuals for promotion to higher-tier positions. They maintain open channels for people to share their skills, community involvement, formal education, experiences, and aspirations, such as investing, building new things, launching new initiatives, or volunteering to help the community. Through this process, they can identify passionate individuals whose goals align with the company. Sometimes,

roles are given to people who lack the necessary qualifications but are passionate about the project and eager to learn; often, these individuals prove to be valuable additions to the team. When a DAO seeks a specific skill set but cannot find a suitable candidate within the community, they turn to advertising and conventional recruitment channels.

When asked about the challenges they face as a DAO and how they would like to develop and improve, the answers varied but generally reflected each DAO's stage of development. For example, one interviewee said they are moving towards full decentralization while striving for the highest possible autonomy for the DAO. Another indicated that they are still deciding whether full decentralization is the right path or whether they should adopt a more vertical structure similar to traditional businesses. The final respondent commented on their challenges related to growth, specifically regarding team members and the number of projects enrolled.

5.3.2 Interviews with crypto exchange platforms

We conducted an interview with two crypto exchange platforms. We wanted to talk to them because we wanted to hear the opinion of companies that work in the market very close to or even linked to DAOs. While the two companies have very similar working objectives, we found that they can differ quite widely in their opinions on DAOs. The participants discussed the challenges of integrating DAO tokens into their platforms, the regulatory landscape for cryptocurrency trading, and the future of DAO trading on their platforms.

Neither company had any first-hand professional contact with DAOs. When asked if they had ever collaborated with a DAO or were planning to, Interviewee E responded, "I do not see any possibility of collaborating with one currently since we are a financial institution located in Luxembourg, and European regulations apply to our organizations. Firstly, the whole thing would be stopped due to risk and compliance regulations, as no credible regulation usually applies to DAOs, so no reporting is established, and there is just no way to assess the risk of partnering with them. Secondly, I am somewhat reluctant to collaborate with DAOs because I feel like there is no structure, no one person is responsible, and there is a big struggle to find the right person to discuss business with. Furthermore, people in DAOs usually operate on Discord, where they do not even disclose their names and faces. Maybe there would be a possibility if we weren't a financial institution, but for now, it is almost impossible." The response from the other interviewee was quite similar, stating that regulation seems to be the crucial missing component for even considering collaboration.

On the other hand, both interlocutors agreed that they would have no problem working with a DAO if their companies were in different industries. Interviewee F, however,

pointed out that DAOs seem primarily focused on everything connected to the blockchain. This makes sense from one perspective but is also a significant con for the range of different use cases. Our interviews showed that companies would prefer more use cases and diversity when it comes to DAOs.

The main advantage of DAOs is seen in their community, which provides a very democratic and diverse pool of knowledge and experience, connecting people with similar interests and usually adding a significant motivational aspect that results in more engaged workers. However, Interviewee F pointed out that this could also be a significant problem. Most successful DAOs were initially major communities that later became DAOs. So, the question is whether a DAO needs an already established community before forming an actual business. It is the classic chicken-and-egg problem: "How are you going to start a company if you don't have a community, or how will you start a community if you have nothing binding people together? ".

Table 8: Perceived Pros and Cons of Decentralized Autonomous Organizations

	Interviewee E	**Interviewee F**
Pros	Democracy Diverse knowledge Big experience pool Motivation – employee engagement Code-based organization Brings to the decentralization of traditional businesses Possibility for additional income Transparency	Democracy Diverse knowledge Big experience pool Motivation – employee engagement Code-based organization
Cons	No regulation No hierarchy Subject to cyber security hacks Not a credible employer Too radical decentralization Dependency on the code - rigidity	No regulation Only limited to blockchain use cases Uncertainty whether the community is needed first to establish a DAO Loss of company control No personal contract with co-workers Dependency on the code - rigidity

Source: Own work.

Another problem was highlighted by Interviewee F: "Let's say you want to start a DAO and first want to build a community around your idea. But what happens when, already at the beginning, the majority of votes are against your vote and can lead the company in a completely different direction than you intended? This is not necessarily bad because you, as a founder, don't know everything. However, we can all imagine how it must feel if something you started and brought to life is taken away from you." An advantage related to the community is that the members also hold company tokens (shares), which makes them much more involved in the community and decision-making.

Among other points, our interviewees emphasized that a major advantage of DAOs is that everything is based on code, which prevents man-made irregularities such as corruption, overriding others' decisions, and mistakes. The code essentially protects company integrity and allows for 100% honest and by-the-book operations. However, this also makes everything vulnerable to hackers or mistakes in the code, so cybersecurity and due diligence are essential.

Another problem of DAOs perceived by Interviewee E is that: “DAOs take away the personal aspect of a company because everything is remote, and you don’t see your co-workers unless you have a Zoom meeting. However, I know a lot of companies are solving that with company retreats, at least by teams or divisions, a couple of times a year so that people get to know each other and bond on a more personal level”.

Interviewee E summed up his biggest drawback of DAOs as follows: "I believe DAOs are promising, but they are not even close to becoming credible employers or business partners. Regulation should be revised and adapted to the world they operate in. This would be the first step to laying the foundations. Secondly, there should be a clear structure and responsibility. I believe that, currently, decentralization is too radical; however, a balance between traditional businesses and DAOs would probably be the best. I do not see DAOs as credible employers at the moment, but they are an opportunity for people to earn additional income."

We then asked both interviewees to tell us where they see opportunities for changes and improvements in DAOs. In return, we heard that the main concept is good, but now everything is dependent on the code. While this makes everything transparent and prevents corruption, it also limits the company's operations and autonomy. Because of that, it is questionable in which industries a DAO really holds a competitive advantage over other organizational structures.

An even bigger room for improvement lies in much better legal departments. However, Interviewee E said, "Regarding legislation, governments have to meet them somewhere along the way to allow them an opportunity to develop in the business market. As mentioned, we naturally need more use cases and diversity in DAOs, meaning they should

enter industries other than tech and finance (blockchain-focused) to promote themselves and show their usefulness to potential partners."

Then we wondered what the point of DAOs is, why they exist, and what novelty they bring to the table. Interviewee E responded: "A DAO is a technical derivation of a joint-stock company, where everyone with a token (stock) can vote and contribute to company decisions and, even more importantly, propose ideas and solutions for others to vote on. It's also more than our regular crowdfunding because there are already many crowdfunding solutions and variants. However, with a DAO, you add another dimension to crowdfunding because you have an option for continuous involvement with the company and its goals. Even if DAOs, as they are, won't make it in the long run, they already offer a good model for traditional publicly traded companies to restructure and offer all their shareholders a voice in company decision-making. With that, we would grow beyond the current practice of major stockholders overriding the rest if they are ever even considered. DAOs also add a huge transparency inflow. At the same time, publicly traded companies tend to have the beginning and the end of the process transparent; DAOs have all their processes on the blockchain, visible to everyone."

We were also curious if DAOs could ever replace traditional businesses and heard that there is a very slim chance for that to happen. Interviewee F claimed, "It would make no sense because we already have public companies that offer shares, which is a similar enough structure but already has all of its systems in place. And DAOs are still in the gray zone. For example, there was a DAO where one member had the majority equity in the company, but because of that, he was also legally responsible for the company. So even though the original structure was decentralized, he was the one responsible and took all the risk for the company's actions. So, in the eyes of the government, he was still the company owner from a legal perspective." This case confirms that while DAOs have promising innovation in company structure, they have a long legislative way to complete before we can count on them being even in the same ballpark as traditional businesses.

Next, we wondered what, in their opinion, the future would bring and where DAOs could and should evolve in the coming years. As previously mentioned, interviewees claimed that one very important milestone is for DAOs to grow beyond the blockchain. Interviewee E said, "DAOs need to show they can survive outside of the blockchain to become interesting to the public." Interviewee F, however, sees DAOs as a potential that could have grown far beyond business. He described it as, "One not-so-related-to-business proposal would be to use the DAO structure for running a government, so basically you could have the whole country as a DAO. For example, we hear about possible voting frauds even in countries like the USA. The current system of voting on paper and then communicating the results over word of mouth allows for possible mistakes when people are counting the votes, misinterpreting the information when

communicating, checking the credibility of mailed votes, and not to mention the open possibility for tampering with the real results. Here, we should utilize the power of technology we have invented: Blockchain, as mentioned several times, allows full transparency of everything happening and, therefore, if cybersecurity is taken care of, offers a far better option for such processes as democratic government voting. To go a step further, a government in the form of a DAO could eliminate the middleman between the people and actions they want to see in their country, which very conveniently happens to be the human mechanism we often associate with corruption and illegal money-making, or as we usually call them, politicians. In a DAO government form, people could make proposals and then vote on them to choose the actions the majority is really for. It would also offer a far more convenient way of voting."

5.3.3 Interviews with traditional businesses

The interviews with traditional businesses provided insights into the perception of decentralized organizations within the traditional business community. In addition, the participants discussed the challenges and benefits of incorporating decentralized technology into their operations and their views on the future of decentralized organizations.

When we talked with four representatives of traditional businesses, we found that most have heard of DAOs but haven't gone far beyond the basic understanding of what they are. Therefore, we were limited in what information directly related to DAOs we could extract. We focused mostly on their perception of DAOs and their attitude toward decentralization. They all found a more decentralized structure intriguing and something that would bring them added value. We also heard some interesting ideas on how they would incorporate DAO structure into their own companies or how to improve DAOs to make them presentable for the traditional business market.

They agreed that one major advantage of DAOs is that all of their rules are defined in a programming language, so there is no ambiguity and no opportunity for employees, partners, or anyone else to violate the rules unless they try to tamper the code. One of the interviewees said:”Another feature I find intriguing is that the community decides where to go next, and they all share the spoils of victory and accept the consequences when a mistake is made. Because of its ability to obtain quick crowdfunding investment, it is also more agile, runs faster, and opens up a plethora of possibilities. Anyone in the world can invest without being limited by the borders of a single country or jurisdiction.

Unfortunately, most people don’t understand the technology behind it, so much education is needed. The biggest drawback I see is a very grey legal and formal area. Because of its

novelty to the market, I still find it very complicated and abstract; besides, there aren’t many use cases.”

Interviewee H, coming from a company where a significant part of their workforce performs operational and physical tasks (therefore, there is an urgency to establish a hierarchical structure with clear roles and responsibilities), does not see how DAOs could be of much help. One pro would be to use the automatic reward distribution when one task is finished; however, that would be too complicated to integrate with the traditional structure, especially for young companies. The second part of their company comprises office workers, for which he says, "I do not see how we could profit with DAO as an organizational structure since we are mostly young employees, friends in private life as well, and therefore well connected. We value that connection and believe it is our competitive advantage." Furthermore, "I doubt our owners would be willing to let go of ownership shares. But I see the potential in utilizing a DAO to get a diverse team of professionals from different countries with different skills and experiences. We could together design, develop, and implement solutions more effectively."

On the other hand, Interviewee G told us they already had plans to transform their company into a DAO. They were fascinated by the autonomous part: "However, the current plan is for only a portion of the organization to become autonomous at first, establishing an isolated environment with limited capital and then studying how it performs. If the findings are promising or effective, the entire firm will be transformed into such an organization." This company owner also said they would prefer to work in a DAO. They think it would be advantageous from the point of view of employees because it would mean more democratic decision-making and improve well-being. However, it is yet to be determined if this structure would also help maximize the company's profit and growth. They see DAOs as an upgrade to the already existing company structure, which means that not necessarily all components of a DAO would be utilized, depending on what works and what doesn't in the trial period; therefore, the company might not become a DAO in its strict sense but more of an evolutionary checkpoint for a healthy, growing organization. On the question of why they think this would be advantageous, they replied, "It's new and attractive, which is good for employee morale and for employee morale and for investors to invest. It's a good mechanism to gather capital quickly in the beginning phases, which in turn helps you grow faster."

He added, "Because everyone has a vote, everyone feels included, and there could be more trust between employees. Right now, a big pain is that employees don't trust the management, so DAOs could help with transparency and communication. On the other hand, it will most likely be several years before people have enough expertise to make DAOs widespread. There is also little chance that DAOs will be implemented in traditional enterprises. It then depends on how much additional work this might bring to

the worker (for example, apps to use, systems to learn, etc.). Another imperative is that DAOs need to solve their security problem and be completely safe for the users, unlike the crypto companies." He finished by saying, "I see DAOs as modern ESO (employee stock options), but we are still far from the point where companies would transform into DAOs. In the near future, DAOs will definitely gain more popularity, and we will see some big communities building because of them. Following the US model, there will be a chain effect of countries allowing DAO LLCs. Switzerland is already preparing for it. Until then, DAOs will be used a lot as crowdfunding mechanisms, but with DAO, this could be taken to the next level, like reoccurring gifts, membership rewards, subscription models, etc."

Another case on how to improve their own organization following the DAO example was presented by Interviewee I, saying, "I was thinking a lot about some kind of decentralized structure within ours. My idea was a structure where our clients could actively contribute to the development of a product. They could pay a certain yearly/monthly fee that would distribute tokens to them. The fee and the number of tokens would be relative to the number of users. Through that mechanism, every company that believes our product is a vital part of their business process and would pay a fee would be entitled to a certain amount of tokens. Through the platform, they could list their ideas and needs or post others. Somebody would be responsible for creating formal proposals that would be put to the vote. Our organization would tie our own funds and funds collected through the platform to each proposal, and the platform would autonomously distribute them to each player involved. The result for members would be a solution that would solve more of their needs; the timeline would be tailored to features that are needed the most, while the company would have clear and credible input produced by the market on what features are the most important. It frequently happens that informational asymmetry between R&D and front-level teams gets in the way of fluent and efficient product development. In that way, we could somehow solve that. Besides, from my point of view, a company enabling users of their solutions to contribute to the development of a product actively could present another competitive advantage and a favored position on the market."

5.4 Interpretation of results

The results of this research project were analyzed to provide a comprehensive understanding of decentralized organizations and their impact on various stakeholders. The results were interpreted in light of existing theory and the insights gained from the interviews to provide recommendations for the future of decentralized organizations. The findings of this research project contribute to the understanding of the potential and challenges of decentralized organizations and their impact on the business landscape.

We found out that every group interviewed deemed DAOs a very flexible organizational form and considered them the biggest competitive advantage to traditional companies. In addition, all interviewees referred to flexibility as an organizational structure being very flat, enabling everyone to add to the progress without facing internal rules and procedures (rigidity).

We discovered that flexibility and decentralization seem to be tightly connected and complementing. The connection refers to DAOs having more teams, sometimes referred to as subcommittees formed by members of the community, where each subcommittee is responsible for one business process, such as operations, finance, marketing, business development, risk analysis, etc. Each team has members whom all work towards the same goal. One of the interviewees representing already established DAO pointed out that every aspect of their work is meticulously documented and transparent, allowing for a high degree of flexibility and fluidity in the working process; therefore, turnover of members or employees causes no disruption in their business. The new person easily picks up where his predecessor left off because of transparency and group decision-making. In the event of people leaving DAOs, they seem resilient, did not suffer any difficulties, and remained up and running without significant challenges.

Interviewees noted that DAOs are flat organizations and, therefore, very democratic. Furthermore, such a pool of people provides a very diverse experience pool and joins people with diverse knowledge. Employees from traditional businesses perceive DAOs' flatness and democracy also as drivers of high transparency, less frequent miscommunication, and higher trust. Such community-driven progress and decentralized structure motivate community members and provide the DAO with flexibility.

Furthermore, ownership share also provides them with additional motivation because they are paid in DAO tokens. Together with employees of crypto exchanges, they noted that currently, DAOs are more appropriate for a part-time job or a side hustle rather than a full-time job. However, this provides them with opportunities to be involved with more than one DAO and, therefore, multiple sources of income. DAO members earn additional income through the work done in one or multiple DAOs. That provides them with multiple sources of income, which seems to be highly appreciated among people involved with DAOs and the crypto community. Such a structure can attract many people to DAO and expand the pool of knowledge.

On the other hand, all members are aware that there is no actual job security in the crypto sector. Things may change so quickly in this fast-paced and dynamic world that your firm may not even exist tomorrow. That's why people who work in such organizations often embrace change, a nonpredictable environment, and constant challenges. This stems from the trend that this market mostly attracts younger generations, who would otherwise start in some low position in the corner of a room of a large corporation. At the same time, in

a DAO, they are valued based on their skill, not their seniority. Our interviewee told us a story that speaks in this industry's favor when it comes to attracting young talents: a 17-year-old programmer who dominated the world of risk analysis in one of the major cryptocurrency exchanges was quickly offered a chance to lead a team of programmers that created 15% more profit for the company in just one year. In contrast, before he was offered an intern job at Microsoft where he was supposed to be obedient and complete the tasks his superiors gave him.

If DAO is an LLC, it can legally employ all of its members. However, since DAOs are not yet meant to be a primary source of income for most of its employees, and only a handful of people live from working in one, people decide to join DAOs that seem the most credible and have a vision and mission aligned with their values. Therefore, they are frequently not put off by the challenges DAOs face but rather stay committed and continue to work towards shared goals. In some sense, this is expected because otherwise, even a small company could suddenly have thousands of employees. Therefore, the current practice is that only the founders or/and members with the highest stakes in the company are legally employed by the DAO; the rest work in it as freelancers who get Airdrops of rewards and bonuses.

The reason behind this might be to protect the members' anonymity, keep the organization's decentralized nature, and save the company a lot of legal troubles that would come with employing more staff. Anonymity was normal from the perspective of people involved with DAOs, while employees of traditional businesses and crypto exchanges deemed it an obstacle that hindered them from partnering or doing business with them. Also, having no hierarchy causes trouble when reaching out to competent people with whom they could conduct business.

Furthermore, employees from DAOs noted that sometimes the speed of executions could be an obstacle when conducting business with traditional organizations since there is an established process in DAOs that can take up to three days for them to bring a decision which could otherwise be done by a single person in no-time in traditional organizations. Therefore, partners working with DAOs need a lot of education on how DAOs operate and their processes, which is burdensome for potential partners and deflects them. However, once learning is done, they understand them and have no problem accepting their processes.

Furthermore, employees of traditional businesses were bothered by DAOs being an organization where most of its members and employees work remotely since it takes away the personal aspect of working with co-workers.

Interviewees not directly involved with any DAO questioned the freeriding as a potential problem. DAOs fight the freeriding problem by withholding rewards if the goals set for

the individual involved with DAO are unmet. Employees feel like an orientation toward goals and other daily accomplishments provides them the flexibility to work from anywhere at any time, but also the choice of taking a break when needed without guilt for not doing their part. Share ownership is also one of the main drivers of motivation since everyone is involved in the company's success and profits. Crypto assets are much more liquid than traditional ownership assets and therefore do not lock people in as strongly as traditional businesses do. This is another argument for why many people join DAOs and get involved with crypto assets.

The incentives earned by DAO members differ between those who receive minor monthly rewards for participation and those who serve on committees and are responsible for various contributions to the company, such as its finance, accounting, marketing, sales, development, and so on. They are rewarded monthly, but all of these benefits are in the form of company tokens, so it is in everyone's best interest to focus on increasing the company's value. This system seems to be the best voter's choice in most DAOs since it was selected through voting by the members themselves in all DAOs we talked with. However, DAO community members that earn a certain share of income pointed out that there is a certain awkwardness to exchanging earned DAO tokens for fiat to be able to use it. Furthermore, crypto is highly volatile; therefore, their wages differ materially depending on the part of the economic cycle cryptocurrencies are in.

Another major pro when looking at DAOs and blockchain, in general, is that everything is open source, which means everything you do is visible to others. Blockchain as a technology is a big improvement since everything is traceable and visible on the blockchain. Every move, decision, or mistake you make is visible to everyone who looks at the blockchain. DAO employees implied that this perk of the blockchain is especially beneficial since every development can be used by everyone to build from that point on.

This is, of course, a two-sided sword. On the one hand, you must be very careful about your every move because everything you do is traceable. Like with social media, anything you post, even just once, can hunt you decades after posting it; as is the case with blockchain, anything you do will always stay black on white and represent your trace in the blockchain. On the other hand, however, this could also mean, for example, you will never need a CV again because a potential employer can look at your trace on the grid and see your input, impact, mistakes, and even beliefs, all first-hand and with no chance for fraud.

Blockchain is subject to hacker attempts trying to break into the chain and hack it. DAO employees explained that it is crucial for them to operate safely and be more credible. Therefore, in attempts to operate safely and strengthen their credibility, DAOs use already tested code, potentially hindering their development. Also, code as such creates operational rigidity and limits organizational autonomy. Interviewees not directly

involved with DAOs also perceived them as complicated to establish since blockchain knowledge is required to write the code. The code also must pass certain security standards to be credibly offered to the public, which again requires advanced programming knowledge.

However, if everything is based on code, it doesn't allow for man-made irregularities like corruption, overriding others' decisions, and mistakes, basically protecting companies' integrity.

But with everything being open source, companies see an enormous problem keeping proprietary technology to themselves, even though employees see many benefits. Imagine Coca-Cola posting their secret recipe for all their drinks on Twitter or just going to Google and seeing the supply chain, production process, and marketing campaign for the new iPhone – that's what companies operating on the blockchain need to deal with by default. Some businesses patent or license their ideas, codes, and products to avoid copycats, but this takes time and other resources and only helps to a degree. Others see this as a benefit and more like a sharing economy, where instead of rivals, you have friendly competition that helps each other improve and, in turn, enables everyone to grow much faster.

Yet, we all know that competition can quickly become less friendly when it comes to money. This is still a big debate that will need some legal resolution in the future. However, because of its transparency, blockchain provides everyone with a unique and first-of-a-kind ecosystem for progress. Everything done at any time on the blockchain is recorded and traceable.

Another trade-off of the transparent system is that DAOs most often trade off efficiency (speed of execution) for resilience (censorship resistance). This means that things that are otherwise discussed behind closed doors are instead discussed publicly and openly, which can lead to heated discussions. However, it is also the only way for joint coordination. DAOs have to precisely define what should be put to the vote and what decisions employees have the autonomy to make themselves. They often define that and have it written in their founding papers, such as their operating agreement. For example, the DAO LLC interviewed decided to publish an operating agreement instead of a white paper, which is not legally binding. As a result, they had to be more conservative and reserved with their promises and ideas, which can be a problem for most blockchain startups that over-glorify their ambitions and then fail to deliver on their promises. Nevertheless, this is a very easy way to separate the wheat from the chaff. When something sounds too good to be true, it probably is.

How things are different in a DAO versus a traditional corporation is shown in the first problem they encounter when communicating with other businesses. DAO is a pseudonymous community, meaning members know each other by their Discord

nicknames and wallet IDs and not their real names, allowing them more safety and anonymity. However, business partners find that very odd and are distrustful of working with someone they don't know by their name, so the DAO members at the front office had to adapt, which is why they started using their full names. Even some other DAO members decided to use at least their first names when they are at Zoom meetings and when sending emails through the company email address.

Another big difference from traditional businesses is how DAOs operate. The specificity of it can also be the reason for potential partners to turn down any partnership agreements. Many businesses regard DAOs as non-legal entities, therefore semi-serious businesses, and expect them to act as such. However, they understand that a lot of money can be made from investing in cryptocurrencies and the blockchain. DAOs come from this same space, so they see a potential partnership with a DAO as an option to diversify their investments and get additional benefits from a new business partner.

In the beginning, DAOs were similar to other crypto projects, existing only on the internet and with many of their activities considered illegal by state institutions. However, as DAOs are becoming established as legally recognized companies, the rules have changed, and traditional companies must adapt. Businesses working with a DAO must understand that there is a specific voting process for every decision made by the company. The decision must first go through a proposal period, during which all team members can comment and make changes. Then, the final proposal goes through a voting period, where all team members vote for or against it. The time frames for these steps vary from DAO to DAO, but in any case, potential partners need to understand that it can take from one day to a week for certain decisions to be made. DAOs also stress that these decisions cannot be rushed to maintain full transparency and decentralization in decision-making.

While in many traditional companies, decision-making can take much longer, important decisions are often made by the board or executives without input from others, so decisions can be made quickly when necessary. Overall, there are pros and cons to the DAO decision-making system, but it is standardized and transparent, giving you an exact timeline for when to expect a decision.

A very interesting finding is that one of the DAOs interviewed found it hard to integrate its voting system decision-making when it comes to collaborating with companies that need very quick decisions (a matter of hours). In such cases, an NDA was signed, and the board members (founders) made a decision; however, they emphasize the importance of community decision-making, thus they try to communicate with all business partners how important it is to give them enough time to process the 48 to 72-hour processes of community voting and take as little decisions as possible to their board. They have found out the community is otherwise well understanding of the non-disclosure agreement system and even encouraged the decision that if one of their community members comes

up with an idea for the company, they do not wish to share with everyone, they can sign the NDA and keep it private with the board. However, important decisions are put in a vote and require each proposal to pass through multiple stages, which requires time. Therefore, business partners might be hesitant to work with such an organization.

Traditional businesses have a hard time grasping what DAO decision-making really is, so these pioneers are trying to create as many use cases as possible for others to understand all the benefits they bring to the table, and all of this information is publicly accessible. There is a problem because many people are unfamiliar with the concept of DAO or even the differences between blockchain and cryptocurrency. The gist of everyone's experience can be summed up in one sentence: “Potential business partners coming from traditional businesses need a lot of education about blockchain technology and DAOs before being on board for a partnership with a DAO but see great benefits from doing so in the end.” That is because most DAOs are managing, building, or developing cutting-edge technology and solutions for modern business, have access to a fast accumulation of money needed for new projects, and keep delivering on their promises that have the support of the majority of their members.

Similarly, as for traditional businesses, from the perspective of regular people that try to get involved with a DAO, there is usually a knowledge gap. While companies have different opinions on how hard it is to be actively involved in a DAO, they all suggest that you should have at least the basic knowledge of DAOs and blockchain technology, but it’s also recommended to know a little bit about the web 3.0, smart contracts and smart wallets. Most DAOs, as is the common practice in the blockchain world, have step-by-step instructions for newcomers and a lot of community-driven sources for people to help each other in case of any problems, lack of knowledge, or other issues. Most of these resources are on the company’s Discord channel and website, but it is up to every individual to utilize them. For some jobs, this is enough information to get by, but for more complicated roles, additional training and experience are required.

And for those thinking about creating their own DAO, something to think about is the fact that through DAO incorporation, founders give up a big portion of ownership to VCs, investors, community members, and other stakeholders who have the minimum amount of the tokens needed to be a voting member in the DAO community. Therefore, DAO is inappropriate if one wishes to hold on to high percentages of ownership and is unwilling to give up the control and last say in their decision-making. Secondly, suppose there is already a team and a product established. In that case, the company is entering or already operating in the market; DAO provides little advantage compared to traditional organizational design since the workflow is already determined, proof of concept made, and the company already established.

DAO seems to be an important addition to traditional organizational structures, mainly in two situations. The first one is where only an idea about the product exists; however, a person or a group of people do not have the capacities or capabilities to develop the product and get the business going. Therefore, they incorporate DAO, reach out to potential investors and like-minded people who share the vision and have the needed knowledge, and start building the community. Another case where DAOs are appropriate is where the team has the product and knowledge and has already designed the product but does not have the funds or enough people to participate successfully in the market. In such cases, DAOs usually provide easy accessibility to VCs or other institutional investors in the sector and give up a certain ownership share to them. At the same time, they also distribute a certain ownership share to the wider population that, in turn, helps accumulate more funds at a fair market evaluation of the company. Until now, DAOs were mostly used to develop and market blockchain-related products (DeFi, software development, etc.) or services since the biggest and the most accessible pool of talent with such knowledge is involved with crypto communities.

Employees from exchange platforms saw an opportunity in DAOs as organizations that could put pressure on publicly traded companies to become more transparent. In their opinion, DAOs could also be a great example for traditional businesses to transform and offer their employees shares in the company and a voice in organizational development. However, creating a DAO often requires a large community. In cases where capital and workforce are needed, DAO employees claimed that DAOs could be useful, while it might be an unnecessary effort in many other business cases.

The recruitment processes vary among DAOs, but the common practice is to first recruit from volunteer initiatives, from which the best individuals are selected and promoted to higher-tier jobs. In addition, DAOs have open channels for people to post their skills, what they do in the community, their formal education and experiences, or what they seek to do, whether it be investing, building new things, starting new initiatives, or volunteering to help the community. Through these channels, they can source passionate people with goals aligned with those of the company.

Sometimes, roles are given to people who don’t have the necessary qualifications but are passionate about the project and want to learn. These individuals often turn out to be great additions to the team. This is something that even normal companies could use more in their recruitment processes, as people eager to learn and passionate about what they do can sometimes be better than those with the necessary skills but no motivation. When the DAO is looking for a specific job but can't find anyone with the right capabilities, they resort to searching through advertising and common recruitment channels.

One of the most obvious deficiencies in such organizational design is legislation. It does not provide a sufficient framework to regulate and enable such organizations' growth and

development. Exchange platforms agreed they cannot partner with DAOs, mainly due to financial regulations preventing partnerships. No one person is responsible, and no reporting is required, which is a big headwind for DAOs' credibility. Furthermore, due to the lack of a sufficient legal framework, many are still not legally incorporated, pushing credibility further down the ladder. Therefore, traditional businesses and exchange platforms are reluctant to collaborate with DAOs or to transform into one and see DAOs rather as an investment for every individual. Interviewees call for more use cases, good practices, expansion to other industries, and adjustment of legislation enabling DAOs to develop and gain credibility.

There were multiple opportunities in DAOs noticed, such as an opportunity for governments to transform into one since running it as DAO would be transparent and would provide little space for corruption or man-made mistakes. Furthermore, one of the interviewees also sees DAO as an evolved crowdfunding platform where participants could enjoy greater benefits for funding certain projects. Overall DAOs are still very early into their development; however, the potential is noticed, and pressure for development is put on legislators as on managers of traditional businesses having to question the organizational design development.

6 FINDINGS AND OVERALL DISCUSSION

In this chapter, we will look at the findings from our research, first by exploring them through the SWOT analysis of DAOs Then, we will examine the insights gathered from interviews and written theory and add our findings, deductions, and conclusions.

6.1 SWOT analysis

For an easier understanding, we first prepared a SWOT analysis table and a more thorough explanation of all the strengths, weaknesses, opportunities, and threats we have identified through our research and the interviews.

Table 9: Strengths and Weaknesses

Strengths	**Weaknesses**
Meritocratic approach to governance	Lack of job security
A more democratic approach to decision making	Market volatility
More efficient resource utilization	High human capital turnover
Flexibility	Employees need to transform the tokens they are paid in, to fiat currency
Great flow of information	Highly stressful and fast-paced environment
Adaptability to change	Everything is traceable
Quick response to market conditions	The competition sees everything
Eliminate the possibility of a single point of failure	No interpersonal aspect due to the remote work structure
Increased security and immutability	Challenging to coordinate and execute projects effectively
Speed of execution	Communication challenges
Members share equal goals and vision	Lack of clear lines of authority
Members have intrinsic motivation	Power imbalances due to holding of tokens
Resilient to disruption of human capital turnover	Traditional businesses don't trust pseudonymous communities
A shared interest in increasing company value	Many still operate as non-legal entities
Employee anonymity	No reporting is established
Flexibility to work from anywhere at any time	Need more proof of concept
Taking a break when needed	Diversification to other industries
Opportunity for quick career takeoff	Difficult to make quick and decisive conclusions in the event of a crisis
Fast growth	People need education before starting a partnership with a DAO
	Founders give up a big portion of ownership
	It can be difficult to know who the right person to talk to is
	The community can quickly outvote the founder
	Vulnerable to hackers
	Overly reliant on the code

Source: Own work.

Table 10: Opportunities and Threats

Opportunities	**Threats**
Enabling the execution of complex and autonomous processes	Lack of legal recognition and regulatory framework disables business with traditional organizations
Improvement of credibility and legal frameworks	Security risks, such as hacking and fraudulent organizations
Legal solution for the borrowing of other company's code and know-how	Based on the specificity of the organization can provide little advantage compared to traditional organizational designs
Crowdfunding with additional benefits	Far behind traditional businesses and publicly traded companies in making an impact
Provide use cases for decentralized marketplaces, and decentralized finance	Difficulty in attracting certain groups of workers as future employees
Model for traditional publicly traded companies	Difficult for the general public to understand and participate in
Ability to operate 24/7	Potential scalability issue due to the limit on the processing of transactions
Potential new structure for governments, elevations, voting systems	Interoperability issues between different blockchain platforms

Source: Own work.

We will first look at the strengths and weaknesses pointed out through the interviews and those highlighted in the already-written theory. Then we will add the ones we identified through our analytical journey and finally look at the opportunities and threats they open at the end.

6.1.1. Strengths

A DAO is a new organizational structure that utilizes blockchain technology to govern its operations. One of the main strengths of DAOs is their meritocratic approach to governance, in which potential ideas are assessed on their merit rather than who expressed them. This leads to more efficient and effective decision-making, as the best ideas rise to the top regardless of who proposed them. Furthermore, it allows for a more democratic approach to decision-making, as all members have an equal say in the organization's management. This can result in better decision-making and more efficient resource utilization. Many of our interviewees agreed that the biggest competitive advantage and strength of DAOs is their flexibility. It comes from the fact that every aspect of work is meticulously documented and transparent, which ensures a great flow of information and agility for the company. This allows DAOs to adapt to change and respond quickly to market conditions.

Additionally, the decentralization of a DAO helps to eliminate the possibility of a single point of failure. Without a central authority controlling the organization, the risk of an individual or group making decisions that are detrimental to the organization as a whole is reduced. Furthermore, decentralization can increase security and immutability, as all decisions are recorded on tamper-resistant blockchain technology. This makes it difficult for any individual or group to change or manipulate the organization's rules and regulations without the consent of the majority of members.

Moreover, DAOs are known for their speed of execution. While some castigate DAOs' slower response time to traditional organizations, when it comes to key decision-making, most of their processing times are much faster and standardized. In addition, DAOs are usually composed of different teams where members share similar goals and visions, so challenges do not put them off but have an intrinsic motivation to solve them, leading to a strong and resilient organizational culture.

DAOs are also resilient to disruption of human capital turnover, a common issue in many organizations. Everything is saved on the blockchain, allowing individuals to come and go from a DAO without disrupting its operations, as the rules and processes are encoded into smart contracts on the blockchain. In addition, the ownership and control of a DAO is distributed among its members rather than being held by a single individual or group, further reducing the impact of human capital turnover. They offer the opportunity for employees to earn additional income, like a part-time job. They also employ freelancers, which leads to less legal trouble and less money spent on benefits. Payments in company tokens lead to a shared interest in increasing company value.

Furthermore, working in a DAO preserves employee anonymity, shared ownership motivates employees, and makes them more involved in the community and decision-making. DAOs offer the flexibility to work from anywhere at any time, remote work, and taking a break when needed while getting paid based on your involvement. They also allow employees the freedom to work elsewhere or leave at any point and offer a better opportunity for quick career take-off based on skill rather than seniority. DAOs can grow much faster by using blockchain's open system to see the blueprint of how others do it and offer anonymity for employees if they want it.

Coming from DAOs decentralized nature, there is greater autonomy in decision-making as no central authority controls the organization. This can lead to increased efficiency, as decisions can be made quickly and without the need for approval from a higher authority. Additionally, the autonomy of a DAO allows for greater transparency and accountability. All members have an equal say in the organization's management, and blockchain technology ensures that all decisions are recorded and cannot be tampered with. This helps to ensure that the organization is run fairly and transparently. Furthermore, the autonomy in a DAO also allows for a more democratic approach to decision-making,

where all members have a say and vote in the organization's management. This can lead to better decision-making and more effective use of resources.

6.1.2. Weaknesses

On the other hand, DAOs also have their weaknesses. From the employee perspective, one major weakness of DAOs is the lack of job security because anyone can participate and interact with the organization. The organization does not have a central management structure, which means that no one person or group can provide job security. It is based on meritocracy, where members are rewarded for their contributions. Because of this system, it is much easier to join and leave the organization, which leads to a potentially very high human capital turnover. An even bigger threat is the current volatility of this emerging blockchain market, where companies come and go even faster than startups in Silicon Valley. Your company might be doing great one day, then not even exist the day after. A major drawback in attracting non-crypto-savvy employees is that DAOs also require employees to convert the tokens they are paid in to fiat currency to be able to use it everywhere. DAOs have a highly stressful and fast-paced environment, and everything is traceable and visible to the competition, which applies even more pressure to move fast so that others cannot catch up. They also take away the personal aspect of being in a company and seeing coworkers daily.

Additionally, the decentralized nature of a DAO can make it more challenging to coordinate and execute projects effectively. This is due to communication challenges from members who may be physically dispersed and, therefore, may find it harder to communicate and collaborate effectively, as well as the lack of clear lines of authority we are used to in centralized systems. Furthermore, decision-making power is distributed among all members in a DAO, making it harder to assign tasks and responsibilities or hold individuals accountable for their actions. Finally, there is also the potential for power imbalances, meaning some members may hold a larger number of tokens and therefore have more voting power than others, making it harder to achieve consensus on important decisions and blur the lines of what truly represents the majority interest.

Traditional businesses don't trust pseudonymous communities, which is something DAOs have realized and are changing in order to accommodate the current business environment. However, our interviews showed that traditional businesses still don't trust these new organizational structures. Many DAOs are still non-legal entities and, in general, far behind in terms of law, with no credible regulation usually applying to them. Governmental legislators should change this for DAOs to gain the status of credible organizations. Due to this issue, no reporting is established, and DAOs are still seen more as investments to diversify portfolios rather than serious partners. They need more proof of concept and diversification in industries other than tech and finance (blockchain-

focused). While there aren't enough use cases, the ones we have show that a somewhat strong community is needed to start a DAO.

While it is regarded as a strength that DAOs have a standardized decision-making process with no central point of control, it can be difficult to make quick and decisive conclusions in a crisis because the community decision-making process cannot be shortened. Potential business partners need a lot of education before starting a partnership with a DAO. Founders give up a significant portion of ownership and can't discuss business one-on-one because there is no structure, making it difficult to know the right person to talk to. The founder can be quickly outvoted by the community, losing influence on the direction the DAO takes. The reliance on code makes DAOs vulnerable to hackers. Some argue that they are overly reliant on the code, which limits company operations and autonomy and prevents them from competing with other organizational models in many industries.

6.1.3. Opportunities

Decentralized autonomous organizations offer a variety of opportunities for companies to restructure and improve their operations, introducing a more democratic decision-making process and a more equitable distribution of resources and opportunities. In addition, smart contracts enable the execution of complex and autonomous processes, reducing the need for intermediaries and increasing the organization's efficiency.

There is much potential for improvement of the credibility and legal framework of such organizations. Firstly, only a handful of jurisdictions provide some legal framework for such organizations. However, the framework seems too broad and does not regulate DAOs sufficiently to be considered credible business partners. Therefore, steps must be taken to expand regulation to more jurisdictions and provide a better and more tailored framework for DAOs. Furthermore, legislators should also consider industries and their specialties that, in some cases, require additional regulation (e.g., the financial industry that is much more strictly regulated or the pharmaceutical industry with special clinical trials needed to approve certain drugs).

The legislation provides a strong fundament for DAOs to be perceived as more credible. Next, more good practices of successful DAO organizations or their services and products must be shown. Finally, with a combination of both, people and business partners will be more likely to consider DAOs in their business decision.

Speaking of legal issues, there is also the need for resolution of borrowing other companies' code and know-how from the blockchain, in terms of, for example, proprietary fees and reimbursements. Since one of the main perks of blockchain is to build upon existing solutions, a patent regulation and licensing framework must be established to enable the technology and businesses to thrive.

DAOs have the potential to evolve into crowdfunding with benefits such as continuous involvement with the company and its goals, multiple funding rounds, and reoccurring rewards. But they can also be utilized as use cases for decentralized marketplaces and decentralized finance (DeFi). Furthermore, DAOs can serve as a model for traditional publicly traded companies to restructure and offer all of their shareholders a voice in company decision-making. This could even force publicly traded companies to become more transparent. Not to forget that DAOs can operate 24/7, regardless of location or time zone, giving the company a certain edge over the competition.

The highest implication for an opportunity is seen in DAOs having the potential to be used as a structure for either electing governmental bodies or even completely removing the need for them, providing a transparent, tamper-proof, and mistake-free voting system, much more voter-friendly and effective than the current obsolete government systems and structures. Overall, DAOs provide a good case for upgrading current company structures and organizations and offer a system where more stakeholders can impact company decision-making, addressing more of their needs.

6.1.4. Threats

However, there are also potential threats to consider, like the lack of legal recognition and regulatory framework, which can make it difficult for DAOs to operate and interact with traditional organizations if not adequately resolved. Security risks, such as hacking and fraud, can be challenging to mitigate in a decentralized environment.

Suppose there is already a team and a product established. In that case, the company is entering or already operating in the market; DAOs provide little advantage compared to traditional organizational designs since the workflow is already determined, proof of concept made, and the company already established. Additionally, DAOs are far behind traditional businesses and publicly traded companies in making an impact.

The lack of job security and the meritocracy-based reward system can make it difficult to attract certain groups of workers to rely on a DAO as a primary source of their income. Furthermore, the complexity of the DAOs and smart contracts can make it difficult for the general public to understand and participate in them. In other words, a limited number of people with the technical skills to understand DAOs enough to work in them without first needing more education.

There is a potential scalability issue, as the number of transactions that can be processed on a blockchain is currently limited. Finally, there is currently the problem of interoperability issues between different blockchain platforms that aren’t compatible with each other.

6.2 Theoretical and Practical Implications

One of the main theoretical contributions of DAOs is their potential to create a new paradigm in theoretical approaches to organizational governance. Traditional organizational structures are hierarchical, with decision-making power concentrated at the top and a limited degree of autonomy and self-governance for lower-level actors. In contrast, DAOs are designed to be fully autonomous and decentralized, with decision-making power distributed across all participants. This means that DAOs can operate on a consensus-based decision-making process, where members can vote on proposals and have a direct say in the organization's management without intermediaries or central authorities.

This leads to a meritocratic approach to governance because they provide a transparent and decentralized platform for decision-making based on the merit of ideas and proposals rather than the status or position of the individuals making them. For example, in a DAO, decision-making power is distributed among all members of the organization, who can participate in the process of proposing and voting on proposals. This allows for a more inclusive and diverse range of perspectives to be considered, leading to better decisions based on the proposal's quality rather than the proposer's influence or power.

To continue, DAOs use a token-based economic model where members are incentivized to contribute to the organization and receive rewards based on the value of their contributions. This means that members who provide more value to the organization, such as through their work or ideas, are rewarded with a greater share of the organization's token pool, giving them more influence in the decision-making process. This creates a meritocratic approach to governance that rewards members for their contributions and aligns the members' interests with the organization's interests.

Based on the literature reviewed and interviews conducted with multiple market participants, we have observed a new alternative DAOs bring to the choice of organizational structure based on the environment organizations operate in. As presented in Chapter 2.5, we have identified four main states of environment where organizations operate, mainly defined by the environment predictability and stability.

We have conducted multiple interviews to position DAOs into that theory. As we have found, DAOs seem very flexible in multiple ways. Firstly, DAOs are very flat in their organizational structure, enabling them to respond to environmental changes quickly. The essence of a DAO is teamwork, participation, and high differentiation since interdisciplinary teams form from within.

DAOs are committed to experimentation and innovation and do not have centralized but rather decentralized and informal planning. Those are some of the factors usually found

in organizations that operate in an unstable and unpredictable environment. Furthermore, members are quite committed, they usually have high morale and a high sense of belonging, and their working arrangements are flexible and attract a certain type of talent that usually works in an environment that is fast-changing and not too predictable. Therefore, the data implies that DAOs could be an alternative to organizational structure for an unstable and unpredictable environment.

To continue, technological components of DAOs' organizational structure seem to advance the structuring of organizations. As we have found out in Chapter 2.5.1, every department in an organization is responsible for activities that produce additional value to the organization, therefore, they must build competencies and technology to add greater value. Theories suggest that greater automatization of processes usually implies higher technological complexities. Such organizations are usually centralized and mechanistic, and tasks performed are usually more routine.

Smart contracts that define DAOs can be well-tailored to each organization as needed. Therefore, another kind of flexibility that DAOs exhibit is their ability to adapt to environments and processes as required. Furthermore, the adaptability itself would not be too special; however, smart contracts provide strong foundations for the organization's autonomy. Code can be detailed, and DAOs can have well-formed rules, automated processes, and consequently, more formalized and, if needed, even more, hierarchical structures. As such, DAOs could also be appropriate for environments where process efficiency is important and formalization is needed. DAOs provide a unique potential to maintain high levels of process automation and formalization while keeping people's skills at the forefront of their performance.

Furthermore, we could position DAOs in other organizational environments. However, we must keep in mind that code would be hard to change, and DAOs' responses to environmental changes would be slow, costly, and potentially pose a security threat due to the complexity of blockchain technology, which could be manageable in such an environment. With greater blockchain knowledge advancements, we believe such challenges could be effectively overcome; however, for the time being, it is not so just yet.

When it comes to practical contributions, we must mention the importance of transparency. Employees worldwide are holding their employers accountable for actions that emphasize profits above values, which has resulted in employees leaving companies and the establishment of unions. DAOs operate with radical transparency, addressing these difficulties by encoding all rules, agreements, and decision-making in code, making all transactions transparent on the blockchain, and encouraging accountability. This accountability helps to build trust within the organization. It is all achieved through various ways that rely on the use of blockchain technology. One of the key points is seen

through open access to all information. This means that all information related to the DAO, including its operations, financials, governance decisions, and proposals, is publicly available on the blockchain for anyone to access and review. In addition, the use of publicly verifiable transactions and open-source code contributes to transparency and accountability for the members of the DAO and ensures that all transactions are legitimate. Traditional organizations can benefit from increased transparency by holding themselves accountable for their actions and decisions and building trust among employees and consumers. We realize that the level of transparency seen in DAOs might be too radical for most businesses. Yet, they can serve as a model for innovation in terms of new, closed systems that would allow the free flow of information and communication between all employees and shareholders.

DAOs operate on a decentralized and automated model that makes them more resilient to disruptions caused by human capital turnover. Unlike traditional organizations with centralized decision-making power, DAOs distribute decision-making power across all members of the organization. This means that even if some members leave or new members join, the organization can continue to operate and make decisions without interruption. In addition, because DAOs operate on a blockchain, all transactions and decisions within the organization are recorded. This transparency and auditability ensure accountability and reduce the risk of disruption or fraud caused by human capital turnover. Additionally, using self-executing smart contracts can automate decision-making processes within the organization, minimizing the need for human intervention and reducing the risk of disruption caused by turnover.

Another practical lesson is the importance of inclusion and intentional community engagement. Customers and personnel now demand that businesses address the exclusion of underrepresented groups, particularly in leadership positions. DAOs, in principle, are open to everyone who wants to join and contribute. As a result, co-creation is an essential component of DAO operations. They are designed to be fully autonomous and decentralized, with decision-making power distributed across all participants. This means that members can vote on proposals and have a direct say in the organization's management without intermediaries or central authorities. This decentralized decision-making model can help ensure that all members of the organization have an equal opportunity to have a voice in decision-making processes, regardless of their position, nationality, gender, or other characteristics.

Besides voting rights, DAOs also provide a platform for idea proposal and implementation that is open to all individuals, regardless of their background or position. This is because DAOs are built on a blockchain allowing for transparent and immutable record-keeping. This means anyone can propose an idea or project, which will be recorded on the blockchain for all members to review and vote on. In terms of traditional

businesses, it is often argued that the line workers come up with much better solutions or improvements than the actual top management decision-makers, but their voice isn't heard. Since DAOs operate on a global scale, they can attract a diverse range of members with different perspectives and experiences. At the same time, they eradicate the noise in communication and offer all stakeholders an option to express themselves. Traditional organizations could apply similar practices with community boards or paid community consultants to better understand the needs and wants of specific communities within their organization. For example, Cherubim Labs manages Cherubs DAO, a bio-DAO that accelerates brain longevity research, for a fee of 2% in exchange for oversight of the scientific advisory board. This enables the DAO to include members who may not be science specialists but are strongly interested in the topic (CherubsDAO, n.d.).

6.3 Limitations of the Study and future research

The following limitations should be considered when evaluating this master's thesis to provide a balanced and objective evaluation of the results and to inspire future research and examination of DAOs:

1. Sample size: We prioritized more qualitative data due to the topic's novelty. Considering our time limitations led to a smaller sample size with more in-depth conversations. Because of this, there is a certain degree of lack of generalizability; however, we accomplished our goal of considering many different perspectives.
2. Multilevel analysis: The inability to attain the targeted response rate resulted in the inability to perform a nested data analysis.
3. Common method bias: Despite statistical evidence of low common method bias, the perceived behavior of change leaders reported by change recipients may still be affected by this bias.
4. Interviewer bias: The potential for researcher bias in qualitative research, particularly during the narrative analysis and interpretation, should be acknowledged, as the same dataset may be interpreted differently by researchers with different backgrounds and experiences.

Despite these limitations, the study's results provide valuable insights into current decentralized autonomous organizations, how they are regarded from the outside, where they need to improve, and what other organizations can learn from them.

CONCLUSION

Decentralized autonomous organizations represent a new digital-native organizational structure transforming the business landscape, addressing the conventional limits of decentralization through shared standards and measurements, cross-departmental collaboration, and interaction with third parties. Many arguments suggest that decentralization is necessary for businesses to thrive in today's environment of rapid change, technological advancement, and increasing demand for personal fulfillment at work. They seem to provide a completely new approach to organizational design.

Each word, or for that matter, the letter of the acronym DAO, could be legitimately doubted. First, not every DAO is fully decentralized or is even striving to reach full decentralization. Autonomy is complex and hard to implement in an organization, and it seems that some steps are still to be taken to reach a fully autonomous concept. Lastly, the organizational aspect is the least developed, and many more existing DAOs are not legally incorporated yet.

However, it seems that DAOs are here to stay and ready to shake the foundations of traditional organizational design. They provide a fresh take on decentralized organizational structures, but for the first time, backed by technology that can provide safety in ensuring the proper decentralized conduct. DAOs offer a democratic approach to decision-making, collaboration, and collective ownership, which appeals to the human desire to be a part of something meaningful. It brings together people from diverse backgrounds and expertise, allowing for the creation of decentralized and distributed networks of knowledge and innovation. This means that DAOs can potentially tackle complex problems that require collective intelligence and distributed decision-making, such as climate change, social justice, and sustainable development. As such, DAOs seem to be contributing to the space already, pushing traditional businesses to challenge the status quo and open the playground of new possibilities.

DAOs being autonomous refers to their ability to rely on the code, which is the foundation of the organization, also in legal terms. It seems to provide an efficient framework for organizations to handle operational tasks. It is customizable and able to adjust to the needs of each organization individually. Therefore, such a structure is very efficient and resistant to human error. The high level of automatization also positions DAOs as a possible alternative to operating in environments requiring the efficiency of processes. As such DAOs provide strong foundations to bring together high operational efficiency and service orientation that amplify value by complementing people's skills and knowledge.

The third letter of the DAO stands for organization which seems to be, up until now, the most underdeveloped area. The space is definitely developing; however, it still lacks

major global recognition and regulation. Therefore, jurisdictions that seem to be the frontrunners could profit from the first-mover advantage. Furthermore, they are aware of the opportunities DAOs, and the technology brings; therefore, they are creating an environment encouraging them to incorporate DAO there, such as easier setup and preferable tax treatments.

In conclusion, by incorporating these lessons from DAOs, traditional organizations can create a more inclusive, engaged, and trustworthy workplace, improve operational efficiency, rethink structural fundaments, and power a new era of organizational design. This can help them stay relevant in a rapidly changing business landscape and meet the growing demand for organizations that align with employees' and consumers' values and goals. As a result, DAOs have already attracted significant popularity and have the potential to shape society and culture in new and meaningful ways.

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APPENDICES

Appendix 1: Povzetek (Summay in Slovene language)

Decentralizirane avtonomne organizacije (DAO) predstavljajo svež, digitalno usmerjen koncept organizacijske strukture, ki so bile ustvarjene kot odgovor na potrebo po večji preglednosti, enakopravnosti in demokratizaciji v upravljanju organizacij. DAO se osredotoča na preseganje omejitev centraliziranih struktur, z uporabo univerzalnih standardov, merjenj, interdisciplinarnega sodelovanja in interakcije s tretjimi strankami. Zaradi današnjega hitro spreminjajočega se okolja, tehnološkega napredka in povečane potrebe po osebnem izpolnjevanju na delovnem mestu, mnogi strokovnjaki menijo, da je decentralizacija ključna za uspeh sodobnih podjetij. Z drugimi besedami, DAO ponujajo inovativno rešitev za oblikovanje agilnejših organizacijskih struktur.

Za razliko od tradicionalnih organizacij, kjer večino najpomembnejših odločitev sprejema vodstvo na vrhu organizacijske hierarhije, je DAO v lasti in upravljanju vseh posameznikov, ki imajo v lasti vsaj en žeton podjetja in s tem prispevajo k njihovi vrednosti. To omogoča tehnologija veriženja blokov (blockchain), ki omogoča transparentnost, avtonomnost in decentralizacijo upravljanja. Podjetje ima svoje digitalne žetone in vsak deležnik v DAO ima določen delež teh žetonov, ki odražajo njihov vpliv na organizacijske odločitve. Le ti jim omogočajo, da aktivno sooblikujejo in sodelujejo pri vseh odločitvah organizacijskega poslovnega načrta in delovanja. Takšna struktura omogoča povečano vključenost članov in njihovo motivacijo za uspeh organizacije.

Ta magistrska naloga se osredotoča na DAO kot sodoben pristop k oblikovanju organizacij, pri čemer preiskuje različne vidike njihovega nastanka, delovanja in pravnih posledic. Delo se začne s preučevanjem in razumevanjem koncepta DAO in pregledom njihovega razvoja. Raziskujemo razloge za njihovo ustanovitev, vključno s teorijo podjetja in delniških družb. Nato se poglobimo v organizacijske vidike DAO, vključno z upravljanjem, vodenjem, odločanjem in izzivi oblikovanja organizacije. Posledično preučujemo tudi dejavnike, ki določajo organizacijsko strukturo in razlike med centraliziranimi in decentraliziranimi organizacijami.

Nato obravnavamo tehnološke vidike kot gradnike vsakega DAO, ki vključujejo distribuirane knjigovodske tehnologije (distributed ledger technology), blockchain, kripto valute in tokenizacijo, pametne pogodbe, pametne denarnice in decentralizirane aplikacije. Še pomembnejša za aplikativnost predstavljene teme pa je analiza pravnih vidikov DAO, vključno z investicijskimi pogodbami in ustanovitvijo DAO kot družbe z omejeno odgovornostjo.

Študija se nato usmeri v empirično kvalitativno raziskavo, kjer so predstavljeni intervjuji z različnimi DAO, kripto borznimi platformami in tradicionalnimi podjetji. Na podlagi teh razgovorov se v povezavi s teorijo obravnavajo ugotovitve študije, ki vključujejo SWOT analizo in zaključke o teoretičnih in praktičnih implikacijah DAO.

V prihodnosti se pričakuje, da bodo DAO igrale pomembno vlogo pri oblikovanju digitalnega gospodarstva, kar bo omogočilo bolj demokratično in enakopravno sodelovanje vseh udeležencev, zato upamo, da bo to delo koristno in zanimivo za akademike, oblikovalce zakonov in podjetnike, ki jih zanima presečišče tradicionalnega poslovanja in oblikovanja organizacij prihodnosti, ter nastajajoči trend presečnic med decentralizacijo in digitalizacijo.

Appendix 2: Issues related to smart contracts

Re-entrancy happens when a contract function can be called multiple times, and each time it's called, it can execute before the previous invocation is completed. This can result in unexpected behavior, such as unauthorized access to funds and the execution of unintended or malicious code.

The re-entrance vulnerability is caused by the fact that smart contracts run on a blockchain, and the blockchain allows for multiple transactions to be executed in parallel. This means that if a contract function is called recursively, each new invocation can be executed before the previous one is completed, potentially leading to unexpected behavior.

Implicit runtime exceptions: Implicit runtime exceptions occur during the execution of a smart contract, typically due to unforeseen circumstances or errors in the code. The contract developer does not explicitly define these exceptions, but they are raised by the runtime environment when certain conditions are met.

Incomplete handling of preconditions (no reimbursement): Incomplete handling of preconditions in smart contracts can result in situations where a transaction is executed, but the expected outcome is not achieved. This can occur when the preconditions for a contract function are not properly checked or when the contract does not provide a mechanism for reimbursement in case preconditions are not met.

Unilateral abortion refers to a party's ability to unilaterally cancel or terminate a smart contract. In many cases, smart contracts are designed to be self-executing and irreversible, meaning that once a transaction is initiated, it cannot be undone. However, some contracts may allow for cancellation or termination under certain conditions, such as a force majeure clause or a right to terminate for convenience.

Non-randomness: This kind of issues refer to situations where the contract's use of random numbers or random processes is not truly random and can be predicted or manipulated in some way. This can be a serious issue in some cases, as randomness is often used in smart contracts for important functions such as distributing rewards or selecting winners in a lottery.

Scripting language being Turing complete, meaning it can perform any computation that a Turing machine can, given enough time and memory. This includes the ability to perform complex operations and execute conditional logic, making it a powerful tool for building smart contracts. However, such language could be more complex and prone to more security vulnerabilities and, as such, also cause unintended behavior.

Appendix 3 : Interview questions for non - DAOs

- What is the main goal for your shareholders in your current organization?
- What do you like about DAOs? What do you not like about DAOs? (In general, and from the perspective of working with them).
- What are, in your opinion main advantages and disadvantages of a DAO?
- What are your experiences with DAOs (more in-depth)? How did you learn about them, when was the first time you had contact with them, and with which DAO?
- Have you ever worked as partners with a DAO?
- If not, would you be open to it? What concerns do you have about working with it?
- What is your opinion on DAOs as an organizational structure?
- What kind of challenges/problems regarding organizational structure would you anticipate in a DAO?
- Would you prefer to work in a DAO rather than in a traditional organizational structure, and why?
- In your opinion, are DAOs capable of replacing the current hierarchical structures of traditional businesses, and would that be advantageous from the point of value creation and overall growth of business and its efficiency?
- What competitive advantage does DAO provide in comparison to traditional organizations?
- What in the design of DAO would you change/improve?
- How much technical knowledge do you think is needed to be able to work IN a DAO?
- How much technical knowledge do you think is needed to be able to work WITH a DAO?
- How are DAOs perceived by other employees in your company? What percentage of them even know what a DAO is?
- Do you have any company policies about working with a DAO?
- Do you believe employees are more committed to the company because of “shared ownership”? How about free riders?
- An average DAO needs between 3 to 5 days to make a decision (because of the voting process), how impactful is that on the partnership? Would you be annoyed by delays? Is it an advantage that you have a specific deadline and a transparent sight into the decision-making of your partner?
- Where do you see the evolution of DAO?

Appendix 4: Interview questions for DAOs

- Did the company exist before it was formalized as DAO? What kind of organization were you? And if so, why did you choose to restructure to DAO?
- What is your main goal for your shareholders?
- Do you own any office space?
- What do you like about DAO? What do you not like about DAO? (In general, and from the perspective of working in one). What are, in your opinion main advantages and disadvantages of a DAO?
- What kind of challenges/problems regarding organizational structure did you anticipate prior to joining/forming a DAO? What problems showed that you did not anticipate?
- What competitive advantage does DAO provide for you/your organization?
- What in the design of your DAO would you like to change/you feel there is room for improvement?
- How are decisions in your DAO made? Who can vote? Where is the line between what DAO members vote on and which decisions are made by specific people/teams, and is there a veto on some decisions by the organization's core members/employees?
- How much technological knowledge does everybody involved in DAO has to have? Why? Is this a challenge for you?
- How is your DAO perceived by its employees? In %, how many of the members are actively involved? How many of them work full time? How are they paid?
- How hard is it to legally employ someone in your DAO?
- Do you believe employees are more committed to the company because of "shared ownership"? How about free riders?
- Do you have many bureaucratic tasks to run DAO?
- How does working in a DAO look? How are projects voted on and how are they executed?
- How would you do the recruiting process? Do you send an ad for the position, and then new recruits have to buy in their share, or would they get a share of the tokens when they start working for you? Or are you looking for new members within the community/shareholders?
- When you get more responsibility (get promoted), do you get any incentive and in what form? How do you distribute rewards?
- How does the voting process work. What are the time periods between proposal, it being approved, and then the actual vote?
- Where do you see the evolution of DAO? How will the future of DAOs look?

Due to the small amount of interviews, transcripts are not publicly shared for privacy reasons. If you would like to analyze interview transcripts please contact the authors.