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## DAOs: Introducing a New Era of Governance

### Abstract

Decentralised autonomous organisations (DAOs) are a growing phenomenon that has the potential to transform the organisational landscape. This article explores the implications of DAOs in corporate realms, highlighting their unique features and evolution. It emphasises the importance of understanding the similarities and differences between DAOs and traditional organisational structures. Whilst existing legal frameworks have been successful for traditional forms of organisation, they struggle to accommodate the distinctive characteristics of the democratised governance models introduced by DAOs. To fully leverage the enticing opportunities offered by DAOs, it is necessary to provide appropriate legal treatment that also addresses the risks they pose. The conclusion underscores the interest in community-owned protocols and suggests that further research is needed to effectively integrate DAOs into existing legal systems. It also encourages a broader examination of corporate requirements within the context of emerging data-driven technologies. The intersection of technology and company law principles calls for interdisciplinary efforts to shape the regulatory ecosystem for emerging, less formal formats of activity coordination and ensure their long-term viability and impact.

### Key words

decentralised autonomous organisation, corporate law, decentralised governance.

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## 1. Introduction

To date, the most successful legally recognised form of organisation for conducting business activities has proven to be a company. This success is partially attributed to the clear separation between the personal assets of shareholders and the assets used in the company's business. This separation is achieved through the doctrines of limited liability for shareholders and the company's separate legal personality.<sup>1</sup>

Shareholders of a company do not directly oversee company management. Instead, decision-making authority is delegated to the board of directors and executives. However, this delegation of power can create conflicts of interest due to divergent objectives and risk appetites, known as the principal-agent problem. Management may prioritise personal gain or diverge from the shareholders' interests, resulting in agency costs and related inefficiencies. As a result, there is an incentive to monitor and regulate managers' conduct and align their interests with those of the company owners. These frictions are addressed by company law.<sup>2</sup>

An alternative approach to establishing companies has emerged in the form of decentralised autonomous organisations (DAOs)—a novel organisational model, where ownership, participation, and the prospect of control are closely linked, if not merged.<sup>3</sup> DAOs offer the potential to fundamentally change how organisations operate, making them an interesting solution for the principal-agent problem.<sup>4</sup>

This article describes DAOs in the corporate realm, outlining their key characteristics, evolution, and differences from conventional organisational structures. The article then presents two ways in which regulators are addressing this new phenomenon:

1. Applying existing legal rules: Without delving deep into the different existing legal structures available to DAOs (legal wrappers), the article argues that none of them fully caters to the unique characteristics of DAOs.
2. Adopting new bespoke legal frameworks: After providing a brief comparative overview, the article focuses on one of the first attempts to draft a model law to regulate DAOs and compares the proposed system with the Slovenian Societies Act.

The last section concludes and suggests areas that may be interesting for further research.

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<sup>1</sup> Davies, 2020, p. 2.

<sup>2</sup> Davies, 2020, p. 5.

<sup>3</sup> Brummer and Seira, 2022, p. 3.

<sup>4</sup> See, for example, Kaal, 2019.

## 2. DAOs in the Corporate Realm

Modern company law provides an organisational structure that allows providers of different inputs to come together and coordinate their collective activities with the consumers of the outputs.<sup>5</sup> An alternative way to coordinate activities is provided by DAOs.

In the broadest sense, DAOs are online communities that connect individuals with common goals and use computational tools to formalise governance protocols and pre-encode them into software. This allows them to automate processes of making decisions and distributing resources among community members automatically and transparently.<sup>6</sup>

DAOs enable greater transparency by providing open access to operational information, promoting trust and accountability among participants. They can also boost inclusivity by eliminating hierarchies and giving every member a voice, fostering democratised decision-making. By aligning incentives with communal goals, DAOs can encourage contributors to prioritise the collective objectives of the organisation.<sup>7</sup> With these characteristics, DAOs are seen as an experiment in reimagining how we connect, collaborate, and create.

However, decentralised governance through DAOs comes with challenges. Search and coordination frictions can arise, and voting-based governance structures can be time-consuming for time-critical decisions. Members can be inactive, and this can be exploited by active voters to affect decision outcomes. Democratic voting processes can be undermined by influential large shareholders. The complexity of DAOs may also create participation barriers. Additionally, inefficient voting processes pose security risks, including malicious attacks and fraud.<sup>8</sup>

Although these drawbacks are acknowledged, they are not the main focus of the article. Instead, we explore what the new phenomenon of decentralised governance means for the corporate world where decision-making power has traditionally been delegated to centralised bodies such as boards of directors and executives.

## 3. Defining DAOs

For the purposes of this paper, DAOs are online community-oriented, decentralised organisational structures. They are collectively owned and managed by members using software to direct resources, organise activities, and coordinate decision-making processes. DAOs typically operate on public, open blockchains and utilise open-source code

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<sup>5</sup> Davies, 2020, p. 6.

<sup>6</sup> Brummer and Seira, 2022, p. 3.

<sup>7</sup> WEF, 2023.

<sup>8</sup> Bellavitis et al., 2022.

and smart contracts for their actions and governance.<sup>9</sup> This setup facilitates participants' coordination and self-governance.<sup>10</sup>

This approach offers opportunities to optimise processes, enhance corporate governance transparency, and involve participants more effectively.<sup>11</sup> Consequently, DAOs are predicted to become even more prominent and may even replace traditional companies in certain circumstances.

Importantly, DAO members can participate in decision-making directly, through proposing, ratifying, and voting on proposals in a decentralised manner. Direct participation in operations and decentralised governance align the interests of various stakeholders more equitably and make DAOs more resilient.

The definition of DAOs is, however, still evolving and changing with technological advancements. Additionally, the degree of decentralisation in the governance of each individual DAO can vary significantly. To this point, DAO token holdings have often remained centralised, with decision-making concentrated in the hands of the DAO founders or major investors.

#### 4. The Rise of DAOs

Although the concept of DAOs was theorised in the 1990s,<sup>12</sup> it was only with the rapid advancements in blockchain technology and smart contracts that developers began building these entities.<sup>13</sup>

Notable milestones in the development of DAOs include the creation of “The DAO” on the Ethereum blockchain in 2016. The purpose of “The DAO” was to facilitate collective investment in projects. However, it faced challenges due to vulnerabilities in its smart contract, which led to its abandonment and a subsequent hard fork in the Ethereum network. Although “The DAO” encountered vulnerabilities in its smart contract and ultimately failed, it marked a new chapter in the crypto space. Developers learned from this experience and began creating enhanced tools and infrastructure for DAOs, addressing the limitations encountered by “The DAO”.<sup>14</sup>

DAOs have emerged as a rapidly growing phenomenon in the web3 space. The rise of decentralised finance (DeFi) in 2020 played a significant role in the emergence of DAOs, which started to gain traction as they offered a means to manage resources and facilitate

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<sup>9</sup> Blockchain is not the only technology that can cater automated decision-making processes and allocation of resources.

<sup>10</sup> Mondoh et al., 2022.

<sup>11</sup> EY, 2023.

<sup>12</sup> Hassan and Filippi, 2021.

<sup>13</sup> Bellavitis et al., 2022.

<sup>14</sup> Mehar et al., 2017.

collective decision-making. In just one year, from 2020 to 2021, the value of DAO treasuries increased by a factor of 40, reaching \$16 billion, and the number of participants grew 130 times, reaching 1.6 million.<sup>15</sup>

As of now, thousands of DAOs are estimated to be operating on the blockchain.<sup>16</sup> Although the market capitalisation is not yet significant, the substantial growth has increasingly been attracting the attention of industry players (see, for example VitaDAO<sup>17</sup> backed by Pfizer), international organisations (see, for example UNICEF<sup>18</sup>) and policy-makers. Looking ahead, DAOs are expected to find increased implementation within traditional corporate landscapes and other existing infrastructures.<sup>19</sup>

Despite this growth, however, they still face significant challenges in operations, governance, legal compliance, and regulation.<sup>20</sup> As developments have occurred at a rapid pace, the regulatory framework has lagged the pace of innovation in this space.<sup>21</sup> DAOs face a fragmented and uncertain regulatory landscape, as there is uncertainty about their legal status in most jurisdictions, leading to commercial uncertainty in the crypto industry. As a result, they face significant legal uncertainty that can be detrimental to their development and utilisation.<sup>22</sup>

## 5. Main differences between DAOs and Traditional Organisations<sup>23</sup>

DAOs rely on community-based decision-making and are built on decentralisation principles, with decision-making power in the hands of all members. In contrast, traditional organisations have centralised governance, mostly based on executives, a board of directors, and sometimes activist investors, leading to top-down decision-making hidden from the public eye. In contrast, DAOs can be imagined as “flat” organisations with no formal delegation of power made to specific participants, nor is any participant crowned as having superior powers.<sup>24</sup>

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<sup>15</sup> WEF 2023.

<sup>16</sup> Newar, 2022.

<sup>17</sup> According to VitaDAO, Pfizer is the first pharmaceutical company to vote on DAO proposals and participate in the incubation and commercialization of VitaDAO projects. Source: CoinDesk, <<https://www.coindesk.com/web3/2023/01/30/vitadao-closes-41m-funding-round-with-pfizer-ventures-for-longevity-research/>> (last accessed on 2 July 2023).

<sup>18</sup> Matsuda, 2023.

<sup>19</sup> EY, 2023.

<sup>20</sup> WEF, 2023.

<sup>21</sup> EY, 2023.

<sup>22</sup> COALA Model Law, 2021.

<sup>23</sup> The analysis in this chapter is made based on the following sources: Brummer and Seira, 2022; Bellavitis et al., 2022; Hackl, 2021; WEF, 2023; EY, 2023.

<sup>24</sup> Mondoh et al., 2022.

In DAOs, any member can propose and vote on corporate decisions, leading to public and distributed decision-making. This framework fosters collaboration and community engagement among all members who share common goals and ideals. However, decision-making in DAOs may be impeded, as all members may be required to vote for any changes to be implemented, depending on the company's structure.

DAOs promise to transform the global corporate landscape from hierarchical to democratic and distributed organisations. They aim to enable communities to achieve their goals while reducing the need for intermediaries in governance and operations. The decentralisation of governance across stakeholders and the disclosure of operational and financial information in DAOs can reduce information and power asymmetries. DAOs also allow stakeholders to directly participate in operational and governance processes, encouraging a more equitable alignment of interests.

The transparent, distributed, and decentralised decision-making inherent in DAOs can have significant implications beyond internal governance. It has the potential to disrupt and disintermediate not only the internal dynamics of organisations but also the broader economy.

The analysis above is summarised in the below table:

<b>Characteristic</b>	<b>Traditional organisations</b>	<b>DAOs</b>
Governance	Centralised, based on executives and board of directors	Community-based decision-making, decentralised
Decision-Making	Top-down decision-making	Any member can propose and vote on corporate decisions
Agency Costs	Between managers (principals) and shareholders (agents)	Reduced due to overlap between principals and agents
Shareholders Participation	Delegated, limited	Direct

### *5.1. Tackling DAOs: Current Approaches*

Given the novelties DAOs present, the question arises: how can a DAO, which operates differently from traditional corporations due to its technological foundation, be reconciled with traditional corporate entities in the existing legal system? Should DAOs be recognised as a new standalone type of legal entity with their own set of distinct rules, or are they similar enough to existing types of legal entities to enable functional and regulatory equivalence? Different jurisdictions offer different answers to this question.

#### *5.1.1. Tackling DAOs by Applying Existing Legal Rules*

Some regulatory regimes try to embed DAOs into existing laws.<sup>25</sup> Countries such as Switzerland, Panama and Singapore are commonly referred to as having regulation, not specifically tailored to DAOs, which is nevertheless most favourable for the registration of DAOs.<sup>26</sup> A similar approach can be seen in the UK, where the Law Commission has called stakeholders to provide information regarding the structure and operation of DAOs, and how existing law can best accommodate different types of DAOs. The Commission is currently reviewing responses to this call for evidence.

### 5.1.2. Focus on: Legal Wrappers

Most often, DAOs operate without legal recognition. Most DAOs are unincorporated and have unknown members. It is unclear whether smart contracts or token-holders are subject to the law and liabilities. DAOs avoid relying on government authority and resist rigid regulations. As a result, they have pseudonymous, distributed, and *ad hoc* organisational structures.

Consequently, unincorporated DAOs face difficulties in performing economic activities, such as opening bank accounts, hiring employees, engaging with service providers, and paying taxes. Coordination and commerce often rely on the legal framework of legal personhood. A legal identity may be provided by a legal wrapper if a DAO can fit within legally recognised corporate forms.

The spectrum of legal wrappers encompasses unincorporated associations, corporations, non-profit organisations, foundations (especially ownerless ones under the laws of Switzerland, Cayman Islands and the Netherlands), charities, cooperatives, etc. Legal options and regulatory responses vary by jurisdiction. Some are adopting new DAO-oriented structures, while others are evaluating DAOs under traditional structures. The law is, in any event, rapidly evolving.

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<sup>25</sup> Chiu, 2021.

<sup>26</sup> Harrington, 2023.

High-level overview of available organisational structures	Benefits	Drawbacks
Unincorporated association	Avoids need for registration but may be subject to default treatment	May not be entitled to legal benefits (limited liability, corporate personhood)
Corporation	Legal person for contracting and litigation, well-established legal framework	Centralised management and equity shareholders, inflexible governance requirements
Partnership	Participants jointly engage in business activities, sharing profits and losses	Unlimited liability and inflexibility
Foundation	Established for public interest purpose, can be flexible in governance	Limited in certain jurisdictions, may not allow for identification of shareholders/managers/beneficial owners
Trust	Acts on behalf of beneficiaries, limited liability	Not recognised in many European countries, unclear and risky tax dynamic

Because each legal entity structure has its own set of trade-offs, choosing the appropriate legal wrapper for a specific activity or set of activities requires careful legal engineering, as well as thoughtful business strategy and operations.<sup>27</sup> The legal structure used by DAOs can affect the nature of tokens (which may be classified as securities or equivalent instruments), taxation, employment and labour law, insurance, banking, AML/CFT, and governance.<sup>28</sup> Utilising a legal wrapper may also result in financial, reporting and other obligations and requirements. Factors such as mission, operational activity, and constituency determine the best legal response to the issues a DAO raises.<sup>29</sup> Building a DAO requires not only code but also a thoughtful approach to enable it to operate in the real world and protect builders and contributors. Yet, the range and complexity of DAO legal structures can leave even the best engineers (and their lawyers) perplexed.<sup>30</sup>

<sup>27</sup> Brummer and Seira, 2022, p. 4.

<sup>28</sup> WEF, 2023.

<sup>29</sup> Ibid.

<sup>30</sup> Brummer and Seira, 2022, p. 2.

### 5.1.3. Critical Analysis of Legal Wrappers

Given the above comparison, which highlights substantial differences between traditional organisations and DAOs in terms of their organisational structures, legal structures modelled after 20th century organisations do not take into account the dispersed and fluid memberships of DAOs, as well as their decentralised governance.

Although none of the legal wrappers appears to be ideal for accommodating the DAO needs, they seem to be the only option available to:

1. Provide a set of useful, or even necessary, legal rights to engage in economic activity, such as entering into contracts, opening a bank account, owning intellectual and other property, having employees, paying taxes, and suing in its own name.<sup>31</sup>
2. Limit legal, tax, and regulatory risks, protect the DAO and its members from liabilities or damages caused by the DAO or other members, promote compliance with applicable laws and regulations, and facilitate the DAO's access to traditional financial services and markets.<sup>32</sup>

Without a legal wrapper, a DAO must either rely on individual participants to perform these functions or associate with a separate legal entity to perform the initial development work.<sup>33</sup> Yet, different DAO wrappers have varying degrees of centralisation and regulatory requirements that can clash with the way many DAOs aim to operate. This is due in part to the unique qualities that DAOs possess that are not available to traditional business associations and firms.<sup>34</sup> Requiring DAOs to be backed by a traditional organisation thus undermines the purpose of establishing a DAO in the first place.

Recent trends revolving around liability of unwrapped DAOs seems to support this.

### 5.1.4. Unwrapped DAOs and Liability

The question of whether an unwrapped DAO can be considered a legal person is a complex and evolving issue that remains subject to debate. One recent case that has raised this issue is the *Ooki DAO* case<sup>35</sup> brought by the US CFTC. In that case, the court held the Ooki DAO liable for violating the US Commodity Exchange Act, which suggests that, under certain circumstances, a DAO's participants can be held jointly or severally liable.

However, as CFTC Director McGinley's statement indicates, the case revolved around creating a DAO with an evasive purpose and the explicit goal of engaging in illegal activity without legal accountability. The defendants believed that they could cir-

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<sup>31</sup> WEF, 2023.

<sup>32</sup> Brummer and Seira, 2022, p. 4.

<sup>33</sup> WEF, 2023.

<sup>34</sup> Brummer and Seira, 2022, p. 4.

<sup>35</sup> Case No. 3:22-cv-05416-WHO, *Commodity Futures Trading Commission (CFTC) v. Ooki DAO*, filed on 8 June 2023.

cumvent the law simply by adopting a DAO structure.<sup>36</sup> The broader legal recognition of DAOs as legal persons will require the development of new legal frameworks. The decentralised and automated nature of DAOs, which lack a centralised governing body, makes extending legal personhood to them challenging. Smart contracts have limitations compared to traditional legal contracts. The absence of a recognised legal entity within a DAO can complicate accountability, leading regulators to attribute legal responsibility to other identifiable actors.

Another case that raises important legal questions regarding potential responsibilities in the Web3 space is the *Tulip Trading* case.<sup>37</sup> The claimant argues that the developers of the Bitcoin system have control over the Bitcoin networks and the ability to secure its assets. Due to a hack resulting in the loss of private keys, these assets are currently inaccessible. Tulip contends that the developers should be recognised as fiduciaries and owe fiduciary duties to the true owners of Bitcoin. The UK Court of Appeal has not yet determined whether developers indeed have a duty of care to add a software patch in these circumstances. The outcome may prompt a reassessment of digital finance, decentralised governance, and the concept of distributed ledger technology immutability. Questions about whether there are always people behind the code, and who among them can be held accountable are closely tied to the discussion of the DAO personhood. Therefore, it will be interesting to observe what the court will hold.<sup>38</sup>

## 5.2. Tackling DAOs by Adopting New Bespoke Legal Frameworks

An alternative approach to recognising DAOs in the legal context is to adopt new, customised legal frameworks that consider specific characteristics of DAOs.<sup>39</sup>

In some jurisdictions, novel, specialised legal frameworks have been designed specifically to accommodate DAOs and provide more legal certainty for their members.<sup>40</sup> These

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<sup>36</sup> Statement of CFTC Division of Enforcement Director Ian McGinley on the Ooki DAO Litigation Victory, Release Number 8715-23.

<sup>37</sup> *Tulip Trading Ltd (a Seychelles company) v Van Der Laan and others* [2022] EWHC 667 (Ch).

<sup>38</sup> It is acknowledged that both cases pertain to the legal systems of the US and the UK. The debate regarding the legal personhood of DAOs in the common law context is slightly distinct from the Slovenian system. Partnerships in the US and the UK are typically not obligated to register or prepare financial statements, and general partners are subject to unlimited liability. Conversely, partnerships (societies) based in Slovenia can operate as independent legal entities, benefiting from limited liability and certain asset partitioning privileges (Societies Act of the Republic of Slovenia (Official Gazette of the Republic of Slovenia [Uradni list RS], Nos. 64/11 and 21/18). Another distinction is the predominant ownership structure. Common law has dispersed ownership, which results in agency costs between managers and shareholders. In contrast, European ownership structures are mostly concentrated, which creates agency costs between majority and minority shareholders. The following analysis takes these differences into account.

<sup>39</sup> Chiu, 2021, p. 43.

<sup>40</sup> *Ibid.*

jurisdictions have taken steps to recognise and accommodate DAOs within their legal systems. In 2018, Malta became the first country to legally acknowledge DAOs as distinct legal persons. However, their adoption of DAOs is constrained by concerns surrounding their complexity and centralised requirements.<sup>41</sup> More recently, in December 2022, the Marshall Islands passed legislation recognising DAOs as separate legal entities.<sup>42</sup>

In the United States, several states, such as Wyoming, Tennessee, and Vermont, have introduced specialised Limited Liability Company (LLC) forms tailored for decentralised organisations, such as DAOs, to protect their legal status. These states mandate the presence of a registered agent, allow for decentralised automated governance, and offer limited liability protection to members.<sup>43</sup>

Among them, Wyoming appears to be the most prominent example.<sup>44</sup> There, the first legal DAO entity in the US, American CryptoFed, has been recognised,<sup>45</sup> setting an important precedent for other states to follow. As of July 2023, there are almost 900 registered DAO's in Wyoming.<sup>46</sup>

Wyoming has amended its LLC statute to allow “algorithmically managed” DAO LLCs.<sup>47</sup> Compared to corporations, DAOs are subject to fewer restrictions and more permissive governance structure. Some limitations nonetheless apply. For instance, a DAO LLC cannot be manager-managed (top-down) and must include “DAO,” “DAO LLC”, or “LAO” in its firm name. Generally, any smart contract directly used to manage, facilitate, or operate the DAO must have a publicly available identifier. Articles of association must also contain disclaimer about different legal treatment.<sup>48</sup>

Colorado permits DAOs to register as Limited Cooperative Associations (LCAs), which offer flexibility in profit distribution and voting mechanisms by combining elements of the cooperative model with the LLC and corporate form.<sup>49</sup> However, LCAs necessitate a board of directors and a registered agent, which may not align with the

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<sup>41</sup> Ronstedt and Eggert, 2018.

<sup>42</sup> Bannermanquist, 2022.

<sup>43</sup> Bellavitis et al., 2022; WEF 2023; The Defiant, <<https://thedefiant.io/starting-a-dao-in-the-usa-steer-clear-of-dao-legislation>> (last accessed on 2 July 2023).

<sup>44</sup> Brummer and Seira, 2022.

<sup>45</sup> Young, 2021.

<sup>46</sup> Wyoming Secretary of State, <<https://wyobiz.wyo.gov/Business/FilingSearch.aspx#&&H1PF+T-74FxpgeNjYo9NjspGdC6wybLpk5cURMKl+Ecixl9WLI+lUkY8Bz6twnD00EccLECRsmbbhR3MsdKDtMG32sqDVaXHyd1W8wi6UOPxhnH/1jG5nFXrIVZZ8BAZ55DEZdBGMH-NcX0Uzwox4zr1pTX8VBIlk0jAcJdKndweX5y3>> (last accessed on 2 July 2023).

<sup>47</sup> Bellavitis et al., 2022.

<sup>48</sup> Brummer and Seira, 2022.

<sup>49</sup> WEF, 2023.

preferences of all DAOs. Furthermore, Colorado law lacks clear guidance concerning smart contract governance.<sup>50</sup>

In the EU context, DAOs were discussed during the negotiations for the recently adopted MiCA Regulation,<sup>51</sup> but were excluded from the final version for political reasons. The draft regulation included DAOs in the negotiation phase with legal identity and limited liability for community members but was omitted in the final version of the MiCA Regulation.<sup>52</sup> According to Recital 22,

“Where crypto-asset services are provided in a *fully decentralised* manner without any intermediary, they should not fall within the scope of this [MiCA] Regulation” (emphasis added).

However, the question of how much decentralisation is required remains to be answered, and it will likely be resolved only over the coming years through regulatory technical standards.<sup>53</sup> In addition, recitals can affect the interpretation of the articles but do not have a binding effect themselves. As a result, it is somewhat unclear how the MiCA Regulation might be applied to DAOs.

To establish uniformity, legal certainty, and allow for innovation, the Coalition of Automated Legal Applications (COALA), a global blockchain think tank, has developed a regulatory framework proposal for the legal recognition of DAOs.<sup>54</sup> Unlike other regulatory frameworks for DAOs, this model law does not impose formal registration requirements, promoting adaptability and flexibility. Pursuant to the model law, DAOs are granted substantial leeway to structure and govern themselves as they see fit. The legislation also addresses unique DLT phenomena that have governance implications for DAOs, including contentious forks, DAO restructurings, and failure events.<sup>55</sup> In March 2023, the Utah legislature passed DAO amendments that implemented the propositions outlined in the model law. Under this legislation, unregistered (unwrapped) DAOs are granted treatment equivalent to that of LLCs, provided they meet specific requirements.<sup>56</sup>

The remainder of this article will explore the concept of DAOs pursuant to the COALA Model Law in more detail and compare the proposed suggestions with the reg-

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<sup>50</sup> Ibid.

<sup>51</sup> Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 (Text with EEA relevance).

<sup>52</sup> Axelsen, Jensen and Ross, 2022a.

<sup>53</sup> Ibid.

<sup>54</sup> Coala Model Law, 2021.

<sup>55</sup> Coala Model Law, 2021, summarised in WEF, 2023.

<sup>56</sup> Nwaokocha, 2023. The Utah proposal for a substitute bill on Decentralized Autonomous Organizations Amendments is available at: <<https://le.utah.gov/~2023/bills/hbillint/HB0357S03.pdf>>.

ulatory framework that applies to Slovenian partnerships (societies) under the Slovenian Societies Act.

### *5.3. Slovenian Societies Act in the Light of the COALA Model Law*

The COALA Model Law has several aspects that share similarities with the existing partnership arrangement in force in Slovenia. This section compares the Model Law with the Slovenian Societies Act, and attempts to infer the approach to regulating DAOs in the context of the Slovenian legal system.

According to Slovenian legislation, a society is an autonomous, not-for-profit union founded by its members to pursue common interests.<sup>57</sup> Members typically pool their knowledge and work for an indefinite period of time to achieve shared goals and objectives.<sup>58</sup> The society's activities are conducted in an autonomous, non-profit, and public manner.

The Model Law defines DAOs as smart contracts deployed on a public permissionless blockchain. These smart contracts implement specific technically decentralised decision-making or governance rules, enabling a multitude of actors to coordinate themselves in a decentralised fashion.<sup>59</sup>

The similarities between DAOs and societies, in the broadest sense, begin with their legal nature. Neither has minimum share capital requirements. Both are independent legal entities<sup>60</sup> with their own assets, separate from their members.<sup>61</sup> As a result, both can enter into legal transactions and acquire rights and obligations.<sup>62</sup> Furthermore, both are liable for their obligations with all of their assets.<sup>63</sup>

In exceptional cases, both the members of a DAO and of a society may be personally liable for the obligations incurred by the organisation. Yet, the conditions for lifting the corporate veil are set out differently in the Model Law and the Societies Act:

- On the one hand, Article 5(3) and (4) of the Model Law state that members of a DAO will be personally liable for: i) monetary payments ordered in enforceable judgments, orders, or awards if they voted against compliance with them, in proportion to their share; and ii) their own wrongful acts or omissions.
- On the other hand, the Society Act sets out the conditions for personal liability in a broader sense. Article 6(3) provides that responsible persons of the society are liable

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<sup>57</sup> Article 1(1) of the Societies Act.

<sup>58</sup> Societies Act Commentary, p. 18.

<sup>59</sup> Article 3(7) of the Model Law

<sup>60</sup> Article 2(1, 4) of the Model Law; Article 5(1) of the Societies Act.

<sup>61</sup> Article 2(1); Article 6(2) and 24 of the Societies Act.

<sup>62</sup> Article 2 of the Model Law, Societies Act Commentary, pp. 40 and 46.

<sup>63</sup> Article 4(2) of the Model Law; Article 6(2) of the Societies Act.

for the obligations of the society if, for their own benefit or for the benefit of another person, they reduce the assets held by the society or redirect operations and cash flows to another existing or newly created legal person or natural person, thereby preventing an increase in the assets held despite being aware that the society would not be able to meet its obligations to third parties. Additionally, the person is jointly liable with all their assets.

As we see, the conditions for lifting the corporate veil in a DAO are somewhat broader than in a society. This is because all members of the DAO can be held personally liable, whereas in a society, only a responsible individual, such as a representative, can be held personally liable.

The Model Law and the Societies Act, along with the Slovenian legal system as a whole, differ in terms of obtaining legal personality. Societies acquire legal person status upon registration<sup>64</sup>. To register, a society must submit an application to the registration authority and attach the necessary documents.<sup>65</sup> In contrast, a DAO automatically obtains legal personality when it meets the criteria listed in Article 4 of the Model Law. Therefore, the Model Law does not require registration for a DAO to obtain legal personality.<sup>66</sup>

To continue, DAOs and societies are similar with regard to their almost unrestricted autonomy of regulating their internal functioning. A DAO's internal organisation and procedures are set-out by its by-laws<sup>67, 68</sup>. Likewise, a society's decisions regarding its management are made directly or indirectly by its members.<sup>69</sup> The members of a society regulate their internal organisation with a charter,<sup>70</sup> which, of course, greatly differs from a smart contract which contains the by-laws, but is nevertheless similar in nature with regards to the autonomy of the organisation to determine its content, and in turn the functioning of the organisation itself.

Both DAOs and societies have autonomy in determining the existence and functioning of their internal bodies. They are composed of a collective of their members, and no additional internal bodies are required.<sup>71</sup> However, societies often establish executive, supervisory, and disciplinary bodies, as collective decision-making may cause organisa-

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<sup>64</sup> Article 5(1) of the Societies Act.

<sup>65</sup> Article 18 of the Societies Act.

<sup>66</sup> Article 6(1) of the Model Law and Societies Act Commentary, p. 125.

<sup>67</sup> By-laws are the rules and regulations that govern the procedures followed by a DAO and the interaction of its Members and Participants, which must be set out in plain language, in text or sound, visual or audio-visual recording (Article 3(5) ML).

<sup>68</sup> Article 11 of the Model Law.

<sup>69</sup> Article 1(2) of the Societies Act.

<sup>70</sup> Article 4 of the Societies Act.

<sup>71</sup> Article 13 of the Model Law; Article 13(3) of the Societies Act.

tional obstacles and excessive costs for societies with a larger number of members.<sup>72</sup> On the other hand, DAOs do not have problems with collective decision-making due to their technological nature, regardless of the number of members. Additionally, DAOs do not require executive organs as their decisions are automatically executed by the smart contract after their adoption.

Nevertheless, a DAO's dispute resolution mechanism<sup>73</sup> may determine a certain type of internal body that decides on internal disputes. If a DAO does not have any additional internal bodies, all powers are vested in the DAO members.<sup>74</sup> Conversely, if a society has no additional internal bodies, it must allocate responsibilities between the general assembly, the society's representative, and (usually) the president of the society.<sup>75</sup>

Both DAOs and societies have the freedom to determine the frequency and method of meetings<sup>76</sup>, as well as the conditions for a quorum and the majority required for valid decision-making<sup>77</sup>. However, due to the functional nature of traditional societies, at least some meetings are required. This is reflected in the Societies Act, which includes a dispositive rule of annual meetings<sup>78</sup>, and mandates certain decisions to be made only by the general assembly.<sup>79</sup>

DAOs differ in how they conduct meetings. They take full advantage of their technological functioning by usually having a continuous session, where members can propose and vote on decisions at any time. There is no need to set a time and place for a meeting, or for physical presence of members. Article 3(17) of the Model Law defines meetings as both synchronous and asynchronous events, reflecting this flexibility.

Societies can sometimes operate in a similar manner. By utilising modern communication tools, organising meetings without the physical presence of members is possible

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<sup>72</sup> Societies Act Commentary, p. 89.

<sup>73</sup> Article 3(3) of the Model Law defines a dispute resolution mechanism as an on-chain alternative dispute resolution system, such as arbitration, expert determination, or an on-chain alternative court system, which enables anyone to resolve their disputes, controversies or claims with, arising out of, or connected with, a DAO.

<sup>74</sup> Article 13(1) of the Model Law.

<sup>75</sup> Societies Act Commentary, p. 67.

<sup>76</sup> Article 12 of the Model Law; Article 13(2) of the Societies Act.

<sup>77</sup> Article 12(4) of the Model Law; Article 13(4) of the Societies Act.

<sup>78</sup> Article 13(2) of the Societies Act.

<sup>79</sup> The charter and amendments to the charter concerning the provisions of paragraph one of Article 9 of the Societies Act and other decisions of fundamental importance made by the society (Article 13(1) of the Societies Act, the resolution to merge with or join another society (Article 15(2) of the Societies Act), the resolution to establish a federation of societies (Article 16(2) of the Societies Act), the adoption of the annual report (Article 27(7) of the Societies Act), the dissolution of the society (Article 38(1) of the Societies Act) in addition to other decisions with a high degree of importance, such as the election and dismissal of members of the Society's internal bodies, adoption of internal acts etc. (Societies Act Commentary, p. 68).

since such meetings are not explicitly prohibited by the Societies Act.<sup>80</sup> Additionally, members do not necessarily need to be present at the same time, as correspondence meetings are possible.<sup>81</sup>

Apart from the internal organisation, an important distinction between DAOs and societies lies in their external (off-chain) functioning. A society must have a representative,<sup>82</sup> whereas DAOs do not strictly require an off-chain representative to undertake tasks not achievable on-chain<sup>83</sup>. However, in practice, the business world almost certainly requires a DAO to appoint an off-chain representative if it wants to interact effectively with other entities.

Furthermore, DAOs and societies share the common characteristic of granting their members the freedom to choose the purpose for which they gather. A DAO can be established for a wide range of purposes, including mutualistic, social, environmental, or political.<sup>84</sup> Similarly, a society can be established for any purpose, with the exception of those expressly prohibited.<sup>85</sup>

However, DAOs and societies differ when it comes to determining their object or purpose and the resulting consequences. According to the commentary on Article 1 of the Model Law, a DAO's purpose does not need to be determined, while the Societies Act requires such determination in the society's charter<sup>86</sup>, in addition to determining the society's main activity in the registration process<sup>87</sup>. Furthermore, as a DAO's purpose and activities do not need to be determined, they are not limited in their conduct. In contrast, a society may only carry out the activities defined in its charter, and carrying out other activities is a punishable offence.<sup>88</sup>

DAOs and societies differ considerably in their approach to commercial activities. While commercial activities and sharing profits among members are often the primary reasons for establishing a DAO,<sup>89</sup> they are much more restricted for societies. Non-

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<sup>80</sup> Societies Act Commentary, p. 57.

<sup>81</sup> Societies Act Commentary, p. 72.

<sup>82</sup> Article 5(2) and Article 8(3) of the Society Act.

<sup>83</sup> Article 14(1) of the Model Law.

<sup>84</sup> Article 1 of the Model Law.

<sup>85</sup> The establishing of any society whose purpose, objective and activities are intended to bring about a forcible change to the constitutional order, the commission of criminal offences or the incitement of nationalistic, racial, religious or other forms of inequality, or the propagation of nationalistic, racial, religious or other forms of hatred and intolerance and incitement to violence and war, shall be prohibited. (Article 3(1) of the Societies Act)

<sup>86</sup> Article 9(1)(2) of the Societies Act.

<sup>87</sup> Article 18(1)(9) of the Societies Act.

<sup>88</sup> Article 52(1)(1) of the Societies Act.

<sup>89</sup> Nevertheless, the commentary to Article 1 of the Model Law specifically mentioned the possibility of a DAO being used for non-commercial purposes, meaning that a non-profit DAO, which is

profitable activity is a fundamental aspect of a society and it is, therefore, not permitted to establish any society for profit-making purposes or solely for the performance of profit-making activity.<sup>90</sup>

Nevertheless, a society needs assets to function. As a result, it may undertake for-profit activities, provided that they are connected to the purpose and objectives of the society and are only supplementary to its non-gainful activities. Additionally, these activities must be performed solely to the extent necessary to fulfil the society's purpose and objectives, or for the performance of other non-gainful activities.<sup>91</sup>

A society cannot distribute its assets among its members. Any such distribution of the assets of a society among its members is void,<sup>92</sup> and is prohibited even upon the dissolution of a society.<sup>93</sup> If a society generates a surplus income during the performance of its activities, this surplus must be used to fulfil the purpose and objectives of the society and for the performance of non-gainful activities defined in its charter.<sup>94</sup>

A DAO and a society also differ in their taxation. As a legal entity, a society is required to pay income tax on profits generated from its for-profit activities.<sup>95</sup> The Model Law, on the other hand, regulates taxation differently. DAOs are treated as pass-through entities for tax purposes, with no entity-level tax imposed on the DAO.<sup>96</sup>

Furthermore, differences between DAOs and societies can be observed in terms of their members. Firstly, while a minimum of three persons<sup>97</sup> are required to establish a society,<sup>98</sup> a DAO only requires one person at any given time.<sup>99</sup> Secondly, members of a DAO can represent themselves or be represented by a proxy with full powers,<sup>100</sup> whereas the membership of a society is personal in nature, and only legal persons exercise their rights through a representative<sup>101</sup>. Finally, members of a DAO can choose to remain

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more similar to a society in this regard, can also be established.

<sup>90</sup> Article 3(2) of the Societies Act.

<sup>91</sup> Article 24(1) of the Societies Act.

<sup>92</sup> Article 24(2) of the Societies Act. That is in line with the purpose of non-profitable activity, which pertains not to the question of what activities are conducted, but to the manner of distribution of the acquired assets (Societies Act Commentary, p. 22)

<sup>93</sup> Societies Act Commentary, p. 127.

<sup>94</sup> Article 24(3) of the Societies Act.

<sup>95</sup> Article 9(2) of the Corporate Income Tax Act.

<sup>96</sup> Article 20(1) of the Model Law.

<sup>97</sup> Unlike in the previous Societies Act, the present one contains no restrictions regarding the nationality of the founders (Societies Act Commentary, p. 54)

<sup>98</sup> Article 8(1) Societies Act.

<sup>99</sup> Article 4(1)(h) of the Model Law. DAO's and societies are similar still with regards to the fact that a founder may be a physical or legal persons (Article 8(1) of the Societies Act)

<sup>100</sup> Article 9 of the Model Law.

<sup>101</sup> Article 11(1) of the Societies Act.

anonymous or hide their real identities using a pseudonym, while the successful registration of a society requires a full set of personal data for all members.<sup>102</sup>

Both a DAO and a society may have different forms or types of participation in the organisation. For example, a DAO may have multiple types of participation rights,<sup>103</sup> and a society may have different types of members, such as honorary members, supporting members, sympathisers, and sponsors.<sup>104</sup>

The difference in nature between a DAO and a society results in a different way of obtaining membership. Although a society is free to determine the criteria and procedure for gaining membership,<sup>105</sup> it can be concluded that a society must, in any case, accept the declaration of adhesion of the new member.<sup>106</sup>

On the other hand, the Model Law takes a different approach in line with the automatic functioning of a smart contract. It states that, if a DAO has tokens providing governance powers (which is common), the token holder will be considered a member of the DAO either a) from the time the ownership of the token is established to be in possession of an address, or b) from the time when the ownership is first acknowledged by the token holder through an on-chain interaction with the DAO, such as staking the tokens, voting with the tokens off-chain (whereby results are implemented on-chain), submitting a proposal, or transferring the tokens to another address. If no action has been taken by a token holder to acquire a token, such as through an airdrop, the token holder will not be considered a member.<sup>107</sup>

Both DAOs and societies have the autonomy to determine the conditions for terminating membership, as outlined in Article 9(1) of the Societies Act, and Articles 6(3) and 7 of the Model Law.

DAOs and societies operate publicly, but there are some differences to consider. To benefit from legal personality, a DAO must fulfil the following requirements: i) provide a mechanism for public contact, ii) offer a unique public address for reviewing the DAO's activities and monitoring its operations, iii) display the DAO's software code in open-source format on a public forum, and iv) make the DAO's by-laws publicly accessible.<sup>108</sup>

According to Article 1(4) of the Societies Act, societies operate publicly. The personal data of a society's representative and founders are included in the public register

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<sup>102</sup> Article 18(1)(3) of the Societies Act.

<sup>103</sup> Article 7(1) of the Model Law.

<sup>104</sup> Societies Act Commentary, p. 67.

<sup>105</sup> Article 9(1)(4) of the Societies Act.

<sup>106</sup> Societies Act Commentary, p. 65.

<sup>107</sup> Article 7(2) of the Model Law.

<sup>108</sup> Article 4(1) of the Model Law.

of societies.<sup>109</sup> The society's charter is also accessible to the public without restriction.<sup>110</sup> However, the activities and operations of a society are not fully available to the public. Only the statement of accounts of a society with income or expenditure exceeding EUR 1 million is audited.<sup>111</sup> A society's annual report must also be submitted to the Agency of the Republic of Slovenia for Public Records and Services for national statistical and publication purposes.<sup>112</sup> In addition, competent authorities supervise societies.<sup>113</sup>

The above comparison is summarised in the table on the next pages:

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<sup>109</sup> Article 46(3) of the Societies Act.

<sup>110</sup> Societies Act Commentary, p. 24 and 59.

<sup>111</sup> Article 27 of the Societies Act.

<sup>112</sup> Article 29(1) of the Societies Act.

<sup>113</sup> Article 51 of the Societies Act.

Aspect	DAOs (COALIA Model Law)	Societies (Slovenian Societies Act)
<b>Legal Nature and asset partitioning</b>	Independent legal persons with assets separate from its members	Independent legal persons with assets separate from its members
<b>Personal Liability</b>	Members personally liable for monetary payments, wrongful acts or omissions	Responsible persons liable for reducing assets or redirecting operations
<b>Obtaining Legal Personality</b>	Automatically upon meeting criteria (registration not required)	Upon registration
<b>Minimum Share Capital</b>	Not required	Not required
<b>Internal Organisation and Procedures</b>	By-laws govern internal organisation and procedures	Charter determines internal organization and procedures
<b>Additional Internal Bodies</b>	Optional, dispute resolution mechanism	Executive, supervisory, and disciplinary bodies
<b>Meeting Flexibility</b>	Continuous session for proposing and voting on decisions — (a) synchronous events	Physical presence or correspondence meetings
<b>External Representative</b>	Not strictly required but recommended for effective interaction with other entities	Representative required
<b>Purpose and Activities</b>	Broad range of purposes and activities; purpose is not required to be determined	Purpose must be determined; any purpose except solely for profit-making activity
<b>Commercial Activities</b>	Common and not restricted	Restricted to supplementary activities connected to society's purpose

Aspect	DAOs (COALA Model Law)	Societies (Slovenian Societies Act)
<b>Distribution of Assets (profit sharing)</b>	Permitted among members	Prohibited, surplus income used for fulfilling purpose and objectives
<b>Taxation</b>	Pass-through entity, no entity-level tax	Required to pay income tax on profits from for-profit activities
<b>Membership Requirements</b>	One person required, proxy representation allowed	Minimum of three persons, personal membership, declaration of adhesion required
<b>Types of Participation and Membership</b>	Multiple types of participation rights	Different types of members (honorary, supporting, sympathisers, sponsors)
<b>Membership Acquisition</b>	Ownership of tokens or acknowledgment through on-chain interactions	Acceptance of declaration of adhesion
<b>Membership Termination</b>	Determined by DAO	Determined by society
<b>Anonymity of Members</b>	Members can remain anonymous or use pseudonyms	Full set of personal data required for registration
<b>Publicity of operations</b>	Publicly accessible	Publicly accessible, but some activities not fully available to the public

In conclusion, DAOs and societies, as regulated by the Model Law and the Societies Act, respectively, share some similarities, while simultaneously being quite different. Yet, there is a reasonable possibility of reconciling their differences in a way, which could potentially enable a DAO to function within the Slovenian legal system as a society. They could retain the features, which are essential for DAOs, as its members could gather to pursue a common purpose, in a public and transparent way, in the form of a separate and standalone legal entity, while freely and autonomously determining the inner workings of their organisation.

However, for this to become a reality, some compromises are necessary. On the one hand, a DAO would have to register and appoint an off-chain legal representative, as it is hard to imagine a DAO functioning within the Slovenian legal system without meeting these essential requirements. On the other hand, the Societies Act would have to be suitably modified or at least broadly interpreted in order to bridge the gap between the charter-based organisation of a traditional society, and the decentralised-led DAO.

This conclusion, however, is limited only to DAOs that do not intend to engage in commercial activities for profitable purposes. The non-for-profit nature is a fundamental aspect of a society which cannot be altered. A for-profit society would be a society no more. Therefore, a commercial DAO must seek a more favourable legal wrapper available in the Slovenian legal system, such as a limited liability company or perhaps a cooperative.

## **6. Conclusion and Further Research**

The emergence of the DAO ecosystem demonstrates a strong interest in community-owned protocols, despite fluctuations in total value locked. As DAOs continue to mature and gain broader adoption, they have the potential to allocate resources more efficiently, resulting in a greater impact. However, the long-term viability and impact of DAOs will become more evident over time, and will also depend on the surrounding legal certainty.

The unique and innovative characteristics of DAOs do not align well with traditional legal frameworks. Often, when founders of DAOs want to engage in business activities, they are required to incorporate the DAO into an existing legal structure. This undermines the conceptual benefits of DAOs and hinders their growth and potential. The legal framework is chosen on a case-by-case basis, which leaves DAOs in a grey area that is unattractive for business collaboration.

Further research is necessary to explore how DAOs can be effectively integrated into existing legal systems whilst preserving their decentralised and trust-minimised nature. The diversity in outcomes highlights the need for researchers, regulators, and venture professionals to develop legal tools that better align with the features of DAOs in ways that serve their users, dependants, and the wider public. Valuable insights into this effort

may be provided by the UK Law Commission, which actively collaborates with the industry in framing the regulatory ecosystem for DAOs.

Finally, the broader discussion could focus on the purpose of corporate requirements within the context of emerging technologies. It is important to revisit the objectives of conventional corporate law, such as addressing market failures and information frictions, in light of technological advancements. For instance, distributed ledger technology, which commonly underpins DAOs, promises to address the issue of information asymmetry by providing real-time data structure recording and synchronisation across a network in a standardised, transparent, and tamper-resistant manner. Could operating on a public ledger partially replace registration requirements or financial reporting?

In this discussion, it is crucial to analyse the risks associated with digital transformation, such as cybersecurity, data privacy, and regulatory compliance risks. It is also important to assess how emerging corporate forms may impact broader policy objectives, including market integrity, financial stability, consumer protection, and fair competition. An interdisciplinary approach is necessary to fully understand how technology intersects with the fundamental principles of company law and to what extent they remain relevant in the new corporate realm.

## References

- Allen, J.G. (2021) 'Bodies Without Organs: Law, Economics, and Decentralised Governance' *Stanford Journal of Blockchain Law & Policy*, 4 January 2021, <<https://stanford-jblp.pubpub.org/pub/law-econ-decentralised-governance>>.
- Axelsen, H., Jensen, J.R., and Ross, O. (2022a) 'When is a DAO Decentralized?' *Wolters Kluwer*, 6. December 2022, <<https://www.wolterskluwer.com/de-de/expert-insights/when-is-a-dao-decentralized>> (last accessed on 2 July 2023).
- Axelsen, H., Jensen, J.R., and Ross, O. (2022b) 'When is a DAO Decentralized?' *Complex Systems Informatics and Modeling Quarterly*, No. 31, 31 July 2022, pp. 51–75, <<https://doi.org/10.7250/csimq.2022-31.04>>.
- Bannermanquist, J. (2022) 'Marshall Islands legally recognizes DAOs as domestic limited liability companies', *Coin Telegraph*, 22 December 2022, <<https://cointelegraph.com/news/marshall-islands-legally-recognizes-daos-as-domestic-limited-liability-companies>> (last accessed on 2 July 2023).
- Brummer, Ch.J., and Seira, R. (2022) *Legal Wrappers and DAOs*, 30 May 2022, <<https://ssrn.com/abstract=4123737>> or <<http://dx.doi.org/10.2139/ssrn.4123737>>.
- Chiu, I.H.-Y. (2021) 'A Legal Mapping of the Crypto Economy and the Drivers for Institutional Change.' *Regulating the Crypto Economy: Business Transformations and Financialisation*. Oxford: Hart Publishing, pp. 1–47.

- Hart Studies in Commercial and Financial Law. Bloomsbury Collections. <<http://dx.doi.org/10.5040/9781509935772.ch-001>> (last accessed on 14 January 2023).
- Coalition of Automated Legal Applications (COALA) (2021) Model Law for Decentralized Autonomous Organizations (DAOs), <<https://coala.global/wp-content/uploads/2022/03/DAO-Model-Law.pdf>>. Davies, P. (2020), Introduction to Company Law (3rd ed.), Oxford: Oxford University Press, <<https://doi.org/10.1093/oso/9780198854913.001.0001>>.
- Ding, Q., Liebau, D., Liebau, D., Wang, Z., and Xu, W. (2023) A Survey on Decentralized Autonomous Organizations (DAOs) and Their Governance, 10 March 2023, <<https://ssrn.com/abstract=4378966>> or <<http://dx.doi.org/10.2139/ssrn.4378966>>.
- EY Parthenon (2023) 'Unlocking the potential of Decentralized Autonomous Organizations (DAO) for traditional business models', <[https://pubs-content.s3.eu-central-1.amazonaws.com/DAO+Playbook+publication\\_vF.pdf](https://pubs-content.s3.eu-central-1.amazonaws.com/DAO+Playbook+publication_vF.pdf)> (last accessed: 6 July 2023).
- Hackl, C. (2021) 'What Are DAOs And Why You Should Pay Attention', Forbes, 1 June 2021, <<https://www.forbes.com/sites/cathyhackl/2021/06/01/what-are-daos-and-why-you-should-pay-attention>> (last accessed 2 July 2023).
- Harrington, M. (2023) 'Best Country to Incorporate a DAO', Korporatio, 11 April 2023, <<https://korporatio.com/2023/04/11/best-country-to-incorporate-a-dao>> (last accessed on 2 July 2023).
- Hassan, S., and Filippi, P. De (2021). 'Decentralized Autonomous Organization'. Internet Policy Review, 10 (2), <doi:10.14763/2021.2.1556>.
- Kaal, W. (2019). 'Blockchain Solutions for Agency Problems in Corporate Governance', The Columbia Law School blog on corporations and the capital markets, <<https://clsbluesky.law.columbia.edu/2019/05/23/blockchain-solutions-for-agency-problems-in-corporate-governance/>>.
- Levi, S.D., and Lipton, A.B. (2018) An Introduction to Smart Contracts and Their Potential and Inherent Limitations, Harvard Law School Forum on Corporate Governance, <<https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations>>.
- Matsuda, T. (2023) 'UNICEF hatches plan for a prototype DAO, following its crypto fund', The BLOCK, 30 March 2023, <<https://www.theblock.co/post/223306/unicef-hatches-plan-for-a-prototype-dao-following-its-crypto-fund>> (last accessed on 2 July 2023).

- Mehar, M., Shier, C., Giambattista, A., Gong, E., Fletcher, G., Sanayhie, R., Kim, H.M., and Laskowski, M. (2017) 'Understanding a Revolutionary and Flawed Grand Experiment in Blockchain: The DAO Attack' *Journal of Cases on Information Technology* 21(1), pp. 19–32, <<https://ssrn.com/abstract=3014782>> or <<http://dx.doi.org/10.2139/ssrn.3014782>>.
- Mondoh, B.S., Johnson, S.M., Green, M., and Georgopoulos, A. (2022) Decentralised Autonomous Organisations: The Future of Corporate Governance or an Illusion?, 23 June 2022, <<https://ssrn.com/abstract=4144753>> or <<http://dx.doi.org/10.2139/ssrn.4144753>>.
- Newar, B. (2022) 'Number of DAOs increases 8x along with spike in votes and proposals' 10 June 2022, *Cointelegraph*, <<https://cointelegraph.com/news/number-of-daos-increases-8x-along-with-spike-in-votes-and-proposals>>, citing SnapShot Labs (last accessed on 2 July 2023).
- Nwaokocha, A. (2023) 'DAO gets legal recognition in the US as Utah DAO Act passes', *CoinTelegraph*, 7 March 2023, <<https://cointelegraph.com/news/dao-gets-legal-recognition-in-the-us-as-the-utah-dao-act-passes>>.
- Ronstedt, M., and Aggert, A. (2018) 'Among Blockchain-Friendly Jurisdictions, Malta Stands Out', *CoinDesk*, 13 September 2018, <<https://www.coindesk.com/markets/2018/07/04/among-blockchain-friendly-jurisdictions-malta-stands-out>> (last accessed 2 July 2023).
- World Economic Forum (WEF) (2023) Decentralized Autonomous Organization Toolkit, January 2023, <[https://www3.weforum.org/docs/WEF\\_Decentralized\\_Autonomous\\_Organization\\_Toolkit\\_2023.pdf](https://www3.weforum.org/docs/WEF_Decentralized_Autonomous_Organization_Toolkit_2023.pdf)> (last accessed on 2 July 2023).
- Young, M. (2021) 'Wyoming legally recognizes first DAO in the United States', *CoinTelegraph*, 5 July 2021, <<https://cointelegraph.com/news/wyoming-legally-recognizes-first-dao-in-the-united-states>> (last accessed on 2 July 2023).