

DAOs (Decentralised Autonomous Organisations) v DINOs (DAO in Name Only or Decentralised in Name Only)*

[T]he DAO is that genuine rarity: a new thing upon the Earth, something that really could not have been conceptualized before the technologies underlying it were in place.¹

We have Palaeolithic emotions; medieval institutions; and god-like technology.²

Abstract

There is considerable interest in Decentralised Autonomous Organisations (DAOs) as a new organisational form. DAOs promise to decentralise decision-making and ownership: no longer does a single person or small group make the organisation's decisions or own it. Another feature of DAOs is the reduction of wrongdoing—if not elimination: DAOs can only perform actions that their code (smart contracts) allows. In contrast, in a company and other traditional organisations, employees and others cannot be prevented from breaking laws, policies, or both. Yet, operating a DAO is difficult for a range of reasons.

Most organisations using the term DAO are not DAOs; instead, they are DINOs (DAO in name only or decentralised in name only).³ Distinguishing DAOs from DINOs is complex and increasingly important as jurisdictions move to create legal structures to accommodate DAOs. The difficulty distinguishing the two is that many DAOs, despite their name, have elements of centralisation. The factors indicating a DINO include the DAO's founders (or a small group): formulating proposals for the members to vote upon, controlling sufficient tokens to influence the outcome of votes, or retaining the right of veto. However, a clear distinction is if the entity has intellectual property rights and attempts to enforce those rights following a fork.

* Professor Alexandra Sims, Department of Commercial Law, University of Auckland Business School. This paper was presented at the Symposium 'Digitization and the Future of Law', held on 2 December 2023 at Waseda University, Tokyo. The Symposium was chaired by Takashi Kubota and organised by the Society for International Business and Legal Studies (SIBLS), the Japan Society for International Business Law (JAIBL) Contract Law Section and the Institute of Comparative Law, Waseda University.

¹ Adam Greenfield, *Radical Technologies: The Design of Everyday Life* (Verso, 2017) 161, 162.

² E O Wilson, from a public discussion between Wilson and James Watson moderated by Robert Krulwich, reported in 'An Intellectual Entente', *Harvard Magazine*, 9 October 2009.

³ 'Cryptopedia: Dino (Decentralized In Name Only)', Knaken <<https://knaken.eu/academy/cryptopedia/dino-decentralized-in-name-only-2/>> (last accessed 14 November 2023).

Introduction

There is considerable interest in Decentralised Autonomous Organisations (DAOs) as a new organisational form.⁴ Many DAOs are operating; therefore, DAOs are not theoretical musings.⁵ DAOs promise to decentralise decision-making and ownership amongst their members: no longer does a single person or small group make the organisation's decisions or own it. Another feature of DAOs is the reduction of wrongdoing—if not elimination—as DAOs can only perform actions that their code (smart contracts) allows. In contrast, in a company and other traditional organisations, employees and others cannot be prevented from breaking laws or policies or both.

Despite DAOs being new, decentralised organisations are not new. However, decentralised organisations are not as common as centralised organisations. The relatively limited use of decentralised organisations is because they are harder to operate than centralised ones. For example, decision-making in decentralised organisations takes time and often considerable skill, not to mention the need for compromises. In centralised organisations, decision-making is normally quicker and easier when done by one person or a small group. As this paper will show, using “god-like” technology has not magically resolved many issues plaguing decentralised organisations. Indeed, the creators of early DAOs—enthralled by the “god-like” technology—did not consider people's palaeolithic behaviour; predictably, those DAOs failed.

Also the “god-like” technology is a misnomer. Currently, humans create DAOs, and DAOs operate according to what humans have decided. People can't foresee everything that will occur. With traditional organisations, both centralised and decentralised, the inability to predict the future is not usually fatal to their operation. If something occurs for which there is no policy, people within the organisation can react to it and take the relevant action(s). Then the relevant policy (if there is one) is amended after the event. With a DAO, if the DAO's code does not permit an action to occur, the DAO is unable to act until its code is changed, which, depending on the DAO, may take weeks to occur.

Because creating and operating a DAO is significantly more complicated than it first appears, DAOs are of relatively limited use for the time being, they are unlikely to displace traditional organisations in the near future.

Due to the inherent difficulties and complexities of operating DAOs, most organisations calling themselves DAOs are not DAOs. Instead, a better term for most so-called DAOs is DINO (DAO in name only or decentralised in name only).⁶ While some uses of “DAO” are done to mislead wilfully, others are using “DAO” aspirationally and intend to transition to a DAO in the future. Therefore, simply calling an organisation a DAO does not make it a DAO. However, as this paper shows, there is no bright line between a DAO and a DINO because most DAOs, contrary to their name, often have

⁴ See, for example, Kevin Werbach, ‘How DAOs could bring Organizational Trust and Transparency’, 21 February 2023, *Knowledge at Wharton* <<https://knowledge.wharton.upenn.edu/podcast/wharton-business-daily-podcast/how-daos-could-bring-organizational-trust-and-transparency/>>; Geoffrey See, Ashlin Perumall, Assel Zhanassova, ‘Are 'decentralized autonomous organizations' the business structures of the future? 23 July 2022, *World Economic Forum* <<https://www.weforum.org/agenda/2022/06/are-dao-the-business-structures-of-the-future/>> and Kevin Jenkins, ‘IMHO: Will DAOs Disrupt Governance in New Zealand’, 6 April 2022, Institute of Directors New Zealand <<https://www.iod.org.nz/news/articles/australia-to-legalise-daos/#>>.

⁵ On 10 November 2023, Deep DAO, a website that tracks DAOs, listed 2386 DAOs <<https://deepdao.io/organizations>>.

⁶ ‘Cryptopedia: Dino (Decentralized In Name Only)’, Knaken <<https://knaken.eu/academy/cryptopedia/dino-decentralized-in-name-only-2/>> (last accessed 14 November 2023).

elements of centralisation. Another obstacle to the use and operation of DAOs is their legal treatment.

What is a DAO?

There are many definitions of DAOs. One definition of a DAO is:

“an internet-native entity with no central management which is regulated by a set of automatically enforceable rules on a public blockchain, and whose goal is to take a life of its own and incentivise people to achieve a shared common mission”.⁷

This definition appears to imbue the DAO with a life of its own rather than the more realistic version of people forming and operating an organisation. Another definition of a DAO is:

“a blockchain-based system that enables people to coordinate and govern themselves mediated by a set of self-executing rules deployed on a public blockchain, and whose governance is decentralised (i.e., independent from central control).”⁸

Such a definition is closer to reality and, importantly, talks about people coordinating and governing themselves. Yet, limiting DAOs to only blockchain technology,⁹ or more accurately, distributed ledger technology (DLT¹⁰), is too narrow because other technologies may be used in the future. Therefore, this paper uses the following definition of a DAO:

“an online-native decentralised organisation with self-enforcing rules, governed by its members”.¹¹

Because there are many misunderstandings about DAOs, this section will explain DAOs by contrasting DAOs with traditional organisations, primarily by focusing on what is meant by decentralisation in DAOs.¹²

Decentralisation

There is no one meaning of decentralisation. Even within one area, decentralisation can have a multitude of meanings.¹³ Despite the term “decentralisation” being one of the most commonly used terms in relation to cryptoeconomics (of which DAOs are a part), the term decentralisation is poorly

⁷ See, for example, Luis Cuende, quote by Youssef El Faqir, Javier Arroyo and Samer Hassan, ‘An Overview of Decentralized Autonomous Organizations on the Blockchain’, Proceedings of the 16th International Symposium on Open Collaboration (OpenSym 2020, 25-27 August 2020).

⁸ Samer Hassan and Primavera De Filippi, ‘Decentralized Autonomous Organization’ (2021) 10(2) *Internet Policy Review*.

⁹ The majority of DAOs use the Ethereum blockchain. See, for example, Deep DAO, a website that tracks DAOs, including the blockchains the DAOs are using <<https://deepdao.io/>>.

¹⁰ Blockchain technology is one form of distributed ledger technology (DLT), that is, while all blockchains are a form of DLT, not all DLTs are blockchain.

¹¹ Alexandra Sims, *Decentralised Autonomous Organisations: Governance, Dispute Resolution and Regulation*, Thesis, Macquarie University, 2021 at 70.

¹² For a fuller explanation of the differences between companies and DAOs see generally Alexandra Sims, ‘Blockchain and Decentralised Autonomous Organisations (DAOs): The Evolution of Companies?’ (2019) 28 *New Zealand Universities Law Review* 423.

¹³ For example, in public education, decentralisation means “different things to different people”, Heinz-Dieter Meyer, ‘Saying What We Mean, and Meaning What We Say—Unpacking the Contingencies of Decentralization’ (2009) 115 *American Journal of Education* 467 at 457.

defined.¹⁴ One meaning of “decentralisation is that it allows for *permissionless* participation”.¹⁵ In other words, there is no selection process for participation.¹⁶ Thus, for DAOs, the general rule is that if a person acquires the relevant tokens of that DAO, they automatically become a member.¹⁷ Most DAOs are permissionless: any person can obtain tokens, and no application process is required. People can get tokens from cryptocurrency exchanges or receive tokens in other ways, including by airdrops.¹⁸ As with anything, there are exceptions, some DAOs are permissioned and require approval from members to enter, but permissioned DAOs are relatively rare.¹⁹

Most traditional organisations are permissioned because they require a person to seek and obtain permission to join that organisation.²⁰ If a person—whether a natural or legal person—wants to become a member, the person usually needs permission to do so. For example, many small companies have shareholder agreements, which have strict rules on shareholders’ ability to sell or transfer their shares.²¹ Partnership law provides a vivid example of the need for existing members to agree to allow new people into their organisation. New Zealand’s Partnership Act 2019 contains a number of default rules for partnerships: one of those default rules is that all partners must agree to the admission of a new partner.²² However, the partners can change this rule, so not all partners need to agree to admit a new partner.²³

Decentralisation can also mean decentralised decision-making. A person’s ability to use a technology or join an organisation without asking for permission, does not automatically mean the person has decision-making rights over that technology or organisation. In traditional organisations, executives, managers, and others make decisions; they decide what work to do, who and how to do it, and when to do it. In contrast, in a DAO, its members are meant to identify work or actions that would benefit the DAO and submit a proposal to carry out that work. The proposal will explain the work, why it is required, the person or team’s qualifications and experience to carry out the work, and the

¹⁴ Vitalik Buterin, ‘The Meaning of Decentralization’, Medium, 7 February 2017

<<https://medium.com/@VitalikButerin/the-meaning-of-decentralization-a0c92b76a274>>.

¹⁵ Jon Radoff, ‘The Permissionless Metaverse’, Medium, 12 April 2021 <<https://medium.com/building-the-metaverse/the-permissionless-metaverse-658872a35da4>>.

¹⁶ Kelsie Nabben and Michael Zargham, ‘Permissionlessness’ (2022) 11(2) Internet Policy Review, 1 at 3.

¹⁷ A DAO may have different tokens, for example, a DAO may have a governance token which can be used for governance (including voting), whereas the other token(s) are utility tokens and have no voting rights. MakerDAO, the DAO which runs the DAI stablecoin is an example of a DAO with different tokens. The MKR token is the governance token, whereas the DAI token is a stablecoin, Marcel Deer, ‘What are Governance Tokens, and how do they Work’, 24 October 2022, *Coin Telegraph* <<https://cointelegraph.com/news/what-are-governance-tokens-and-how-do-they-work>>.

¹⁸ An airdrop is where tokens are distributed to people if they meet certain criteria. For a recent airdrop for the Abtitrum DAO, see Sam Kessler, ‘Abitrum to Airdrop New Token and Transition to DAO’, *CoinDesk*, 17 May 2023 <<https://www.coindesk.com/tech/2023/03/16/arbitrum-to-airdrop-new-token-and-transition-to-dao/>>.

¹⁹ ‘eGov-DAO: A step towards better government using a blockchain-based decentralized autonomous organization’, *Coin Telegraph* <<https://cointelegraph.com/learn/egov-dao>> (last accessed on 14 November 2023).

²⁰ As with anything, there are exceptions. Normally there is no requirement to gain permission to purchase shares in publicly listed companies.

²¹ ‘Why are Shareholders’ Agreements so Important’, 19 October 2020, *Snowball Effect* <<https://www.snowballeffect.co.nz/articles/why-are-shareholders-agreements-so-important>>.

²² Partnership Act 2019, s 50, ‘No person may be introduced as a partner without the consent of all existing partners.’

²³ Partnership Act 2019, s 35. But even if the default rule is changed so not all the partners must agree to the admission of a new partner, at law, when a new partner is admitted, the partnership terminates and a new partnership forms, *Hadlee v Commissioner of Inland Revenue* [1989] 2 NZLR 447, 455.

price and time frame of the work. In turn, the other DAO members read and assess the proposals and vote on them.

Full decentralisation, in terms of decision-making, would allow any DAO member to make as many proposals on whatever they liked: there are no gatekeepers or other processes vetting the proposals. While the theory is laudable, the practice is difficult. Allowing any member to submit proposals may result in too many proposals for members to read and evaluate. To limit proposals to a manageable number, it is common to impose limits, for example, requiring the proposer to pay a fee for each proposal they make.

Decentralised decision-making is hard

Full decentralisation has proved difficult in practice, unless the DAO comprises a small number of highly engaged and knowledgeable members. In Bitshares, the first example of a DAO, members did not vote, and Bitshares was forced to move to using 12 proxies who performed all the voting.²⁴ Bitshares was not unique. Voter apathy has meant that very few have voted for proposals in some DAOs.²⁵ There is also the practical issue of what occurs when urgent action is required. If a hacker is exploiting a bug in the DAO's code it is impracticable to wait for someone to create a proposal and wait weeks for the outcome of a vote.

Another limitation of full decentralisation is the human tendency to make decisions that benefit people in the short term at the expense of their long-term interests. In the case of DAOs, a DAO's long-term interests can suffer if its members prioritise their interests over the DAO's. For example, DigixDAO, a DAO created to foster a community around the DGX stablecoin, held tokens worth tens of millions of dollars in its treasury.²⁶ Despite the DigixDAO's creators' intent to use those funds to foster a community, at the first opportunity, the DAO members voted to wind up the DAO and walk away with the money.²⁷

Some DAOs are using centralised structures and processes

Because operating a DAO using fully decentralised decision-making is challenging, if not impossible, most DAOs are exploring and using elements of centralisation. For example, Polkadot DAO used both a Council and a Technical Committee.²⁸ DAO members were permitted to vote on one proposal put forward by a member each month (the proposal most endorsed by members), with the Council also putting forward one proposal a month for DAO members to vote on. The Technical Committee could fast-track proposals (emergency proposals).²⁹ Polkadot has been successful as a DAO, yet it is changing its governing system due to bottlenecks of only allowing one public referendum at a time, so only 12 or 13 were going through each year.³⁰ Polkadot's new governance system removes the

²⁴ Daniel Larimer, 'Is The DAO going to be DOA', Tecknoids News, 25 May 2016

<<http://www.teknoids.com/2016/05/25/is-the-dao-going-to-be-doa/>>.

²⁵ Wave Financial, 'Blockchain Voter Apathy, Wave Financial', *Wave Financial*, 29 March 2019 <

<<https://web.archive.org/web/20210125125509/https://wavegp.com/blockchain-voter-apathy/>>.

²⁶ Munro, 'What We Learnt from the Rise and Fall of the DigixDAO Autonomous Organisation', 28 January 2020, *Finder* <<https://www.finder.com.au/what-we-learnt-from-the-rise-and-fall-of-the-digixdao-autonomous-organisation>>.

²⁷ Ibid.

²⁸ Polkadot, 'Governance V1' <<https://wiki.polkadot.network/docs/learn-governance>> (last accessed 14 November).

²⁹ Ibid.

³⁰ Ian Allison, 'Polkadot Revamps Governance System, Removes 'First Class Citizen' Voting Groups', *CoinDesk* 16 June 2023 <<https://www.coindesk.com/tech/2023/06/15/polkadot-revamps-governance-system-removes-first-class-citizen-voting-groups/>>.

Council and the Technical Committee and allows more proposals to be voted upon.³¹ There will also be a new governance body, the Polkadot Fellowship, designed to provide experience and expertise but without letting the Fellowship members control the DAO.³² Conversely, some DAOs are becoming more decentralised. MakerDAO, the DAO which operates the stablecoin DAI, has recently become more centralised due to fears of hostile actors taking over MakerDAO.³³

Therefore, given the difficulties in operating a fully decentralised decision-making in DAOs, elements of centralisation are being experimented with; many, if not most, DAOs will not be fully decentralised. Indeed, it has been argued that some centralisation is necessary for DAOs to operate effectively.³⁴ For example, the Dash DAO, the longest-running DAO, requires the proposer to pay a fee, and only masternodes can vote.³⁵ At the time of writing, there were well over 3000 masternodes, although it is more than likely that some people controlled more than one masternode.³⁶ Also, in the DASH DAO, the Dash Core Group Inc generates most of the high-value proposals (and therefore does most of the work).³⁷ The irony is that the Dash Core Group Inc is a C-corporation registered in Delaware and its employees perform the work for the Dash DAO.³⁸

DINOs are more centralised than DAOs. So when does a DAO become a DINO? Unfortunately, there is no clear line between a DAO and a DINO, which is unsurprising as decentralisation exists along a continuum. DAOs can use elements of centralisation and still be a DAO. The most common reason an entity is a DINO and not a DAO is that a small group formulates proposals or suggestions, which the wider membership votes upon. Alternatively, in a DINO, a small group or organisation holds a significant percentage of the DAO's tokens, so that group or organisation controls the outcome of any vote. The "significant percentage" of votes will be below 50% as not all members vote. Also, if a person or group of people have the right to veto a decision made by members, that entity is a DINO and not a DAO.

Other features of a DAO

DAOs also break down the division (and roles) between capital, decision-making, and labour in traditional organisations. In a company, the shareholders contribute and own the capital; the board and management make decisions, and employees contribute the labour. Although, in some companies, particularly small ones, people commonly hold more than one role. Also, in a regular organisation, people are paid in fiat currency for their work, and contractors are too. In a DAO, a person performing work for a DAO is typically paid in the DAO's tokens or another cryptocurrency. If that person receives the DAO's tokens, that is akin to receiving shares in a company: the recipient

³¹ Gavin Wood, Polkadot, 'Polkadot OpenGov: Polkadot's Next Generation of Decentralised Governance', 21 July 2022 <<https://polkadot.network/blog/gov2-polkadots-next-generation-of-decentralised-governance>> (last accessed 14 November 2023).

³² Ibid.

³³ Tom Blackstone, 'MakerDAO Passes New 'Constitution' to Formalize Governance Process', *Coin Telegraph*, 27 March 2023 <<https://cointelegraph.com/news/makerdao-passes-new-constitution-to-formalize-governance-process>>.

³⁴ Petri Basson, 'The Dichotomy of Centralization vs Decentralization in DAOs', 18 May 2023, *LinkedIn* <<https://www.linkedin.com/pulse/dichotomy-centralization-vs-decentralization-daos-petri-basson/>>.

³⁵ 1,000 Dash tokens, and other requirements are needed, to become a masternode. Dash, 'Masternodes', Dash, last accessed 1 December 2023 <<https://docs.dash.org/en/stable/docs/user/masternodes/>>.

³⁶ <<https://masternodes.online/currencies/DASH/>>.

³⁷ <<https://www.dash.org/dcg/>>.

³⁸ Ryan Taylor, Dash Core Group Legal Structure Details, *Dash*, 1 August 2018

<<https://www.dash.org/forum/index.php?threads/dash-core-group-legal-structure-details.39848/>>

normally acquires part ownership of the organisation. And, of course, with a DAO, decision-making rights if the tokens allow this.³⁹

There is also a distinction between governance and management in companies and other organisations. For example, a company's board makes governance decisions, and the management implements those decisions.⁴⁰ In DAOs, there is no separation between governance and management.⁴¹ The DAO members make the decisions, and the proposer(s) carry out and implement the decision. A related difference is that while the board and management in a company oversee whether decisions have been adhered to and monitor the outcomes,⁴² such monitoring does not normally occur with DAOs. To fill this gap, the Dash DAO has an organisation "Dash Watch", created and funded through a successful proposal, to monitor whether those being paid to perform work for the DAO were actually performing the work.⁴³

Another feature of DAOs is the ability of DAO members to "fork" the DAO to create a competing DAO if they are unhappy with the DAO's operation.⁴⁴ In such a situation, there would be the original DAO (the parent DAO) and the new (child) DAO. Forking a DAO and creating a new one is an extreme example of exit from an organisation.⁴⁵ However, unlike the exit of a shareholder who leaves with nothing more than the value of their shares, the new DAO may compete directly with the original DAO.⁴⁶

"forking is the equivalent of Facebook allowing any competitor to take their entire database and codebase to a competitor. Don't like how Facebook is operating it's [sic] newsfeed? Create a fork with all the same code, social connections, and photos."

The ability of DAO members to fork the DAO if they are unhappy "may encourage better forms of governance because it forces token holders [(members)] to act responsibly".⁴⁷ The ability to fork a

³⁹ If a DAO has more than one token not all the tokens may grant governance (decision-making) rights. See footnote 16 above.

⁴⁰ See, eg, 'Governance and Management: Understanding the Difference', Marlborough Chamber of Commerce <<https://www.marlboroughchamber.nz/2023/01/11/governance-and-management/>> (last accessed 20 November 2023).

⁴¹ See, eg, 'Governance and Management: Understanding the Difference', Marlborough Chamber of Commerce <<https://www.marlboroughchamber.nz/2023/01/11/governance-and-management/>> (last accessed 20 November 2023).

⁴² See, eg, 'Governance and Management: Understanding the Difference', Marlborough Chamber of Commerce <<https://www.marlboroughchamber.nz/2023/01/11/governance-and-management/>> (last accessed 20 November 2023).

⁴³ Dash, 'Understanding Dash Governance', <<https://docs.dash.org/en/stable/docs/user/governance/understanding.html>> last accessed on 1 December 2023.

⁴⁴ For a recent example, see the Nouns DAO where DAO members exited with over half the DAO's ETH to create a new DAO, Andrew Hayward, 'Nouns Fork: Disgruntled NFT Holders Exit with \$27 Million from Treasury', *Decrypt*, 16 December 2023, <<https://decrypt.co/197400/nouns-fork-disgruntled-nft-holders-exit-27-million-from-treasury>>.

⁴⁵ See generally, Albert O Hirshman, *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States* (Harvard University Press, 1970).

⁴⁶ Fred Ehrsam, 'Blockchain Governance: Programming Our Future', *Fred Ehrsam's Blog*, 27 November 2017 <<https://web.archive.org/web/20200717221313/https://www.fehrsam.xyz/blog/blockchain-governance-programming-our-future>>.

⁴⁷ Alexandra Sims, *Decentralised Autonomous Organisations: Governance, Dispute Resolution and Regulation*, Thesis, Macquarie University, 2021 at 53 citing Christian Catalini and Joshua S Gans, 'Some Simple Economics of the Blockchain' (MIT Sloan Research Paper No 5191-16, 20 April 2019) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2874598> 17.

DAO so that the new DAO can compete with the parent DAO is a defining feature of a DAO. Therefore, if an entity claiming to be a DAO registers or claims to own intellectual property⁴⁸ and attempts to prevent the child DAO from using that intellectual property, the original entity would be a DINO and not a DAO.

The Future of Financial Law

Because people cannot do an action that breaks the DAO's code, DAOs offer a way to enforce financial—and other laws—much more so than traditional organisations. DAOs exemplify Brownsword's Law 3.0 in action,⁴⁹ where technology enforces rules. A good way to explain the difference between DAOs and traditional organisations and rule/law enforcement is an analogy with a traditional board game and a computer game. With a traditional board game, such as Monopoly, players often disagree on the rules, **and** players need to watch each other closely to ensure no cheating occurs. Monopoly is how our current systems work; we use ex-post monitoring and enforcement,⁵⁰ which is expensive and often futile. For example, New Zealand's Companies Act 1993 (Law 2.0) provides a series of rules about when company directors can authorise the payment of dividends to shareholders.⁵¹ If the company directors fail to comply with the rules they commit a criminal offence.⁵² Yet, even if breaches are detected, often nothing is done because of the cost of court action and/or the funds unable to be located.

In contrast, with a computer game, say Pacman, there is no point and no ability to argue about the rules, nor do the players need to watch each other. The players are forced to comply: if the ghosts catch a player, they eat the player. With a DAO, smart contracts can be coded, so payments cannot be made if the preset conditions are not satisfied. In the Companies Act example, payments could not be made unless the DAO had sufficient assets remaining after the payments were made. Code enables the imposition of *ex-ante* limitations.⁵³

DAOs enable even more control and limitations than the Pacman analogy. It is possible to hack a computer game's code and get around its rules by using a "mod". But, because DAOs use distributed ledger technology, no hacking of the DAO's code can occur if the DAO is functioning correctly. Instead, a member must propose a change to the DAO's code and the members must agree to the proposal before the DAO's code can be changed. It might be argued that no change to a DAO's code should be permitted because the code of a DAO that complied with a law could be changed to allow actions breaking the law to occur. However, it is not a wise idea to prevent changes in the DAO's code. It is impossible to foresee the future, and for a DAO to have a chance of operating for any length of time, the DAO's code must be able to be altered to accommodate changing circumstances. Also, if there is an error in the DAO's code, there must be a way of correcting the error. The first

⁴⁸ Not all intellectual property rights need to be registered. For example, there is no ability to register copyright in New Zealand.

⁴⁹ Roger Brownsword, *Law 3.0: Rules, Regulation and Technology* (Routledge, 2021). Law 1.0 refers to the common law where judges created the law through cases and changes were incremental. Law 2.0, the current system, is where Parliament creates laws (regulation) through legislation and regulators attempt to enforce that law.

⁵⁰ Jonathan Rohr and Aaron Wright, 'Blockchains, Private Ordering, and the Future of Governance' in Philipp Hacker et al (eds), *Regulating Blockchain: Techno-Social and Legal Challenges* (Oxford University Press, 2019) 43 at 49.

⁵¹ Companies Act 1993, ss 70(1),(2) and (4) and 108(5).

⁵² Companies Act 1993, s 70(4).

⁵³ Jonathan Rohr and Aaron Wright, 'Blockchains, Private Ordering, and the Future of Governance' in Philipp Hacker et al (eds), *Regulating Blockchain: Techno-Social and Legal Challenges* (Oxford University Press, 2019) 43 at 49.

spectacular meltdown of a DAO, 'The DAO', occurred because of an error in The DAO's code, and there was no ability to change The DAO's code.⁵⁴

Regulating DAOs

Regulating DAOs is a vexing issue. At the one extreme are people, often from tech backgrounds, who believe that a DAO (and its members) should be entitled to operate free from the laws of any one or more jurisdictions.⁵⁵ This viewpoint comes from the born-digital nature of a DAO; its members are often scattered across the world, and a DAO may not need the trappings of traditional organisations, such as a bank account.

On the other hand, traditionally, laws have been imposed on organisations: organisations have not operated in a vacuum. For example, in New Zealand, as in many other jurisdictions, the law will deem people who have combined to use a specific structure. In New Zealand, that would mean that if an organisation intends to make money with the profits going to the owners, that entity will be a partnership, resulting in the owners facing unlimited personal liability.⁵⁶ If the purpose is not-for-profit, the "entity" will be treated as an unincorporated society or association.⁵⁷ Against this background, the prevailing consensus was that DAOs and their members would not be able to operate outside the law.⁵⁸ This prediction has, unsurprisingly, come to pass. In the United States, one court has found DAOs to be general partnerships,⁵⁹ and depending on the DAO, it could be an incorporated association.⁶⁰

Lawyers and others have called for law reform to accommodate DAOs as they have recognised both the opportunities that DAOs provide and that the current legal structures are an ill-fit.⁶¹ Some jurisdictions, including Wyoming, Vermont, Tennessee, and Utah, have adapted their laws to create DAO-specific regulations. Other jurisdictions, while they have yet to create formal structures for DAOs, including Australia,⁶² have recognised the importance of accommodating DAOs. In the United Kingdom, the Law Commission is undertaking a scoping study exploring and describing how English

⁵⁴ See generally, Quinn DuPont, 'Experiments in Algorithmic Governance: A History and Ethnography of "The DAO", a Failed Decentralized Autonomous Organization' in Malcolm Campbell-Verduyn (ed), *Bitcoin and Beyond: Cryptocurrencies, Blockchains and Global Governance* (Routledge, 2017) 157.

⁵⁵ See, eg, Jessica Sler, 'The DAO: Australians Buy into the Virtual Company of the Future', *Australian Financial Review*, 31 May 2016 <<https://www.afr.com/technology/the-dao-australians-buy-into-the-virtual-company-of-the-future-20160518-goxnuz>>.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ See, for example, Andrew Hinkes, 'The Law of The DAO', *Coin Desk*, 20 May 2016 <<https://www.coindesk.com/markets/2016/05/19/the-law-of-the-dao/>>.

⁵⁹ See, for example, *Sarcuni v bZx DAO* No. 22-618 (SD Cal. March 27, 2023).

⁶⁰ 'What's Next for DAOs in the Wake of the Ooki Decision?', 13 July 2023, Latham & Watkins <<https://www.fintechanddigitalassets.com/2023/07/whats-next-for-daos-in-the-wake-of-the-ooki-decision/>>.

⁶¹ James Eysers, 'Digital Lawyers Call for a New Legal Entity: The DAO Limited', *Australian Financial Review*, 15 July 2021 <<https://www.afr.com/companies/financial-services/digital-lawyers-call-for-a-new-legal-entity-the-dao-limited-20210715-p589wp>>.

⁶² Australian Senate, 'Select Committee on Australia as a Technology and Financial Centre', October 2021 <https://parlinfo.aph.gov.au/parlInfo/download/committees/reportsen/024747/toc_pdf/Finalreport.pdf;fileTy pe=application%2Fpdf>.

and Welsh law currently treats DAOs.⁶³ The Law Commission's work will also identify how the United Kingdom law should treat DAOs, clarify the status of DAOs, and facilitate their use.⁶⁴

A difficulty in designing a regulatory structure for DAOs is that, as explained earlier, traditionally, the law has separated the roles of capital, decision-making and labour. Attempting to delineate those roles (and therefore liabilities) will not work for DAOs: DAOs aim to encourage and facilitate decision-making by the same people contributing capital and labour. If participating in decision-making exposes that member to potential personal liability, few people will participate in decision-making, which will defeat the purpose of a DAO.

To be sure, there will be concerns about granting limited liability to DAO members who take an active role in decision-making. However, discussions and arguments over creating new legal structures to protect their participants are nothing new. The mid-19th century saw fierce opposition against creating the now ubiquitous company structure, which provided shareholders with limited liability.⁶⁵ Lord Grey argued in the House of Lords that providing shareholders with limited liability departed from 'the old-established maxim that all the partners are individually liable for the whole of the debts of the concern'.⁶⁶ However, when developing new legal structures, considerable care must be taken to cover only DAOs and not DINOs.

Conclusion

In theory, DAOs are a good fit for the digital economy than traditional organisations. DAOs are born digital organisations able to enforce rules and, prevent wrongdoing and facilitate decentralised decision-making and ownership. However, technology alone is insufficient to overcome the inherent limitations of DAOs, as DAOs rely on human decision-making. Considerable experimentation is required in designing DAO governance systems and legal regulation before DAOs become viable digital economy organisational structures. Indeed, most of what are described as DAOs are not DAOs, rather, they are DINOs.

⁶³ Law Commission, Decentralised Autonomous Organisations (DAOs), <<https://lawcom.gov.uk/project/decentralised-autonomous-organisations-daos/>> (last accessed 14 November 2023).

⁶⁴ Ibid.

⁶⁵ For a discussion of the development of the partnership to the modern company, see Alexanadra Sims, 'Blockchain and Decentralised Autonomous Organisations (DAOs): The Evolution of Companies? (2019) 28 New Zealand Universities Law Review 423, 432–435.

⁶⁶ House of Lords Debates, 7 August 1855, vol 139, col 1904 (Earl Grey).