Best Practices in Decentralized Autonomous Organization (DAO) Venture Capital

A Bibliometric Analysis and Systematic Review

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Preface

Bitcoin and blockchain technology have reached mainstream attention as disruptive innovations potentially transforming markets, institutions, and organizations. Enabling decentralized governance and decision-making, applications leveraged by blockchain remove nation's borders, third parties, and the need for trust. At the core lies decentralized autonomous organizations (DAOs) as a new novel organization structure without hierarchy and centralized authority. DAOs being an emerging and niche topic within this market and unknown to most of our peers, we were highly motivated to conquer the topic and place ourselves at the forefront of technological innovations, giving us a competitive advantage within the field.

We were additionally intrigued by the idea of conducting a bibliometric analysis in order to investigate the influence and importance of the published research and thus get an understanding on how the topic has evolved. We were also unable to find bibliometric analysis within the topic, indicating the relevance of our research as the industry has matured.

The opportunity we saw in investigating the venture capital industry and how these funding vehicles are governed and structured in the DAO landscape was a challenge we were eager to tackle. Moreover, as this paper provides keen insights in an undiscovered topic providing a framework of best practices, we are able to provide guidance based on our findings to existing and future DAO VCs, investors, and other interested parties. Generally speaking, this thesis was more a learning experience to become experts in the field and hopefully provide a valuable tool to be used to increase the likelihood of DAO VC success, rather than just completing the master's degree.

We would like to thank our supervisor Professor Ilan Alon for introducing us to this exciting phenomenon, and for continuous guidance and support as we have explored the unknown realms of DAOs, crypto, and blockchain. Additionally, we appreciate the tolerance our partners Elise and Sara have given us for late-night work sessions and our rambling about an apparent complicated topic we now are obsessed about. I (Espen) would also like to thank my beautiful daughter Ella for keeping me adventurous and being the main motivator for me to excel with this paper and build a future for us. Lastly, we are grateful for the help and effort Liucija Fosseli and Silje Moen have done providing us with detailed feedback and paper revisions.

HODL and enjoy our work.

Andreas & Espen

Abstract

Purpose: This paper aims to identify best practices within the emerging field of DAO venture capital landscape, which has received limited attention in previous literature. The study seeks to provide a comprehensive framework of best practices by employing a mixed-methods approach. The relevance of this study lies in filling several research gaps in the field and providing valuable insights to ensure long-term growth and success within the DAO VC industry.

Design/methodology/approach: The study uses bibliometric analysis, content analysis, and systematic review to identify best practices. Firstly, the bibliometric analysis contains 57 articles retrieved from the Scopus database and shows the most influential contributors and the intellectual structure in the field through citation analysis, bibliographic coupling, and keyword co-occurrence analysis. Secondly, the content analysis gives a comprehensive understanding of key themes and trends in the literature. Finally, we executed a systematic review of ten DAO VC whitepapers to analyze existing practices.

Findings: The analysis revealed ten best practices within the DAO VC landscape: registration, permissioned, token-based voting system, staking, separating strategic and operational votes, adjustment for voting duration, adaptive quorum system with various consensus thresholds, ragequit, organizational support structure, and components to include in a whitepaper. MetaCartel Ventures and New Order DAO were found to be most aligned with our framework. The identified best practices can be implemented as a benchmarking tool to enhance DAO VC performance, attracting investors, and facilitate mass adoption.

Originality/value: This study provides a comprehensive analysis of DAO VC best practices, providing insight for future research directions, such as the optimal decentralization threshold and best practices for tokenomics structures. This paper´s value lies in providing valuable insights into the unexplored DAO VC practices, contributing to a thorough understanding of the field, and paving the way for future research.

Keywords: DAO; Decentralized Autonomous Organizations; Venture Capital; DAO VC; Smart contracts; Blockchain; Bibliometrics; Systematic review; Whitepaper.

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Introduction

The evolution of blockchain technology has gained significant attention since the creation of Bitcoin in 2009, with increasing momentum in the global economy (Munim et al., 2019; Zalan, 2018; Zhao et al., 2022). Initiated with the launch of Bitcoin as a decentralized peer-to-peer cash system (Nakamoto, 2008), blockchain technology has enabled a new distributed system eliminating the need for trusted third parties and centralized server systems, including established financial institutions (Faqir-Rhazoui et al., 2021).

Blockchain technology, or simply blockchain, is commonly described as an immutable distributed ledger using a peer-to-peer computer network consensus without the need for intermediaries (Bellavitis et al., 2022; Lewis, 2021, p. 325; Murray et al., 2021; Shermin, 2017). The structure of blockchain technology makes the on-chain stored data transparent, immutable, and secure, creating a system of `trustless trust´ (Faqir-Rhazoui et al., 2021; Zhao et al., 2022). The substantial increase in market capitalization recognizes the attractiveness of blockchain technology. For instance, between 2016 and 2017, the blockchain market grew close to 800%, reaching $79.7 billion in value and providing an annual return on investment unparallel to other investments (Jalal et al., 2021). Although the rapid growth has triggered high volatility, the market capitalization leading with cryptocurrencies has continued to rise (CoinGecko, n.d.; Friedlmaier et al., 2018; Jalal et al., 2021).

The growing interest in blockchain and cryptocurrencies has opened up new opportunities in the decentralized next-generation internet, also known as Web 3.0 (Faqir-Rhazoui et al., 2021; Hsieh & Vergne, 2023; Shermin, 2017). Focusing primarily on cryptocurrencies and financial solutions, increasing attention has been drawn towards other blockchain-mediated applications, including decentralized applications (DApps), non-fungible-tokens (NFTs), and decentralized autonomous organizations (DAOs) (Faqir-Rhazoui et al., 2021; Wüst & Gervais, 2018; Zhao et al., 2022). This diversification in attention can be attributed to the implementation of smart contracts, which are fully "Turing complete" programmable setups enabling a more flexible, complex, and automated exchange of value amongst different parties, compared to Bitcoin´s single use case (Murray et al., 2021). Smart contracts, popularized by the Ethereum blockchain, automatically execute pre-determined conditions agreed upon by participating actors, eliminating the need for trust (Murray et al., 2021; Shermin, 2017; Wüst & Gervais, 2018).

Being described as the most complex smart contract, decentralized autonomous organizations (DAOs) has emerged as a new organizational structure built on automatically executed code where

governance is distributed amongst members who share common interests and objectives (Faqir-Rhazoui et al., 2021; Murray et al., 2021; Shermin, 2017; Wang et al., 2019). Compared to traditional top-down hierarchical and centralized organizations, DAOs operate autonomously where decision-making is determined by membership consensus, enabling self-evolvement without being controlled by any centralized authority (Shermin, 2017; Wang et al., 2019). While the individual DAO´s governance structure varies depending on the rules set in the smart contract, members generally receive governance tokens issued by the DAO in exchange for a cryptocurrency such as Ethereum´s ETH granting them proposal and voting rights (Wang et al., 2019; Zhao et al., 2022). Proposals could range from the allocating funds to membership approvals and changes to the smart contract, requiring a pre-defined voting quorum to pass (Bellavitis et al., 2022; Zhao et al., 2022).

The creation of a DAO typically begins with the founders proposing the DAO´s mission, governance structure, and tokenomics (token economics) in a so-called whitepaper, which acts as a business plan aimed at attracting attention and investments from cryptocurrency holders (Ante et al., 2018; Santana & Albareda, 2022). Once the whitepaper has been drafted, DAO developers build a smart contract based on the whitepaper objectives, either using a DAO creator DApp such as Aragon or DAOhaus or coding it from scratch (Anand & Chauhan, 2020; El Faqir et al., 2020; Santana & Albareda, 2022).

Empowered by smart contracts, DAOs enable a more flexible blockchain infrastructure compared to single blockchain use cases, such as Bitcoin (Murray et al., 2021; Shermin, 2017). However, it is not without limitations. The first realization of a DAO, named "The DAO", was an investment platform launched in 2016 on the Ethereum blockchain aimed to raise funds directly from peers as a decentralized crowdfunding vehicle (DuPont, 2018, p. 159). Their mission was to further fund proposed projects voted through by their members, operating as a venture capital fund (El Faqir et al., 2020; Wang et al., 2019). In its short funding period, it raised $150 million worth of ETH, being the world´s largest crowdfunding project at that time (El Faqir et al., 2020; Wang et al., 2019). However, due to a coding error in the smart contract, an individual exploited the limitation withdrawing one-third of the fund (Bellavitis et al., 2022; Faqir-Rhazoui et al., 2021). While the exploitation was reversed with a disputable "hard fork" by the Ethereum Foundation, "The DAO" did not survive (DuPont, 2018, p. 165).

In addition to security concerns in the quality of the code in smart contracts, another limitation is the question of legality and compliance with individual nations´ laws (Kurcz & Paizis, 2019; Wang et al., 2019). As decentralized and borderless organizations, DAOs self-regulate and are resistant to censorship, posing a challenge for regulators seeking to control their impact on the economy and enforce compliance (Anand & Chauhan, 2020; Momtaz, 2021; Wang et al., 2019).

Blockchain technology has spurred regulatory efforts globally, such as the European Union´s proposed regulative framework on cryptocurrencies in 2020 (Covarrubias & Covarrubias, 2021) and the US regulations on security tokens and initial coin offerings (ICOs), both requiring compliance with know-your-customer (KYC) (Liu & Wang, 2019; Myalo, 2019). Moreover, uncertainty regarding future regulations and their impact on DAOs and the blockchain industry is seen as a potential threat and disadvantage to the development of the technology (Liu & Wang, 2019).

While these limitations arguably could be seen as diminishing for further development of DAOs, the interest has skyrocketed, leading to the creation of thousands of new DAOs with different missions and purposes, reaching a market capitalization of over $13 billion as of February 2023 (Bellavitis et al., 2022; DeepDAO, 2023). As a disruptive force in centralized governance, DAOs have the potential to reshape industries and markets by turning decision-making power to their members (Bellavitis et al., 2022; Murray et al., 2021).

One interesting emerging use case for DAOs is their potential to disrupt the venture capital (VC) industry (Faqir-Rhazoui et al., 2021; Santana & Albareda, 2022). As the first and failed attempt with the "The DAO", several decentralized autonomous organizations have since been created as funding vehicles for new Web 3.0 startups (DuPont, 2018; Faqir-Rhazoui et al., 2021). Unlike traditional VCs, which typically collect funds from larger institutions to invest in startups with high growth potential, DAO VCs are able to collect funds from a decentralized network of individual investors to support new ventures (Ante et al., 2018; Pandey, 2022; Vernon, 2020, p. 16). Moreover, rather than focusing solely on later funding stages where the startup is required to have a working prototype (Schückes & Gutman, 2021; Vernon, 2020, p. 123), DAO VCs typically invest in earlier stages, lowering the threshold for new ventures to access capital (El Faqir et al., 2020; Pandey, 2022).

Traditional VCs typically participate in these later funding rounds to boost the startups´ growth towards an exit strategy, such as an initial public offering (IPO) or an acquisition (Momtaz, 2021; Vernon, 2020, p. 123), in exchange for new preferred shares that dilute founders' ownership percentage (Vernon, 2020, p. 65). In contrast, DAO VCs do not acquire ownership but seek a return on investment (ROI) through increased token value as the startup succeeds (Anand & Chauhan, 2020; Ibba et al., 2018). This provides token investors with the flexibility to exchange their investments easily into fiat or cryptocurrencies on exchanges, unlike traditional VC exit strategies, which often take several years to realize (Momtaz, 2021; Zalan, 2018).

Leveraging blockchain technology, DAO VC disrupts the established VC market, proposing an innovative business model (El Faqir et al., 2020; Pandey, 2022). Contrary to traditional VCs´ concentrated decision-making power, DAO VCs distribute proposals and voting power to all

members (Murray et al., 2021; Vernon, 2020, p. 28). Venture capital DAOs, as a new phenomenon, offer an alternative funding model for startups using decentralized governance mechanisms and token offerings (Faqir-Rhazoui et al., 2021; Santana & Albareda, 2022). As of February 2023, the largest venture capital DAO, BitDAO, has $2.5 billion in treasury, showing the relevance and impact of these new funding organizations (DeepDAO, 2023). This makes DAO VC an interesting and relevant research topic.

The increasing interest in decentralized autonomous organizations is also visible in academic literature. *Figure 1* shows the publication frequency of DAOs in the Scopus database. 2009 was selected as the starting point with the creation of Bitcoin as the first real example of a blockchain (Nakamoto, 2008). It is, however, in 2014 were decentralized autonomous organizations first are described by Vitalik Buterin, one of the Ethereum founders (Buterin, 2014), indicating the launch of DAOs as an organizational design and thus helps explain the sudden spike in publications from 2015 and onwards.

Figure 1

Publication Frequency on DAOs
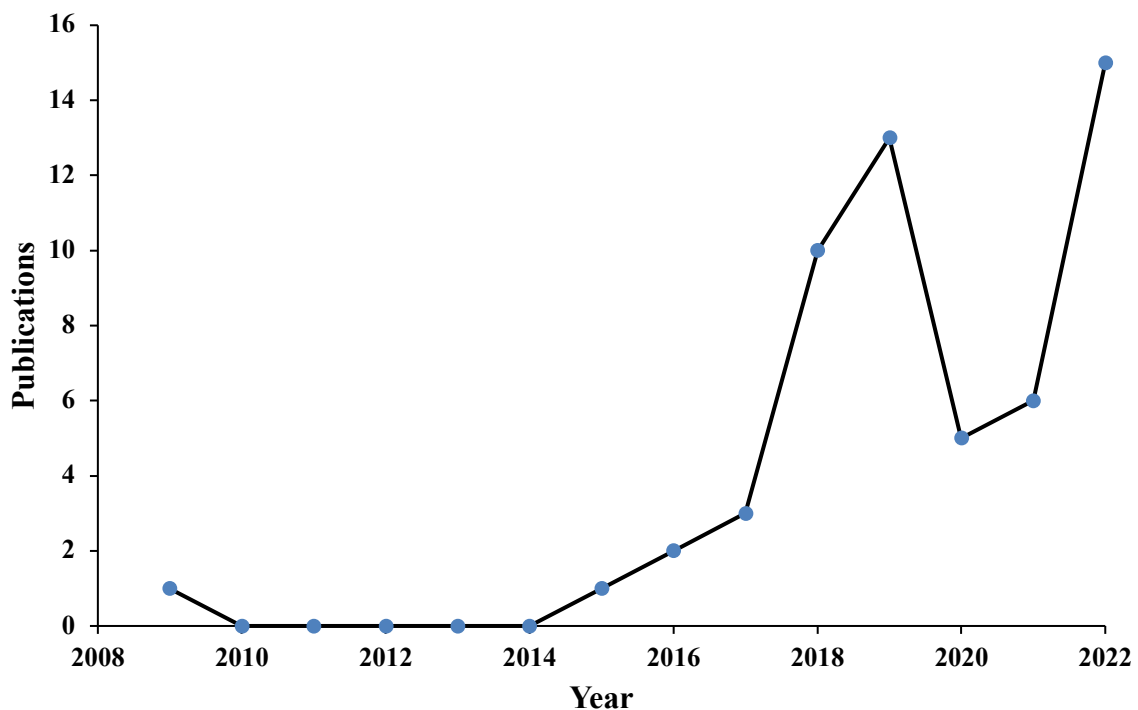
Note. This figure demonstrates the publication trend on DAOs between 2009 and 2022 retrieved from the Scopus database using keyword search (see Data extraction process in Scopus for a more comprehensive review).

Several publications explore DAOs empirically, focusing primarily on their governance structure and applications (Anand & Chauhan, 2020; Bellavitis et al., 2022; Murray et al., 2021; Santana & Albareda, 2022; Zhao et al., 2022). These publications provide an initial conceptualization of DAOs and their potential. However, research on DAOs as a funding vehicle remains undiscovered. To date, only a few studies have explored the concept through case analysis of "The DAO" (DuPont, 2018; Mehar et al., 2019) or discussed "The DAO" as a subsection in other publications (Anand & Chauhan, 2020; Murray et al., 2021; Zachariadis et al., 2019). The main narrative in these studies has been to address the historical evolution of "The DAO", thus not focusing on it as a venture capital fund. Furthermore, a few DAO VCs are mentioned by scholars as one of the disruptive industries without further investigation (e.g., BitDAO, Moloch DAO, The LAO, MetaCartel Ventures) (Santana & Albareda, 2022; Saurabh et al., 2022). The potential impact the DAO VC industry poses on the investment landscape, in addition to being an undiscovered research topic, makes DAO VC best practices an important topic of investigation.

Additionally, while the academic literature on DAOs is trending, a bibliometric review and content analysis of the published research are missing. Most of the previous publications have either been descriptive as conceptual papers (Anand & Chauhan, 2020; Banaeian Far & Bamakan, 2022; Zachariadis et al., 2019), in-depth case studies (Mehar et al., 2019; Zhao et al., 2022), or as literature reviews (Santana & Albareda, 2022; Saurabh et al., 2022). To this date, performance analyses and science mapping of the field through bibliometrics and content analysis do not exist, highlighting the need for such analyses as the research field has evolved.

Hence, the purpose of this paper is twofold. First, we investigate the published literature on decentralized autonomous organizations in the areas of business, finance, and management through a bibliometric review and content analysis in order to close the aforementioned research gap. This helps provide an overview of the research field and to explore emerging trends (Donthu et al., 2021; Jalal et al., 2021). We apply the visualization tool, VOSviewer, to show the thematic structure, in addition to Bibliometrix package tool in R to analyze the data (Bretas & Alon, 2021). Second, we conduct a systematic review and analysis of ten DAO VC whitepapers to get a comprehensive mapping of the industry and examine existing venture capital DAOs´ content to determine best practices.

This paper contributes in two ways. First, we provide a comprehensive mapping of the DAO VC landscape on blockchain for readers interested in understanding the topic. Second, we propose a bibliometric framework applicable as a template for future research topics on blockchain and DAOs.

Thus, our research questions are as follows:

RQ1: What is the intellectual structure of DAOs in the literature?

RQ2: What are the most influential articles and journals, and who are the most influential authors?

RQ3: What is the content and scope of DAO VC?

RQ4: What are the best practices for building a DAO VC, and what are the possible future research questions?

This paper is not free of limitations. The bibliometric review collected from the Scopus database could potentially exclude other relevant documents on the topic in other academic databases such as Google Scholar and Web of Science. Moreover, the emerging and niche topic on DAO is limited with small-scale data on total local citations, keyword co-occurrence, and few occurring journals limiting the influence these journals have in the research field. The selected keywords and search terms for the bibliometric review and accumulation of whitepapers are subject to potential biases, including algorithmic limitations on Google. Another potential limitation is the lack of common terminology and structure within the research field which demanded a thorough evaluation to enable the categorization of the data. However, following Bretas et al. (2022) rigorous coding scheme in the bibliometric, content analysis, and whitepaper systematic review help reduce these biases.

Additionally, relevant articles may not have been considered due to only including articles in English. Future research could include additional bibliometric data to strengthen the results as the research field matures and articles written in other languages. Lastly, investigating published papers in the fields of business, finance, and management may have excluded articles in other areas with important information for our research topic.

The rest of this paper is structured as follows. The next section introduces the methodology of the bibliometric analysis, content analysis, and systematic review of DAO VC whitepapers. Results are presented separately in the following part. The bibliometric analysis contains the most influential journals, authors, articles, and intellectual structure of the research field. We then identify the different research categories through content analysis based on the findings in the bibliometric analyses. The findings on whitepapers are subsequently introduced. Our results are then discussed with proposed best practices before future research, and a conclusion is provided.

Methodology

The methodology section first introduces the bibliometric review and content analysis before the data extraction process from the Scopus database is shown. Subsequent is the analysis and data extraction of DAO VC whitepapers explained.

Bibliometric and content analysis

There are several types of qualitative and quantitative literature review methods that can be used to present a research field, including systematic literature review, meta-analysis, bibliometric review, and content analysis (Bretas & Alon, 2021; Bretas et al., 2022; Zupic & Carter, 2015). We adopt a quantitative approach employing various bibliometric analysis techniques (bibliometric citation analysis, bibliographic cluster analysis, keyword co-occurrence analysis), and a qualitative content analysis to investigate our research questions.

Bibliometric analysis is used to map the intellectual structure in a research field, to explore emerging trends by looking at article and journal performance, and to use journals´ ranking and reputation to identify the most prominent articles (Donthu et al., 2021; Jalal et al., 2021). The bibliometric analysis techniques are designed to analyze data by identifying, describing, and evaluating published research in a field (Bretas & Alon, 2021). The transparent review processes and reproducible searches reduce subjective bias in the review (Zupic & Cater, 2015). By deploying bibliometric citation analysis, we are able to measure the influence and relevance of articles, journals, and authors (Bretas & Alon, 2021; Zupic & Cater, 2015). We further applied bibliographic coupling technique to investigate the interconnections in the research field, thus revealing the intellectual structure (Donthu et al., 2021; Zupic & Cater, 2015). Compared to co-citation analysis, bibliographic coupling can be applied in emerging research fields including recent and non-cited publications, thus more suitable for decentralized autonomous organizations as a recent research phenomenon (Bretas & Alon, 2021; Zupic & Cater, 2015). Additionally, we conducted a keyword co-occurrence analysis to disclose the thematic structure of the research field (Bretas & Alon, 2021; Bretas et al., 2022). In order to analyze and visualize the data, we used Bibliometrix tool in R and VOSviewer.

Finally, to build on the bibliometrics results, we applied content analysis. Content analysis is a powerful technique to get a thorough understanding of the selected articles and to summarize different trends in the literature (Bretas & Alon, 2021; Bretas et al., 2022). The technique helps

refine and verify the results from the bibliometric analysis (Wilczewski & Alon, 2022). We, therefore, deploy content analysis to categorize the most influential articles into themes and sub-themes of the research field.

Data extraction process in Scopus

The foundation for the bibliometric review is the extraction of data from the Scopus database. The two primary sources for bibliographic data are Clarivate Analytics´ Web of Science (WoS) and Scopus (Zupic & Cater, 2015). WoS is the most used database for bibliometric studies, however, it does not include recently published journals which is a limitation for smaller and recently growing research areas (Bretas & Alon, 2021; Zupic & Cater, 2015). Scopus has a broader scope than WoS, which is useful when mapping new and emerging areas such as decentralized autonomous organizations (Bretas & Alon, 2021; Zupic & Cater, 2015). Additionally, Scopus has an advantage by having increased accuracy in author-based citation analysis by containing data on all authors in cited references (Zupic & Cater, 2015).

We adopted a two-stage data extraction approach following Wilczewski & Alon (2022). *Table 1* shows the database search and extraction process. First, we developed a keyword search in Scopus executed in January 2023. Because some journals exclude publishing keywords, we followed Zupic and Caters` recommendation of also including title and abstract (Zupic & Cater, 2015). We considered a combination of the following keyword searches: (1) decentral* autonomous organi* without using apostrophes to capture all compositions of the words. This was important to ensure that variations also were found in the search process due to the recency of this research field. Asterisk was used to ensure documents in both US English and British English were found. We employed the Boolean operator "OR" adding another keyword; (2) DAO* to get a more comprehensive search. This resulted in 11989 documents.

We refined the search to comprise of the subject areas Business, Management, and Accounting, in addition to Economics, Econometrics, and Finance which reduced the outcome to 323. We then narrowed it down by limiting the search to articles, conference papers, books, and book chapters giving us 297 results. The inclusion of different document types was made to ensure a thorough keyword search resulting from the research topic being new and the possible delay in journal publications. The next step was to limit languages to English, resulting in 269 articles. We finally refined the search only to include articles from 2009, marked as the year blockchain technology and Bitcoin were launched, ending up with 218 results.

Table 1

Keyword search in Scopus

Step	Keyword search	#Articles
1	(TITLE-ABS-KEY (decentral* AND autonomous AND organi*) OR TITLE-ABS-KEY (dao*))	11989
2	(TITLE-ABS-KEY (decentral* AND autonomous AND organi*) OR TITLE-ABS-KEY (dao*)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "ECON"))	323
3	(TITLE-ABS-KEY (decentral* AND autonomous AND organi*) OR TITLE-ABS-KEY (dao*)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "ECON")) AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "bk"))	297
4	(TITLE-ABS-KEY (decentral* AND autonomous AND organi*) OR TITLE-ABS-KEY (dao*)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "ECON")) AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "bk")) AND (LIMIT-TO (LANGUAGE, "English"))	269
5	(TITLE-ABS-KEY (decentral* AND autonomous AND organi*) OR TITLE-ABS-KEY (dao*)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "ECON")) AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "bk")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (PUBYEAR, 2023) OR (LIMIT-TO (PUBYEAR, 2022) OR (LIMIT-TO (PUBYEAR, 2021) OR (LIMIT-TO (PUBYEAR, 2020) OR (LIMIT-TO (PUBYEAR, 2019) OR (LIMIT-TO (PUBYEAR, 2018) OR (LIMIT-TO (PUBYEAR, 2017) OR (LIMIT-TO (PUBYEAR, 2016) OR (LIMIT-TO (PUBYEAR, 2015) OR (LIMIT-TO (PUBYEAR, 2014) OR (LIMIT-TO (PUBYEAR, 2013) OR (LIMIT-TO (PUBYEAR, 2012) OR (LIMIT-TO (PUBYEAR, 2011) OR (LIMIT-TO (PUBYEAR, 2010) OR (LIMIT-TO (PUBYEAR, 2009))	218
6	*After an initial analysis of 218 articles, we removed all articles unrelated to blockchain technology by reading all abstracts.*	57

The second stage thoroughly examining the articles´ titles and abstracts to exclude articles unrelated to blockchain technology not identified in the first stage (Bretas & Alon, 2021). We first excluded all articles with several keyword results unrelated to the research topic of decentralized autonomous organizations, such as "Daoism" and "China". We also removed results within subject areas such as biology, chemistry, and medicine. Subsequently, we refined the search by reading all abstracts and excluded results unrelated to blockchain technology. In cases where an article provided insufficient information in the title and abstract, we read through the article in its entirety to ensure

whether to include it. This process resulted in 57 studies for the bibliometric analysis, where the document distribution consisted of 36 articles, 17 conference papers, 3 book chapters, and 1 book.

Whitepaper analysis

To analyze DAO VC whitepapers, we deployed a systematic literature review. Systematic reviews are well-suited for smaller niche research fields since it requires a narrower scope of study (Donthu et al., 2021). These reviews are typically manually executed by researchers to encapsulate the arrangement and acquisition of existing literature. This is essential to analyze both the thematic and content of the whitepapers (Donthu et al., 2021).

Data extraction process whitepapers

The whitepaper data extraction was conducted in a two-stage process consisting of first acquiring the dataset followed by a data structuring stage. The acquisition of whitepapers was a challenge due to the lack of a single database containing complete information on the existing venture capital DAOs, and the presumable lack of a coined definition. The starting point was a single keyword search on Google, using "DAO VC" as a keyword. The first direct result provided us with DAO.vc and their whitepaper published through GitBook, a digital document creator used by several organizations (DAO.vc, n.d.; GitBook, n.d.).

We continued reading through the search results leading us to the database DeepDAO which contains information on over 2000 DAOs (DeepDAO, 2023; Pandey, 2022). DeepDAO has also been used by previous researchers for fund statistics and activity measures (Bellavitis et al., 2022; Faqir-Rhazoui et al., 2021). The database provides subcategories, and we analyzed investment DAOs to determine whether the individual DAO was a venture capital or another type of investment DAO. As a result, we found three venture capital DAOs, namely BitDAO, MetaCartel Ventures, and The LAO, all with links to their web pages (DeepDAO, 2023). Another issue was the individual format of the whitepapers. While the MetaCartel Ventures webpage provided a link to its published whitepaper in a PDF format on Github (MetaCartel Ventures, 2019), BitDAO and The LAO had their whitepapers published as text directly on their webpages (BitDAO, n.d.; The Lao, n.d.). In the case of the largest investment DAO, BitDAO, with a treasury of $2.5 billion (DeepDAO, 2023), the whitepaper was published through GitBook.

MetaCartel Ventures´ whitepaper also brought our attention to Moloch DAO. By searching on Github, we were able to retrieve their whitepaper (Moloch Ventures, 2019). We also found that MetaCartel Ventures was created by the MetaCartel community, which led us to the original MetaCartel webpage. The webpage provided information on Hydra Ventures with a link to their whitepaper on Github (Hydra Ventures, 2022). We continued the acquisition process by extending the Google search with the keyword: "DAO VC whitepaper". Amongst the top results was a link to a blog post containing the whitepaper of MetaRISE (Glaveski, 2022). Altering the keyword search to "venture capital DAO" we found a recommended related search leading us to RocketDAO. We could not retrieve their whitepaper on the web page. Therefore, we searched directly for "RocketDAO whitepaper" on Google, leading us to their whitepaper in PDF (RocketDAO, 2018).

In addition, we checked out all the found DAO VCs on the social media platform Twitter. We further accumulated Orange DAO and New Order DAO by looking at the proposed recommendations. Both had published whitepapers on their web pages (New Order, n.d.a; Orange DAO, 2022). In total, the dataset for further analysis is ten DAO VCs consisting of DAO.vc, BitDAO, MetaCartel Ventures, The LAO, Moloch DAO, Hydra Ventures, MetaRISE, Rocket DAO, Orange DAO, and New Order DAO.

In the second stage, we read all whitepapers to structure the dataset. The retrieved data was put in a self-created master table structured into several categories. This was done to get an overview of the DAO VCs and to further highlight the content and scope by looking at similarities and differences. Additionally, the master table provides essential insights to help determine best practices. The master table initially consisted of the following categories: mission, blockchain affiliation, page and word count, governance, tokenomics, community members on-chain, invested projects, proposal count, and operating status. These categories were retrieved from the whitepapers. We supplemented the whitepaper information with additional categories, including social media followers off-chain, corporate structure, and availability on secondary markets. This information was retrieved from the individual DAOs´ web pages, social media accounts, in addition to DeepDAO.

Results

In this section, we outline the findings into two subsections. The first subsection will show the bibliometric and content analysis results, while the second subsection will address the findings from the ten DAO VC whitepapers through a systematic review.

Bibliometric and content analysis

The dataset includes 57 publications retrieved from the Scopus database. As *Figure 1* shows above, there has been an increasing academic interest in the field of decentralized autonomous organizations. The annual growth rate when considering publications is over 5%. However, when only considering publications from 2014 as the year identified as the launch of DAO as a concept (Buterin, 2014), the annual growth rate is over 9%. The publications are found in 49 different journals with 146 individual authors. Co-authorship per document is 2.65, while 16 documents are single-authored.

This subsection will first identify the findings of a citation analysis showing the impact of articles, journals, and authors on the field of decentralized autonomous organizations to help answer the research question on the most influential contributions to the field. Subsequently, the results from the bibliographic coupling analysis are revealed before the findings from the keyword co-occurrence analysis are highlighted. These analyses help answer research question one by disclosing the thematic and intellectual structure in the research field. Finally, building on the data found from the bibliometric review, the content analysis will give a more comprehensive understanding of the research topic.

Bibliometric citation analysis

The bibliometric citation analysis reveals the most influential articles, journals, and authors (Zupic & Cater, 2015). *Table 2* shows the 12 most impactful articles on decentralized autonomous organizations ranked by total global citations. Publications with high global citations show their impact across research fields, while publications with high local citations reveal their influence within a specific field (Donthu et al., 2021). The most impactful paper was Wüst & Gervais (2018) when sorting by total global citations per year (TGC/t), with 86.2 citations on average each year.

Table 2

Most impactful articles (sorted by TGC/t)

	Author and year	Title	Journal	TGC/t	TGC
1	Wüst & Gervais (2018)	Do you need a blockchain?	Proceedings – 2018 Crypto Valley Conference on Blockchain Technology	86.2	431
2	Mehar et al. (2019)	Understanding a revolutionary and flawed grand experiment in blockchain: The DAO attack	Journal of Cases on Information Technology	26.75	107
3	Zachariadis et al. (2019)	Governance and control in distributed ledgers: Understanding the challenges facing blockchain technology in financial services	Information and Organization	20.25	81
4	Murray et al. (2021)	Contracting in the smart era: The implications of blockchain and decentralized autonomous organizations for contracting and corporate governance	Academy of Management Perspectives	16	32
5	Rane & Narvel (2019)	Re-designing the business organization using disruptive innovations based on blockchain-IoT integrated architecture for improving agility in future industry 4.0	Benchmarking	13	52
6	Zamani & Giaglis (2018)	With a little help from the miners: distributed ledger technology and market disintermediation	Industrial Management and Data Systems	10.6	53
7	Nehai et al. (2018)	Model-Checking of Smart Contracts	Proceedings – IEEE 2018 International Congress on Cybermatics	9.6	48
8	Norta (2015)	Creation of smart-contracting collaborations for decentralized autonomous organizations	Lecture Notes in Business Information Processing	8.86	71
9	Hsieh et al. (2018)	Bitcoin and the rise of decentralized autonomous organizations	Journal of Organization Design	8	40
10	Zalan (2018)	Born global on blockchain	Review of International Business and Strategy	7.6	38
11	Tam Vo et al. (2018)	Internet of blockchains: Techniques and challenges ahead	Proceedings – IEEE 2018 International Congress on Cybermatics	3.8	19
12	Angieri et al. (2020)	A Distributed Autonomous Organization for Internet Address Management	IEEE Transactions on Engineering Management	3.33	10

Note. TGC is the total global citations received, while TGC/t is the average global citations received yearly.

However, Hsieh et al. (2018) and Murray et al. (2021) rank highest when sorting by total local citations per year (TLC/t) with an average of 1 citation per annum. This denotes that these documents had the most impact in the research area of DAO, followed by Mehar et al. (2019) and Zachariadis et al. (2019). Due to an insufficient number of local citations within our data sample, we rank the most influential article based on total global citations.

Table 3

Most impactful journals

Rank	Journal	Citations	Publications	h_index
1	*Proceedings – 2018 Crypto Valley Conference on Blockchain Technology*	444	2	2
2	*Journal of Cases on Information Technology*	107	1	1
3	*Lecture Notes in Business Information Processing*	93	4	4
4	*Information and Organization*	81	1	1
5	*Proceedings – IEEE 2018 International Congress on Cybermatics*	67	2	2
6	*Benchmarking*	54	2	2
7	*Industrial Management and Data Systems*	53	1	1
8	*Journal of Organization Design*	40	1	1
9	*Review of International Business and Strategy*	38	1	1
10	*Academy of Management Perspectives*	32	1	1
11	*Computer Law and Security Review*	11	1	1
12	*IEEE Transactions on Engineering Management*	10	1	1
13	*European Company and Financial Law Review*	9	2	2
14	*Contributions to Management Science*	7	1	1
15	*2020 2nd Conference on Blockchain Research and Applications for innovative Networks and Services*	6	1	1
16	*Post-Capitalist Entrepreneurship: Startups for the 99%*	6	1	1
17	*Proceedings of the European Conference on E-Government*	6	1	1
18	*Business Horizons*	5	1	1
19	*Journal of Operations Management*	5	1	1
20	*Finance: Theory and Practice*	4	1	1

Table 4

Most impactful authors (sorted by total global citations)

|	Author	Title	University Affiliation	TGC	Public-ations	h_index
1	Gervais, A.	Do you need a blockchain?	Imperial College London	431	1	16
2	Wüst, K.		ETH Zürich	431	1	6
3	Fletcher, G.	Understanding a revolutionary and flawed grand experiment in blockchain: The DAO attack	York University	107	1	1
4	Giambattista, A.		York University	107	1	1
5	Gong, E.		York University	107	1	1
6	Kim, H. M.		York University	107	1	16
7	Laskowski, M.		York University	107	1	12
8	Mehar, M. I.		York University	107	1	1
9	Sanayhie, R.		York University	107	1	1
10	Shier, C. L.		Harvard Law School	107	1	1
11	Hileman, G.	Governance and control in distributed ledgers: Understanding the challenges facing blockchain technology in financial services	London School of Economics	81	1	3
12	Scott, S. V.		London School of Economics	81	1	19
13	Zachariadis, M.		Warwick Business School	81	1	8
14	Norta, A.	Creation of smart-contracting collaborations for decentralized autonomous organizations	Tallinn University of Technology	71	1	15
15	Giaglis, G. M.	With a little help from the miners: distributed ledger technology and market disintermediation	Athens University of Economics and Business	53	1	24
16	Zamani, E. D.		De Montfort University	53	1	11

Table 3 outlines the most influential journals ranked by total citations published on decentralized autonomous organizations. The top three journals were *Proceedings – 2018 Crypto*

Valley Conference on Blockchain Technology (444 citations), *Journal of Cases on Information Technology* (107 citations), and *Lecture Notes in Business Information Processing* (93 citations). Out of the total 49 journals, the latter was also the journal standing out with the most published articles (four), and where the remaining had a distribution of one or two published papers. When considering journal impact (h-index), *Lecture Notes in Business Information Processing* was also the journal with the most significant impact, followed by *Proceedings – 2018 Crypto Valley Conference on Blockchain Technology*, *Proceedings – IEEE 2018 International Congress on Cybermatics, Benchmarking*, and *European Company and Financial Law Review.*

The 20 most impactful authors are shown in *Table 4*. Measured in total citations, Arthur Gervais and Karl Wüst are the two top-ranked authors, with 431 total citations each. Moreover, the only two authors with more than one published article are Ying-Ying Hsieh and Jean-Philippe Vergne, with two publications each. However, when measuring the h-index among the authors, George M. Giaglis is the most significant author, with an h-index of 24. This is followed by Susan V. Scott and Santosh Rane, both with an h-index of 19.

Figure 2

Publication by country
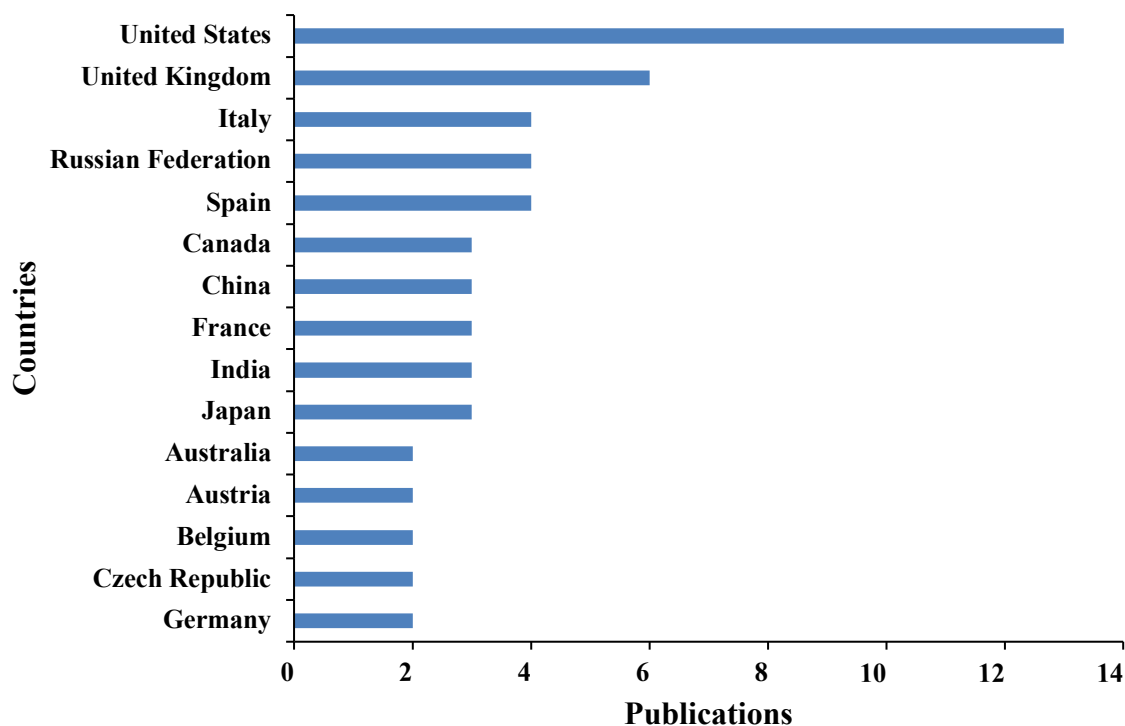
Note. The figure shows the top 15 countries with the highest publication factor ranked from highest to lowest.

Figure 2 outlines the top 15 countries with the highest publication factor. The United States is by far the country with the highest scientific production on decentralized autonomous organizations, with 13 publications. The United Kingdom is the second-highest contributor with six publications, followed by Italy, the Russian Federation, and Spain, with four publications each. However, when investigating scientific production by continent, Europe is the most significant contributor with 45% (the Russian Federation excluded), followed by North America with 23.9%, and Asia with 22.5% (the Russian Federation excluded). The Russian Federation was excluded due to the country´s affiliation with both the European and Asian continents.

When investigating citations by country, the UK ranks first with 596 citations, followed by the US (198), Canada (150), and Estonia (71). The findings show that 73% of the top 15 countries regarding publications are also among the most cited. Interestingly, the United Arab Emirates has only one publication but is the tenth most cited country. Generally, the findings show that scientific production on DAOs is present in four of the six populated continents around the globe, with Africa and South America being the two continents without any contributions to the field.

Bibliographic coupling

Bibliographic coupling is a technique used to identify the relatedness of documents based on shared references (Bretas & Alon, 2021; Donthu et al., 2021). The technique is suitable for emerging research trends, as it also includes recent and non-cited publications (Donthu et al., 2021) which are relevant for niche research fields such as DAO. *Figure 3* reveals the bibliographic coupling network within the research field. The nodes show the individual documents, while the lines between the nodes identify the couplings. Six main clusters are found. None of the clusters are significantly dominating the field, with the distribution ranging between five and nine documents.

We found that the documents in Cluster 1 (red) were related to factors on blockchain and DAO use cases (Angieri et al., 2020; Cohen, 2017; Fernando et al., 2021) and their influence on industries and markets (Novocin & Weber, 2022; Rane & Narvel, 2019). Cluster 2 (green) identified factors as improvements to smart contracts to mitigate existing risks (Bui et al., 2021; Duran & Griffin, 2021; Konashevych, 2017), in addition to studies regarding the potential of blockchain and DAOs (Norta, 2015; Takemiya, 2019; Wüst & Gervais, 2018). The research topics in Cluster 3 (blue) were divided between factors on early-stage adaptation in blockchain and DAOs (Hsieh & Vergne, 2023; Lacity, 2022) and how DAOs could reduce certain transaction and agency costs (Murray et al., 2021).

The articles in Cluster 4 (yellow) looked at factors identifying DAOs as an innovative business model (Saurabh et al., 2022; Zamani & Giaglis, 2018; Zhan et al., 2023), in addition to exploring DAOs organizational design (Santana & Albareda, 2022; Zhao et al., 2022). The common themes in Cluster 5 (purple) addressed factors such as challenges and security issues in blockchain and DAOs and how to solve these challenges (Banaeian Far & Bamakan, 2022; Bellavitis et al., 2022; Cras et al., 2022), as well as tokenomics (Ibba et al., 2018; Liu & Wang, 2019). Lastly, Cluster 6 (turquoise) was related to factors such as the impact of blockchain, smart contracts, and DAOs as a disruptive technology (Anand & Chauhan, 2020; Hornáckorvá et al., 2019; Hsieh et al., 2018).

While it is possible to identify themes within the different clusters, they are highly intertwined, and share several commonalities. For instance, documents in Cluster 1, 3, 4, and 6 share similarities in addressing aspects of governance. Moreover, both Cluster 2 and 5 investigate security issues in blockchain and how to resolve them. We note that the findings highlight the recency of the field and that scholars include several aspects of blockchain technology when researching the field.

Figure 3

Bibliographic coupling
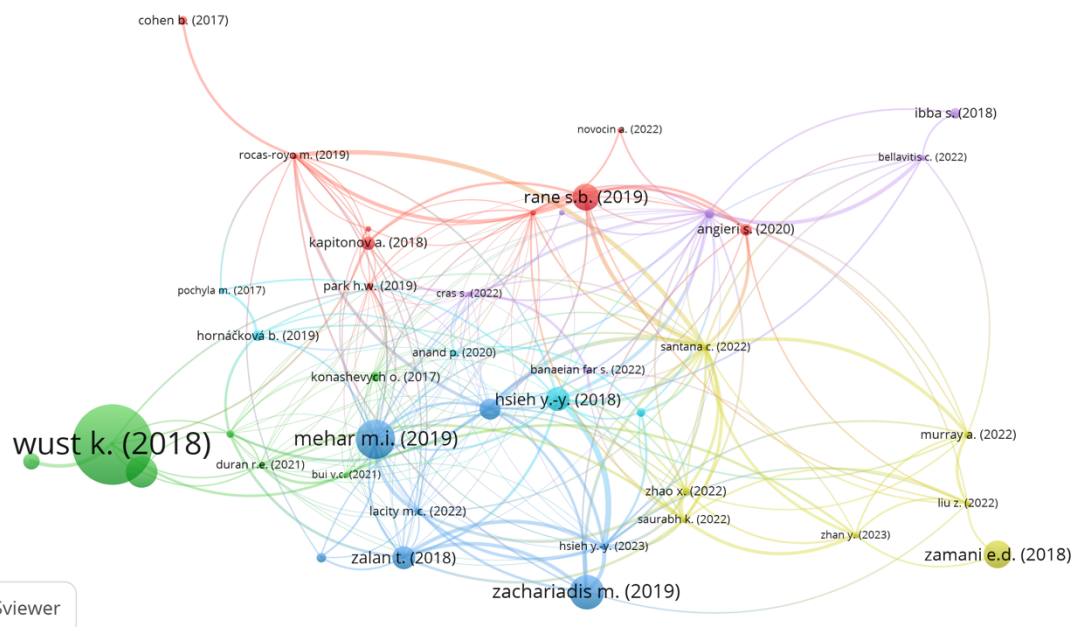
Note(s). The individual nodes show the articles, while the line between the nodes indicates the coupling in the network.
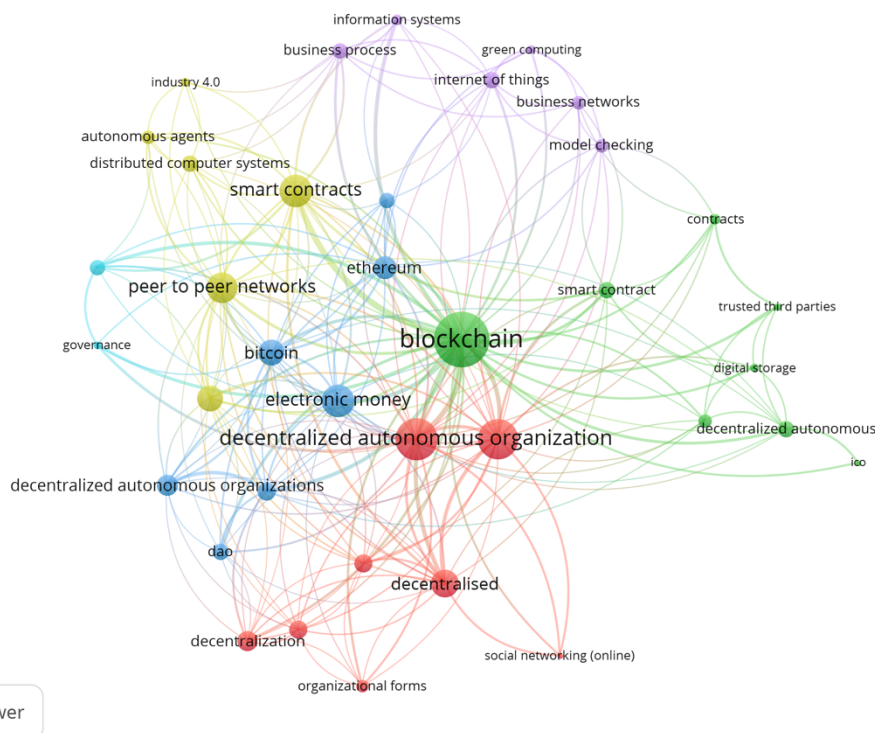
Keyword co-occurrence

Keywords reveal the most essential terms in a document, and a keyword co-occurrence analysis help identify the conceptual structure and themes in a research field (Bretas & Alon, 2021; Bretas et al., 2022). *Figure 4* depicts the network of all keywords appearing together in at least two articles. The size of the node and the thickness of the line between the nodes indicates the occurrence of a keyword and the co-occurrence between the different keywords (Donthu et al., 2021; Bretas & Alon, 2021).

The keyword network reveals six clusters. Five clusters are similar in size ranging between six and eight keywords each (Cluster 1-5), while the last only (Cluster 6) have two keywords.

Figure 4

Visualization of keyword co-occurrence

Note(s). The figure is made using the visualizing tool VOSviewer. The size of the nodes indicates the frequency of the used keyword. The thickness of the line between the nodes shows the co-occurrences between the keywords.

Cluster 1 (red) is centered around decentralization, with decentralized autonomous organization as the largest node. The theme in Cluster 2 (green) is related to blockchain technology touching on several of its applications and characteristics. Cluster 3 (blue) is themed around cryptocurrencies and DAOs. Cluster 4 (yellow) is related to smart contracts and their structure deploying peer-to-peer networking. The thematic of Cluster 5 (purple) is identified as IT related, including keywords such as information systems and business processes. Lastly, Cluster 6 (turquoise) is related to distributed ledger technology (DLT). As with the bibliographic coupling analysis, the found themes of DAO are highly interconnected with keywords occurring in several of the clusters. This indicates that several keywords are used across blockchain research fields, signaling the recency of the research phenomenon. Unsurprisingly, blockchain as a keyword has the highest number of occurrences and co-occurrences, identifying it as the core factor in the research field. However, the keyword co-occurrence analysis results reveal a clearer thematic structure, such as Cluster 3, which is linked to factors including electronic money and cryptocurrencies.

Content analysis

The content analysis offers a more comprehensive understanding of the bibliometric results (Bretas et al., 2022; Gaur & Kumar, 2018). The analysis is useful for recognizing underlying research streams and has a high level of objectivity (Alon et al., 2018). According to previous research, content analysis is reliable if conducted by multiple researchers (Alon et al., 2018). Therefore, two researchers managed the process, ensuring a reliable and systematic content analysis of the 42 cited articles. We followed a deductive coding scheme suggested by Gaur & Kumar (2018) for research topics with a narrow scope (Bretas et al., 2022). Furthermore, following Alon et al. (2018) and Bretas et al. (2022), we enabled the content analysis process by deploying a concept matrix. The concept matrix included the article title, year of publication, journal, author(s), keywords, total global citations (TGC), data source, type of analysis, methodology, theory, article category, research stream, and main findings of the 42 cited documents. Two documents were unretrievable, thus reducing the content analysis to 40 cited publications. This coding matrix was the initial starting point for determining the final categories (Bretas et al., 2022).

The content analysis, coupled with results from the bibliometric analysis, revealed four distinct but interrelated research categories: Business model innovation, economic factors, technological factors, and legal framework. When considering the distribution of articles in each category, business model innovation is by far the largest with 23 documents, followed by

technological factors (10), economic factors (5), and legal framework (2). Out of these research categories, eight sub-themes were defined. First, business model innovation comprised of organizational structure and governance, transforming business processes and industries, and digital platforms. Second, economic factors´ sub-themes were divided into financial services in addition to cryptocurrencies and token offerings. Third, technological factors consisted of governance mechanisms and monitoring mechanisms, and security issues and mitigation of risks in blockchain and smart contracts. Last, the legal framework category all belonged to the sub-theme regulation of ICOs and DAOs. *Table 5* reveals the category, sub-theme, articles´ authors, type of analysis, and methodology. The findings show that most of the papers were conceptual and descriptive and revealed that transaction cost theory and agency theory were the most prominent among the various theories used.

Business model innovation

The first research category comprises of factors looking at DAOs, smart contracts, and blockchain as an innovative business model. The majority of the publications fit within this category. We furthermore divided the category into three sub-themes, whereas the individual themes address different aspects of business model innovation.

Organizational structure and governance. This first sub-theme addresses factors such as DAOs organizational design and task management. Hsieh et al. (2018) state that Bitcoin was the first real implementation of a DAO and investigated the organizational structure of DAOs by using Bitcoin as an example. They found that future DAOs will differ from the Bitcoin design and believes that they, on a structural level, will be organizationally different from current organizational types, in addition to possible change capitalism as we know it (Hsieh et al., 2018). Santana & Albareda (2022) finds that DAOs have several promising factors, such as solving traditional businesses´ decision-making problems by being organized from the bottom up. However, the authors highlight that security issues and governance issues such as power distribution are some of the key challenges of DAOs as a new organizational structure (Santana & Albareda, 2022).

Anand & Chauhan (2020) gives an overview of DAOs and their potential impact and applications. The authors highlight that DAOs could disrupt areas now defined by collaboration and trust without the need for centralized structures to enable remote collaboration. Additionally, DAOs could impact organizations by being fairer, reducing human bias on gender, age, and ethnicity, mitigating corruption, and creating a more cooperative world. The authors also find reputation-based

voting as a powerful tool to ensure goal alignment in giving contributing and long-term committed members a higher voting weight. However, to achieve its true potential, the authors stress the importance of massive adoption of DAOs (Anand & Chauhan, 2020).

Murray et al. (2021) also find blockchain technology ineffective as long as firms continue to hold fiat currencies and use traditional banking. The authors, however, highlight that smart contracts are both effective and efficient in mitigating certain transaction and agency costs found in traditional organizations. For instance, smart contracts can reduce the likelihood of costs related to information asymmetry between agents (managers) and principals (owners), where agents diverge from pursuing profit-maximizing goals and instead maximizes their individual utility. DAOs which are governed by users that are simultaneously owners, thus eliminate agency costs since decision-making is executed through consensus (Murray et al. (2021).

Norta (2015) looks at the setup lifecycle of a DAO´s smart contract and divides the lifecycle into two stages. First, in the collaboration stage, actors must agree on the smart contract content. Following is the negotiation stage, where contractual terms are discussed leading to either a consensual agreement or a disagreement. If the negotiation fails, the process returns to the initial stage (Norta, 2015). Covarrubias & Covarrubias (2021) explains the difference between permissionless (public) and permissioned (private) blockchains and further explore the advantages and disadvantages of both by looking at how they are governed. The authors found that permissioned blockchains were a better fit for current organizational structures and were more beneficial regarding flexibility and data governance than permissionless blockchains due to a higher likelihood of goal alignment and thus an ease of reaching consensus (Covarrubias & Covarrubias, 2021).

Liu et al. (2022) explore user incentive mechanisms in DAOs as an innovation in different business domains. The paper looks at the governance structure from the perspective of users being both owners and participants and finds that users´ social capital and economic incentives positively impact on user participation behavior in a blockchain-based online community. The findings also show that economic and social feedback positively moderates the effects of economic incentives and social capital on user participation behavior (Liu et al., 2022). Lastly, Zhao et al. (2022) investigate task management in DAOs, and how different managerial efforts impact platform performance using MakerDAO as an example. Divided into strategic and operational decisions, the study found that strategic decisions from voting impacted performance positively, while operational decisions through voting impacted performance negatively. They, however, highlight that the existing voting structure should be redesigned to improve performance. Strategic decisions which have a long-term impact on performance should be designed with longer voting duration and increased pre-vote communication.

Operational decisions should be designed with a shorter voting duration, and expertized voters should be responsible for the design (Zhao et al., 2022).

      Transforming business processes and industries. The second sub-theme consists of publications looking at DAOs as a disruptive technology. Zamani & Giaglis (2018) finds DAO as a promising organizational structure in order to transform commerce by taking advantage of cryptocurrencies in reducing payment barriers and enabling borderless businesses. The article also points out blockchains´ potential to streamline and reduce costs in supply chains. However, the authors stress that current barriers such as risk, nascent, and infrastructure must be solved in order to reach mass adoption (Zamani & Giaglis, 2018). Supply chain management is also addressed by Fernando et al. (2021) and Wüst & Gervais (2018). While the former found significant results in controlling supply chains from a simulation tracing drugs (Fernando et al., 2021), the latter view a full blockchain implementation in supply chains as unnecessary due to sufficient existing hybrid tools such as IBM´s Hyperledger Fabric (Wüst & Gervais, 2018). However, the paper finds blockchain as an excellent innovation in the banking industry that could drastically reduce third parties and high costs related to inter-banking and international payments (Wüst & Gervais, 2018).

      A study by Murray et al. (2023) highlights the transformation of the internet moving towards Web 3.0 where users are in control of their own data leveraged by blockchain technology. The study finds that Web 3.0, has the opportunity to alter how individuals interact and disrupt businesses and markets by enabling virtual and borderless collaboration through DAOs (Murray et al., 2023). Lacity (2022) discusses the major innovation of blockchain technology and how early adopters use these innovations. For instance, blockchain startups are disrupting finance with Decentralized Finance (DeFi), where one advantage compared to traditional financial markets include not needing a trusted third party to start trading (Lacity, 2022). Park & Ozel (2019) also discuss some of the benefits of DAOs and cryptocurrencies, such as "banking the unbanked" (Park & Ozel, 2019).

      Saurabh et al. (2022) explore DAOs in the context of traditional digital business models and finds that they have the opportunity to strengthen the total value proposition, including communication channels and network management. The authors further create a DAO business model canvas that can help choose the right decentralized system that fits the organization´s needs (Saurabh et al., 2022). The study by Hornácková et al. (2019) explores how blockchain and smart contracts can be used to disrupt Enterprise Engineering. Tested in the mortgage process, the article finds that coordination benefits from increased transparency and the removal of third parties (Hornácková et al., 2019). Another investigated market is the oil and gas industry, where Rane & Narvel (2019) finds that blockchain-IoT integrated architecture improved agility in business processes. Through a simulation, the authors found that implementing the technology improved the

reliability of the oil pumps, reduced the number of breakdowns, and increased the life span and the ROI of the pumps (Rane & Narvel, 2019).

In the book *Post-capitalist Entrepreneurship*, Cohen (2017) states that DAOs could "democratize economic activity" (p. 92) and become "a powerful alternative to venture-capital-backed platform capitalists" (p. 92). The book also suggests that DAO as a business model could disrupt large institutions such as central banks and nation states´ role in society (p. 90). Lastly, Zalan (2018) finds that blockchain transforms the born global and international business literature. For instance, while competition for funding from professional investors such as VCs has traditionally been fierce for early-stage ventures, funding through ICOs democratizes the process of opening up for crowdfunding. Moreover, while traditional born globals cannot tap into larger ecosystems such as a MNE to secure continuous growth, MNEs increasingly aim to participate in blockchain-based startups (Zalan, 2018).

Digital platforms. The third sub-theme addresses business model innovation in digital platforms. Rocas-Royo (2019) addresses DAOs from a sharing economy perspective and states that the innovation disrupts centralized digital platforms and could potentially evolve the existing solutions through systems built on trustless trust, which is currently needed (p. 220). Moreover, the author finds that DAOs and blockchain could "lead to an evolution of platform capitalism" (Rocas-Royo, 2019, p. 224). Finally, Hsieh & Vergne (2023) investigated the coordination of activities in an early-stage decentralized platform before the impact of network effects. By analyzing 20 cryptocurrency platforms, they find that coordination in these decentralized platforms is "sophisticated mechanisms" (p. 25) when looking at the coordination of "resources, tasks, information, and rewards" (p. 25). Furthermore, it is stressed that blockchain-based platforms do not signal a shortage of coordination as proposed by Nakamoto (2008), but that coordination is occurring decentralized on-chain and off-chain (Hsieh & Vergne, 2023).

Technological factors

Technological factors were the second largest category in our sample. This research category comprises the technical aspects of DAOs and the underlying blockchain technology, in addition to exploring existing risks and solutions to mitigate some of these risks.

Table 5

Analysis of the 40 most influential articles

Categories	Sub-themes	Articles	Type of analysis	Methods
Business model innovation	Organizational structure and governance	Anand & Chauhan (2020)	Conceptual/ Descriptive	N/A
		Covarrubias & Covarrubias (2021)	Qualitative	Literature review
		Hsieh et al. (2018)	Conceptual/ Descriptive	N/A
		Liu et al. (2022)	Quantitative	Two-way fixed effect negative binomial regression
		Murray et al. (2021)	Conceptual/ Descriptive	N/A
		Norta (2015)	Semantic	Conceptual model
		Santa & Albareda (2022)	Qualitative	Literature review
		Zhao et al. (2022)	Quali-quanti	In-depth study/ Hierarchical regression
	Transforming business processes and industries	Angieri et al. (2020)	Semantic	Conceptual model
		Cohen (2017)	Conceptual/ Descriptive	N/A
		Fernando et al. (2021)	Descriptive	Simulation
		Hornácková et al. (2019)	Quantitative	DEMO
		Lacity (2022)	Qualitative	In-depth interview
		Murray et al. (2023)	Conceptual/ Descriptive	N/A
		Park & Ozel (2019)	Conceptual/ Descriptive	N/A
		Rane & Narvel (2019)	Quali/quanti	Literature survey/Case analysis/ Conceptual model
		Saurabh et al. (2022)	Qualitative	Literature review/ In-depth study
		Wüst & Gervais (2018)	Qualitative	In-depth studies
		Zalan (2018)	Conceptual/ Descriptive	N/A

Table 5

Analysis of the 40 most influential articles (continued)

Categories	Sub-themes	Articles	Type of analysis	Methods
	Transforming business processes and industries	Zamani & Giaglis (2018)	Conceptual/ argument-tative	N/A
	Digital platforms	Hsieh & Vergne (2023)	Qualitative	Qualitative comparative analysis/ Semi-structured interviews
		Rocas-Royo (2019)	Conceptual/ Descriptive	N/A
Technological factors	Governance mechanisms and monitoring mechanisms	Banaeian Far & Bamakan (2022)	Conceptual/ Descriptive	N/A
		Baudlet et al. (2020)	Quali-quanti	Survey/ Conceptual
		Kapitonov et al. (2018)	Conceptual/ Descriptive	N/A
		Zachariadis et al. (2019)	Conceptual/ Descriptive	N/A
	Security issues and mitigation of risks in blockchain and smart contracts	de Graaf (2019)	Conceptual/ Descriptive	N/A
		Duran & Griffin (2021)	Qualitative	Comparative analysis
		Konashevych (2017)	Conceptual/ Descriptive	N/A
		Mehar et al. (2019)	Qualitative	Case study/ Literature review
		Miglorini et al. (2019)	Conceptual/ Descriptive	N/A
		Nehaï et al. (2018)	Quali-quanti	In-depth studies/ Descriptive statistics
		Tam Vo et al. (2018)	Conceptual/ Descriptive	N/A
Legal framework	Regulations of ICOs and DAOs	Kurcz & Paizis (2019)	Qualitative	Case studies
		Vandezande (2020)	Conceptual/ Descriptive	N/A

Table 5

Analysis of the 40 most influential articles (continued)

Categories	Sub-themes	Articles	Type of analysis	Methods
Economic factors	Financial services	Takemiya (2019)	Qualitative	Case study
	Cryptocurrencies and token offerings	Arutunyan et al. (2018)	Quantitative	Comparative analysis
		Ibba et al. (2018)	Quantitative	Lean startup
		Liu & Wang (2019)	Conceptual/ descriptive	N/A
		Myalo (2019)	Quantitative	Situational comparative analysis

Governance mechanisms and monitoring mechanisms. The first sub-theme concentrates on mechanisms in both governance and monitoring of operations Banaeian Far & Bamakan (2022) identifies policy-based issues and technical issues as the two main challenges in a DAO. For instance, they highlight that misbehaving users are present in both categories and act as a major threat to the existence of a DAO. The authors further introduce Blockchain-Based Anonymous Reporting (BBAR) as a mechanism to monitor DAOs to identify weaknesses and detect misbehaving users collectively. BBAR will also secure anonymity which is identified as the core feature in blockchain technology (Banaeian Far & Bamakan, 2022). Baudlet et al. (2020) propose a new governance and consensus model to avoid current pitfalls, including hard forks, loss of cryptocurrencies, and the potential failure of a project. The authors further argue that the model can be applied to incentivize the creation and development of successful DAO structures (Baudlet et al., 2020).

Moreover, the study by Kapitonov et al. (2018) proposes a protocol for economic interaction among autonomous agents in Industry 4.0 utilizing blockchain and smart contracts. The architecture allows for secure peer-to-peer communication, while smart contracts facilitate fully automated interaction and enforce liabilities. The authors provide examples of successful projects, including a drone delivery service and an educational robotics training program. The protocol shows promise for organizing large-scale economic networks (Kapitoniv et al., 2018). However, while blockchain and smart contracts solve efficiency regarding information infrastructure with their decentralized governance, Zachariadis et al. (2019) argue that full implementation in existing financial services is

still to be realized. The authors argue that blockchain technology currently is premature and is more likely to become a supplement to existing solutions, such as a means to increase trust in different payment systems (Zachariadis et al., 2019).

Security issues and mitigation of risks in blockchain and smart contracts. The second sub-theme focuses on various security risks within blockchain technology and how to reduce these risks. Konashevych (2017) discusses several issues within the current state of blockchain technology, including price volatility, scalability, hard forks, and high centralization of computer power, which could potentially lead to a "50%+1 attack" (p. 81). However, such an attack demands excessive electrical power, which according to the paper, would cost approximately $425 million in the Bitcoin blockchain. The authors, therefore, find a majority attack less likely to occur. The study further highlights that the implementation of Proof of Stake (PoS) could be a solution to reduce the use of electricity in mining and increase scalability (Konashevych, 2017).

Furthermore, the paper by Tam Vo et al. (2018) describes the concept of IoB (Internet of Blockchain) and the challenges associated with implementing interactions between blockchains. The challenges include inter-ledger communication, data standardization, and cross-chain transaction processing. The authors highlight the need for further research and development to enable the realization of IoB (Tam Vo et al., 2018).

Mehar et al. (2019) investigates "The DAO" attack and highlights that the hard fork executed by the Ethereum community resembles the bank bailouts in the financial crisis, which Bitcoin was created as a reaction to (Mehar et al., 2019). deGraaf (2019) further examines DAO smart contracts´ legal and technical issues. For instance, trust in people is replaced by trust in code, which demands high accuracy and security. The authors highlight the need for auditing and liability regimes to increase confidence in the code exemplified by "The DAO" hack, which showed vulnerabilities in smart contracts. The study suggests that better collaboration between coders and lawyers could prevent similar incidents from reoccurring (de Graaf, 2019). The study by Migliorini et al. (2019) argues that blockchain-based smart contracts could be a paradigm shift in inter-organizational processes. However, the authors state that the immutability-by-default in blockchain might lead to other coding errors similar to "The DAO" due to contractual incompleteness. They found that the delayed ad-hoc procedures were inefficient in solving the breach, thus proposing enforceable business processes (EBP) to mitigate these issues, lowering contractual costs and potentially changing the socio-economic landscape (Migliorini et al., 2019).

Nehaï et al. (2019) propose a model-checking approach to verify the correctness of smart contracts. This approach is applied to a case study of a Blockchain Energy Market Place (BEMP) implemented on the Ethereum blockchain. The findings show that the model can verify several

desired properties, with some aspects remaining. The authors suggest that more precise blockchain models are needed to improve verification and validation issues (Nehaï et al., 2019). Lastly, Duran & Griffin (2021) analyzes parallels between OTC derivates and smart contracts regarding risks. The paper found several potential risk factors that could trigger financial instability. For instance, cyber-attacks on smart contracts and their ecosystem could damage businesses and the financial system due to the high level of smart contract customization. One solution to mitigate this risk is standardizing smart contracts (Duran & Griffin, 2021).

Legal framework

Regulations of ICOs and DAOs. This research category explores the legal aspect and regulation of token offerings and DAOs. Kurcz & Paizis (2019) investigates connecting factors in European Union law and how the digital age creates additional issues for cross-border business activities. Due to DAOs´ borderless nature, the authors state that DAOs should register to interact with physical world companies, even though it will limit their operations (Kurzc & Paizis (2019). Finally, the study by Vandezande (2020) investigates ICOs and DAOs to analyze whether they fall under the EU´s Markets in Financial Instruments Directive (MiFID). Since ICOs and DAOs hand out tokens that grant voting and governance, they can be identified as transferable securities and thus fall under the MiFID framework (Vandezande, 2020).

Economic factors

The last research category explores the financial structure of blockchain in addition to investigating cryptocurrencies and ICOs.

      Financial services. The sole article in this sub-theme proposes a token-based economy exemplified by Sora, which could reduce certain existing issues in the current centralized monetary system, such as mitigating moral hazard and reducing inflation (Takemiya, 2019).

      Cryptocurrencies and token offerings. This sub-theme gives an overview of the cryptocurrency landscape. Arutunyan et al. (2018) found that the drivers for cryptocurrency adoption and price fluctuations consist of network effects and the mining difficulty level. Moreover, Liu & Wang (2019) explored ICOs and found that ICOs often are underpriced, leading to significant returns when trading starts on an exchange. The authors further address price speculations where ICOs are victims of pump-and-dump schemes by token investors only buying to sell when profitable. The

study also finds a correlation between ICOs value and the price fluctuations of Bitcoin and Ethereum, where Ethereum stands out as the most impactful on ICO pricing (Liu & Wang, 2019).

Myalo (2019) examines the risk associated with ICOs, including the lack of regulation and security issues. The paper highlights an investigation by Ernst & Young showing that cyber criminality is a severe threat to ICOs, where as much as 10% of all raised funds were found to be stolen. The author looked at initial exchange offerings (IEOs) and security token offerings (STOs) and found that these two are less likely to be victims of fraudulent behavior due to being more regulated, and thus more likely to become more popular. The paper also shows that factors such as country of origin and the experience of the fundraisers plays have effects on the success of the campaign (Myalo, 2019). Lastly, Ibba et al. (2018) explore ICOs as an innovative fundraising method. One of the issues for investors in early-stage ICOs is the lack of immediate token value, and the authors suggest using the LEAN methodology to increase the likelihood of ICO success and thus reduce the risk for investors (Ibba et al., 2018).

Systematic review and analysis of whitepapers

In order to answer research question three regarding the content and scope of DAO VC, we deployed a systematic review of the ten found whitepapers. We further organized the retrieved information in a master table into categories to look for similarities and differences. The result from the systematic review is shown in the subchapters below, divided into categories consisting of structure and overview, mission statement, governance structure, tokenomics, and network. These findings will provide valuable insights into the different DAOs and help determine best practices.

Structure and overview

Table 6 shows the structure and provides an overview of the venture DAOs. First, we found that all the DAOs were affiliated with the Ethereum blockchain. Moreover, when considering the year of creation, nine of the ten DAOs had information either in the whitepaper or easily found on an external platform (Crunchbase, n.d.a; Crunchbase, n.d.b; New Order, n.d.b). However, only six of the DAOs had the creation date written in their whitepaper. We were additionally unable to retrieve the creation date from DAO.vc. The findings show that the earliest creation was Rocket DAO in 2018, followed by Moloch DAO and MetaCartel Ventures in 2019.

Interestingly, we found that MetaCartel Ventures was a hard fork out of Moloch DAO and that Hydra Ventures spanned out as a hard fork from MetaCartel Ventures. The most recent DAOs were Hydra Ventures and MetaRISE DAO, created in 2022. We also included duration to see whether the DAO was created for a limited period and found that only Hydra Ventures had an end-date operating for three years.

We investigated whether the DAOs were or intended to become registered as a company. Interestingly, we found that the majority were registered, whereas four DAOs (Hydra Ventures, MetaCartel Ventures, MetaRISE, and The LAO) were registered as a Delaware Limited Liability Company (LLC). Hydra Ventures was additionally registered in the Cayman Islands as an LLC. Subsequently, we found that New Order DAO was registered as an LLC in the British Virgin Islands, while DAO.vc was registered in Luxembourg as a special limited venture partnership.

Table 6

General whitepaper information (sorted alphabetically by DAO)

DAO Name	Creation	Registration	Blockchain affiliation	Words	Duration
BitDAO	2021(1)	Not registered	Ethereum	2627	N/A
DAO.vc	N/A	Luxembourg SLVP (4)	Ethereum	3128	N/A
Hydra Ventures	2022	Delaware LLC and Cayman Islands LLC	Ethereum	5460	3 Years
MetaCartel Ventures	2019	Delaware LLC	Ethereum	9765	N/A
MetaRISE DAO	2022	Delaware LLC	Ethereum	3703	N/A
Moloch DAO	2019	Not registered	Ethereum	4076	N/A
New Order DAO	2021(2)	British Virgin Islands LLC	Ethereum	7869	N/A
Orange DAO	2021(3)	Not registered	Ethereum	2682	N/A
RocketDAO	2018	Not registered	Ethereum	4823	N/A
The LAO	2020	Delaware LLC	Ethereum	5273	N/A

Note(s). (1) Creation date was extracted from Crunchbase (n.d.a). (2) Creation date was extracted from Medium (New Order, n.d.b). (3) Creation date was extracted from Crunchbase (n.d.b). (4) DAO.vc is registered as a special limited venture partnership.

Lastly, to further help investigate the content and scope of the DAOs, we looked at the whitepaper word count and the individual structure. We found that the whitepapers were both inconsistent in publication form, their structure, and had a high differentiation in the word count. In the lower spectrum, we found BitDAO (2627 words) and Orange DAO (2682 words). MetaCartel Ventures had the largest word count with 9765 words. When calculating the mean, we found it to be 4940,6 words on average.

Additionally, addressing the publication form, four DAOs had their whitepaper as a PDF, consisting of Moloch DAO, MetaCartel Ventures, Hydra Ventures, and Rocket DAO. We found that three of the DAOs (BitDAO, DAO.vc, and New Order DAO) had published their whitepaper through GitBook, and thus readily available and divided into sections on their webpages. This was also the case with The LAO using a similar approach. Orange DAO´s whitepaper was found in the "About Us" section on their webpage, while MetaRISE DAO´s whitepaper was retrieved from a blog post.

Mission

Another vital factor was analyzing the core mission statements to fully comprehend the individual DAO VC´s objectives and purposes. *Table 7* outlines the DAOs mission. We found that all ten focused on building and developing the decentralized Web 3.0 ecosystem. For instance, BitDAO, New Order DAO, and Orange DAO focus on building the decentralized economy, while both Moloch DAO and MetaCartel Ventures aim to develop the public infrastructure within the Ethereum ecosystem. Interestingly, MetaRISE is created to support the development of the blockchain infrastructure in emerging markets, starting with Asia.

While nine out of ten DAO VCs directly fund startup projects in various blockchain areas such as DeFi and DApps, RocketDAO is built as a decentralized platform facilitating investors and ventures. The findings suggest that RocketDAO enables more investor flexibility where members of the DAO have the opportunity to create funds and customize the funds' structure (i.e., governance, tokenomics) to meet their preferences.

Table 7

Mission statement (sorted alphabetically by DAO)

DAO Name	Mission statement
BitDAO	"BitDAO aims to support builders of the decentralized economy. It is an open platform for proposals that are voted upon by BITtoken, and is agnostic to chains and projects." (BitDAO, n.d.)
DAO.vc	"DAO.vc is a decentralized autonomous organization that acts as a service for blockchain-based tokenized pool governed through common voting for investment projects selected according to an algorithm established." (DAO.vc, n.d.)
Hydra Ventures	"Hydra Ventures is an investment DAO fund of funds that aims for accelerate the emergence of the venture DAO ecosystem." (Hydra Ventures, 2022)
MetaCartel Ventures	"MetaCartel Ventures aims to be a project that aims to deepen MetaCartel´s existing commitment to furthering the progress within the Ethereum DApp ecosystem and Web 3." (MetaCartel Ventures, 2019)
MetaRISE DAO	"MetaRISE is an investment DAO and decentralized startup accelerator on a mission to harness the potential of emerging markets…starting with Asia." (Glaveski, 2022)
Moloch DAO	"The immediate goal of the Moloch DAO will be to fund and further the development of public infrastructure related to Eth 2.0." (Moloch Ventures, 2019)
New Order DAO	"New Order is a community-driven venture DAO with a focus on building DeFi startups through Incubation and Acceleration." (New Order, n.d.a)
Orange DAO	"Orange DAO exists to support past, present, and aspiring Y Combinator founders who are building the future of the crypto ecosystem." (Orange DAO, 2022)
RocketDAO	"Decentralized crowdfunding and startup evaluation platform." (RocketDAO, 2018).
The LAO	"The LAO was organized in the spirit of The DAO, as a member-directed venture capital fund organized in the United States, with an aim to be compliant with U.S. law." (The LAO, n.d.)

Governance

Table 8 shows the DAO VC governance structure. As mentioned, DAO members typically receive governance tokens that grant proposals and voting rights in exchange for a cryptocurrency like ETH. We find that all DAOs follow this structure except MetaRISE, which currently only grants voting

rights. Interestingly, MetaRISE will start with a centralized structure and gradually decentralize as the DAO develops. Moreover, the findings show that half of the DAOs are permissioned (private), where new membership requests must either be approved with a quorum from existing members or meet certain criteria to access the DAO. For instance, membership requests in MetaCartel Ventures and Moloch DAO must be proposed from existing members, while new members to Orange DAO must first be accepted into the Y Combinators accelerator startup program. The LAO only offers access to accredited investors and is the only DAO limiting its membership base to 99 investors. The permissionless (public) DAOs consist of BitDAO, DAO.vc, New Order DAO, and Rocket DAO and are open to everyone owning the individual DAO´s tokens. Only MetaRISE did not provide sufficient information in its whitepaper to analyze whether the DAO is permissioned or permissionless.

The findings show a broad spectrum within governance architecture. Several of the DAO VCs use governance modules such as Gnosis Snapshot and Moloch to increase security and reduce gas fees by facilitating off-chain communication and decision-making processes. While these governance tools have different features, they generally contribute to increasing user participation in proposal and voting processes. One feature of the Moloch architecture is the ability for members to ragequit. Ragequit allows DAO members to leave the organization should they disagree with the outcome of a vote withdrawing their share of the funds. This governance mechanism was found as a feature in Moloch DAO, MetaCartel Ventures, Hydra Ventures, and The LAO. Ragequitting also serves as a safety net to protect members´ assets from malicious attacks and mismanaging of the DAO´s resources. To prevent the risk of massive dilution if a majority of members opt to ragequit simultaneously, Moloch DAO has a safety mechanism that would invalidate the proposal. Another feature in Moloch v2 is guildkick. If a member misbehaves or acts against the DAO´s rules, the member could risk being guildkicked equivalent to being voted out of the DAO. However, this is not an option in Moloch v3 used by Hydra Ventures.

The results also show various organizational structures to facilitate operations. For instance, Orange DAO´s operations are coordinated by various member-elected committees, whereas the governance committee handles the day-to-day operations of the DAO. Additionally, DAO.vc and New Order DAO distributes basic tasks to a core team responsible for the execution, while Hydra Ventures outsources basic operational tasks to a service provider to ensure that the DAO members solely focus on its purpose of building the venture DAO ecosystem. This service provider will also be handling unresolved matters after Hydra Ventures´ three years existence period. In the case of MetaCartel Ventures, members are distinguished into three categories: Mages, Goblins, and Summoners. Summoners are responsible for various service operations and are governed by

Table 8

Governance (sorted alphabetically by DAO)

DAO Name	Membership	Proposal strategy	Voting strategy
BitDAO	Permissionless. Governed by BIT token holders.	Threshold: 200,000 BIT	Delegated voting: Yes Weight: Per token Duration: Min. 7 days Consensus: Simple majority Quorum: 100M BIT (1% of total supply) Staking: N/A
DAO.vc	Permissionless. Governance NFT holders	All members can propose	Delegated voting: Yes Weight: N/A Duration: N/A Consensus: Simple majority Quorum: Participation of minimum 10% of token holders Staking: Yes
Hydra Ventures	Permissioned. Only allowing memberships at the start. Offers ragequit	All members can propose	Delegated voting: N/A Weight: Per member Duration: 7 days Consensus: Simple majority Quorum: Counted votes Staking: N/A
MetaCartel Ventures	Permissioned. New memberships are proposed by existing members. Offers ragequit and guildkick	All members can propose	Delegated voting: N/A Weight: Per member Duration: 14 days voting and 14 days grace period Consensus/quorum: Simple majority of counted votes (ordinary proposals) Minimum 69% of current shares (extraordinary proposals) Staking: N/A
MetaRISE DAO	N/A	Limited at start	Ability to vote
Moloch DAO	Permissioned. New memberships are proposed by existing members. Offers ragequit and guildkick	All members can propose	Delegated voting: N/A Weight: Per member Duration: 7 days voting and 7 days grace period Consensus: Simple majority Quorum: Counted votes Staking: N/A

Table 8

Governance (sorted alphabetically by DAO) continued

DAO Name	Membership	Proposal strategy	Voting strategy
New Order DAO	Permissionless. Governed by $NEWO token holders	All members can propose. Three steps towards consensus (ideation, specification, and consensus).	Delegated voting: N/A Weight: N/A Duration: 5 days + 7 days Consensus/quorum: Ordinary proposals need simple majority and minimum 2.5% of circulating token supply. Extraordinary proposals need minimum 66% approval and minimum 5% of circulating token supply. Staking: Yes
Orange DAO	Permissioned. Only allowing founders accepted into Y Combinator´s startup program.	All members can propose	Delegated voting: Yes Weight: Per token Duration: 7 days Consensus: Simple majority Quorum: Minimum 15% of circulating supply Staking: N/A
RocketDAO	Permissionless. Open to all $ROCK token holders	Decided by the individual fund	Decided by the individual fund.
The LAO	Permissioned. Only accepting accredited investors, and maximum 99 members. Offers ragequit	All members can propose	Delegated voting: Yes Weight: Per LAO unit Duration: 7 days, but can be expanded Consensus: Simple majority Quorum: Casted votes.

Mages who are highly participating members, and similar to a management team. Mages are expected to contribute to the DAO´s development, and if these members fail to reach a certain level of participation, they could risk being downgraded to Goblins. Goblins are perceived to be more passive members who have chosen not to participate to the same extent as Mages. The level of contribution is generally found to be an essential aspect of the DAOs ecosystems. This helps ensure long-term commitment and activity to reach their purposes. New Order DAO and DAO.vc use a staking system where long-term commitment increases influence and voting power.

When considering proposals, eight of the DAOs allow all members to propose. However, Orange DAO has a maximum threshold of seven proposals per day and limits the number of total proposals to a maximum 35 to reduce voting overload. Moreover, BitDAO demands a minimum

threshold of 200.000 BIT for members to enable proposal rights. New Order DAO has a three-step process toward a consensus where all members can propose at the first stage (ideation phase). As previously mentioned, MetaRISE does not grant members proposal rights due to its centralized structure at the launch, while Rocket DAO´s proposal and voting structure is decided by the individual funds.

Following proposals are the voting strategy. Generally, the majority of the DAO VCs have a standardized voting period ranging between seven and 14 days. In the voting period, we find several DAOs either use a one-member-one-vote or one-token-one-vote system. This reduces the risk of concentration of power and helps balance the distribution of voting. However, DAO.vc and New Order DAO use member engagement mechanisms such as staking as a multiplier to reinforce the voting value. The findings also suggest that four of the DAOs allow delegation of voting power to other members.

Subsequently, a consensus is generally reached with a simple majority of the casted votes. However, some DAOs, including BitDAO, DAO.vc, Orange DAO, and The LAO, must reach a lower percentage threshold for a vote to be valid. MetaCartel Ventures and New Order DAO also differentiate between ordinary and extraordinary votes and the quorum needed. For instance, in the case of New Order DAO, an ordinary proposal only requires a simple majority of the counted votes, in addition to a minimum of 2.5% of the total governing tokens. At the same time, the extraordinary (constitutional) proposals demand 69% of current shares in MetaCartel Ventures and 66% with a minimum of 5% of the total governance tokens in New Order DAO.

After voting, MetaCartel Ventures, Moloch, and Hydra Ventures have a grace period that locks the outcome from being immediately executed in case members opt to ragequit. The grace period is between seven and 14 days in Moloch and MetaCartel Ventures, whereas Hydra Ventures using Moloch v3, has the opportunity to customize the voting period.

Tokenomics

Tokenomics help us understand the DAOs´ economic structure, including token distribution and token allocation. Surprisingly, we found that several of the DAOs did not provide comprehensive information regarding tokenomics in their whitepaper or web pages. *Table 9* shows the tokenomics overview, while *Table 10* highlights the token allocation. The name of the governance token is only found in seven of the ten DAOs. Hydra Ventures, MetaCartel Ventures, and Moloch do not have an individual specified governance token, whereas the two latter lack retrievable data regarding

tokenomics in general. The weak majority has additionally a fixed token supply to reduce inflation of the token value. However, Orange DAO states in its whitepaper that additional tokens could be minted if voted upon by the Orange DAO charter. To help manage token supply, BitDAO and Hydra Ventures are the only two DAOs mentioning burning of tokens in their whitepaper. Burning is a tool used to create scarcity and secure higher token value for investors, where the process involves permanently removing a number of tokens.

The findings further show that only three DAOs have available information on their treasury ranging between 30% and 54%. We also found that four DAOs are present on a secondary tradable market. Unsurprisingly, BitDAO, the world´s second-largest DAO at the time of writing, singles out being present on 30 different exchanges.

The whitepapers also showed token allocation in six of the DAOs´ whitepapers. One challenge was categorizing token allocation due to the non-existing standardization of structure and terminology. Therefore, we had to merge several of the token allocations into categories to provide an overview of the categories.

Table 9

Tokenomics (sorted alphabetically by DAO)

DAO Name	Token	Token supply (1)	Treasury (2)	Exchange (3)	Burning
BitDAO	$BIT	10.000 M	30%	30	Yes
DAO.vc	$DAOVC/ $VCDAO	100 M	-	3	-
Hydra Ventures	-	-	-	-	Yes
MetaCartel Ventures	-	-	-	-	-
MetaRISE DAO	$METARISE	100 M	-	-	-
Moloch DAO	-	-	-	-	-
New Order DAO	$NEWO	800 M	38%	3	-
Orange DAO	$ORANGE	100 M	54%	-	-
RocketDAO	$ROCK	25 M	Decided by the different funds	1	-
The LAO	$LAOUnits	-	-	-	-

Note(s). (1) M is an abbreviation for Millions. (2) Treasury is measured in percentage of token supply. (3) Exchange is the number of secondary markets where the tokens can be traded.

For instance, the category *Team & Stakeholders* comprises several sub-themes, including core team, advisors, investors, remuneration, and service providers. The second main category was named *Token & Distribution* and consisted of sub-themes such as token incentives, liquidity provision, and community rewards. Thirdly, *Finance & Investments* was merged from sub-themes including startup investment, capital contribution, and reserve fund. The category *Ecosystem & Partners* comprises the ecosystem funds, brands, partnerships, and foundations. Lastly, *Marketing* also included token sales and liquidity.

In general, we find that the DAOs are inconsistent in the tokenomics content and lack an industry standard for displaying their tokenomics. Three DAOs gives no information on their token allocation, while DAO.vc, Hydra Ventures, MetaRISE, and New Order (when including treasury) are all fully transparent in their token distribution.

Table 10

Token allocation (sorted alphabetically by DAO)

DAO Name	Team & Stakeholders	Token & Distribution	Finance & Investments	Ecosystem & Partners	Marketing
BitDAO	-	-	-	-	-
DAO.vc	15,91%	-	10%	20%	54,09%
Hydra Ventures	8%	23%	69%	-	-
MetaCartel Ventures	-	-	-	-	-
MetaRISE DAO	55%	25%	10%	10%	-
Moloch DAO	-	-	-	-	-
New Order DAO	40%	22%	-	-	-
Orange DAO	-	30%	-	-	-
RocketDAO	10%	-	-	-	-
The LAO	-	-	-	-	-

Network

Network, as the last category, was included to show member count and publication frequency on the off-chain social media platforms Twitter and Discord. While access to Twitter was transparent and open, we had to get approved as members in the respective DAOs on Discord to retrieve membership information. We managed to find all the DAOs in our sample size on Twitter, while only five were found and accessed on Discord.

The membership count on Twitter ranged from 917 (MetaRISE) to 48.556 (BitDAO). When calculating the mean, the average member count was 13.126. We furthermore managed to find and access five DAO forums on Discord, consisting of BitDAO, DAO.vc, Moloch, New Order DAO, and Orange DAO. The average membership base was 3.078, again leading with BitDAO with 10.205 members.

When investigating publication and activity frequency on Twitter, we found that six of the DAOs are still actively tweeting. The four inactive DAOs consist of Moloch DAO, MetaRISE, Hydra Ventures, and Rocket DAO. Of these DAOs, Moloch DAO and MetaRISE have not tweeted since October 2022. Moreover, Rocket DAO has not been active since January 2021, while Hydra Ventures last tweeted in May 2022. The lack of posts from Hydra Ventures could arguably be due to their limited timeframe structure in only accepting membership in the initial phase of the DAO. Of the active DAOs, the frequency of tweets varies from monthly to daily. For instance, MetaCartel Ventures is the least active, with only a couple of monthly posts, while Orange DAO and New Order DAO are the most active DAOs, with several daily posts. The remaining DAOs, The LAO, BitDAO, and DAO.vc, all posts several times weekly.

Discussion

In this paper, we have identified several key trends and themes important to help determine the best practices of venture capital DAOs. The bibliometric analysis showed a growing academic interest in the field of DAOs, identified by an increasing number of publications in recent years. Publications are also found mainly in developed countries, mostly represented by the United States and the European continent. The clusters identified in the keyword co-occurrence and bibliographic coupling enabled four distinct but interrelated categories used in the content analysis: business model innovation, technological factors, economic factors, and legal framework. The content analysis suggests that the publications mainly focus on DAOs as a disrupter of business models and markets, solving existing issues in traditional industries with potential new risks emerging from the using blockchain technology. Moreover, the systematic review of DAO whitepapers showed that the content and scope highly vary with little consistency, with the exception of their blockchain affiliation and mission statement. In this part, we shed light on and discuss the main findings to provide guidance towards best practices in a growing industry lacking a standardized framework.

One emerging trend from the literature suggests that DAOs and blockchain technologies will experience an increase in regulations in the coming years, already seen with the European MiFID framework and existing regulation of security tokens in the US (Covarrubias & Covarrubias, 2021; Myalo, 2019). Furthermore, Anand & Chauhan (2020) highlight that DAOs need mass adoption to reach their potential. Therefore, DAOs could benefit from registration to legitimize their status as a security asset and help build trust in the technology amongst stakeholders. This signals that the organization is committed to operating professionally and helps prevent the potential moral hazard from malicious actors. However, one drawback of registration is the potential limitation of DAO operations, including increased compliance costs. On the contrary to these operational costs, one advantage is enhanced legal protection of users and organizations, which further help create more transparent rules of engagement between the actors and their interaction with both Web 3.0 and physical world companies. In order to increase credibility and reach mass adoption, we thus suggest that company registration of DAOs is a best practice as found in the following DAOs: DAO.vc, Hydra Ventures, MetaCartel Ventures, MetaRISE, New Order DAO, and The LAO.

Another main finding is whether the DAO is permissioned or permissionless and the advantages and disadvantages of each. The systematic review of whitepapers revealed that 50% of the DAOs were permissioned, while 40% were identified as permissionless. One of the advantages of a permissionless governance structure is a lower entry barrier compared to permissioned

structures. Permissionless DAOs do not require membership approvals and are thus open to all that hold the individual token. Moreover, this ease of access also increases the likelihood of getting familiar with the ecosystem. This could also help explain BitDAO´s large market capitalization found in DeepDAO (2023). However, permissionless structures could potentially lead to an increased number of investors joining the DAO to speculate on token prices rather than contributing to DAO development, in addition to reducing the likelihood of people sharing the same interest and objectives (Murray et al., 2021). This is supported by the literature, which finds permissionless governance structures to have less operational flexibility compared to permissioned structures (Covarrubias & Covarrubias, 2021). These findings also suggest that permissioned structures increase the ease of reaching consensus due to higher goal alignment and a higher resemblance to existing physical world organizational structures. On the other hand, one disadvantage is the potential amount of extra resources required to operate permissioned DAOs task management, including membership approvals. Additionally, permissioned DAOs are perceived to possess a higher degree of centralization than permissionless DAOs since they ensure that only vetted participants can influence decision-making.

In the context of DAO VCs, both the DAO and the startups involved would benefit from DAO members understanding that investing in new ventures is associated with high risk and volatility, and applicable knowledge and interest is an advantage that could help ensure goal alignment and higher quality in proposals and voting processes. Therefore, we suggest that permissioned governance structures are a best practice for venture capital DAOs. Our results show that the following DAOs have a permissioned structure: Hydra Ventures, MetaCartel Ventures, Moloch DAO, Orange DAO, and The LAO. However, we acknowledge that a permissionless structure could be a more optimal solution in other types of DAOs where goal alignment and participation are less critical.

Another significant finding is the difference in DAOs´ voting structure. The whitepaper findings indicate two voting power distribution types: token-based or member-based voting weight. In a token-based voting system, the members´ token holding at the time of the vote represents their members´ voting power. Hence, a higher quantity of tokens corresponds with higher voting power. This system is found in the following DAOs: BitDAO, DAO.vc, New Order DAO, Orange DAO, and The LAO. On the other hand, a member-based voting system gives each member equal voting power regardless of their token holdings. This structure is found in Hydra Ventures, MetaCartel Ventures, and Moloch DAO. The findings from the content analysis do not address this particular topic, but our whitepaper analysis indicates several advantages and disadvantages with both.

First, the advantages of the one-member-one-vote system are a more inclusive and equal representation of DAO members, and a reduced concentration of power, lowering the risk of manipulation by large token holders. Since token holdings are not tied to voting power, one disadvantage is that large token holders could be less incentivized to contribute as their influence is limited to one vote. Second, a benefit of the one-token-one-vote system involves higher incentives to participate as larger token holders increase their influence proportional to their holdings which could lead to a more engaged community. Additionally, token holders with significant stakes could be perceived as more likely to prioritize the organization´s best interests, as they are more invested in the DAO´s success. On the other hand, disadvantages include centralization of a decentralized organization through the concentration of power where only the larger token holders have a significant voice in controlling the DAO´s direction.

Furthermore, this structure could also exclude minority voices and risks potential manipulation as larger token holders could steer the DAO to serve their own interests. One possible solution to mitigate the risk of concentration of power is to ensure a maximum number of tokens per member, as found in The LAO. While both structures have several advantages and disadvantages, we find that one-token-one-vote is a best practice because it could increase community engagement and attachment to the DAO´s success. We furthermore suggest that a maximum token holding per member is essential to avoid 50%+1 attacks, as mentioned by Konashevych (2017).

One additional key theme in the DAOs whitepapers is how they incentivize contribution and long-term commitment amongst members to ensure goal alignment and higher activity levels. We find some of the DAOs to have measures to increase user activity. For instance, DAO.vc and New Order DAO allow staking of tokens which acts as a multiplier in voting power, meaning the longer the tokens are staked, the higher the value of the tokens. This acts as a reputation-based voting system, and the literature states that this structure incentivizes higher commitment and activity levels in granting the members a higher voting power (Anand & Chauhan, 2020). Since DAO task management is built on voluntary contributions (Liu et al., 2022), enforcing reputation scores, such as multipliers could be beneficial to ensure the DAO´s long-term success while simultaneously reducing speculation in the token, creating stability in the DAO and its assets. This is supported by Liu et al. (2022) that find economic feedback such as staking and social feedback among which member status positively effects member participation. However, staking often reduces the member´s liquidity by locking the token holdings in a certain period, limiting their opportunity to access or exchange their assets rapidly. Staking is also considered as a security in countries as the US, demanding that only accredited investors are vetted for staking with potential penalties such as legal prosecutions if not followed (Kharif et al., 2023).

Another type of reputation-based structure is found in MetaCartel Ventures and Moloch DAO. Contrary to the positive incentives found from staking, these DAOs demand a certain contribution threshold in order for members to maintain their status. While MetaCartel Ventures differentiate membership status according to their contribution level, both DAOs have the option of guildkick, where non-contributing members could, in the worst case, risk being voted out of the DAO. As the findings from the whitepaper analysis highlight, MetaCartel Ventures ranks Mages as the most essential members contributing to the DAOs´ success, while Goblins are silent investors that do not meet the contribution threshold. Any Mage could risk being downgraded to a Goblin, and these structures found in MetaCartel Ventures and Moloch DAO thus acts as a negative incentive towards contribution. While guildkick could be an important measure to reduce moral hazard and malicious behavior amongst members, it may also lead to members putting more weight on quantity over quality to reach the contribution threshold and avoid receiving negative incentives.

Based on the literature and whitepaper findings, we suggest that positive reinforcement of social capital impacts participation and commitment. While staking has some negative aspects, the economic and social incentives associated with the system increase long-term commitment and reward members´ contributions, and we thus find staking as a best practice.

When considering different types of voting, the literature findings suggest that voting duration should be adapted between operational and strategic proposals to enhance performance (Zhao et al., 2022). From the whitepaper analysis, we found that the voting duration was between five and 14 days. Interestingly, only two DAOs (MetaCartel Ventures and New Order DAO) separate ordinary and extraordinary proposals. Subsequently, the content analysis stresses the importance of increasing voting duration in strategic decisions, while operational decisions should be designed with a shorter voting period with expertized voters responsible for the design (Zhao et al., 2022). The whitepaper findings show that none of the ten DAOs adjusts the voting period according to the type of proposal. Nevertheless, MetaCartel Ventures distributes operational tasks to some of its members, while Orange DAO elects members into different committees, which helps facilitate proposals and voting design.

Voting duration also impacts the efficiency of the DAO´s governance process. This was also addressed as an issue in the literature investigating "The DAO" hack, where a disadvantage of DAOs is seen as the ability to respond rapidly to critical issues to mitigate these risks (Migliorini et al., 2019). Hence, a shorter voting duration could increase decision-making efficiency and maintain the DAO´s agility and competitiveness. On the other hand, a disadvantage is the risk of less informed decision-making critical in strategically important governance processes. Our findings, show that

differentiation between long-term strategic (e.g., fundamental changes) and operational proposals (e.g., membership approvals), is vital to reducing voting fatigue and emphasizing that strategic decisions are more critical to increase the DAO´s performance. Therefore, we suggest that separating operational and strategic proposals as a best practice. We furthermore propose that a longer voting duration for strategic decisions and a shorter voting duration for operational decisions is a best practice and recommend implementing these practices by future DAO VCs.

Consensus is another vital aspect to consider in the governance of DAOs. Various consensus mechanisms can be employed in a DAO, including simple majority and supermajority. Each of these mechanisms has advantages and disadvantages, and their relevance depends on the content and scope of the proposal. We argue that a tailored approach aligned with the differentiation between strategic and operational proposals could optimize the governance processes within the DAO. Strategic decisions often have a long-term impact on the DAO and could benefit from a higher threshold to ensure a broader agreement amongst members. On the other hand, operational decisions, which often are more standardized, could take advantage of lower thresholds to improve agility and reduce voting fatigue. Building on this, we suggest that a higher quorum is beneficial in strategic decisions to ensure the voting receives the required deliberation. In contrast, operational decisions should be designed with a lower threshold to avoid voting fatigue and increase efficiency.

The findings from the systematic review show that nine of the DAO VCs demand a simple majority for a proposal to pass, while Rocket DAO´s consensus mechanisms are decided by the individual funds. MetaCartel Ventures and New Order DAO distinguish between ordinary and extraordinary voting, where a simple majority is needed on ordinary proposals and with a higher voting threshold for extraordinary proposals. The DAOs further differentiate on the quorum required for a proposal to be considered valid. Mainly two categories are discovered consisting of either a minimum percentage of token supply or a majority of the casted votes. In the former category, BitDAO, DAO.vc, New Order DAO, and Orange DAO have a voting threshold ranging from 1% to 15% of the token supply. New Order DAO distinguishes between ordinary proposals requiring a minimum of 2.5% and extraordinary proposals needing a minimum of 5%. The latter category only demands a simple majority of the casted votes, including Hydra Ventures, MetaCartel Ventures, Moloch DAO, and The LAO, except for MetaCartel´s extraordinary proposals, which demands a supermajority consisting of minimum 69% of current shares. In summary, implementing an adaptive quorum system with variating consensus thresholds is recommended as a best practice for the DAO VC landscape.

After a proposal has reached a consensus, the whitepaper results show that four DAOs allow members to ragequit. While the literature does not investigate this phenomenon, ragequitting is a

governance mechanism where members object to the outcome of a vote they have voted "no" on, and could leave the DAO with their share of tokens. MetaCartel Ventures and Moloch DAO facilitate this process by locking consensus-reached voting in a post-voting grace period between seven and 14 days. One of the advantages of this mechanism is that it proactively protects members from directions that disagree with their core beliefs. This could also strengthen the signaling effect to community members to behave accountably and pursue the DAO's objectives.

Nevertheless, ragequitting has its limitations. The grace period will reduce efficiency and agility, delaying the implementation of the voting outcome. Another potential drawback for the organization is the risk of reducing the liquidity of the DAO if a substantial number of members decide to ragequit. This could potentially create an immediate liquidity squeeze, forcing the DAO to sell assets at a disadvantageous time which could be detrimental to the return on investment and thus threatening the DAO's existence. One measure to mitigate this risk is to implement staking, which has already been established as a best practice. Moreover, Moloch DAO has a dilution safety mechanism to protect the remaining members from massive dilution if a large percentage of members opt to ragequit. This will automatically lead to the failure of the proposal. Weighting the benefits and drawbacks of ragequitting, we suggest that this governance mechanism, if combined with a permissioned structure, is a best practice.

One notion from the whitepaper findings is the organizational support structure existing in some of the DAOs. The key objective is to facilitate uncritical operational tasks to a team of elected members or outsourced personnel with applicable knowledge. As the results highlight, all DAOs except BitDAO, Moloch DAO, and The LAO mention various teams responsible for various tasks. Moreover, MetaRISE is the most centralized DAO with an established managing team in a hierarchical structure possessing rights ordinary members do not possess. BitDAO, on the other hand, could be perceived as the most decentralized organization without any supporting structure. Implementing a supporting governance structure may reduce the extensive use of resources on basic task management and increase the efficiency of the DAOs' operations. Since DAOs are considered as borderless organizations with members potentially spread across the globe (Zalan, 2018), this could create bottlenecks in operational planning and execution that could be reduced by a supporting team. By including individuals with competent skills and knowledge, either through acquiring external personnel or electing members, DAOs could ensure that organizational tasks are streamlined, reducing potential errors and improving agility. On the contrary, a disadvantage involves a higher degree of centralization, empowering the team with decision-making authority.

Except for Orange DAO electing members to different committees, Hydra Ventures outsourcing basic tasks to a service provider, and MetaCartel's Summoners which could be members

and external experts, the remaining DAOs´ whitepaper is unclear of the core teams respective roles. It is difficult to conclude which supporting system is the most effective, however, the role these organizational supporting structures possess based on the argumentation is suggested to be a best practice.

One emerging topic of interest distinguishing the DAOs is the content and scope of the whitepapers. Whitepapers, acting as business plans, enable a comprehensive understanding of the DAO´s value proposition and showcase the information and transparency needed to attract new investors. As mentioned by Liu & Wang (2019), the value of the DAO is linked to the quality of the whitepaper. We find from the systematic review that the whitepapers are inconsistent regarding the number of words, terminology, and the inclusion of various fundamental aspects. When considering word count, the results show that the DAOs range from 2627 (BitDAO) to 9765 (MetaCartel Ventures). While a higher number of words does not necessarily correlate with high-quality content, the inclusion of certain aspects is essential to establish a professional appearance, especially when aiming to attract new investors. Subsequently, we discovered an inconsistency in terminology within the whitepapers. This could confuse potential investors, as they may have difficulties understanding the differences among the DAOs. We were also required to merge various sub-terms to enable categorization for comparison. Therefore, we suggest that the standardization of terms as the industry matures could play a vital role in achieving mass adoption.

The inconsistency in terminology is also found in the literature, which uses various terms to explain different concepts. For instance, tokenomics is only used by Liu & Wang (2019), while Myalo (2019) addresses that token economics should be included in a whitepaper. Moreover, Myalo (2019) highlights that standardization of whitepaper content does not exist and further proposes a framework for what an ICO whitepaper should contain, including a mission statement, economics, and team. Covarrubias & Covarrubias (2021) further stresses the importance of a well-defined governance structure within crypto assets whitepapers. Hence, the literature results support our findings, indicating that increased standardization could benefit the blockchain sphere.

Another crucial role whitepapers play is to provide transparency to investors regarding the allocation and distribution of tokens, the incentives involved, and the economic model that drives the ecosystem. Labeled tokenomics as a collective term, an important finding shows that certain DAOs do not provide a comprehensive and transparent outline of tokenomics and that some DAOs neglect addressing it entirely. Conversely, to traditional VCs, where investors acquire a share of the startup, DAO VC does not claim ownership percentage, but investors earn a return on investments (ROI) on the token value after the startup´s product is realized (Ibba et al., 2018). The significance of

tokenomics in facilitating informed decision-making for investors entering a DAO, including aspects related to ROI, emphasizes its critical role in demonstrating an organization´s attractiveness.

Due to the limited information regarding tokenomics in the literature and various DAO VC approaches, such as token allocation and token distribution, it is difficult to determine which structure is more suitable for a DAO in the VC landscape. Consequently, we suggest that a comprehensive presentation of tokenomics is a best practice that should be incorporated into every DAO VC whitepaper.

Summarizing the best practice findings, we propose a framework to elevate the competence and knowledge of future DAO VC developers. The best practice framework is presented in *Table 11*, identifying the rating of each DAO VC in our data sample to provide a comprehensive summary of best practices. Concluding from the table, none of the DAOs incorporate all the found best practices. However, MetaCartel Ventures and New Order DAO are found to be most aligned with the best practices identified, checking on six of the categories. We posit that future DAO VCs implement our framework as a benchmarking tool to obtain a competitive advantage and to better reach mass adoption.

Table 11

DAO VC best practices

Best practice	DAO VC
Registration	DAO.vc; Hydra Ventures; MetaCartel Ventures; MetaRISE; New Order; The LAO
Permissioned	Hydra Ventures; MetaCartel Ventures; Moloch; Orange DAO; The LAO
Token-base voting system	BitDAO; Orange DAO; The LAO
Staking	DAO.vc; New Order
Separating strategical and operational votes	MetaCartel Ventures; New Order
Adjustment of voting duration	None
Adaptive quorum system with various consensus thresholds	MetaCartel Ventures, New Order
Ragequit	Hydra Ventures; MetaCartel Ventures; Moloch; The LAO
Organizational support structure	DAO.vc; Hydra Ventures; MetaCartel Ventures; MetaRISE; New Order; Orange DAO; Rocket DAO
Whitepaper content: *Mission, Governance, Tokenomics*	BitDAO; DAO.vc; New Order; MetaRISE; Orange DAO; The LAO

Future research

Based on our bibliometrics analysis, content analysis, and systematic review of whitepapers, we have identified several research gaps that warrant further exploration in future research. For instance, future studies could incorporate papers in other languages to obtain a more comprehensive understanding of the topic. As our analysis was limited to English papers, the potential exclusion of essential papers in other languages could influence the results. Subsequently, the scope of our research focuses on the fields of business, finance, and management, and future investigation could extend to other fields to assess the consistency of our findings.

The content analysis revealed that the most research had been concerned with defining the concept of DAOs, examining their areas of impact, and identifying potential risks that must be addressed to reach mass adoption. However, the literature has not yet thoroughly explored several aspects identified as key findings in this paper. For instance, when considering the whitepaper content, future research could investigate the impact of DAO whitepaper length and the affiliated formality in the whitepaper to provide guidance to improve the outline for future DAOs. This could help understand which language style most effectively extends credibility and trust to new investors and members. Moreover, researchers should examine the applicability of our findings on whitepaper sections and their relatedness to DAO success.

While we find registration as a best practice in the DAO VC landscape, we do not investigate the preferred country to register in. Future research could explore the advantages and disadvantages of the different countries and further provide recommendations, showing the ideal type of registration and the most suitable country to affiliate with, to enhance security and further development of these organizations.

Another critical aspect to investigate is the ideal level of decentralization for a DAO. As our findings suggest various best practices that can influence the level of decentralization within the DAO VC landscape, future research could aim to determine the optimal balance between centralization and decentralization and how different governance mechanisms affect this balance.

Our findings also suggest supporting governance structures as a best practice to improve DAO VC performance. Building on this, future research directions could investigate the most effective supporting structure for facilitating DAO operations, weighing the benefits and drawbacks of outsourcing the basic tasks to external experts or delegating them to contributing members.

While our findings identified several governance modules coordinating proposal and voting structures off-chain, further analysis should focus on determining the most effective module and its

correlation with community engagement. Future research could therefore compare different governance modules to determine which is most appropriate for different types of DAOs.

The integration of tokenomics in a DAO VC whitepaper is recommended as a best practice. However, due to limited transparency and high inconsistency in our whitepaper results, we were unable to pinpoint the optimal structure for supporting long-term growth. Therefore, we propose that future research analyzes alternative data sources to enable a quantitative analysis of tokenomics best practices. As the industry matures, future investigations could assess the correlation between tokenomics transparency, investor attraction, and DAO success.

Future research could also compare different tokenomics structures (e.g., token distribution, token allocation, reward mechanisms, token supply, and burning) to determine their effectiveness in promoting growth and sustainability within the DAO ecosystem. By analyzing these structures, researchers can help design customized solutions and facilitate standardization within the DAO industry. This could make it easier for investors to compare various DAO VCs and potentially increase trust and credibility. Furthermore, as DAO VCs gain traction, examining their impact on traditional VCs and investment strategies could provide valuable insights into how the landscape is evolving and the influence of DAO VCs on traditional VCs.

Additionally, as our systematic review highlights the variability in DAO social media activity levels, it would be worthwhile to investigate the relationship between social media activity, community engagement, and its impact on DAO success. This could provide insights into best practice communication strategies and present an interesting topic for researchers to explore.

Finally, our innovative best practice framework could be further examined through implementation in a simulations study or by applying the DEMO methodology to incorporate our findings into a real-life DAO creation. Combining our theoretical framework with empirical data could give a more comprehensive understanding of best practice DAO VC.

Conclusion

DAO venture capital best practice is a new and undiscovered research topic. Previous literature has focused on conceptualizing this new organizational structure emphasizing various governance aspects and DAOs as a potential disrupter to traditional markets and industries. Due to the lack of a comprehensive analysis of best practices within the DAO venture capital landscape, we conducted a bibliometric analysis, content analysis, and systematic review of DAO VC whitepapers to close this research gap.

From the bibliometric analysis, using a sample of 57 articles in Scopus, we analyzed the intellectual structure and the most influential articles, journals, and authors in the field. The findings using various bibliometric techniques (citation analysis, bibliographic coupling, and keyword co-occurrence analysis) and the content analysis, made it possible to identify four distinctive but interrelated research categories: business model innovation, technological factors, economic factors, and legal framework. The content analysis provided a keen understanding of the existing literature and revealed several undiscovered research areas within the DAO VC field.

Building on the aforementioned findings, we executed a systematic review of ten DAO VC whitepapers to understand existing practices and key trends to help further identify best practices. By comparing and contrasting various found themes, including governance and organizational architecture, tokenomics, and whitepaper structure, we identified ten best practices: registration, permissioned, token-based voting system, staking, separating strategical and operational votes, adjustment for the voting duration, adaptive quorum system with various consensus thresholds, ragequit, organizational support structure, and components to include in a whitepaper. Aligned with these best practices, we found that MetaCartel Ventures and New Order DAO have a competitive edge incorporating six of the categories. These best practices findings could be implemented as a benchmarking tool to enhance DAO VC performance, its attractiveness for investors, and to facilitate mass adoption.

Moreover, our study has not only contributed to a thorough understanding of DAO VC practices but has also provided insight for future research directions. For instance, research regarding the optimal decentralization threshold, best practices tokenomics structures, and an examination of our best practice framework as the field evolves are topics that could be investigated.

In conclusion, our best practice framework is groundbreaking research in the emerging topic of DAO venture capital, filling several research gaps in the field and providing valuable insights to ensure long-term growth and success within the DAO VC industry.

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Appendices

A: List of figures

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C: Discussion paper 1

Responsible - Espen Bjellerås

DAO VC Best practices

Decentralized autonomous organizations (DAOs) has emerged as a disruptive force, potentially revolutionizing traditional organizational forms (Bellavitis et al., 2022; Murray et al., 2021). Built on smart contracts, which are pre-defined and self-executed code, DAOs governance structure is built around membership consensus, removing the need for trusted third parties and hierarchical structures (Faqir-Rhazoui et al., 2021; Murray et al., 2021; Shermin, 2017; Wang et al., 2019). Existing on blockchains, DAOs are essentially borderless organizations without any country affiliation (Anand & Chauhan, 2020). As an emerging phenomenon, existing literature has only scratched the surface of this novel organization form focusing mostly on explaining the concept and potential use cases for the technology (Bellavitis et al., 2022; Santana & Albareda, 2022). One of the key findings from the literature is how the innovation could transform markets and industries, and one particular interesting topic for investigation is the venture capital (VC) industry and its best practices.

To fully understand DAO VC best practices, our research paper used a mixed-method approach consisting of a bibliometric analysis, content analysis, and a systematic review of 10 DAO VC whitepapers. Our four research questions answered the intellectual structure of the research field, the most influential contributors (articles, journals, and authors), the content and scope of the DAO VC landscape, and best practices within this industry with future research directions.

The bibliometric analysis comprised of 57 articles in the Scopus database. Using bibliometric tools as VOSviewer and Bibliometrix tool in R, we were able to analyze and visualize the data, and find the most impactful contributors within the research field through a citation analysis. Furthermore, bibliographic coupling and keyword co-occurrence analysis revealed the intellectual structure of the existing literature and was used to find themes and trends for the content analysis. The systematic review of DAO VC whitepapers helped us investigate the similarities and differences amongst the DAOs, and were analyzed by looking at their structure, mission statement, governance, tokenomics, and network.

Based on our analysis, we revealed ten best practices in a framework which could be used as a tool for DAO VCs, investors, and other parties interested in the topic to potentially help reach long-term objectives, success, and mass adoption.

The rest of this discussion paper will first address and discuss the topic "responsible" in light of our research. This includes various ethical concerns, and how to mitigate these. Finally, the conclusion will summarize the discussed topics.

Responsibility

The master program International Business at the University of Agder, School of Business & Law, has been highly concerned around responsibility as a concept. When considering the various courses, responsibility has been a fundamental part in each course in various forms, forming our future as responsible leaders. This includes social responsibilities, such as the understanding of how the idea of profit maximization, one of the core ideas of capitalism, is not necessarily exclusively positive, and compromise on standards of living and increase inequality (Canals, 2010; Jimenez et al., 2021). Environmental responsibilities are another crucial reality, related to the footprint we leave on the earth systems. Some researchers have highlighted that we are rapidly closing in on irreversible planetary boundaries and could risk ruin the world for future generations (Rockström et al., 2009).

Courses like Sustainable Capitalism and Emerging Market have been particularly valuable to enhance my understanding regarding the importance of balancing profits with people and planet, acting responsible to provide future generations with the same opportunities as we possess today (Elkington, 1997; WCED, 1987).

Responsibility is additionally an essential value to keep in mind as students and researchers. To be responsible is according to the Britannica dictionary "having the job or duty of dealing with or taking care of something or someone" (Britannica, 2023). Within academia, responsibility is thought trough respecting ethical guidelines, including plagiarism, source criticism, mitigating human bias, and being the creator of own content. As students we have the duty of respecting previous researchers work and are responsible of acting according to university codes of conduct.

One recent technological trend creating potential ethical challenges in this matter is the development of artificial intelligence, where Chat GPT has received massive attention since its launch. While tools like Chat GPT could be used for the greater good, including enhance a student´s understanding of a topic and reduce search time on Google to find information, it could also be used in a behavior violating university codes of conduct. As a powerful tool transforming the search for information, it is crucial that the university embrace the technology and educate their students on

how to use it. It is as essential that students are educated the threshold in were using Chat GPT violates university protocols.

Thesis relation to responsibility

Our master thesis relates to responsibility on several aspects. First and foremost, the master thesis acts as the crown jewel of the master program where students can use their knowledge and competencies solving a research problem. In my opinion, finishing with an outstanding piece of research therefore connects to responsibility showing our qualities as professionals. It concerns respecting set deadlines and deliver a quality project based on the academic parameters set by the university, with some familiarities to other projects we as students will encounter in our professional career.

Responsibility is also highly relevant to our research topic. As an innovation built on blockchain technology, DAOs are a novel organizational form with several potential ethical implications. For instance, DAOs are borderless organizations available to all people around the globe with a device (e.g., PC, tablet, smart phone) and an Internet connection (Anand & Chauhan, 2020; Baudlet et al., 2020). This poses a regulatory risk, where legislators do not have the same authority in controlling DAOs as with traditional businesses (Ebiekutan, 2022; Kurcz & Paizis, 2019). While the lack of regulations and centralized control is perceived by many blockchain enthusiasts as a great feature, it remains hard to collect taxes of realized income by token investors to be used for the common good (Ebiekutan, 2022). The unregulated nature of DAOs could also be viewed as a disadvantage were irresponsible and illicit behavior by dishonest token holders do not get the same penalties as illicit activity would get in traditional registered businesses (Kurcz & Paizis, 2019).

The lack of existing regulation has also led to scrutiny and skepticism by many highlighting that blockchain innovations such as Bitcoin is used to for criminal activity (Myalo, 2019). Recent data show that scams, hacks, and other criminal activity have increased the last year to record high numbers (Chainalysis, 2023). Governments have started implementing regulations to mitigate risks and increase control, and additional regulatory efforts is likely to be incentivized (Covarrubias & Covarrubias, 2021; Liu & Wang, 2019). Interestingly, the same data however also reveal that the percentage of illicit behavior in crypto and other blockchain-related solutions is 20 times lower compared to the total average GDP (Chainalysis, 2023).

Generally speaking, regulations as know-your-customer (KYC) and anti-money laundering (AML) for token holders in the US (Zalan, 2018), could be perceived as beneficial to ensure legal

protection for token investors in situations where illicit behavior are conducted. This could potentially reduce the ethical concern identified, and further help legitimize the usage of blockchain-related solutions towards mass adoption.

Another ethical implication comprises whether the DAO is registered. Unregistered DAOs do not have to obey to nations´ laws and can therefore neither be held responsible for malicious behavior, including scams and hacks (Duran & Griffin, 2021; Zachariadis et al.,2019). This potentially increases the risk of losing token holders invested money. As our research shows, several of the DAO VCs are registered, which could be viewed as a responsible act in order to attract investors and to ensure their reliability and professionalism, in addition to enhance legal protection to token holders.

Lastly, as DAOs are built on self-executed code in smart contracts, the DAO is only as good as its code (Duran & Griffin, 2021; Zachariadis et al., 2019). To prevent errors similar to the "hack" with the first real-life example of a DAO VC, "The DAO", where $50 million dollars were withdrawn by an individual due to a coding error (Baudlet et al., 2020; Santana & Albareda, 2022), standardized governance and tokenomics services (e.g., Gnosis Safe) have been created to reduce such behavior and protect assets (Safe, n.d.). Additionally, DApp platforms including Aragon and DAOhaus facilitates DAO inventors with quality structures and smart contracts, which mitigates the risk of coding errors (El Faqir et al., 2020). Scholars including Duran & Griffin (2021) argues that risks of hacks could rapidly increase as DAOs get widespread traction, and important measures as mentioned above should be incorporated to reduce the risks of malicious attacks to protect the organization and its investors.

Research questions. When formulating our research questions, ethical implications such as bias or misleading information were important to minimize. Awareness of potential biases was therefore a subject when the research questions were created. For instance, our two first research questions addressed the intellectual structure and most impactful contributions within the academic field of DAO. When we determined the appropriate analyses for our bibliometric analysis suited for our niche topic, we therefore had to carefully understand the implications they had for our research, and a careful consideration was therefore implemented to reduce biases in our research approach.

Moreover, since our main objective was to determine best practices, we had to examine existing DAO VCs to understand their content and scope. This was essential to avoid ethical implications, including suggesting best practices without a thorough understanding of the DAO VC landscape. The research questions therefore included various data sources from both existing literature in Scopus with external data from DAO VC whitepapers to back our suggestions with data.

Subsequently, since our research were based on various research gaps, it was important to include future research directions in our research questions so future research could validate and build on the provided best practice suggestions.

Unit of analysis. Our thesis consists of two units of analysis: Our bibliographic sample on Scopus, and the ten retrieved DAO VC whitepapers. As both a bibliometric analysis of DAOs and the DAO VC landscape were undiscovered research topics, several ethical challenges emerged. First, when considering the bibliometric analysis, we only included articles found in Scopus. This could potentially exclude important papers found in other databases, such as Google Scholar and Web of Science, potentially impacting our findings. We carefully selected Scopus as it was found by previous researchers to be the best fit for niche and emerging research topics (Bretas & Alon, 2021; Zupic & Cater, 2015). This was also highlighted in our research limitations and future research to address the potential impact this exclusion could have on our research. Another important topic to address were the selection of analysis in the bibliometric analysis. We had to carefully examine our scope of study and further explore academic literature on bibliometrics as a research method to uncover which analysis suited our niche research topic (Donthu et al., 2021; Zupic & Cater, 2015).

Second, the categorization in the content analysis built from the findings in the bibliometric analysis could be impacted by human bias. As a result, we followed a rigorous coding scheme, managed by both researchers to reduce this bias, which enabled us to categorize our findings into key themes and trends (Bretas et al., 2022).

Third, as we explored DAO VC whitepapers, it was critical to have large enough sample to validate our results. For instance, if the sample consisted of only one DAO VC, the findings could be based on information not representative for the industry. We therefore selected 10 organizations to have a large sample to mitigate this risk.

Findings. One emerging challenge was the lack of academic research to back our suggested best practices, potentially influencing our proposed solutions. While some of the suggestions previously had been researched, several of our best practices were derived from weighing the advantages and disadvantages found from analyzing the whitepapers to reduce ethical implications such as human bias. It was therefore important for us as researchers to avoid favorizing certain DAOs by their first impression, structure, or market capitalization, and our best practice suggestions were built around careful consideration of the found whitepaper data.

Moreover, as our research investigate real companies, our findings could potentially impact the investigated firms´ reputation. It was therefore essential to ensure that our results were reliable, and that our research was presented in a professional manner.

Conclusion

Our thesis on DAO VC best practices were introduced and further discussed with potential ethical challenges and solutions in light of responsibility. The discussion highlights some ethical implications, including DAOs borderless structure, the lack of regulations which enables malicious behavior and limits legal protection to investors, in addition to the quality of code in smart contracts. The discussion also shows existing and potential solutions to mitigate these ethical concerns.

The last part of the discussion section addresses several aspects related to responsibility found from or research questions, units of analysis, and findings, and how we mitigated these ethical implications. The essence for us as researchers was to take care of the found data in a reliable manner and provide keen insight into an emerging research field.

Resources Discussion Paper

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D: Discussion paper 2

Responsible - Andreas Sauge Berthelsen

This discussion paper is a component of the Master's Program in International Business at the University of Agder business school, concentrating on the notion of "responsibility" in the context of Decentralized Autonomous Organizations (DAOs) operating within the Venture Capital (VC) industry. This paper aims to identify and explore the existing and potential ethical issues associated with this topic. To commence, a clarification of the notions of responsibility and ethics as they pertain to the field of business research. The primary research question under examination is "What are the best practices for building a DAO VC?". Subsequently, the paper will delve into the concept of responsibility, taking into account the rights of investors, the obligations of DAO initiators, the methodologies involving analysis of the DAO VC landscape, the fundamental discoveries from the thesis, and finally, the concluding insights from the Master's thesis.

Responsibility and ethics play a fundamental role in shaping how organizations and businesses operate today. In the business context, responsibility often refers to the concept of Corporate Social Responsibility (CSR), where organizations are obligated to act in ways that benefit society at large (Carroll, 2016). On the other hand, ethics refers to the principles of right and wrong that guide an individual or group in making decisions (Trevino & Nelson, 2014). The two concepts are intertwined, as responsible business practices must be grounded in ethical decision-making. Responsibility and ethics are particularly relevant in the digital transformation era and emerging technologies, such as DAOs, where new ethical dilemmas and responsibilities arise (Djordjevic, 2021). This paper will discuss the thesis on DAO venture capital best practices, focusing on the ethical challenges and responsibility aspects inherent in the research and the DAO ecosystem.

The evolution of blockchain technology has given birth to a new organizational form, DAOs, which are revolutionizing the traditional venture capital model (Bellavitis, 2022: Bellavitis, 2023). In the context of this profound transformation, the focus of this master thesis is on DAO Venture Capital (VC) best practices, a topic that remains largely unexplored in academic research.

Our master thesis adopted an empirical approach, leveraging bibliometric analysis, content analysis, and a systematic review of DAO VC whitepapers to identify common best practices within the DAO VC landscape. A total of ten best practices emerged from this investigation, providing a benchmarking tool to enhance DAO VC performance and facilitate mass adoption. Two organizations, MetaCartel Ventures, and New Order DAO, were found to be the most aligned with these practices.

The implications of these findings are manifold. For one, they contribute to a better understanding of the DAO VC operations and offer valuable insights to ensure long-term growth and success within the industry. Moreover, they open up new research directions, such as determining the optimal decentralization threshold, exploring best practices in tokenomics structures, and examining the best practice framework as the field evolves.

In business research, the concepts of responsibility and ethics are the foundation of all scholarly inquiries. As defined by Lucas (1995), responsibility is a key concept in our moral, social, and political thinking. It entails the obligation of researchers to ensure that every facet of the research process, from conceptualization to dissemination, is conducted with integrity and respect for all stakeholders involved (Martin, 2007, p. 1; Lucas, 1995). This extends to data treatment, respect for respondents' rights, and the accurate reporting of findings (Martin, 2007, p. 1). According to Resnik (2020), ethics encompasses the societal norms researchers should follow, including principles such as honesty, objectivity, integrity, and responsible publication, among others, when conducting research.

In the context of this master thesis on DAO VC best practices, the principles of responsibility and ethics were paramount. The novelty and complexity of the research topic, coupled with the rapid evolution of the blockchain industry, presented unique ethical challenges. These included the obligation to accurately represent the DAO VC landscape and the need to respect the intellectual property rights of the DAO VC whitepapers reviewed.

The ethical guidelines from the University of Agder served as a guide throughout the research process. This granted us trust and freedom, catalyzing our creativity and sense of responsibility, ensuring that the research questions were answered responsibly and ethically (University of Agder, n.d.). This approach was instrumental in maintaining the integrity of the research process and producing findings that contribute meaningfully to the understanding of DAO VC practices and their implications for the industry's long-term growth and success.

In discussing the responsibility related to our thesis on DAO venture capital, examining the ethical challenges and potential solutions within this context is imperative. DAOs, as a concept, inherently bear considerable responsibility due to their nature. They operate on transparency, democratic governance, and decentralized decision-making, pivotal factors contributing to their credibility and appeal (Hsieh et al., 2018). Nonetheless, despite their potentially transformative impact on the venture capital landscape, ethical issues are worth scrutinizing.

One of the prominent ethical issues is the principle of decentralization. While DAOs are theoretically entirely decentralized, this might not always be the case in practice. Our research identified a need to determine an optimal balance between centralization and decentralization. The

ethical concern here lies in the potential for misleading claims about the degree of decentralization, which could lead to an inaccurate representation of the organization's structure and operations to investors and the broader community.

Moreover, the issue of inclusivity and equality within DAOs represents a significant ethical challenge. While DAOs operate on the principle of equal voting rights for all members, this might be compromised by the token-based voting systems where voting power is proportional to token holdings. This system could potentially lead to a concentration of power within the hands of a few wealthy members, thereby contradicting the very principles upon which DAOs were founded.

Another ethical challenge is related to transparency and disclosure, particularly in relation to tokenomics. Although our study suggests integrating tokenomics into the DAO VC whitepaper as a best practice, we also identified limited transparency in this aspect. This raises an ethical concern as insufficient transparency could lead to information asymmetry and exploitation of investors who lack comprehensive information about the DAO's operations and financial structures.

Implementing mechanisms to prevent the undue concentration of voting power could be effective in terms of inclusivity and equality. One such mechanism could be a cap on the number of tokens used for voting, ensuring that all members have an equal say in the DAO's decision-making process. For transparency, implementing stricter guidelines on disclosure, particularly concerning tokenomics, could be beneficial. This could involve detailed explanations of the token distribution, allocation, reward mechanisms, and burning.

Furthermore, to address the legal gray area, proactive engagement with regulatory bodies and contributing to the development of legal frameworks for DAOs could be a step forward. This would safeguard the interests of the DAO and its members and contribute to the credibility and acceptance of DAOs in the broader financial ecosystem.

In managing these ethical challenges, we followed established ethical guidelines and best practices in business research. This included maintaining honesty and integrity in data collection and analysis, respecting intellectual property rights, and ensuring the timely and accurate reporting of the findings. Our commitment to ethical research also extended beyond the research process, reflecting our broader responsibility to the academic community and society. By conducting this research ethically, we aimed to contribute to a better understanding of DAO VC practices, facilitate informed decision-making in the industry, and foster trust in academic research. As such, we viewed our ethical responsibility as not only a duty to uphold but also an opportunity to positively impact the future of DAO VCs and the broader blockchain industry. In this study, the units of analysis were DAO VCs, particularly their published whitepapers, which served as the primary data source. These

whitepapers provide detailed information on the operational structures, governance models, investment strategies, and tokenomic structures of DAO VCs, among other elements.

The research process, particularly within a complex subject such as DAOs, raises multiple ethical concerns that must be acknowledged and managed. This study focused on developing a best practice framework for DAOs in VC. With this context, we as researchers must maintain an unbiased and open-minded approach throughout the research process. We needed to consider the unique characteristics and operating environment of DAO VCs to interpret and analyze the whitepapers accurately. We also needed to be aware of our preconceived notions and biases to ensure we did not skew the analysis or the findings. We followed a series of steps to manage our responsibility within this operating environment. First, we ensured a deep understanding of the blockchain ecosystem and the DAO VC model by conducting a comprehensive literature review. Second, we utilized rigorous research methods, including bibliometric analysis, content analysis, and systematic review, to ensure the robustness of the research. Finally, we sought expert advice to validate our findings and interpretations, ensuring that the research findings accurately represent the practices of DAO VCs.

Firstly, the challenge of data integrity surfaced. The whitepapers analyzed in this study represent self-reported data from the respective organizations, which leaves room for misrepresentation or bias. To mitigate this, we ensured the data's reliability by cross-checking information from multiple sources whenever possible. Nevertheless, the possibility of unintentional or deliberate misinformation in the whitepapers cannot be entirely ruled out, which may affect the validity of our findings.

Secondly, the issue of language bias was evident, as the study only incorporated English-language literature. This might have led to the exclusion of potentially significant studies published in other languages, thus limiting the comprehensiveness and diversity of the research. Future research should aim to incorporate studies in other languages to achieve a more holistic understanding of the field.

Moreover, we faced the ethical challenge of privacy. While DAOs operate on blockchain technology, promoting transparency and accessibility, respecting the privacy of individuals or organizations involved is still essential. We ensured this by focusing our research on publicly available information and not disclosing sensitive data about specific organizations or individuals. The equity of representation in the data was another potential ethical concern. DAOs are a relatively new development, and the selected sample of whitepapers might not have fully represented the entire spectrum of DAOs operating in the VC space. This could lead to a skewed understanding of best practices in DAO VCs. Future research could address this concern by ensuring a balanced representation of various types of DAOs.

Lastly, the research process highlighted the ethical challenge of maintaining neutrality. As researchers, we must avoid promoting or discrediting any specific DAO, ensuring that personal biases do not influence the research findings. We addressed this by adhering to a systematic methodology and focusing on extracting generalizable best practices rather than evaluating individual DAOs.

In conclusion, conducting research in the emergent field of Decentralized Autonomous Organization Venture Capital brings forth a unique set of ethical responsibilities and challenges. Through this discussion paper, we have emphasized the importance of responsible conduct in business research, particularly in the context of our Master's thesis on DAO VC best practices. The study revealed several ethical challenges that span various aspects of DAO operations, such as determining the ideal level of decentralization, handling tokenomics, and structuring the DAO for inclusivity and equality. Addressing these issues responsibly entails balancing the need for innovation and adherence to ethical principles, such as equity, transparency, and credibility.

Regarding the research process, several ethical challenges surfaced, such as data integrity, language bias, privacy, equity of representation, and maintaining neutrality. We addressed these issues by employing rigorous methodologies, cross-checking information, focusing on publicly available data, and striving for neutrality in the analysis. Despite our best efforts, the inherent limitations of the research process highlight the need for continued vigilance in maintaining ethical standards in future research. The robustness of our research methodologies and adherence to ethical standards were crucial in producing a comprehensive and reliable study.

This paper further underscores the importance of ethical considerations and their management, which is crucial for ensuring the credibility and validity of research in the dynamic and rapidly evolving landscape of DAO VC.

In essence, our commitment to responsible and ethical research practices has not only been beneficial in the context of our Master's thesis but also has broader implications for future research in this field. As DAOs continue to evolve, the pursuit of responsible best practices will be crucial in ensuring these innovative organizations' sustainability and ethical operation.

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