DAOs for Impact

Techno-Social Transformations in Contemporary Civic Action

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1 Introduction

The COVID-19 pandemic has exposed deep flaws in NGOs, and in its aftermath, they are facing an identity crisis (Silva, 2022). A report by CIVICUS explains how. Under emergency measures, NGOs faced increasing scrutiny from governments that restricted their operational space. Governments often viewed them as competition rather than partners. The necessity for greater transparency and accountability to build local trust prompted an unprecedented shift towards localisation, obligating the need to balance international presence with local empowerment. Rising nationalism and xenophobia, blaming certain groups for the spread of the virus, led NGOs to reconsider their roles in community solidarity and advocacy. Adapting to online approaches was challenging, as was navigating the digital divide within the communities. Lastly, the financial strain challenged their conventional resourcing and organising approaches, forcing them to reassess their operational models (*Solidarity in the time of COVID-19*, 2020). Therefore, the changing economic and political trends increased expectations of transparency and accountability, further complicating challenges in maintaining relevance and operational capacity. A forced evolution due to the pandemic is occurring, fuelled by a period of significant change and uncertainty (*The Future of Civil Society Organisations*, 2020).

One such seemingly surfacing evolution, albeit outside the NGO world, is called Decentralised Autonomous Organisation (DAO). A DAO operates on a blockchain, which essentially is a unique tamper-proof data structure distributed over multiple computer networks such that transactions made using digital tokens can be perpetually stored on it (Rozas et al., 2021). Eventually, blockchains evolved beyond being a decentralised digital ledger for automated transactions (making it autonomous) to allow snippets of self-executing code (smart contracts) to be embedded in a way that produces a system for people to coordinate and self-govern virtually on the internet (Rozas et al., 2021). Given that this system, a DAO, is organised over a blockchain, it inherits the properties of the blockchain - decentralised and autonomous.

Effectively, a DAO is considered decentralised because no central authority governs its constitution. While the codes themselves are saved and operated across computer ledgers, and not a single change can be done unilaterally without a check in the chain, decisions are made by the community of human participants of the DAO (Faqir et al., 2020). So, even though the execution and steps to it are predetermined and encoded, the community makes the decisions. Through participatory proposals and collective voting, changes can be made to the constitution (Hassan & De Filippi, 2021). DAO members have the freedom to propose a change at any time. The voting rules, whether by consensus or majority and the minimum quorum, are pre-encoded in the smart contract and enforced autonomously (Wang et al., 2019). All this sets it up for scale where participants across geography can join and contribute to a DAO (Buterin, 2014; Hassan & De Filippi, 2021; Santana & Albareda, 2022). Given these decentralised logics of governance, Sims (2019) argues that DAOs present a revolutionary rethink of collective ownership, governance, democratic decision-making, and even wealth distribution.

1.1 Overview of DAOs and their relevance in the current digital economy.

The original thought behind the creation of a DAO was to develop a mission-driven entity with internal capital that lives on the internet and performs tasks through part automation and part human (Buterin, 2014), facilitating global collaboration and coordination to pursue collective goals (Ethereum Foundation, n.d.). Their governance ethos and mechanisms, such as transparency, decentralisation, smart contract, along with community-driven decision-making, are being aimed to better the efficiency and productivity seen in conventional organisations in the physical world (Wang et al., 2019). DuPont (2019) claims that the emergence of DAOs as an alternate system of collective self-governance could imply essential implications for governance, capitalism, and nation-state democracy. They can bring significant societal transformation to scale through bottom-up decision-making (DuPont, 2019), enabling a more grassroots approach to investing and supporting initiatives. According to Hsieh et al. (2018), this approach could remove dependency on traditional investment vehicles or government programs, which are being used to fund and support social, environmental, and economic challenges.

Recent DAO experiments include environmental stewardship to protect the Amazon forest, regenerating barren land through collective ownership, running entire townships, and even decentralising academic research, breaking the hegemony of publishers. KlimaDAO, a pioneering DAO working in climate change initiatives, calls traditional investment options a coordination failure that hinders scaling climate-related finance (*Governance | KlimaDAO | Real World Assets Driving Real-world Impact*, n.d.). Blockchain technology has attracted over 100,000 people across borders to pool, govern, and deploy USD 4 billion towards carbon offsetting projects within the last two years. One such project addressed environmental and health issues within the Rohingya refugee community living under poor conditions by providing energy-efficient, improved, smokeless cook stoves at campsites (“KlimaDAO”, 2023).

Government authorities, taking cognisance, are recognising DAOs as emergent social authorities and organisational forms. The government of Utah, USA, for instance, defines DAOs as “a type of organisation represented by rules encoded as a computer program that is transparent, controlled by the organisation members, and not influenced by a central government” (*Decentralized Autonomous Organization (DAO)*, 2023). Several other states in the USA have enacted laws recognising DAOs as a new form of organisation. Alternatively, countries like Switzerland, Singapore, the Cayman Islands, and others have made provisions to allow them to operate legally. Other sectors, too, have jumped into the fray. Over a thousand NGO-managed projects are raising funds via the Giveth DAO, where donors collectively vote on their choice of projects that deserve money (*NGO*, n.d.). Recently, UNICEF announced experiments governing digital public goods through a DAO (ETHPorto, 2023). There is a general trend towards exploring the potential and implications of DAOs. The approaches range from active experimentation by the UN (“United Nations Internet Governance Forum - DAO Pilot Project”, 2023) to calls for comprehensive legislation by Governments (Schickler, 2023) to

analytical exploration by EU Central Bank (Naudts, 2023), reflecting the complex and evolving nature of DAOs in the global context.

As per DeepDAO (2022) analytics, at least 4459 DAO organisations are active. About 11 million unique participants manage a total treasury of over USD 23 billion, reaching an all-time high of USD 42.5 billion in March 2024 (*DeepDAO*, n.d.).

1.2 Research Problem

For a truly novel idea to be perceived as successful, such hitherto radical transformations must stand the test of limitations faced by conventional institutions aiming for similar developmental change. NGOs have played a pivotal role in development studies and cooperation, influencing policy and practice in several ways. Their growth is partially due to first-world development policy, which, since the 1980s, has viewed NGOs as efficient and innovative private providers of social services in developing countries (Fowler, 2011). However, scholars have acknowledged their limitations and urge expanding the definition of civil society to include a broader range of acts and actors for more effective and inclusive development strategies (Biekart & Fowler, 2022).

Though the perception and action towards development and change have come a long way, civil society and NGO scholars increasingly question their perceived role and effectiveness. Challenges range from legitimacy and accountability to a vulnerable dependence on donors and government (Banks et al., 2015). Conforming to donor-designed ‘results’ and government-dictated policy has weakened their roots in the local context and diluted their effectiveness in meeting the needs of the communities they serve (Banks et al., 2015). In contrast to member-based organisations (MBOs), which are more traditional forms of civil society initiated by grassroots communities, NGOs may become depoliticised and lose their critical stance towards governments and power structures (Banks et al., 2015). Their focus on service delivery, treating communities as consumers rather than facilitating collective action and empowerment, hinders long-term goals, for example, in the case of poverty alleviation (Islam, 2016). Bureaucracy and lack of transparency further erode the trust in the third sector (Artuso et al., 2023; Mirabella & Mott, 2022). Such issues undermine NGOs' image as independent and credible development sector actors (Silva, 2022).

In a parallel world, DAO proponents increasingly view DAOs as an emergent solution to address the limitations of NGOs. DAOs’ utilisation of blockchain technology and smart contracts promotes self-governance that functions without centralised control (Beck et al., 2018). In contrast to the conventional hierarchical practices of NGOs, DAOs’ dependence on collective participation and intelligence for decision-making results in more effective and reliable outcomes (Zhao et al., 2023). This decentralised governance model in DAOs facilitates a more democratic and transparent decision-making process, overcoming power imbalances (Gilson & Bouraga, 2024) and potentially establishing a more inclusive and participatory environment for stakeholders (Feichtinger et al., 2023). Moreover, the ensuing operational structure can reduce organisational communication, administrative, and collaboration costs (Majeed et al., 2023).

leading to more efficient resource allocation and utilisation (Qin et al., 2023). They offer a more agile and innovative approach to organisational management (Qin et al., 2023), which makes them well-suited for addressing complex and dynamic challenges (Petrenj & Trucco, 2023).
Moreover, DAOs embed trust and transparency through their incorruptible and publicly auditable governance mechanisms (Hassan & De Filippi, 2021). This technology-driven transition from top-down to a more inclusive decision-making approach imaginably fosters ideals of trust and credibility of DAOs compared to NGOs. Thus, the question arises whether DAOs are the solution to NGOs' weaknesses.

While DAOs may show scope in revolutionising the development sector, they are not immune to challenges. DAOs plague online security issues, governance issues about power distribution and hierarchies, and ethical dilemmas of implementation (Wang et al., 2019). Typically, DAOs are formed by like-minded individuals who influence the peer group (Santana & Albareda, 2022); therefore, decentralisation is not outright. It is unclear how this new form of non-governmental collective action overcomes NGOs' limitations. Ultimately, decentralisation from the lens of hierarchies, control, and power distribution in DAOs calls for further research (Vergne, 2020). This possibility of technology organising resource management in a decentralised manner while maintaining transparency and accountability is generating ¨hype¨ (Reber & Feuerstein, 2014). What is prompting this utilitarian techno-determinism though?

Rozas et al. (2021) claim that this is the first time a mechanism has been devised that robustly embeds the aforementioned ideals while maintaining decentralisation. It is achieved through blockchain-based peer-to-peer communities aiming to contribute to social good. The emergence of DAOs is attributed to techno-legal instigation, a new form of corporate governance that can run without human involvement and transparency (Hassan & De Filippi, 2021). "It is based on two broad underlying transformations: (1) the changes in digital platforms and decentralised organisations, and (2) the emergence of advanced information technologies that enable new socio-material entanglements" (Santana & Albareda, 2022, p. 2). Most DAO scholars fail to explain the social context in which such technologies are being developed. Whereas, one finds that “the public discourse around DAOs has shifted from describing DAOs as a technical solution to a governance problem to a discussion on how DAOs could change the nature of economic and political governance in general” (Hassan & De Filippi, 2021, p. 5-6). They are often spoken of in the context of democratic governance, non-domination, self-determination, pluralism, coordination capacity, norms, values, and culture (Hubbard, 2023). Therefore, most studies are replete with technical jargon and their virtues as enablers of a new institution form. None whatsoever speak to the political waves of change taking place.

Hence, the problem at hand is three-pronged: the ambiguity in defining and conceptualising DAOs, the gap in understanding how DAOs operate in the real world, especially for social impact, and the need to assess whether DAOs can overcome the limitations of traditional NGOs in development work. For such, it is crucial to understand the ideological influences driving the experiments. This thesis makes an empirical study situating DAOs as part of a socio-political movement informing the evolution of technology.

1.3 Research Objective

This research investigates the potential advantages and disadvantages of the DAO model of social and economic impact juxtaposed with NGOs. It seeks to understand if DAOs can boost voluntary action and local governance using blockchain as a medium of decision-making, collaboration, and community engagement. To this end, this thesis explores the potential of such socio-political institutional transformation within development studies.

This research is grounded in a case study of GoodDollar. Governed by GoodDAO, the GoodDollar project operates a sizable universal basic income (UBI) program for poverty alleviation facilitated through cryptocurrency. It claims to have distributed 3.7 billion 'gooddollars', the cryptocurrency governed by the GoodDAO (*Copy of New Good Dollar Overview Dashboard*, n.d.).

UBI is a government-led policy that guarantees all individuals an unconditional sum of money to ensure a basic standard of living (Widerquist, 2024). Measuring GoodDollars´ economic impact is out of the scope of this research. Rather, this thesis explores the organisational aspects of administering UBI by private individuals.

1.4 Research questions

This thesis, more specifically, empirically explores the internal operational dynamics of DAOs compared to NGOs and their similarities and differences. Therefore, the central question is:
How do DAOs reshape governance structure and community engagement in the context of social impact initiatives?

Sub-questions include

a) What are the defining characteristics and governing structures of DAOs particularly in comparison to traditional NGOs?
b) Who are the key actors involved, and what roles do they play in shaping operations, governance, and processes of participatory decision-making?
c) What challenges and opportunities do DAOs face in fostering meaningful community engagement?
d) What ideological foundations and discourses contribute to the legitimacy of GoodDAO in the global digital finance economy?

1.5 Significance of the Study

Most DAO research has focused on what they are and what they do but seldom on how they do it (Santana & Albareda, 2022). While they have been studied from a theory of institutions for collective action, they have yet to be explored in the civic space. This is particularly significant because when DAOs start on-field implementation for tangible prosocial outcomes, then matters may become complex and akin to replicating what is known as the third sector.

Biekart and Fowler (2022) explain that much of early research on civil society in the 1970s had Eurocentric origins, drawing on examples from the French and American revolutions. Civil society was often equated with the Third Sector, particularly NGOs, which were primary recipients of international aid. This led to significant focus on their effectiveness, impact, and accountability. Meanwhile, the focus on Southern civil society actors centred around the drive for democracy, highlighting human rights groups, social movements, and advocacy. Several quantitative research aside, qualitative studies explored civil society's roles in the participatory engagement of citizens. More recently, research has focussed less on organisational change but more on processes triggered by civic initiatives jointly imagining future outcomes. A broader view would encompass all that civil society does and looks like in different settings beyond NGOs and aid or beyond formal and informal action. Research needs to break the colonial undertones and explore why norms of accountability and legitimacy are shifting, what is spurring that action and as ideologies and instruments of actions evolve, whose agency is affected. However, the most pressing agenda is how digital and analogue forms of organising civic action interact (p. 6-8). Thus, lately, civil society researchers have been identifying the limitations in academia for reducing the notion of civic action to a singular conventional form of the NGO and seem to converge on the need for a deeper exploration of underlying emergent forms.

The study contributes to the ongoing academic discourse about the potential of DAOs in reshaping organisational structures and governance models as we know it. In the process, it hopes to inform social scientists, donors, and governments about the potential impact of DAOs. The study fills a critical gap in existing literature, providing an empirical view of DAOs, particularly their application in social impact, advancing the ongoing discourse on technology shaping future governance. It offers a nuanced understanding of the internal dynamics of DAOs, their governance mechanism, and their potential to address global issues contributing to demystifying conceptual ambiguities.

1.6 Structure of the Thesis

This thesis is divided into nine parts. Chapter 1 introduces the research topic and questions guiding the research. Chapter 2 critically examines the existing literature on DAOs, NGOs, and related concepts, and the theoretical frameworks used in the study. This is followed by the methodology and research design in Chapter 3. Chapter 4 profiles the GoodDAO project, including its structure, operation, and challenges. Chapter 5 makes an in-depth exploration of the roots of GoodDAOs legitimacy, navigating the various ideological foundations and discourses which has helped it scale globally. Chapter 6 presents and interprets the research findings, organised around the actors involved, particularly the community, and the complex interplay of internal and external factors, that is shaping the DAO. Chapter 7 comparatively analyses GoodDAO with NGOs. Chapter 8 situates the findings in the broader literature on the ideological philosophy of techno-determinism and its influence in addressing social impact challenges. This is followed by the implications and policy recommendations before the conclusion in Chapter 9.

2 Literature Review

Surprisingly, academics have conflated terms describing DAOs with little regard for theoretical underpinnings. Various terms have been used to describe DAOs, and often, terms have been employed interchangeably, adding to the already existing ambiguity. This section uncovers the reasons.

2.1 Diverse Definitions

Definitions of DAOs put forth by various scholars point to a fascinating amalgamation of ideologies and interdisciplinary sciences. They have been studied from the standpoints of political science, economics, management and organisational studies, ethics, and legal, apart from the obvious technology and information systems. However, an integrative review of the multiple conceptualisations and theories presented by Santana and Albareda (2022) fails to point out the differences in the definitions by the various authors. Some scholars agree that there is no agreed-upon definition of a DAO (Hassan & De Filippi, 2021; Wang et al., 2019).

A closer observation of select definitions presented in the integrative review (Santana & Albareda, 2022, p. 4) reveals that most definitions emphasise the decentralisation and autonomous aspects of DAOs which are the core tenets, highlighting the absence of centralised control and operationalised by smart contracts and code rather than humans. Self-execution and self-governance are other two common themes. However, one of the fundamental ambiguities concerning the definitions of DAOs is the extent of operational autonomy. While most definitions point to minimal human intervention (Hsieh et al., 2018), they acknowledge the reliance on participants' voluntary contributions in the DAO operation and evolution. This suggests that human oversight and input remain crucial despite the autonomous system.

Moreover, definitions vary in how decision-making within DAOs is conceptualised. Some definitions highlight a democratic or consensus-based approach (Atzori, 2017; DuPont, 2019; Hsieh et al., 2018). In contrast, others restrict DAOs to pre-meditated hard-encoded rules (De Filippi & Wright, 2018; Hassan & De Filippi, 2021). The latter points to a rigid structure with little room for adaptability or flexibility. In terms of scope and scale, DuPont (2019) envisages DAOs operating small companies to nation-states. This broad scope raises questions on the effectiveness at scale, particularly regarding the complexity of operations and governance.
Furthermore, Vergne (2020) provides an additional layer of complexity, proposing distinguishing between a decentralised and a distributed organisation. According to Vergne, decentralisation concerns organisational communication dispersion, whereas distribution concerns decision-making dispersion. He further states that both are mutually independent and that management hierarchy in an organisation does not affect decentralisation but distribution. This is to say that DAOs can be decentralised in communication but not necessarily in decision-making or vice-versa. This nuanced view challenges the conflation of these basic concepts regarding the governance of DAOs.

Furthermore, while there is a clear consensus on a DAO's lack of central control and autonomous nature, the academic discourse diverges regarding the governance of consent, human involvement and hierarchy. These differences underscore the evolving nature of DAOs. Each term seems to have multiple meanings. Decentralisation here can indicate the technology, the nature of work, the humans operating it, the organisation, or the ownership. Similarly, autonomous can be a technical term for automation or human agency. More importantly, from a non-technical, non-academic standpoint, an organisation alludes to a legal construct, a government-registered entity. However, in most parts of the world, DAOs are not regulated. They function in legal ambiguity, encountering challenges in accountability as current laws may not fully accommodate the decentralised and autonomous nature of DAOs (Wang et al., 2019). Therefore, the definitions do not provide a complete picture of the core purpose of DAOs as to when and what leads individuals to interact on a blockchain, especially without a legal veil of protection. What exactly is being decentralised? What exactly is being automated, and where does autonomy lie? Moreover, finally, what exactly is being organised?

2.2 Confusing Theoretical Perspectives on DAOs

Within sociology and organisational studies, institutions are understood as foundational structures or mechanisms that govern behaviour and social order in society. They encompass formal and informal rules, norms, and practices that shape and constrain individual and collective actions. Institutions influence various aspects of life, reducing uncertainty by providing stable and predictable frameworks within which social and economic interactions occur (Bates, 1960) by establishing the ground rules that individuals and organisations must adhere to (North, 1990; Williamson, 1985). Organisations, thus, are deliberately structured to achieve particular goals by working under the frameworks of formal and informal institutions.

The conflation of such theoretical foundations in the academic discourse (see Table 1) indicates a broader trend observed across various emerging fields within the digital economy. Nabben (2021) posits that this conflation stems from a lack of specificity and the interdisciplinary nature of DAO studies, which draw upon diverse theoretical schools without paying heed to their distinct nuances or implications. A more nuanced and differentiated use of these terms, informed by their origins in institutional logic, is necessary to accurately describe and analyse the complex nature of DAOs (Albareda & Sison, 2020; Nabben, 2021).

Table 1

DAO Characterisations

Theoretical Perspective	Summary
Institution	DAOs are compared to institutions that compete with markets and governments (Dricot & Pereira, 2018), functioning autonomously in decision-making (Baninemeh et al., 2021; Kondova & Barba, 2019) and serving as a new institutional form in blockchain ethics (Tang et al., 2019). They can replicate traditional governance roles (Anthony, 2022) and are recognised in sectors like finance (Naudts, 2023), healthcare (Neumann et al., 2023), and education (Soni et al., 2023), indicating a focus on formal institutions.
Organisation	Academic discussions highlight DAOs' unique features compared to traditional organisations (Faqir-Rhazoui et al., 2021). Blockchain empowers DAOs to redefine resource allocation and organisational structures (Qin et al., 2023). Their decentralised decision-making represents a new governance form (Saito & Rose, 2023) through self-governing mechanisms (Hunhevicz et al., 2021). Governed by smart contracts, DAOs promise enhanced self-organisation, especially in special-purpose financing (Bischof et al., 2022), and are seen as significant advancements in corporate governance (Castello & Gadzinski, 2022).
Collective	Literature increasingly explores DAOs as innovative solutions for collective decision-making and resource management (Henrik et al., 2022; Faqir, 2020). Operating through peer-to-peer networks without hierarchy, DAOs rely on democratic contributions from stakeholders (Zwitter & Hazenberg, 2020). Their collective action strategies introduce new practices and values in self-governance (Saurabh et al., 2024).
Community	DAOs are viewed as organisations governed by and for communities, facilitating self-organisation through transparent, permissionless processes (De Filippi, 2019; Faqir et al., 2020; Nabben, 2021). This shift allows communities to coordinate decisions without central authorities (Nabben, 2021; Hassan & Filippi, 2021), fostering ownership, engagement, and trust among members (Nabben, 2021; Faqir et al., 2020; Filippi, 2019). DAO communities can democratise information flow and access to knowledge (Davidson et al., 2018).
Platform	DAOs leverage decentralised infrastructure to enable individual participation in governance (Nabben, 2021; Faqir-Rhazoui et al., 2021). They challenge traditional centralised platforms like Amazon by promoting disintermediation (Ladd et al., 2024) and can transform operational processes across various architectural layers (Saurabh et al., 2024).
Commons	DAOs facilitate power distribution, coordination, and governance scalability, addressing global commons management challenges (Rozas et al., 2021). Their structures and strategies promote self-governance and thwart self-interest through smart contracts (Howell et al., 2019), potentially resolving centralisation issues in sustainable commons (Bellavitis et al., 2022). Ostrom's (1990) theory on collective action informs the decentralised pooling of resources among DAO users (Santana & Albareda, 2022).

These characterisations are by no means exhaustive. However, adapting such theories to the digital realm requires careful consideration of its unique characteristics and the implications of digital and autonomous governance mechanisms (Van Vulpen & Jansen, 2023).

Moreover, institutional theory (Ménard, 2018) and sociology (Bates, 1960) have undergone several internal specialisations to study institutions, organisations, and communities. This specialisation emerged partly due to the need for concepts at a lower order of abstraction that can be applied uniformly across various social structures such as ‘norm’, ‘role’, and 'position’ (Bates, 1960). New Institutional Economics (NIE), pioneered by scholars like North (1990) and Williamson (1985), focuses on how institutions shape economic activity and reduce transaction costs. A successor to Classical (resource-centred), Neoclassical (market-centred), and Evolutionary (knowledge-centred), NIE has found new applications in the realm of blockchain technology and cryptocurrencies, particularly in the field of tokenomics (Sims, 2021). Institutional crypto economics or tokenomics draws on institutional concepts to lead to novel insights into how digital institutions can be designed to incentivise cooperation, reduce opportunism, and facilitate efficient resource allocation in DAOs and other blockchain-based systems. Table 2 (Sims, 2021, p. 42) lists the specialisations.

Table 2

Evolution of Institutional Cryptoeconomics or Tokenomics

Economic School	Analytic Framework
Classical economics	Resource-centred view of the economy
Neoclassical economics	Commodity and market-centred view of the economy
Evolutionary economics	Knowledge-centred view of the economy
New institutional economics	Transaction and contract-centred view of the economy
Institutional cryptoeconomics	Ledger-centred view of the economy

(Source: Sims, 2021, p. 42)

Scholars have predominantly framed DAOs within the institutional cryptoeconomics framework. They also seem to integrate classical, neoclassical, evolutionary, and new institutional economics perspectives in their analysis. This has led to a broad interpretation of DAOs, sometimes equating them with or incorporating elements of communities, institutions, commons, and platforms without clear differentiation.

2.3 Philosophical Roots and the Evolution of DAOs

The genesis of a DAO is deeply ingrained in a techno-liberal uprising that is fuelling a political movement rooted in a broader history and ideology of blockchain technology and its proponents. When the internet was first unrolled for public consumption in the 1980s, scholars and activists alike raised questions on the restrictions to privacy and data protection, in

particular, the need for compulsory identification and dossiers on individuals engaging in it (Hütten, 2018). A key underlying component producing the Internet is cryptography, a system of encoding or encrypting the information exchanged between two individuals. The Internet and cryptography essentially became a surveillance system (Lyon, 1992). In 1992, a ´Crypto Anarchist Manifesto ´ advocated cryptography as a crucial element of securing individual freedom (Ramiro & De Queiroz, 2022). The ensuing ideals and activism coalesced into a libertarian ´cypherpunk´ movement with the state as an antagonist actor. Cypherpunk is referred to as ¨social movements, individuals, institutions, technologies, and political actions that, with a decentralised approach, defend, support, offer, code, or rely on strong encryption systems to reshape social, political, or economic asymmetries¨ (Ramiro & De Queiroz, 2022, p. 2). Blockchain technology is a direct manifestation of this long ongoing movement, and the politics surrounding it is imbued in social claims that are described as ¨politics masquerading as technology¨ (Golumbia, 2015, p. 119).

According to Scott (2014) and Atzori (2017), blockchain is said to encrypt contracts or the information exchanged between free individuals and the enforcement mechanisms into self-enforcing ‘smart contracts’, producing a self-sustainable system that bypasses states and is run by algorithms. For instance, the Bitcoin blockchain is hosted on computers operated by a variety of participants, including individual enthusiasts, companies, academic institutions, and dedicated hosting services situated across geographies and legal jurisdictions (Arefin & Serwadda, 2024), which makes it difficult for any central authority to exercise control over. Bitcoin is a direct result of the discontent caused by the financial crisis of 2007/8, a systemic failure of central institutions built to decentralise the incumbent financial system out of the clutches of banks and governments (Hütten, 2018). Bitcoin used the blockchain to introduce a transnational payment network that could track all data entry in a publicly accessible, transparent, and immutable ledger, thereby potentially enhancing trust and accountability (Hütten, 2018). The resultant elimination of intermediaries was presented as a solution to a more resilient, transparent, and secure financial system.

So far, this movement's chronology is traced to the wielding of autonomy for the free exchange of information and the right of privacy to a monetary system independent of centralised state control. The latest evolution to this is a blockchain-based governance system that proclaims a bottom-up approach to self-governance by privatising government services and the political use of strong encryption systems for freedom and privacy (Atzori, 2017). Vitalik Buterin, who stands as a prominent figure today in this movement, expounds on various topics related to technology and funding public goods, all of which are highly debated, discussed, and dissected within the blockchain community. He coined the term DAO as a pseudo-legal organisation for democratic decision-making, reducing the inefficiencies and risk associated with traditional organisation structures (*DAOs, DACs, DAs and More: An Incomplete Terminology Guide | Ethereum Foundation Blog*, 2014).

In summary, DAOs challenge traditional definitions of organisations by operating on blockchain technology, potentially enabling a level of autonomy and decentralisation previously unseen in conventional organisational forms. The confusion surrounding theoretical perspectives on DAOs

stems from their diverse definitions, interdisciplinary influences, varying governance models, evolving nature, ideological associations, and practical challenges in implementing such theoretical ideals. This complexity necessitates a nuanced approach to studying DAOs, recognising that they cannot be easily categorised or understood through a single theoretical lens. Justifications are required as to why they are being termed in a particular manner. This thesis is not an attempt to box DAOs in a certain category. Rather, the focus is on elucidating what a DAO does. Where nomenclatures are inconsistent, researchers have called for looking beyond the terms in favour of lower-order abstractions (Bates, 1960; Hall & Schwartz, 2018). By looking into the operations, governance, and processes of participatory decision-making, this thesis hopes to strengthen the theoretical understanding of a DAO and build common ground for analyses.

2.4 Theoretical Frameworks

This thesis analyses DAOs drawing from several concepts in institutional theory that have previously been applied in development studies. Given that DAOs are internet-native organisations, i.e., operations are primarily conducted on the blockchain, on social media, and various online interaction applications, tracing its imprints provides rich data for analysis. Lupton (2020) argues that technologies cannot exist without human thought, embodiment, and action. By tracing its people, motivations, processes, relations, and politics, DAOs are brought alive. Accounting for human intervention at each design stage, development, implementation, and maintenance serves to "re-humanise automation" (Pink et. al., 2022). Thus, any technical manifestation of the future of work and organisation must explore its intended social purpose, application, and actual outcome (Rmit & Zargham, 2022). This aligns with civil society researchers who have called for looking at processes, day-to-day coordination, and agnostic social relations (Geagea & De Tullio, 2024) that shape values and practices (Hilhorst, 2003). Therefore, this thesis first explores the properties of DAOs which explain the structure and governance of GoodDAO and then compares its operations and challenges with that of NGOs using the following concepts to explore its potentiality as an organisational alternative to traditional organisations (as discussed in section 1.2).

2.4.2 Actor Orientation

Hilhorst (2003) posits that NGOs are not monolithic entities but open-ended processes embodying multiple realities. Individuals exercise their agency in negotiating the realities, thereby turning an organisation into a flux of overlapping networks (p. 4-5, 224-225). For example, an NGO might present a professional face to donors, while simultaneously as a grassroots activist to its beneficiaries. Therefore, it does not act in isolation but within a web of relationships encompassing communities, governments, or other stakeholders. The ideas and objectives are not static with clear-cut objectives but ever-evolving. This multiplicity reflects the fluid relations with different stakeholders and the internal diversity of ideas, goals, and practices within the organisation (p.25-26). This actor-oriented approach suggests that the actions and micro-level interactions within NGOs shape the organisation. Moreover, Hilhorst does not limit

multiple realities to the various categories of actors involved but the multiple emergent social contexts arising from interpreting, exercising, and negotiating agency and relationships by these actors. I find that the same can be attributed to DAOs.

DAOs operate within a unique sociotechnical landscape. The decentralised nature is intended to reconfigure power dynamics, enabling collective participation across the internet. This aligns with the notion that DAOs are not monolithic but networks of individuals who shape their governance structures through ongoing interactions. An empirical view of DAOs, looking at the various stakeholders involved, how they make decisions, and influence the DAO´s direction should help gain a deeper appreciation of the effectiveness and challenges of decentralised governance.

2.4.3 Discourse and Power Dynamics

Hilhorst (2003), drawing on Foucault, shows how discourses, interwoven with power, shape the everyday practices of NGOs. Discourse is defined as a collection of ideas or references that provide coherence and the impetus to act in certain ways (Gasper & Apthorpe, 1996, p. 2). As per Hilhorst (2003), the dominant discourse can prioritise one developmental goal over another, thus influencing internal and external control over resources (p. 224-225). The power dynamics can marginalise other ideas and approaches (p. 48-49). Actors exercise agency in interpreting their own experiences, making decisions and negotiating the various realities that they encounter through everyday politics (p. 25-26). Therefore, it is important to understand the positionality and motivations of each actor.

Each development actor brings its own sets of values and understanding, creating social interfaces where different discourses intersect (p. 218-219). NGO goals may clash with local traditions and practices. Local governments and international agencies may have different notions of development centred around economic upliftment and modernisation. In contrast, local communities may prioritise affordable housing and access to public services together, preserving community ties. The NGO may overlook these and focus on environmental sustainability. Finally, NGOs must acquire legitimacy to survive and be effective (p. 222-226). In doing so, NGOs are accountable to different stakeholders. This involves gaining trust and credibility while staying true to its own proclaimed values (p. 225)

Thus the dynamics of language and power relations and how they shape the governance, participation and legitimacy are essential to understanding whether a DAO fulfils its potential as a decentralised and democratic entity. However, it is also important to determine the weak spots and the visible faults in these processes.

2.4.4 Limitations and Failures

Given that DAOs are run by a community constantly shaping its operations, governance, and processes of participatory decision-making, there are bound to be challenges. Dolšak and Prakash (2021, p. 662-667) synthesise a typology of NGO failures that can also be applied to DAOs.

Agency failure occurs when the interests of the NGO's principals (the community) and its agents (NGO staff or managers) are misaligned. Employees working in self-interest and misaligning the organisation's mission lead to a lack of accountability and poor performance.

NGOisation failure occurs when NGOs are professionalised, from grassroots, community-driven organisations to an entity that value managerialism and bureaucratic efficiency. This is a bane of conventional organisational structure. With increasing scope and more funding over time, NGOs tend to build more hierarchy. Professional managers are recruited, potentially shifting focus to meeting donor requirements and producing quantifiable outcomes. This transformation leads to distance from the beneficiaries they serve, a powerful example of when bureaucratic processes take precedence over organisational goals and social impact.

Representation failure occurs when NGOs fail to accurately represent the needs of the beneficiaries. This can happen for the above two reasons, but simply put, representation failure results when the NGO prioritises other interests over those of the community it serves. This can lead to low legitimacy and trust.

Cooperation failure occurs when NGOs fail to collaborate with other developmental actors, like local governments or NGOs, thus duplicating efforts. At times, competing NGOs aim for the same pot of resources, leading to various inefficiencies.

Thus, studying DAOs through the lenses of Dolšak & Prakash and Hilhorst can provide a comparative framework for analysing the complexities of DAO functioning.

3 Methodology

Having attended several conferences (elaborated below) on DAOs outside academic circles as part of this research, I witnessed deep deliberations on decentralisation, direct democracy, commons, and individual empowerment. By embedding principles of self-governance and autonomy into their encoded constitution and code, DAOs are not merely striving to co-opt and adopt these ideals but actively shaping how they are implemented and understood in the digital age. I concur with Rmit and Zargham (2022) that the study of DAOs is a relevant avenue to broader inquiries into where, why, and how people use technology within social institutions.

3.1 Research Design

While the field sites of research are evolving, so are the methodologies. Ethnography of sociotechnical infrastructure "offers the ability to generate a richer understanding of technical work and its social dynamics and sociocultural implications, including data, its provenance, the context and motives of design decisions, and outcomes in practice" (Rattenbury & Nafus, 2018 in Rmit & Zargham, 2022).

This research is conducted through a mixed qualitative methods approach drawing on information derived from ethnography for conducting a case study analysis. As such, it explores the properties of GoodDAO that allow it for technology-led operations, governance, and decision-making and thereafter goes beyond the aspect of labelling under a specific theoretical lens and instead focuses on the human-technology interactions and subsequent challenges faced.

3.2 Case Selection

Given the nascent nature of the field, DAOs are rapidly evolving. While building the DAO is the first step, keeping it active is another. Moreover, Wang et al. (2019) point to an academic debate on what qualifies as being regarded as an organisation. Whether the simple act of transacting on a blockchain is sufficient or does a DAO require a deeper level of participant involvement, with a formal governance model, and collective interactions over a shared purpose. Within the scope of DAOs for social impact, GoodDollar, governed by GoodDAO, fits as one of the older and larger initiatives. It claims to be the world's largest experiment on universal basic income (*x.com*, no date).

GoodDollar is a nonprofit initiative to reduce global wealth inequality by leveraging blockchain technology and decentralised finance (DeFi). Launched in 2020 by eToro, a large public market investment company, as of today, it is registered in the Cayman Islands under the GoodLabs Foundation (*Terms Of Use – GoodDollar*, no date). It has attracted over 750,000 users from 181 countries, with 28% identifying as women (GoodDollarHQ, 2024). By multiple accounts, it is one of the largest blockchain applications for daily and weekly active users. The GoodDollar case aims to address chronic financial insecurity and promote economic empowerment with disadvantaged communities on the ground providing many avenues for research for the online-offline processes and comparisons with a typical activity of an NGO.

3.3 Data Collection

For participant observation, I attended several conferences over a year from July 2023 to 2024. Some prominent ones which gave much fodder for this research are listed hereafter. Some of these were recorded, and the web links are provided in Appendix A. As a volunteer at The DAOist Paris ´23, I witnessed talks on community ownership, legitimacy, agency and the definitions of DAO itself. Further, I participated in roundtables on Ostrom at Funding the Commons Paris 2023 and on regenerative finance and complementary currency at the Impact Blockchain Conference 2023. At CoOPERATE Paris 2023, held by Celo Blockchain, I came across case studies on humanitarian action for the first time. This compelled me to participate at the Celo Gather 2024 in Berlin, which consequently led to me voting on a proposal by Celo DAO for scaling complementary currencies. Lastly, at the Blockchain for Good Unconference 2024 (BFG) in Brussels, I learned about various viewpoints of individuals from traditional institutions such as banks and governments from France and Belgium on cryptocurrency and DAOs. Furthermore, I immersed myself in their governance processes, participated in monthly update calls, claimed some gooddollars, and voted on a proposal by their blockchain partner.

In addition, three interviews were conducted, comprising two with core management team members of GoodDAO—John and Jane (pseudonyms used)—and one with a DAO member who serves as a local ambassador on the ground mobilising the community. Interviews were semi-structured based on the themes of the research questions and conducted both online and offline. One of the interviews was conducted in Portuguese, on Zoom, by another native speaker. All the interview recordings were transcribed and translated through clipto.com.

Further data was gathered through primary sources - management interviews on YouTube and various online media, as well as by screening the official communities on social media. Evidence was corroborated by scanning extant secondary sources online and grey literature. All sources were analysed with a focus both on the function of GoodDAO as well as the narratives around what problems it solves and the challenges it faces (e.g. about decentralised governance). Key themes included philosophical underpinnings, legitimacy, discourses, representation, participation, transparency, and accountability.

All interviewees showed remarkable candidness and did not seek anonymity. They readily agreed to be recorded and shared all requested data. This is in standing with their core values of transparency as a DAO. All data extracted from their official online channels are publicly accessible. However, in an abundance of caution, care has been taken to remove any personal identification from the figures and findings. The interviewees, as noted above, have been given pseudonyms. Quotations publicly accessible on secondary sources have been retained including the actual names.

4. GoodDAO - Governance Structure

This section profiles GoodDAO using the properties of blockchains and DAOs set forth by Rozas et al. (2021) that are relevant to the governance aspect: tokenisation, self-enforcement and formalisation of rules, autonomous automatisation, decentralisation of power over infrastructure, increasing transparency, and codification of trust.

4.1 Tokenomics

The GoodDAO project mints distributes, and collectively manages GoodDollars (G$), a cryptocurrency. In blockchain parlance, the currency is a token which is a digital representation of value or rights. These tokens are a form of digital universal basic income (UBI). Anyone with a smartphone and internet access can claim daily free tokens, which can potentially be used for various financial activities, including peer-to-peer transactions, local commerce, and conversion to other cryptocurrencies. Supporters, too, can be anyone who converts fiat currency into cryptocurrency to stake it on third-party exchanges (called farming), generating an endowment reserve. The yield interest funds the UBI distribution, presumably creating a sustainable and scalable model for financial inclusion. The distribution is designed so that each claimant can claim only an equal small fraction of the daily available tokens. GoodDollar's ´Proof of Need´ mechanism involves an enforced 24-hour gap between claims and periodic re-validation of identity. This design of filtering participants by effort is rooted in the idea that those with greater wealth are less likely to exert the necessary time and effort to regularly claim G$, thereby naturally prioritising those in greater need. While there is no justification provided in the whitepaper, this approach is supported by behavioural economics, which says that small, seemingly insignificant barriers can have a significant impact on behaviour. Regular effort to receive benefits can act as a filter, ensuring only those in real need and who value the benefits will consistently engage with the system (Banerjee & Duflo, 2012).

The G$ tokens, besides being a form of UBI, doubles as governance tokens for decision-making. Holders of tokens can participate in shaping the policies and the executive decisions of the DAO. Rozas et al. (2021) envisions this capacity of tokenisation of monetary value, equity, and decision-making to allow for a granular definition of participation rights. Additionally, rules can be defined to suit local conditions and, in that respect, ensure the participation of people affected by the rules to modify the rules. For example, tools can be designed to distribute tokens based on earned reputation or contribution. At times GoodDAO uses incentive campaigns. A campaign is on right now to incentivise the first 50 testimonials with G$25k each (*Participate in X Campaign and get 25,000 G$ Rewards*, 2024). Thus, active contributors can be classified to be rewarded with more G$.

4.2 Self-Enforcement and Formalisation of Rules

Rozas et al. (2021) explain that rules can be embedded in the blockchain for automatic enforcement. These could include rules for pooling and allocating common resources. For example, the total supply of G$ is capped at 2.2 trillion, which was chosen as a symbolic reference to the USD 2.2 trillion CARES Act stimulus bill passed during the COVID-19 pandemic (Assia *et al.*, no date). This capping and other monetary rules have been enforced to maintain price stability.

When a supporter stakes fiat currency, the yield interest goes into the GoodDollar Reserve, a smart contract acting as an automated market maker (AMM). The price of G$ is determined by the AMM, which is modelled on the Bancor formula first introduced by Keynes during the Great Depression post World War II (*Bancor*, 2024). The primary purpose was to introduce a stable supranational currency that would not be subject to the fluctuations and instabilities of national currency. Of late, the concept is resurgent within decentralised finance projects (Sobiecki et al., 2022). In the latter context, traders interact with the liquidity pool maintained through smart contracts, automatically calculating the conversion rate based on the available reserves. Thus, traders can buy or sell without the need for a counterparty. The formula is said to maintain continuous liquidity and determine prices based on supply and demand without intermediaries (Gorga, 2024). Appendix B provides the formulae used by GoodDollar. As of writing this thesis, the total supply of G$ tokens is 6.9 billion, valued at USD 272,987 (*GoodDollar $G Price*, no date).

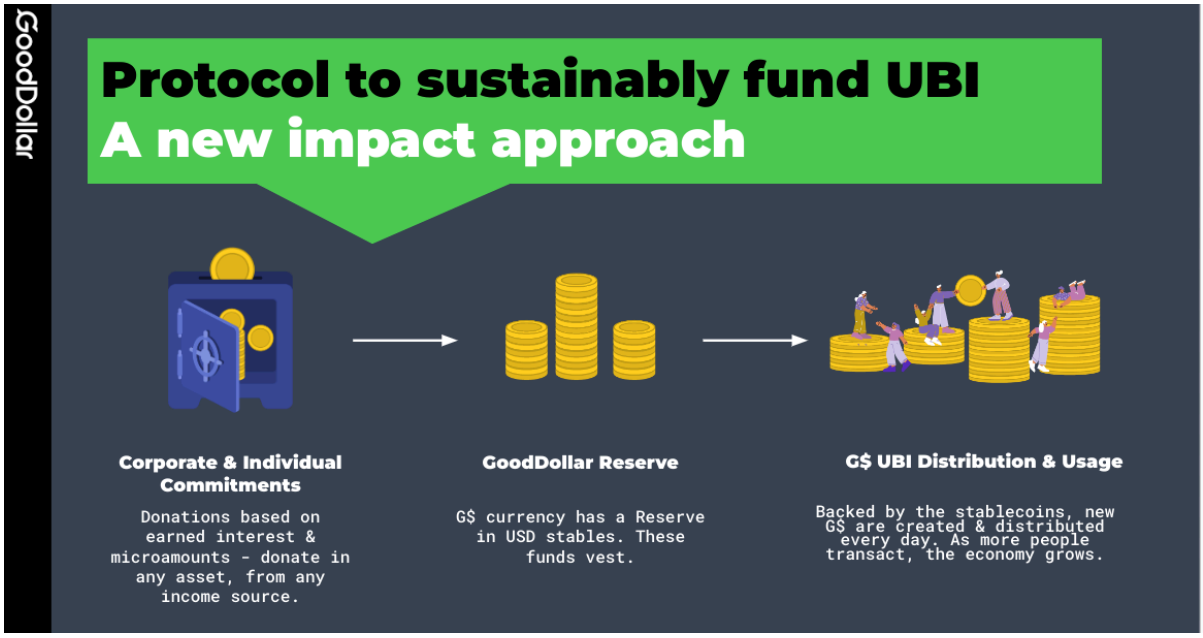


Fig 1: *GoodDollar Overview Short*, no date

Furthermore, the use of blockchain requires that all rules be formalised and encoded into smart contracts. As per Rozas et al. (2021), this requirement makes the rules available for discussion, which allows for rules to be enforced in a federated structure of local governance. GoodDAO is in the process of building local use cases of G$ and a circular economy based on local commerce. It leverages the established trust of local ambassadors within their community who act as liaisons between the DAO and the community toward building utility to the tokens. However, Rozas et al. (2021) do not detail the complexity of building the federated structure and instead caution that not all aspects of governance can or should be codified. There could be social practices and informal norms that are crucial for effective management, which may not be easily translated into code.

4.3 Autonomous Automatisation

As per Rozas et al. (2021), DAOs act as autonomous agents operating on blockchains through smart contracts. Smart contracts are essential pieces that automatically enforce the terms of an agreement when predefined conditions are met.

GoodDAO also acts as a decision-making coordinator. Claimers and supporters of the G$ tokens are distributed the GOOD governance token monthly such that 1 GOOD = 1 Vote. Any member holding more than 0.25% of the total supply of GOOD tokens can make a governance proposal, but there is no such threshold for voters. Say the DAO members establish a consensus mechanism with a voting system of a minimum 3% quorum. When such a condition is met, the smart contract autonomously collates and ratifies the votes. This removal of manual intervention makes a DAO what is termed as permissionless or trustless. A collection of smart contracts thus provides the framework for 1. Coordination, 2. Serving as a mock legal personality defining the rules of interaction, and 3. Executing various tasks while maintaining administrative checks on the execution. Together, they serve as the constitution as well as the enforcer of ideas and values imbued by the participants.

Therefore, unlike a conventional organisation, a blockchain-based organisation does not have a CEO. All decisions are made through community participation. The community can propose and vote through a third-party blockchain-based platform (https://snapshot.org/#/thegooddao.eth/).

Nabben (2021) argues that autonomy in DAOs can be – systemic, relating to systems designed to be self-defining and self-maintaining, capable of independent evolutionary processes; political because they aim to enable individual freedom through self-governance facilitated by digital infrastructure and automation; functional as they strive for flexibility at both individual and collective levels, allowing for members to respond to challenges and complexity through conscious volition; collective referring to the capacity and scope for individuals and groups to steer the broader organisational framework.

4.4 Decentralisation of power over infrastructure

As per Nabben (2021), Decentralisation in DAOs may refer to distributing and dispersing several key aspects – technical by the physical distribution of computing infrastructure across many independent participants; governance by the political influence and managerial control spread among many participants; economic by the distributed ownership and financial stakes across participants; social by the creation of a diverse ecosystem of empowered stakeholders interacting to meaningfully contribute and shape the network to steer the direction of the collective, geographic by the spread of community across locations, forming a web of relationships; operational by the removal of single points of failure and instead be distributed critical functions and data storage; and finally, production by the distributed onus among multiple independent contributors to the development of the DAO. (YEAR)

As per Rozas et al. (2021), when communities grow, they increasingly formalise rules to decentralise the community's power over common resources. The GoodDollar Version 1 (V1) started with a donation of $58000 by eToro and had complete authority over the protocol. Version 2 (V2) announced in December 2021, started the GoodDAO with that the governance of the protocol was handed over to the DAO. 50% of the Good tokens went to daily claimants, 25% to holders who acquired through buying or exchanging and the rest 25% who contributed by staking crypto assets. However, the GoodFoundation held veto rights to prevent any nefarious activity. In version 3 (V3), announced in December 2023, 80% went to claimants, 10% to stakers and 10% to a community fund for projects. It can be seen that governance power is gradually shifting to the UBI claimants. Consecutively, supporters and claimants can contribute to governance decisions by making proposals and voting as a community. The core team of around 10 is still funded by eToro. There is no mention of the veto power in the V3 documentation. However, the interview with John reveals that it still holds because of the lack of voting interest among the community.

Initially, the parameters of the process of a DAO are evangelised by the founders through formalised documents such as whitepapers or manifestos. When members join the DAO, decentralisation is implemented in tranches which, in the DAO world, is termed progressive decentralisation. However, Rozas et al. (2021) note that decentralisation does not automatically resolve issues of power dynamics within communities. In GoodDAO´s case, the dynamic nature of those eligible to propose implies that members must accumulate more as the supply of GOOD tokens increases. While this has been designed to ensure that only those with a significant stake influence governance decisions, this is potentially creating new forms of centralisation of power centres.

4.5 Increasing Transparency

GoodDAO leverages blockchain technology to provide transparency in its operations. All transactions, including UBI distributions and governance decisions, are recorded on the blockchain, making them publicly verifiable. This helps in monitoring and transparent record-keeping without a third-party auditor. Secondly, the use of smart contracts for governance and token distribution ensures that the rules are enforced consistently and transparently.

In GoodDAO´s case, transparency measures are inherited from the blockchain and also a deliberate conscious process. GoodDAO maintains a real-time dashboard showing key metrics like total UBI distributed, number of users, and transaction volumes. As of July 21, 2024, 1.8 million peer-to-peer transactions have occurred, amounting to 40 billion G$ in the last 30 days. The total UBI distributed to date amounts to 3.7 billion G$ (*Copy of New Good Dollar Overview Dashboard*, n.d.). Secondly, regular open community calls and updates through Zoom demonstrate efforts to keep operations transparent and accountable. Open Zoom calls are held periodically for the core team to present updates and plans. The community participates by asking questions. All these calls are recorded and put on YouTube. 12 such calls assessed during this research show evidence of community participation. Although the number of participants involved could not be determined.

Proposals on GoodDAO Snapshot range from managing the underlying software to making payment decisions, moderating the supply of governance tokens, and electing various subcommittees. Anyone can join the DAO anytime or leave it and interact with the community online. Hence, it is, in blockchain terminology, permissionless. The projects' enshrined values of transparency and decentralisation aim to ensure that the UBI distribution is fair and accountable, making it a pioneering example of DAOs for impact.

However, Rozas et al. (2021) point to debates on ethical concerns, particularly in terms of privacy and the right to be forgotten in the digital age. All past actions are permanently recorded, making it impossible to escape them. Although blockchain identities are pseudo-anonymised, privacy concerns may hinder participation in GoodDAO, who may not wish to be publicly identified for the amount of money possessed.

4.6 Codification of Trust

The codification of trust is a consequence of all previous properties mentioned. For example, the automated mechanisms for price determination and liquidity are one of the many smart contracts that reduce the need for human intervention and the risk of potential manipulation. The autonomous agent does not wield any discretionary power like a central bank. Records are immutable and openly verifiable.

Jill´s experience working with GoodDAO made her believe for the first time that the social sector can fit within the web and that the ¨blockchain does not lie¨. The verifiable flow of money builds trust, something which, according to her, is not visible in the ´third sector´. Although, on being prodded, she admits that the third sector in Brazil is more accepted today than 20 years ago. Earlier, they were mired in corruption and earned a bad reputation as a result of which she feels her organisation suffers from people´s mistrust. Therefore, it is important for her to adopt the transparency measures that the blockchain provides. For Jill, the virtues of technology are an avenue to establish and explore measures for economic upheaval in her society. Jill´s belief points to an interesting phenomenon where the locus of trust is shifting from humans to code.

It is important to note that while DAOs aim for high levels of automation, they still require human participation to trigger actions and make strategic decisions. Considering Nabben´s (2021) arguments providing more holistic explanations of decentralisation and autonomy and Rozas et al. (2021) caveats, DAO properties span technical, social, and governance aspects to create systems distributed in their architecture and human dynamics. Moreover, given the plethora of design considerations available and employed via human agency in shaping the DAO, decentralisation and autonomy are subjective and relative.

Consequently, the role of technology in mediating social dilemmas highlights the need for a nuanced understanding of how DAOs function as both technological and social institutions. It raises questions about trust and governance, their challenges, and whether they merely replicate existing power dynamics (De Filippi, 2019). Delving deeper into the duality of governance, balancing collective decision-making and individual autonomy, within DAOs is necessary to investigate whether they foster genuine collaboration and distributed governance. To this end, the following section explores the emergent tensions in the human-technology interactions with GoodDAO.

5. Legitimacy

Hilhorst (2003) illustrates how NGOs are compelled to engage in multiple discourses to navigate complex socio-political landscapes to gain legitimacy. She notes that NGOs must deal with various stakeholders and convince others of their appropriateness and trustworthiness. Engaging in discourse provides legitimacy which bolsters reputation. In turn, reputation serves as a currency which NGO actors are in constant pursuit of. There are three steps to do this. 1) that a situation needs development, 2) that the NGO's intervention is necessary and appropriate, and 3) that the NGO is capable and trustworthy. This same strategy is mirrored in GoodDAO´s case. Balancing the interests of these diverse groups could potentially come at the expense of prioritising beneficiary needs.

5.1 Ideological Foundations

GoodDAO's core mission, as stated in its Whitepaper, is to create a ´trickle-up economy´ and reduce global wealth inequality by giving people direct purchasing power (Assia et al., n.d.). To elaborate, Assia (2022), the founder of GoodDAO (2022), explains that as a public markets investments entrepreneur, he directly experienced the fragility and interconnectedness of a broken financial model during the 2007/8 crisis. This led him to observe that the then model of the 'trickle-up economy' skewed in favour of the wealthy, whereby the wealthy could earn more interest through investments without contributing much to societal productivity. He envisioned designing a transparent financial system that could identify those with less money and provide more to them, fostering an equitable distribution system determined by the common good. To execute this GoodDAO has chosen Celo as its blockchain layer, and Celo itself is in transition to operate as a secondary layer over Ethereum. Ethereum was co-founded by Buterin in 2015 on a philosophy of open-source, transparency, and democratic finance and has become the backbone of most decentralised finance projects (Cong *et al.*, 2022). Celo, which started in 2018, envisions a regenerative digital economy towards prosperity for all (*Our Vision | Celo*, no date). All three started independently, however, they have flocked together, whereby GoodDAO will be effectively integrated into the Ethereum ecosystem. Such flux of foundational technological choices seems to be a common phenomenon in the blockchain world, assumably leveraging a combination of ideological convergence and economic opportunism. However, this brings to question whether the project is truly redistributed to the most vulnerable population.

Their internal survey of 12000 respondents showed 72% of the users are from emerging markets, and 43% are from households earning less than $5000 annually (GoodDollarHQ, 2024). However, these numbers need deeper analysis.

Fig x: GoodDollar Overview Short, no date

5.2 Discourses

The Blockchain for Good Unconference event in Brussels earlier this year featured bankers, innovators, including GoodDollar and Celo, and government representatives engaged in various debates on digital identity, climate change, regenerative systems, and money. It provided an excellent lens into the intersection of discourses among DAOs and the blockchain community.

Financial Inclusion - Firstly, financial inclusion is achieved when the monetary system is democratically controlled by the people. This is achieved through community currency programs

which allow communities to manage money independently in a manner and meaning defined by communities. So, there can be different meanings. Each affinity group has different problems to solve for themselves, social or ecological, which will provide impetus to develop novel incentives and types of money. The sentiment is echoed by the Belgian member of parliament who, from his own experience, points out that it is dangerous to rest control of power in one politician. The French representative explains that money as a concept has evolved from being of the people to being of the king and shifted to the traders in the Middle Ages. That money today is controlled by the private sector and not the State and the trader-run infinite growth and credit is a ponzi scheme structure doomed to fail. It should go back into the hands of the public sector, meaning the people.

Technology - The second discourse is around the medium of technology to ensure trust and scale. One of the core opportunities for blockchain technology is to address the question of how to trust someone beyond one's proximate community. Traditional financial systems relied heavily on social pressure and shared contexts to create trust for credit. Digital identities can potentially mimic traditional reputation systems where transactions are verified through decentralised networks, thus enhancing financial inclusion by making credit accessible to those who lack traditional trust networks. Technology empowers individuals as ¨validators of the financial system¨ democratising control and increasing transparency. Therefore, the shifting locus of trust in computer code makes financial systems more resilient and inclusive in the long run (trustless).

Institutional Critique - The third discourse is on failing institutions. The State often uses money as a tool for financial oppression, for instance, by restricting resources to opposition groups, thereby stifling activism and dissent. Central Banks do the bidding of the State or the private sector, devaluing currency at will and fiddling with the purchasing power of individuals. Together, their practices are seen as coercive and undermine the effectiveness and trust in these institutions. NGOs, on the other hand, are seen as exhibiting organisational stasis and are hesitant to experiment with new solutions. The risk aversion stems from a lack of institutional mandate to innovate, which hampers their ability to adapt and address emerging challenges effectively. Moreover, the challenges related to transparency, accountability, and efficiency. The institution of money itself is circumspect because it fails to address many of the current economic problems and social issues. While the blockchain community admits that the concepts of decentralised and regenerative finance offer hope, it is unclear what exactly constitutes "green" or "efficient" investments, further complicating the use of money to solve current problems.

Imagined capitalism - Lastly, the blockchain community envisions an alternate form of capitalism that addresses the limitations and failures of traditional financial systems. Decentralised finance (DeFi) aims to provide banking services outside of conventional banks, including lending, borrowing and trading without intermediaries, thereby reducing costs and increasing accessibility. Regenerative finance (ReFi) focuses on DeFi being used for prosocial investments aligning financial incentives with broader societal goals. The intent is to reprogram money that is not solely focused on profit but to reflect societal needs and values.

GoodDAOs subscription to and evangelisation of such techno-deterministic discourses of an alternate form of capitalism and institutional critique reveal their alignment with the crypto-anarchy movement. But what made it a mass movement?

5.3 The GoodDollar Movement

Hilhorst posits that collective action is not a direct result of resistance, or for that matter, discontent or deprivation, but changes in the political opportunity structures (Tarrow, 1994) and third-party supporters (Klandermans & Tarrow, 1998). This would include the political environment, institutional arrangements, and broader social or economic conditions that may either fuel or quell a social movement. Collective action is a process of actors producing meanings, communicating, negotiating and making decisions to construct their script of social (Melucci, 1998), an imagined reality (Finin, 1991) and hence political. Assia wrote about transparent money in a personal blog post[1] in 2008 before the advent of Bitcoin and blockchain. The economic turmoil of the time and his political leanings on tackling rising inequality led him to study and propose a technology-led UBI, a then-imagined reality back in 2008.

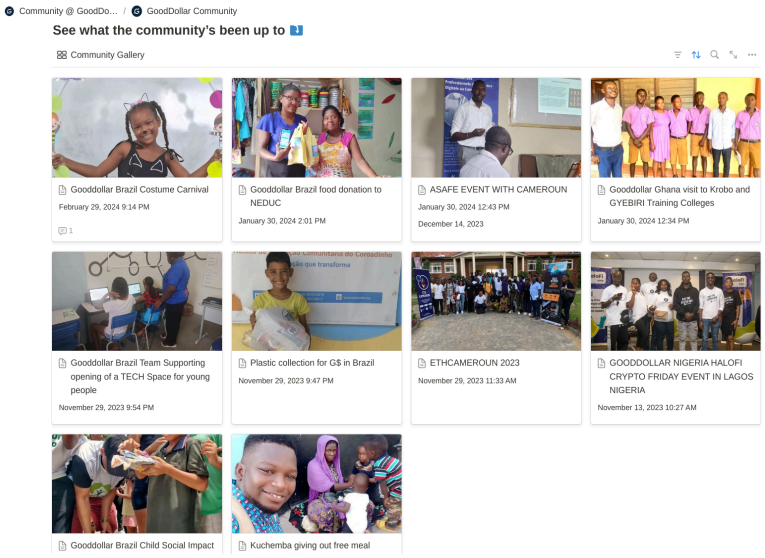
It was during the Covid pandemic that GoodDollar gained traction. The founders were inspired by a University of Oxford study (Garton Ash, 2020), which found that the pandemic changed mindsets, accepting ´radical utopian ideas´ of UBI and fuelled distrust in governments to the extent that the young perceived authoritarian governments to be the best to handle climate change and a reluctance of governments banning anything of ´enjoyment´. GoodDollar appeals to the consciousness of third-party supporters or stakers, to millennials and Gen Z who are "sympathetic to the needs of others", to "do well while doing good" (*The GoodDollar Basic Income Economy | The GoodDollar White Paper*, no date). This is an example of how collective action is neither necessarily a result of collective identity but of collective identification with the issue at hand (Hilhorst, 2003). The meanings advanced by the social uprising, the alliances cultivated, and the strategic choices made have a mobilising effect, "dignifying and justifying" the movement (Tarrow, 1994, p. 99).

Thus GoodDAO´s legitimacy is seemingly derived from three factors. Firstly there is an alignment in values. GoodDAO aims to link its monetary system to values of community, mission, and service which resonate with its target audience, particularly the youth who arguably are increasingly looking for social impact in their financial engagements. Secondly, it aims to address the real needs of the beneficiaries and it assumes a thorough understanding of it. The third is the innovation approach lent by the DAO itself. The use of a dual token system, a currency as well as a governance token fosters transparency and trust driving community engagement. How this manifests on the ground is the next chapter which is explored through the eyes of Jill.

[1] https://yoniassia.com/good-dollar-the-visible-hand/

6. Community Management

To understand how GoodDAO's principles and governance structure translate into real-world impact, it is crucial to examine its community engagement efforts. A recent empirical study on 1,635 identified DAOs, conducted between December 2019 to March 2021, shows only 293 (17.9%) survived. The remaining 92.1% showed no recent activity (Rikken et al., 2021). A core issue is balancing the mission, educating the masses, and simultaneously setting up an effective infrastructure for scale. Therefore, the litmus test to GoodDAO´s legitimacy would be the extent to which its intended community of 1.7 billion unbanked population partakes in the ideals espoused. The GoodDAO community is seemingly bustling with activities (picture below). This section places the community at the centre of GoodDAO´s operations and exposes the challenges it faces in delivering its stated goals.



Central to the community efforts are local ambassadors. They are engaged in various activities to evangelise the concept of crypto-UBI, thus serving as a bridge between the DAO and the grassroots. Additionally, community moderators are elected to handle the deluge of activity on various social media and chat rooms on Telegram and Discord. One such local ambassador is Jill (name changed) whose work provides valuable insights to this research.

Fig 2: *Community Gallery*, no date

6.1 Local Ambassador

During the pandemic, Jill was seen seeking donations for her community through impassioned pleas across the internet. She represented a suburban rural slum of over a hundred thousand people. Water scarcity, unemployment and inadequate access to food plague the suburban slum, which worsened during the pandemic. She is middle-aged and from the Afro-Brazilian community, and she has several degrees from the local university. She took up several grey-collared jobs at an early age before the local Church recognised her as a community leader and accorded her various responsibilities. Later she started her organisation in promoting education and entrepreneurship.

Jill first encountered crypto UBI in 2020 through Impact Market´s outreach which is another similar project like GoodDollar and also includes microloans. Initially, she considered it

´mirabolante´ (expressing scepticism). The pandemic exacerbated the vulnerability of her community, making the promise of a UBI particularly appealing. One of the primary challenges Jill faced was the language barrier and the technical complexity presented by DAOs, blockchain, and UBI. She primarily spoke Portuguese but took it upon herself to learn and then translate these concepts into simple, relatable terms that her community could understand. She used analogies and practical examples to explain how digital currency could be used for everyday transactions, such as playing a game to win coins and being able to change to real money to buy bread.

Jill organised daily meetings and door-to-door service to onboard families. The enthusiasm was so much that she had to set filters, including mothers, no income, or lost a job. Some of the men she filtered out because they seemed too demanding and irresponsible in repaying the microloans. At its peak, the group consisted of 160 members but tapered to 60 now. The 60 are daily claimants of UBI and 20 of them are participating in the circular economy. This hands-on approach was crucial in building trust and ensuring initial adoption. Owing to demands from the community, Jill worked to integrate GoodDollar into the local economy by encouraging merchants into the system. They instituted a system which allowed community members to exchange their G$ UBI for vouchers from Jill´s organisation. The vouchers could be used to purchase goods from participating merchants, who could then exchange the vouchers for local currency. UBI was also exchanged to top up local transportation cards for adolescents and purchase digital education products for children. Beyond the initial phase, Jill continued to innovate and expand the use of GoodDollar. She has established a shop for buying and selling pre-owned goods, a fashion line that engages local women in a circular economy, a recycling station for collecting and separating plastic and trash, and collaborates with local artisans to assemble bags to be sold at her shop. GoodDollars is the medium of exchange at her shop and organisation.

Jill’s efforts have had further positive externalities. In her own words, she claims that it is almost ´anarchic´ to be a slum dweller and to be able to communicate with the world and earn income through digital means. The project opened people's minds to exploring opportunities. Children now wish to be photographers and computer programmers, and mothers want to learn how to make cakes and do nails, hair, and makeup. There is a sense of solidarity, enabling community members to support each other and invest in their futures. It is ´emancipating´ and ´gratifying´ to be able to interact in English with the whole world. ¨Because the staff translated and changed. They understood. That's the solution.¨ To Jill, the impact of crypto UBI is economic freedom, agency and visibility for those who were thus far ignored by traditional institutions such as the government and the banks. To be able to take matters into their own hands lays a path to self-sovereignty which was unprecedented and hence feels like emancipation.

Jill's experiences show the potential as well as the challenges of implementing GoodDAO's vision on the ground. While her efforts have visibly led to benefits for her community, they also bring forth the complexities of translating a technology-led global initiative into local contexts. These challenges are not unique to Jill's work but reflect broader issues faced by GoodDAO in its pursuit of meaningful community engagement and impact.

6.2 Challenges to Meaningful Engagement

GoodDAO's strategy of juggling multiple discourses while demonstrating a sophisticated approach to gaining legitimacy raises the issue of multiple realities. In NGOs, multiple realities are caused by a complex interplay of various internal and external factors which shape its environment and operations affecting its decision-making, organisational cohesion, innovation capacity, and impact on the beneficiaries (Hilhorst, 2003). Internal factors relate to the NGO, its staff and external, its community beneficiaries. Similar to NGOs, GoodDAO´s multiple realities are caused by various internal factors which relate to decision-making by the DAO core team and external factors by the social context GoodDAO operates.

6.2.1 Internal Factors

a) Immediate vs. Long-term goals - While the immediate goal is the distribution of gooddollars tokens, the long-term sustainability requirement is to build a circular economy with gooddollars as a medium of exchange. Both John and Jane agree that that is the ¨hard part¨ for which John admits, "After a point you need experts, beyond the passionate bunch of people who started it, to scale the DAO."

b) Decentralisation vs. Control - Similarly, we see progressive decentralisation has become a norm in DAOs. Decentralisation is not outright and formalisation of rules happens in phases. Although the different phases of decentralisation V1, V2, and V3 were put to vote, it was largely introduced by the core team. Moreover, the voting culture as John shares earlier has not percolated to the larger community, "While the community has local people passionate about advocating for this opportunity within their geographies, they have little interest in being involved in voting on governance decisions". If decentralisation is a core principle of a DAO, this brings to question when a DAO truly become a DAO.

c) Inclusivity vs. Security - The current system of claiming gooddollars involves frequent facial verification using Facetec’s Zoom 3D which several large banks use. While this system is equipped for security reasons it can not be said to be inclusive for people without quality phone cameras. Moreover, converting fiat money to cryptocurrency and then to G$ or even claiming UBI tokens involves a complex system of interacting with various online interfaces on a smartphone. Therefore, technical barriers, like digital literacy hinder access to those in genuine need (Lannquist *et al.*, 2021).

d) Innovation vs. Regulatory Compliance - Another issue is to what extent can GoodDAO push the boundaries of innovation. It operates in the innovative space of blockchain and cryptocurrency which involves pushing the boundaries of traditional financial systems.

However, the regulatory landscape is a hindrance. John reveals that part of several reasons to shift the GoodFoundation from the UK to the Cayman Islands is because it gives some regulatory room to advertise more aggressively. ¨Invite campaigns seem to work – earn an extra 20 cents for every person you invite or 10 cents for every person you invite and you get tens of thousands of people participating."

e) Scalability vs. Stability - The biggest issue GoodDAO faces is incentivising participation. The total market cap of currently circulating gooddollars is less than USD 300k. John makes the case to make it a speculative currency. "We're the top five Web3 apps by active users. The token price didn't crash like all the other tokens did, so the thing is that we are doing something sustainable, but sustainable doesn't attract the big money, doesn't attract the standard money out there, because they are looking for speculation. If you don't have speculation, how are you going to make millions of dollars in profit right, if you don't have that sort of high speculation? But you can potentially do it. I'm saying all the time that we should sell the token. That we should market it, you know, marketing in a good way to apply to a certain crowd, to the people that care about the climate, care about, you know, people that care about these things. They do have money, they do donate to places..... You know, when you're donating dollars to all these other institutions, a lot of the money goes to waste, so you can donate money directly to people, to the causes that you care about, and it won't be used to continue the same economic system that causes all of the destruction of the earth and so on.....and as you build these local economies and these start growing there's like obviously a huge untapped opportunity for speculation."

   Anna (cofounder of GoodDAO) contends at the BFG event that Bitcoin has earned notoriety for its speculative nature and introducing stablecoins (fiat-pegged cryptocurrency) was a result of it. On the other hand, the French government representative counters that the fact that stablecoins are backed by USD-denominated treasury bills only makes it a digital representation of USD. Therefore, the central thought behind launching GoodDollar as expressed by Assia earlier, of inverting the currently skewed interest structure persists. GoodDollar stakers are investing fiat to convert and contribute to the Reserve and thus face the same issues that plague fiat, of constantly losing purchasing power through inflation, albeit invisibly. If they do flip to a speculative currency the UBI claimants will be subject to price volatility. This shows the pressures faced by GoodDAO in implementing redistribution.

6.2.2 External Factors

a) Multiple Stakeholders

   GoodDAO is attempting to appeal to various stakeholders including the crypto community, economists, potential users, and international organisations. The need to be accountable to different stakeholders can be problematic as seen in the following example.

Jill currently leads a project called Good Collective sponsored by GoodDollar in partnership with DeTrash. Detrash aims to incentivise garbage collection for long-term climate change (A world free of pollution, n.d.). Six women in the locality collect plastic bottles door to door and bring them to a central place for recycling. In turn, they are paid in crypto dollars. According to GoodDAO, Jill´s region is prone to floods which is the result of climate change (Stone at Ethcc). For Jill and her community, it is a way to augment their income. At its peak they could receive UBI to the tune of 3 USD a week, and now 15-20 days to make 1 USD. A recent price devaluation[2] shook up the community and they are in constant search for other projects to boost the local crypto economy.

Jill's experience with the Good Collective project is an example of how different actors bring their own sets of values and understandings, creating social interfaces where discourses intersect (Hilhorst, 2003). The representation of the project varies. While GoodDAO is focussing on climate change, Jill's community prioritises financial freedom. Perhaps this is the reason for the rapid uptake of gooddollars despite the digital divide or the lack of regulatory compliance. The contrast in goals and priorities is a clear representation failure, as described by Dolšak and Prakash, where the DAO fails to accurately represent the needs of its beneficiaries.

b) Cultural Context

GoodDAO works in 181 countries in varied social, economic, and political contexts, necessitating different approaches and strategies for its redistribution goals. Jill´s efforts in creating awareness, building trust by addressing concerns and facilitating participation by introducing a voucher system to onboard merchants show her dogmatic persistence in the face of multiple challenges. However, Jill ascribes it to curiosity from her community. Impact Market made a concerted effort before the pandemic all across Brazil but her region seems to be the only active one. Her overtures to other religious communities met with a lukewarm response. It needs to be pointed out through evidence from Statista that Jill´s specific community constitutes 10% of the entire population and faces maximum prejudice. Even after 4 years of making it work, she faces scepticism about the whole operation being a ponzi scheme.

Her leadership has made her a sought-after speaker all across Brazil but she expresses helplessness in being able to co-opt the government and other religious institutions. She feels the web world is more welcoming than the real. She shares an interesting anecdote. She once promoted an entrepreneur who was skilled in braiding. A crypto

[2] On Dec 17, 2023 a hacker liquidated 1 billion G$ tokens from the GoodDollar Reserve which provides collateral to the G$ currency. As a result, the price of G$ faced a massive shock. The Protocol Guardians which had veto power as mentioned previously quickly set to action and were able to stop further leakage. The price never recovered even though the daily transaction count and the claims count remained stable.

microloan program got her a chair, and other materials, and allowed her some homework on building the business. But most entrepreneurs in her community are ridden with debt. They come from a place of scarcity, to buy milk and gas. The lack of money management training is hindering fostering of entrepreneurship. She blames the real world - ¨ But she should have been educated before. We should have been educated right from school, right? With this vision of saving, of organising financially. But it's not always easy. ¨ Despite such challenges she managed to rope in a local NGO to provide managerial training for her community of small-scale entrepreneurs. She holds events and fairs for mentorship. Thus, it is only through Jill's entrepreneurial efforts that GoodDollar has a presence.

c) Voting Culture - The lack of voting interest deserves a separate mention. While the actors in question do seem to have agency, by the technical design of the DAO, they have little interest in exercising it. One reason could be the differential voting power. A cursory glance at their voting platform shows less than 300 votes for most proposals (*Snapshot*, no date). On the other hand, their dashboard shows 789k total unique users and 99k monthly active users claiming or transacting in gooddollars. Please note that 1 GOOD = 1 Vote and the quorum is 3% as standard.

   The issue of differential voting power came to the fore during a recent election. In April 2024, teams stood for elections for the online community moderator's post. At stake was approximately 14,400 USD in grants for 6 months. Mere 62 votes were cast. The winning team, GIMT, received 6 of them. In the final minutes as the voting came to closure what in DAO parlance is called a whale cast an outsized influence pitching 17 million GOOD tokens. The other two teams received 28 votes each. Since there was no dispute resolution in place and the votes had reached quorum the votes were autonomously ratified. Neither was there any protocol in place in case of a tie. A core team member put out the following post absolving responsibility instead of beseeching the GoodDAO members to actively participate in shaping the DAO.

Reflection of the past GoodDAO Election, 2024

In further response, the core team laid out four-point rectification steps establishing boundaries between the core team and the DAO which right now, to reiterate, is moving towards 80% claimant token holders.

> Clear documentation that clearly delineates the unique roles of the GoodDAO and the Good Labs Foundation, and the role they play in the GoodDollar ecosystem.
>
> A clear vision of what operational responsibilities the GoodDAO should expect to absorb in the next 6-12 months. The funding for these efforts will be a mix of donations from the Foundation directly to the GoodDAO, funding sourced from the GoodDAO treasury, or funding raised by GoodDAO members.
>
> Establishing clear boundaries between the GoodDAO and Foundation representatives.
>
> Amplifying community-led efforts to secure additional funding for the GoodDAO.

Reflection of the past GoodDAO Election, 2024

Dolsak and Prakash (2021), delineate NGO principals (the community) and its agents (NGO staff or managers). Employees working in self-interest and misaligning the organisation's mission lead to a lack of accountability and poor performance. The larger community does not seem interested in governance decisions yet the previous post delineates the principal (core team) and agents (claimants). Jane initially mentioned this community moderator appointment as a shining example of progressive decentralisation. However, on being challenged she admitted that the core team was taken by surprise but took a principled stand in the end to honour the results of the DAO. This is another example of the tension between decentralisation versus control. The above post seems in earnest but a clear agency failure, spurred by the misalignment between the interests of the principals and its agents. This failure is not established by the immediate issue at hand but was perhaps set in motion long back by the strategy of multiple discourses. As Hilhorst (2003) states, actors navigating personal motivations and organisational politics can lead to agency failure if their actions diverge from the proclaimed mission and multiple realities only contribute to exacerbating agency failure.

In summary, Section 6 highlights the internal and external factors contributing to the multiple realities within GoodDAO. This aligns with Hilhorst´s notion that organisations are not monolithic entities but open-ended processes. Actors involved can have multiple roles as supporters, beneficiaries, governance members, local ambassadors or simply merchants making it a flux of overlapping networks. Embedding the project in multiple domains, can potentially enhance its legitimacy having a much broader impact and reach but also makes it more complicated to operate (Hilhorst, 2003) especially since it is hard in this case to distinguish who the beneficiaries are.

Jane in the interview admits that engaging multiple realities in interacting with institutions like the OECD and the grassroots is a way of working in any industry. To her, the meaning of climate change, ascribed by Jill´s community is ¨much more pragmatic than that. There's trash in my house. And, instead of having thousands of other ways to make $10, this is a practical market opportunity for me¨. The risk is that while GoodDollar would continue to institute projects which appeal to a wider audience, for Jill´s community the need is specific, financial freedom. Thus, the prevailing technology discourse has become dominant while the UBI discourse is holding the legitimacy fort. As per Hilhorst (2003), this can lead to a strain between the community and the DAO as its practices and discourses evolve to align with, in this case, the donor´s long-term expectations over the community´s immediate needs.

Furthermore, the section highlights Jill´s contribution as a local ambassador in bridging the gap between the web world and the real world. Jill's entrepreneurial efforts in creating awareness, building trust, and facilitating participation demonstrate that decentralisation does not automatically lead to inclusivity (Hütten, 2018) but needs active participation and entrepreneurship. Without that visionary effort, there is a real risk of cooperation failure when

other development actors like the State and the third sector are not involved in the process (Dolšak & Prakash, 2021). The potential of decentralised financial systems in driving social change is realised only with true bottom-up effort bridging the real world with the web world. Technology serves as part of the solution.

Thus whether the distribution of UBI is truly redistributive, is left to the entrepreneurial acumen of the local ambassador. This is aligned with Potts (2019) governance solutions and opportunities are collectively discovered through entrepreneurial processes and systems adaptation. However, the insistence on governance through increasing formalisation of rules into smart contracts can be seen as an NGOisation failure which creates distance from the beneficiaries they serve (Dolšak & Prakash, 2021). While the multiple cultural contexts can be seen as a drawback for technocratic solutions, it can also present an untapped opportunity to truly break the hegemonic vision of DAOs to a universal model that they imagine (Büscher et al., 2021).

The lack of voting interest could be due to the differential voting power as well as all of the above reasons. What is certain though is that this dynamic is creating new forms of centralisation and power imbalances, pointing to Hilhorst's concept of discourse and power dynamics shaping the everyday practices of organisations.

A DAO as a form of collective action working against income inequality does not yet seem the perfect solution to ambivalent social contracts. In the broader context of DAOs striving to build cohesion and culture, they are found struggling with maintaining community engagement and balancing their business models with their ideals (Band, 2022). There is no doubt about sovereignty and autonomy being desirable virtues but perhaps neither legacy institutions nor technology innovators have quite decrypted it.

7. DAOs versus NGOs

In theory, DAOs present an intriguing alternative to traditional NGOs in the realm of social impact and development work. DAO scholars view them as embodying distinct features that potentially present an organisational alternative to traditional NGOs within the development framework. The following table compares DAOs to NGOs in two columns from the lens of DAO scholars. The third column juxtaposes the findings illustrated in the previous section.

Features	DAO	NGO	DAO Empirical Reality
Decentralised Governance (Hassan and De Filippi, 2021)	Operates on a decentralised, transparent, and secure system for governance among independent participants	Hierarchical structures of traditional NGOs	Decentralisation for collective action happens through a gradual shift
Autonomous Operations (Hassan and De Filippi, 2021; Virovets and Obushnyi, 2020; Sulkowski, 2019;)	Runs autonomously through smart contracts, executing decisions without manual intervention	Centralised management and need for oversight	Human intervention is crucial in both shaping the DAO as well as for impact delivery on ground
Democratic Decision-Making (Hassan and De Filippi, 2021; Virovets and Obushnyi, 2020)	Decision-making is often democratic, relying on the voluntary contributions and votes of internal stakeholders	Top-down decision-making processes in many NGOs	Struggle with maintaining consistent community participation and risk disproportionate influence by large token holders
Immutable Rules (Virovets and Obushnyi, 2020)	Governance rules are encoded as immutable computer programs, ensuring consistency and resistance to tampering	Policies may be subject to change	Reliance on hard-coded rules can lead to less flexibility towards local adaptation
Global and Inclusive Participation (Hassan and De Filippi, 2021; Virovets and Obushnyi, 2020; 'The community of the DAO,' 2023)	Enable global participation without the need for physical presence, fostering inclusivity and diverse input	NGOs often operate within specific geographic or cultural contexts	Inclusivity is hindered by the multiple cultural context and delineation of the DAO from its community
Resource Management (Hsieh et al., 2018; Virovets and Obushnyi, 2020)	Manage resources through blockchain technology, ensuring transparent and efficient allocation	Traditional financial systems and reporting mechanisms	Locus of trust is shifting to code
Evolution and Adaptability (Hassan and De Filippi, 2021; Virovets and Obushnyi, 2020)	Can evolve through community-driven proposals and voting, allowing for rapid adaptation to changing needs and contexts	May face bureaucratic hurdles in implementing changes	Distance between the DAO and its community hinders evolution
Technological Foundation (Hassan and De Filippi, 2021)	Technological foundation including the use of blockchain and smart contracts, provides a robust and secure infrastructure for operations	Often less technologically advanced systems used	Technology requires concerted effort through human intervention to generate utility and security

Notwithstanding all the differences between DAOs and NGOs as posited by DAO scholars, their evolution seems to bear stark similarities. Hilhorst (2003) argues that NGOs throughout history have grown from regional movements of autonomy and thus calls out the need to critically review the correlation between the two phenomena. Pre-1980 organisational interests in developing countries were studied through the lens of political and social movements focusing on revolutionary groups, land reforms and squatter movements. Gradually, along the way, NGO studies carved out a separate niche as more value-driven and development-oriented.

The GoodDollar modus operandi proposed in 2020 was a two-pronged approach to building a movement. The movement envisioned "ignites millions of people globally to join and participate in the GoodDollar experiment, inspires the wider digital asset community to think differently about value, and advances the field of basic income studies" (GoodDollar, no date). The first approach was building the monetary infrastructure, and the second was building momentum for

mass adoption through financial literacy and promoting access. It can be extrapolated that the mass collective political identification, which germinated during the pandemic, combined with the problem-solution framing and the strategic choice of the tools and methodology by Assia and his team, made possible mobilising the movement further through collective action.

Thus, where the advantages of DAOs over NGOs are mostly ambiguous, one clear advantage is the shifting locus of trust to code which Jill finds an avenue for financial freedom. While DAOs offer innovative approaches to the rest of the dimensions, they also face significant challenges in realising their theoretical potential. In contrast, NGOs, despite their limitations, may display advantages by way of established practices. The future may lie in hybrid models that combine the technological innovations of DAOs with the established practices of NGOs to address complex development challenges effectively.

8. Discussion

8.1 Crypto-Anarchy and Development sans institutions

The broader philosophical and socio-political connotations of crypto-libertarianism return to debates about the role of the state as a social agent of development (section 2.4). Within the blockchain community, there seems to be a strong undercurrent of distrust in the State (Section 5.2). The idea seems to be that charity and philanthropy are inefficient and that there is no other social actor that can promote social development. This is what Atzori (2017) denotes as ´Marxist Determinism and Anarcho-Capitalism´. In Marxism, the State is not abruptly obliterated, but it gradually deteriorates once the production processes are reorganised by the society according to its principles of freedom and equality. At this point, society would reach a level of political consciousness and maturity and a classless, stateless society would emerge. Both Marxism and blockchain advocates share a critique of centralised power, but their solutions diverge. Marxism seeks to disrupt capitalism while blockchain advocates promote free-market principles without central authority. This is characterised by the belief that self-regulating markets and individual autonomy can replace State functions. In sharp contrast, Rozas et al. (2021) contend that while ¨extreme quantification and data fetishism¨ carries risk, this critique against techno-determinism is contingent upon the role of the State as inherently necessary for democratic governance and this bias limits viewing the otherwise transformative role of blockchain (p.3).

Jane (pseudonym) is admittedly a big believer in capitalism but adds a twist. ¨I think capitalism and markets, like, unlock a lot. The question is, like, what type of capitalism are you trying to create? Right? And I think that one of the areas where we've tried to innovate the most is, like, in enabling, creating the infrastructure for individuals around the world to create their market opportunities. Because people want to buy and sell things. People have needs.¨ As a people's currency outside state control reflects an anti-capitalist sentiment but at the same time, the use of free-market incentives and potentially speculative mechanisms suggests an embrace of

capitalist logic. This can be problematic in several ways. The overemphasis on individualism can lead to neglecting collective social responsibilities marginalising the vulnerable who may not necessarily thrive in a purely decentralised system (Atzori, 2017). Without the balancing function of centralised democratic institutions DAOs risk amoral antipolitics that prioritise market forces over social welfare (Atzori, 2017). Undermining the role of the state can lead to a deficit of legitimacy (Abbass & Dalha, 2023; Lubienski & Perry, 2019) and the conscientious application of laws and rights (Atzori, 2017).

GoodDollar´s ideological foundations are rooted in crypto-anarchism, as discussed earlier. However, the promised democratisation of finance and reduced inequality can be challenged by the reality of economic disparities in access to technology and resources (Hütten, 2018; Scott, 2014). In such a scenario, the initial distribution of cryptocurrencies and tokens could favour early adopters and those with technical expertise, potentially exacerbating existing inequalities or creating others. In Jill´s community, these would be the 20 women who are actively engaging in the circular economy, creating their meaning to the concept of money. There are potentially four issues here.

Among these 20 women, individual autonomy may be subdued which may make it difficult for an individual to opt out without facing marginalisation, thus subtly coercing participation and limiting choices (Scott). GoodDAO while promising decentralisation and empowerment, can end up reinforcing existing power structures and capitalist exploitation by simply replicating digital versions of financialisation and commodification of everyday life (Hutten) which is in stark contrast to post-neoliberal visions of development decommodifying health and education (Büscher et al., 2021). Furthermore, the voting disparity breaks the notion of a coercion-free, horizontal society. Individuals can still amass enough resources to exert control (Potts). The primacy of blockchain as a solution can lead to technocracy, where algorithms and technological systems govern human affairs, potentially sidelining democratic participation (Atzori).

Scott (2014) suggests that decentralising services through blockchain does not necessarily need to be dismissive of the State or promote lawlessness and anarchy but rather should be a tool to prevent the excessive concentration of power and improve governance.

Amidst such contrasting views from academicians, the best piece of pragmatism comes from Jill (pseudonym) when asked for advice from other local ambassadors. She urges patience and diligence, to not be swayed by the hype - ¨don't do it because it's going to make millionaires…..think about the doors that were closed for you when we asked for action…. we participate in the action, and sometimes don't have the financial resources to implement our impact projects. On the web, you can do it, but then you will be able to if you have a good understanding and clarity in what you want. So, at first, my team was very apprehensive. Then they were super ecstatic. Oh, I don't know what to do. They said, calm down, let's sit down for a moment here. You will read, study, and understand. If you don't understand, we'll go there; ask X, Y, Z, ask God and the world. It will be hard, and it will hurt. But there will be a time when you will see the transformation—small and small things. And this is wonderful. For those who don't have anything, this is wonderful. It will compensate.¨

8.2 Implications and Future Research Direction

Most DAO definitions do not amply encapsulate the various permutations and combinations of technical building blocks and their social, organisational, and philosophical aspects. Practical realities make it difficult to keep up with the academic vision of blockchain as a transformative institution. One key is that DAOs exist on a spectrum of decentralisation and autonomy, rather than conforming to a single model. Future research must aim to bridge this academic gap by developing more dynamic and adaptable frameworks that can account for the ongoing evolution of such emerging structures and practices.

The comparative analysis of DAOs and NGOs reveals significant theoretical implications. DAOs challenge traditional organisational structures by promoting decentralised and autonomous operations, necessitating a revaluation of organisational theories. They expand theories of governance to include these technological aspects. However, the community participation and voting patterns highlight the need to explore power dynamics within decentralised systems. Additionally, the foray as a global digital platform necessitates understanding the integration of digital and physical communities to address inclusivity in organisational management. Particularly in GoodDAO´s case, a feminist ecological theory can provide a framework for research where power dynamics are often gendered.

Practically, DAOs offer innovative solutions but also introduce new complexities. Practitioners must balance decentralised decision-making with expert management, enhance participation through strategic online and offline initiatives, and adopt measures for transparency and accountability beyond what the current technology can provide. DAOs must develop strategies to ensure vulnerable populations are included. Innovative funding models present new opportunities for NGOs but ensuring financial stability while embracing these mechanisms is crucial. A hybrid model balancing global reach complementing local expertise and established practices can be an area of future research. This could include a longitudinal study of the socioeconomic impacts of crypto-based UBI and other DAO-led initiatives analysing the role of local ambassadors within DAO models and meaningful participation of the intended community.

8.3 Policy Recommendations

Keeping in line with post-neoliberalism post-COVID debates about the vision of the state (section 2.4), policymakers must assess their redistributive economy policies considering the declining trust in institutions. Emergent digital opportunities provide an avenue to create agile low-risk innovation sandboxes for small-scale experiments. Irrespective of how these experiments fare, complementary microcredit programs and digital literacy education can only provide positive dividends in the long run. Jill´s community has shown tremendous leadership in translating complex technology from English to Portuguese to a local palatable language and engineering opportunities out of sheer curiosity, need, and will. While DAOs may not yet be a panacea for financial inclusivity, a lot more trust can be bestowed on Jill´s community´s

ingenuity in shaping self-sovereignty. Therefore, there is a clear need for frameworks that ensure accountability without stifling innovation, addressing challenges of cross-border operations and legal recognition of DAOs, and developing standards for transparency and user protection in crypto-based development initiatives.

8.4 Limitations of the study

The rapidly evolving field sites of research can affect the consistency and reliability of the data collected. Specifically, the community interactions on official Telegram and Discord channels require an algorithmic approach to extract data from as suggested by Nabben (2021). Secondly, the complexity of social dynamics and cultural contexts may have led to oversimplifications and misinterpretations. Thirdly, the limited existing literature of empirical studies on DAOs for social impact makes it challenging to comprehensively contextualise findings within a broader framework.

9 Conclusion

DAOs originate from a techno-liberal movement with a long history of seeking autonomy and privacy, tracing back to the cypherpunk movement and the creation of blockchain technology. community-driven values to the concept of money. However, practical Local ambassadors and partnerships in the physical world are crucial in creating local economies, although issues persist in aligning the project’s goals with the actual needs of beneficiaries. GoodDAO operates as part of a broader The GoodDAO project is steadfast on blockchain as a solution to build a redistributive economy. Its legitimacy is derived from engaging in discourses, ranging from financial inclusion, technological trust, and the failing institutions to imagined capitalism centred on an ecosystem, involving multiple networks and collaborations, transcending geographies, which complicates its organisational boundaries but arguably enhances its legitimacy. However, despite efforts to decentralise governance, participation in voting and decision-making remains low. Meaningful community engagement appears to require more effort than may have been originally envisaged. GoodDAO's transparency and accountability mechanisms are tested in everyday practices. The issue of differential voting power during a recent election revealed challenges in ensuring fair and democratic participation. Low participation rates and the influence of large stakeholders indicate potential agency failure, where the interests of the DAO community may not align with those of the core team or large token holders.

While DAOs present innovative solutions to some limitations of traditional NGOs, they also introduce new complexities and challenges. The GoodDAO case study reveals that the promise of decentralisation, transparency, accountability, and global participation is tempered by issues of digital exclusion, uneven engagement, and the persistence of power imbalances. As the field evolves, hybrid models that combine the technological innovations of DAOs with the local expertise and established practices of NGOs may emerge as effective approaches to addressing global development challenges.

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Appendix

A: Events

1. The Daoist, Paris, 2023 - https://www.youtube.com/playlist?list=PLwGSVEZFFjEzDkyZVLvfLJH2pau0dwdkS
2. Impact Blockchain Conference, Paris, 2023 - https://www.youtube.com/playlist?list=PL1gK6rIdnJSXN4_EFZsq8XSNcXRM0Y8yo
3. CoOperate, Paris, 2023 - https://www.youtube.com/watch?v=rwHICcxkgBs&list=PLsQbsop73cfGcAb6oIJTEF6ldkLDALf6a
4. Funding the Commons, Paris, 2023 - https://www.youtube.com/playlist?list=PL3C6eF-zu5AYqnq35PusyMKhugUd5LOBq
5. Celo Gather, Berlin, 2024 - https://www.youtube.com/playlist?list=PLKdIrUlqPCojVTfjm3AQ3Hoxv8JRY82DK
6. Blockchain for Good Unconference, Brussels 2024 - https://event.blockchainforgood.fr/index.php/category/podcast/

B: G$ Pricing

The number of G$ minted is inversely proportional to the reserve ratio, and directly proportional to the prevailing reserve amount, expansion rate, and prevailing price.

$E = (P \cdot Z) / (R+Z)$
Where:
E = Newly minted G$ tokens; P = Price of 1 G$; Z = Value deposited into the reserve (daily interest); R = Current reserve balance

The current reserve ratio is set to 55.3% and expansion at 10%. This means that at the end of the year the reserve ratio is going to decline by 10% and for every unit of fiat more G$ are going to be minted. The supporters continue to receive G$ equivalent to the daily interest generated by their staked fiat currency and the rest 20% G$ minted is put in the DAO treasury and the rest is equally divided between the daily claimants. The price of G$ is not fixed, but dynamically adjusts based on these factors. When people buy G$ from the Reserve, it slightly increases the price, and when they sell G$ back to the Reserve, it slightly decreases the price. This monetary policy is governed by the DAO and subject to change.

Price = (Reserve Balance) / (Total Token Supply * Reserve Ratio)
Where:
Reserve Balance is the amount in the GoodDollar Reserve; Total Token Supply is the total supply of G$ in circulation; Reserve Ratio is the ratio between the value of currency in the Reserve and the total value of G$ in circulation