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Designing Community Governance – Learnings from DAOs

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Abstract
This work examines how decentralised autonomous organisations (DAOs) can improve transparency, fairness, and inclusivity in community-based decision-making, using the case of research grant allocation within a university community in Switzerland. The current voting mechanism has been criticised for fostering partiality and favouring personal networks over merit, highlighting the need to improve fairness and objectivity without increasing administrative effort. Drawing on insights from DAO governance, this study aims to propose methods for improving decision-making processes through innovative mechanisms. Adopting an action design research (ADR) methodology, the study integrates theoretical and practical perspectives to design and evaluate innovative methods that address real-world challenges. Schematic analysis of decision-making processes in DAOs provides the foundation for the development of methods applicable to the university's community context. Proposed solutions are iteratively refined through workshops with community stakeholders to ensure relevance and feasibility. The results present a generalisable model for community-based decision-making processes inspired by DAOs, alongside tailored recommendations for the university's community-based voting and decision-making process. The findings demonstrate that innovative mechanisms built for large online communities to reach consensus, such as DAO voting systems, can promote impartiality and increase inclusivity, ultimately fostering trust and encouraging broader participation in community governance. This study contributes to the discourse on community governance by bridging theoretical DAO insights with practical applications in a university community setting. Limitations and directions for future research, including implementation and evaluation of the proposed methods in practice, are discussed to pave the way for further exploration of DAO-informed community-based governance models.

Keywords: *Decentralised Autonomous Organisation, Community Governance, DAO, Decision-Making, Grant Allocation, Action Design Research*
JEL Classifications: *D71, D73, D82, O31, O35*

1. Introduction

The allocation of research grants is a critical process in the advancement of science and innovation, yet it remains a subject of persistent debate, and grant allocation mechanisms are frequently criticised for inefficiency, bias, and lack of transparency, which have led to dissatisfaction among researchers [1–3]. The primary mechanism for awarding grants in most scientific disciplines is *peer review*, in which experts in the field act as peers to assess the quality of a research proposal [4, 5]. However, peer review has been criticised for its inefficiency [6, 7] and bias, especially against women [8–10]. This has led many researchers to distrust the often opaque peer-review process of funding agencies [11]. With the aim of increasing efficiency and fairness, scientists have proposed *lottery-like funding allocation systems* with a kind of random allocation of research funds [12–14]. However, in addition to peer review and lottery systems, several alternative and arguably "idealistic" grant allocation schemes have been proposed, although they have received comparatively little scientific attention [1, 15, 16]. These include the *communism* or *equality* approach, where all researchers receive equal annual funding without the need for applications; the *administrative model*, in which top administrators unilaterally make all funding decisions; the *performance-* or *merit-based funding scheme*, where grants are awarded solely on researchers' prior outputs; and the *community-based allocation model*, in which funding decisions are made collectively by a designated community group.

Among these alternatives, community-based grant allocation stands out as a relatively underexplored yet potentially transformative approach [1]. By empowering a designated

community to collectively decide on the allocation of research grants, this model aims to increase transparency and fairness while fostering a sense of shared responsibility. However, despite its promise, community-based funding allocation has received little scientific attention. To the best of our knowledge, no comprehensive study has investigated its implementation or effectiveness in addressing the biases and inefficiencies prevalent in traditional systems.

While this community-based approach may potentially lead to better funding decisions and alleviate problems of the opaque peer-review process, there are also challenges associated with community-based allocations. This becomes evident in the case of a Swiss university's internal community-based grant allocation programme for digitalisation projects (called hereafter "digital project programme" or short "DPP"). In the DPP, recent debates have highlighted significant issues in the community-based project selection process. Critics have voiced concerns that university employees exploit community membership to secure unfair advantages for their respective institutes or research labs. Additionally, personal relationships are perceived to play a role in influencing voting outcomes, often overshadowing the substantive quality of the proposals themselves. These issues not only undermine trust in the decision-making process but also hinder the selection of the best projects.

Similar challenges are faced by decentralised autonomous organisations (DAOs). DAOs utilise blockchain technology to establish governance systems that are decentralised, transparent, and resistant to tampering, allowing a community to coordinate and govern themselves independently of centralised control, ensuring a distributed and democratic decision-making process [17, 18]. Despite the potential of DAOs to introduce transparency and fairness to community-based decision-making, they are not without significant challenges. Governance centralisation is a prominent issue, where control over key decisions, such as code upgrades or treasury management, often resides with a small group of actors [19]. This concentration of voting power frequently mirrors a plutocratic rather than democratic process, as wealthier participants holding more tokens disproportionately influence outcomes [20, 21]. Feichtinger et al. [22] highlight that in many DAOs, fewer than 10 actors control over half the voting power, which not only raises ideological concerns but also hinders the performance and organic growth of the organisation [23]. Furthermore, participation in DAO governance tends to be alarmingly low, with an average participation rate of only 1.77% across over 4,936 voting activities in 50 DAOs [24]. Such low engagement further amplifies the dominance of large token holders and challenges the legitimacy of DAO's "democratic" decision-making processes [25]. These structural and participatory limitations, combined with vulnerabilities to attacks exploiting governance mechanisms, illustrate the complexities of implementing effective community-based decision-making in DAOs.

To address these challenges, DAOs developed a variety of innovative decision-making mechanisms [26–28] and incentive schemes [29]. To increase the fairness and transparency of community-based grant allocation decisions, we study these innovations in the decision-making of DAOs and adapt them to address the shortcomings of current community-based research funding processes. By integrating DAO principles, the study aims to create incentives and structures that reduce bias and enable fairer project selection in the DPP grant allocation process.

The central research question guiding this investigation is: *How can community-based grant allocation processes benefit from DAO decision-making procedures to enhance transparency and fairness without increasing effort?*

To address this question, the study applies an action design research (ADR) approach as outlined by Sein et al. [30] to understand the challenges of the DPP and develop an artefact to address them. We abstract the challenges to the DAO space and examine how the decision-making procedures employed by DAOs address these problems, with a particular focus on their voting mechanisms. From this, we derive specific recommendations to improve the DPP's grant allocation process, ensuring a more equitable and transparent framework for future funding decisions. Beyond that, the study will provide initial insights into how community-based decision-making processes in various contexts can learn from DAO mechanisms.

The remainder of this paper is structured as follows: Section 2 describes the ADR approach used in this study. Section 3 reviews decision-making in DAOs and analyses how different DAO voting mechanisms address biases and inefficiencies. Section 4 presents the current DPP decision-making process and the development and evaluation of a new model based on eight options for improving the community-based decision-making process of DPP. Section 5 discusses and generalises our findings. Finally, Section 6 concludes and identifies avenues for future studies.

2. Methodology

In this work, we followed the ADR approach by Sein et al. [30]. This approach blends theoretical knowledge with practical application in an organisational context, aiming to generate knowledge that enhances both academia and practice. ADR focuses on solving real-world problems by creating and embedding innovative artefacts, such as frameworks, models, methods, or systems in an organisational context, combining methods from design science research [31, 32] and action research [33, 34]. In our case, the artefact consists of a model for community-based decision-making processes applied to a university's community-based voting and decision-making process for grant allocation.

To create a viable solution for DPP's community-based grant allocation process, we make use of instance and abstract domain as suggested by Lee et al. [35]. We start from an instance problem in DPP's grant allocation process. The

participants have an incentive to collude such that they vote for projects of their own institute. Furthermore, participation is low, and the participants do not fully use their voting power. Factors such as the title of the proposal, intransparency in the process, and advantage of scale lead to perceived unfairness. We abstract these problems with the help of literature on governance mechanisms in DAOs. Decision-making in DAOs suffers from similar problems such as governance centralisation [19], concentration of voting power [20], and low participation rates [24]. Exploring voting mechanisms as solution concepts in the abstract domain of DAO governance, we develop a model for community-based grant allocation as an instance solution. Figure 1 illustrates this approach.

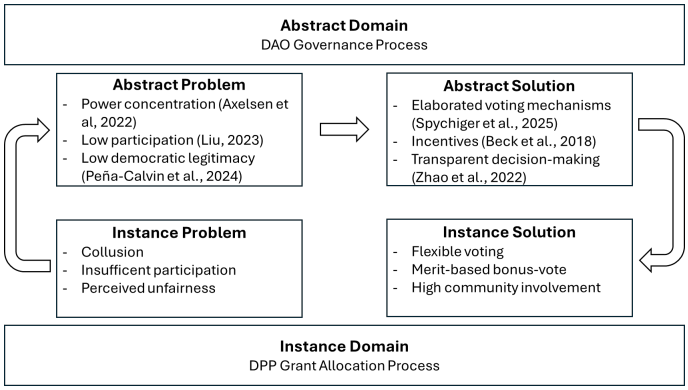

Figure 1: Abstract and instance domain following Lee et al. [35].

The problem given by the DPP grant allocation process calls for a close collaboration with the DPP team that designs the community-based voting process. The development of a model for the community-based grant allocation process requires continuous examination of the specific organisational setting through intervention and evaluation [30].

Stage 1 – Problem formulation: The problem was brought up by the community participants of the DPP process. They reported unfair decision-making and grant allocation through community-based votes. To better understand the problem, we held a workshop in June 2024 with the DPP project team. Additionally, we conducted a literature review [36] to further investigate the problems theoretically. Since the body of literature for community-based grant allocations is almost non-existent (with the exception of Martin [1]), we decided to follow Lee et al. [35] and bring the instance problem into the abstract domain of DAO governance. In DAOs, it is also the community that decides on the allocation of funds [17], and – maybe not surprisingly – they suffer from similar problems as the DPP process. As such, DAO governance serves as a theoretical embedding.

Stage 2 – Building, intervention, and evaluation: Based on the literature review and an ongoing exchange within the ADR team, we structured the DPP grant allocation process along the four stages of DAO governance (submission, selection, voting, and execution), following the framework of Zhao et al. [28]. Subsequently, we used the work of Spychiger et al. [27] to sample seven distinct DAOs, each featuring a different decision-making model. We analysed the governance processes of these DAOs as the basis for developing a first set of options on how to improve the DPP grant allocation process. We discussed these options in a focus group [37] with the project partners held on 4 September 2024. The focus group provided additional insights and restrictions on the proposed options. They also suggested seeking additional inputs from the community manager. Therefore, we conducted a workshop with the community manager on 1 October 2024 and presented an initial version of the new model for the DPP process based on the set of refined improvement options. After receiving a lot of helpful feedback and following in-depth discussions within the ADR team, we improved the DPP model and devised eight improvement mechanisms.

Stage 3 – Reflection and learning: The model was evaluated in a workshop with the DPP project team on 7 November 2024. The DPP team added certain restrictions on the eight proposed mechanisms regarding the technical or institutional feasibility helping the ADR team again to refine the model. After the inclusion of the restrictions, the DPP managers presented the final model to the whole DPP team in an internal meeting and received very good feedback. The ADR team compiled a concise version of the model and implemented the changes in the call document of the grant allocation document.

Stage 4 – Formalisation of learning: In December 2024, we generalised our DPP-specific model to demonstrate how community-based grant allocation programs can learn from DAO governance. In this article, the abstract concepts from the model are presented for community-based grant allocation processes together with the specific instance solution for the DPP programme. We further elaborate implications of our model for community-based decision-making in general.

3. Conceptual Background

3.1. DAO Governance

The governance of DAOs critically depends on decision-making processes, enabling decentralised and distributed communities to collaboratively make and implement decisions [38]. Unlike traditional organisations, DAOs leverage decentralised and automated governance mechanisms, enhancing their capacity to coordinate and manage collective actions within distributed and open community settings [39, 40]. However, they also encounter challenges akin to those faced by traditional communities, such as clubs, cooperatives, and associations, particularly in fostering participatory decision-making and ensuring equitable engagement among members [41, 42]. While DAOs leverage blockchain technology to establish decentralised, transparent, and tamper-resistant governance systems, they often struggle with governance centralisation, where decision-making power concentrates among a few key actors, undermining their

decentralised ethos [19, 21, 22]. In addition, the concentration of voting power among wealthier participants and alarmingly low participation rates further challenge the legitimacy and inclusivity of DAO governance [24, 25].

To address these governance challenges, DAOs have developed a variety of different approaches to decision-making by utilising a mix of on-chain and off-chain tools, each with distinct advantages and limitations [43]. On-chain tools leverage blockchain technology for transparency and automation, but they are often cost-intensive due to transaction fees. Off-chain tools, by contrast, offer cost-efficient alternatives for preliminary or binding voting processes [44]. Snapshot, a widely used off-chain tool, enables DAOs to conduct token-weighted votes without incurring on-chain transaction costs. It records voting results on distributed databases like IPFS, though manual intervention is required to transition from proposal acceptance to execution. Despite their affordability, off-chain tools lack the immutability and automation of on-chain solutions, necessitating a degree of trust in the DAO's administrators.

Common to all the different decision-making models in DAOs is a multi-stage process from the initial proposal generation to the final execution of decisions. Zhao et al. [28] provide a comprehensive framework outlining the decision-making journey within DAOs, which typically begins with off-chain idea generation and progresses through stages of sentiment investigation, on-chain voting, and execution. Building on this framework, we define the first stage as *submission*, where community members submit their proposals, typically subject to predefined criteria such as staking governance tokens to prevent spam and ensure proposal quality [45]. These proposals can range from technical changes to strategic initiatives, reflecting the diverse scope of DAO governance. In the second *selection* phase, preliminary community discussions and non-binding forum voting are conducted to gauge initial support for proposals, ultimately determining which proposals advance to formal voting. In this stage, tools like Snapshot enable off-chain voting by leveraging token-based voting power while avoiding the costs of on-chain transactions [44]. This allows DAOs to filter out infeasible proposals, streamlining the subsequent on-chain voting process. Once a proposal reaches the third *voting* stage, governance tokens are used to cast votes, and the results are recorded on the blockchain for transparency. This phase often employs innovative voting mechanisms that vary in parameters such as quorum size, majority thresholds, and voting duration [46]. Positive outcomes lead to the fourth *execution* phase, which may involve automatic implementation for pre-programmed technical changes or manual execution for more complex or strategic decisions [28].

3.2. Analysing DAO Decision-Making

With the aim to gain further insights, we explored the decision-making processes in seven distinct DAOs, each utilising a unique governance model. These models align with seven prominent voting mechanisms identified by Spychiger et al. [27]: token-based quorum, quadratic voting, conviction voting, futarchy, holographic consensus, reputation-based voting, and rage-quitting. Each mechanism addresses specific challenges in community-based decision-making, offering insights into how DAOs navigate decentralisation, participation, and governance complexities.

UniSwap's governance is a token-based system where UNI holders propose, discuss, and vote on changes. Proposals require staking 2,500 UNI and pass through three phases: a *Temperature Check* (25,000 yes-votes needed), a *Consensus Check* (50,000 yes-votes needed), and a final seven-day vote, with a 4% quorum of the total UNI supply needed for approval. Voting can be delegated, and a two-day *Timelock* provides a review period before execution. Proposals are implemented via smart contracts, ensuring transparency and security.

GitCoin leverages quadratic voting and funding to prioritise public goods projects with widespread community support. Proposal creators submit ideas for feedback, followed by a voting where cost increases quadratically (1 vote costs 1 coin, 2 votes cost 4 coins, etc.). Through this, participants are incentivised to distribute their coins across several projects, and dominance by large stakeholders is prevented, ensuring inclusivity. GitCoin's model emphasises equitable resource distribution and participatory governance.

1Hive utilises conviction voting, enabling community members to allocate *Honey* (HNY) tokens to signal long-term support for proposals – the longer the allocation, the higher the vote. This dynamic model amplifies commitment over time, requiring proposals to meet a conviction threshold before approval. Proposals are refined in forums and implemented via smart contracts upon passing, ensuring inclusivity and thoughtful decision-making. Post-implementation reviews further refine governance processes.

GnosisDAO integrates futarchy prediction markets with deliberation to guide decisions. Proposals are debated within the community, followed by prediction markets where members forecast outcomes by trading shares. The proposal with the highest predicted success advances to implementation, supported by a *Timelock* period for final review. Smart contracts execute approved proposals, while post-implementation reviews enhance future decision-making. This market-driven approach leverages collective intelligence for efficient governance.

DXdao combines holographic consensus and a decentralised reputation system to streamline decision-making. Proposals are submitted and voted on by *Reputation* (REP) holders using the DXvote platform, where REP is earned through active contributions to the community. Holographic consensus allows certain proposals to be "boosted" by reaching a specific staking threshold, reducing the voting threshold, and enabling faster decision-making with a relative majority. Major decisions

are recorded on the Ethereum blockchain for full transparency.

Bloxberg emphasises collaboration and fairness through reputation-based voting. Members' voting power reflects their contributions, ensuring proportional influence. Proposals are refined through community feedback before formal submission. Approval requires meeting quorum thresholds and securing majority support. A *Timelock* period precedes execution, fostering transparency and review. Reputation-based governance ensures fair representation and continuous learning.

MolochDAO's governance centres on member autonomy and transparency. Proposals are debated and voted on using a token-weighted system, requiring a quorum for legitimacy. A distinguishing feature is the *Rage Quit* mechanism, enabling dissenting members to exit the DAO with their share of assets before a proposal is implemented. Proposals are implemented via smart contracts, with regular updates and post-implementation reviews ensuring adaptability and accountability.

	Submission	Selection	Voting	Execution
Uniswap Token-based Quorum	Staking requiered	Temperature Check Consensus Check	Votes can be delegated Quorum needs to be reached	Timelock
GitCoin Quadratic Voting	Community Feedback	Quadratic Funding Rounds (QF) Screening by Committee	Quadratic Voting Mechanism	Regular Update Reports Post-Implementation Review
1Hive Conviction Voting	Community Feedback	Conviction Voting Signal / Threshold Check	Conviction Voting Mechanism Convitction Threshold	Regular Update Reports Post-Implementation Review
Gnosis DAO Futarchy	Community Feedback	Market Creation Prediction Markets	Market Outcome Price reflects Collective Beliefs	Timelock Post-Implementation Review
DXdao Holographic Consensus	Staking requiered	Boosting Proposals Reputation-based	Holographic Consensus Dynamic Thresholds	Regular Update Reports Post-Implementation Review
Bloxberg Reputation-based Voting	Community Feedback	Screening by Committee	Reputation-based Voting Voting power is determined by reputation	Timelock Post-Implementation Review
MolochDAO Rage-Quitting Voting	Community Feedback	Screening by Committee	Token-based Voting Quorum needs to be reached	Rage Quit Mechanism / Opportunity to leave the DAO

Figure 2: The seven DAO governance models along the four decision-making stages.

Figure 2 provides a comparative overview of the decision-making processes employed by the analysed DAOs. The governance models highlight unique strategies across the four key phases of decision-making: submission, selection, voting, and execution.

Submission: DAOs try to balance openness and spam protection through mechanisms like UniSwap's token-staking requirements or Bloxberg's reputation-based criteria. Some, like GnosisDAO, incorporate measurable success metrics into the submission process.

Selection: Selection mechanisms range from community-driven approaches, like 1Hive's conviction signalling and Gitcoin's quadratic funding, to structured reviews by committees like Bloxberg and MolochDAO or predictive mechanisms such as GnosisDAO's market-based prioritisation and DXdao's boosting system. These strategies combine transparency with innovative filtering techniques.

Voting: Voting methods reflect the diversity of governance priorities. Token-weighted voting, seen in Uniswap and MolochDAO, ensures proportional representation based on holdings, while advanced systems like Gitcoin's quadratic voting and DXdao's dynamic thresholds prevent centralisation. Reputation-weighted voting in Bloxberg and market-based approaches in GnosisDAO further diversify decision-making models.

Execution: Most DAOs rely on automated execution via smart contracts, with mechanisms like MolochDAO's rage quit ensuring dissenting members retain autonomy. Features such as timelocks in UniSwap and Bloxberg, as well as market-based validation in GnosisDAO, enhance security and transparency.

4. Development Improvement Options for DPP

DAO governance models illustrate a diverse interplay between decentralisation, participation, and accountability. Each mechanism is uniquely tailored to the specific needs of its community, demonstrating that effective governance is not a one-size-fits-all solution. Instead, it evolves continuously, adapting to the unique challenges and objectives of each organisation. Thus, before developing specific proposals for DPP, it is essential to thoroughly understand their existing processes and specific requirements.

4.1. Current DPP Grant Allocation Process

The DPP grant allocation process is based on a multi-stage evaluation methodology designed to identify and prioritise the most promising proposals. The initial *preselection* phase begins with the evaluation of the proposal by the Digital Office based on formal criteria: the proposal must be initiated by a university member, handed in before the deadline, not exceed the budget limit or maximal project duration, and only one submission per member is allowed while the proposal is independent of other funds. After the initial review, a dedicated *Preselection Committee* conducts a detailed evaluation using four specific requirement criteria (relation to digital transformation, novelty/innovation, quality of methodology, and impact on the university and society). Each proposal is systematically scored on a three-point scale (0, 1, or 2), allowing for nuanced differentiation of submission quality. The top 20 proposals, as determined by these aggregate scores, are selected to advance to the next stage of the grant allocation process. The 20 highest-rated proposals are presented to the DPP community, who can participate in a *voting* process to identify the most compelling 10 submissions. Every member can select a maximum of five proposals that they support. This democratic approach ensures broader input and validation of potential projects. In the final phase, a *qualitative review* by the DPP Board assesses the 10 proposals, ultimately identifying a concise set of six to eight projects that demonstrate the highest potential for impact and innovation.

4.2. Issues of Current DPP Grant Allocation Process

The current DPP grant allocation process suffers from several structural problems. Mainly, the process lacks fairness and transparency, leading to the issue that the same departments and applicants consistently win grants due to entrenched personal relationships and institutional biases. Larger departments dominate the voting, creating an unbalanced representation that prevents small or less established groups from successfully securing project funding. The selection mechanism is opaque, with minimal community involvement and limited feedback mechanisms. Most of the selection steps occur without meaningful community participation, and applicants who are rejected receive no substantive explanation about why their proposals failed. This creates a frustrating experience for potential project developers and reinforces existing power dynamics within the organisation. The voting process itself is problematic, as members typically only vote for proposals of members they already know, which introduces significant bias. There are no incentives for voters to thoroughly review all proposals, and the current system does not effectively validate the quality of project proposals beyond a surface-level initial screening.

4.3. Proposed Improvements

In this section, we present eight improvement options based on the governance mechanisms of the previously analysed DAOs. By integrating elements from these DAO models, the proposed changes aim to increase transparency, fairness, and participation, and ultimately promote greater community engagement and more effective grant allocation in the DPP process.

First, we propose the introduction of a **blinded process**, where proposals are anonymised to shift the focus in the whole process toward the quality of the content rather than the identity of the applicants. This approach mirrors principles found in DAOs, where anonymity is omnipresent, reducing reputational biases and encouraging decisions based purely on content quality.

Second, the research team proposes increasing transparency by providing **detailed feedback** on voting outcomes. Applicants will receive explanations for their respective scores from the preselection committee, enabling them to refine and resubmit their proposals. Additionally, clear documentation of the voting process and project funding distribution will enhance accountability. Similar transparency mechanisms are integral to most DAO governance systems, prioritising open, traceable decision-making.

Third, the introduction of **feedback loops** for project teams would strengthen community interaction. The 20 preselected projects will be presented to the community, providing a platform for dialogue between project teams and DPP members. This consensus-building step resembles DAO's sentiment analysis, where open discussions precede governance decisions, fostering trust and mutual understanding.

Fourth, inspired by futarchy voting models, we propose a **bonus vote mechanism**. Voters who voted for winning projects will thereby receive a bonus vote for the next voting round as a reward for their correct prediction, with a maximum of three bonus votes attainable. This incentive aligns with prediction-based voting systems seen in different DAOs, where informed participation is encouraged through rewards, leading to more deliberate and strategic voting behaviour.

Fifth, to ensure a more equitable distribution of influence, the research team proposes a **flexible voting system**. Each participant will receive five votes, which can be distributed flexibly across different proposals. Voters can assign one or two votes per project, reflecting their priorities and preferences. This mechanism echoes Gitcoin's voting mechanism where participants allocate their votes across different proposals and allows for different weights as is the case in the token-weighted votes of MolochDAO and Uniswap.

Sixth, the process should incorporate a **raise concerns phase**, where the final 10 projects are presented for community feedback. Community members can specifically express concerns, which the board will acknowledge while retaining final decision-making authority. This reflects the rage-quitting mechanism found in MolochDAO, where dissenting voices can signal disapproval, ensuring that concerns are heard and addressed.

Seventh, as part of the project lifecycle, we propose to introduce a **project presentation event** as a concluding step in the execution phase. This event serves as a platform for project teams to present their outcomes to the broader community, fostering dialogue, interaction, and knowledge-sharing. Like the implementation reviews in DAOs, this phase ensures accountability and facilitates learning from completed initiatives.

Eventually, *eight*, the implementation of **continuous community discussions** around the new decision-making structure should provide an opportunity for collective evaluation and improvement. A dedicated communication channel will enable ongoing dialogue, aligning with community governance forums used in DAOs, where open debate precedes structural changes.

4.4. Evaluation of Improvements

In general, the DPP team found the proposed improvements very helpful. The overall feedback was that the suggestions address important points to increase fairness and at the same time community involvement while keeping the effort for the DPP team at a reasonable level. Table 1 shows the detailed feedback for the eight proposed improvements.

Table 1: Eight proposed improvements and their implementation based on feedback

Nr	Proposal	Feedback	Implementation
1	**Blinded Process**	Nothing to adapt, important mechanism to reduce biases.	Researchers need to anonymize their submissions, DPP team knows identity of fund requesters.
2	**Detailed Feedback**	Detailed feedback to all the rejected submissions is not feasible.	Only the scores (0, 1, or 2) of each category will be communicated, but no qualitative feedback is given.
3	**Feedback Loops**	In general, a good idea, but technically difficult to implement.	Best would be to enable a comment & message functionality, unfortunately, this is not possible without an additional tool.
4	**Bonus Vote Mechanism**	A very interesting and effective mechanism (Gamification).	Will be implemented manually in the next round, thereafter an automatic deployment is considered.
5	**Flexible Voting System**	Very good mechanism, possibly even a maximum of 3 votes per submission.	Directly implemented in the tool.
6	**Raise Concerns Phase**	Good idea, since there is a 2-weeks period between voting ending & the board's decision.	Community members can directly raise concerns to the board by writing an e-mail to the DPP team.
7	**Project Presentation Event**	Very important part, because as of now the community is not part of the execution phase and the final report is no value-add.	Bi-yearly event with project presentations with free slots for the fund receivers to present their work.
8	**Continuous Community Discussions**	High potential of the idea.	Create a communication channel for the community dedicated to the grant allocation process of DPP.

5. Discussion

The current DPP process suffers from biases in the grant allocation process. Requiring anonymity is an important factor as it has the potential to remove such biases. Anonymity is also a key property in many DAOs enabling inclusive organisations. At the same time, transparency is important to create trust within the community about the decision-making process. While DAOs leverage blockchain technology to ensure transparent processes [17], the DPP process must ensure that every step – from internal (pre-)selection and community voting to final grant allocation by the board and execution assessment – is as transparent as possible for the community.

To address low participation – an issue often seen in DAOs too [24] – the DPP process should give the community many possibilities for being involved, even if they might not use it. The more entry points the community has, the more inclusive and participatory the decision-making. However, there seem to be some limits to community inclusion: some DAOs used approaches where they required a community vote on every decision resulting in the whole process becoming extremely costly and inefficient. Consequently, pragmatic off-chain tools such as Snapshot emerged over time [44]. Similarly, the DPP can profit from community involvement via simpler mechanisms such as feedback or the possibility to raise concerns, instead of requiring a cumbersome vote at every stage.

While voting is useful to gather the community's collective wisdom on the quality of the proposal, filtering mechanisms as, for example, used in holographic consensus or conviction voting are necessary to avoid an overload. In the DPP process, the filtering is done by experts beforehand. This increases the efficiency of the DPP process; however, it should be at the same time transparent and clear to all participants. The DPP process balances the involvement of the community, the board, and experts along its decision path. As such it also employs certain task distribution as also found in DAOs [28].

In general, the four stages of DAO governance as described in this article – namely submission, selection, voting, and execution – provide an excellent framework to study community-based decision-making processes. It allows to structure the decision-making process and to map DAO elements on it. DAOs have some principles and processes that are useful for community-based decision-making processes. However, the mechanisms cannot be applied one-to-one as they are often too complicated or too specific. Nevertheless, core principles such as transparency, anonymity, incentivisation, and accountability remain crucial. This is especially important in processes like the DPP, where a central board authority typically still plays an important role, and decentralisation is not fully realised through technology alone. Therefore, implementing DAO values can improve the credibility of such processes.

In turn, DAOs could also learn from decision-making in non-DAO communities. As we could see, a board or experts can play an important role in making processes more efficient. Therefore, DAOs could also profit from committees or domain experts who could be elected by the community. Some projects such as Bloxberg or MolochDAO already implemented such screening committees. In the end, both sides can profit from each other, and we might see an assimilation over time: DAOs that use more traditional community management approaches and communities that apply DAO principles.

6. Conclusion and Outlook

Our article tackles the shortcomings of the community-based grant allocation programme DPP of a Swiss university and proposes improvements based on DAO governance by using an ADR approach. We analyse DAO governance mechanisms and derive eight improvement proposals for the DPP process. We show that general community-based grant allocation processes can learn from DAO-specific decision-making mechanisms. This can be achieved by adapting the mechanism of DAOs such as introducing simpler forms of rage-quitting, token-based votes, community discussions, anonymity, and prediction incentives. However, besides the community, having experts and a board may help to keep the efforts manageable and efficient. By this, we answer the research question of *"How can community-based grant allocation processes benefit from DAO decision-making procedures to enhance transparency and fairness without increasing effort?"*

While we think our work is valuable for community governance and we identified some core DAO mechanisms that can be adapted to the community-based grant allocation process, DAO governance brings much more to the table.

Future research could focus more on DAO tooling and automation that is used to manage communities. Also, analysing what DAOs did wrong could be helpful to devise community governance. Moreover, studying the organisational structure of these organisations could be helpful to design efficient governance. Conversely, future research could also study what DAOs could learn from community-based grant allocation programs and traditional community governance. It is still challenging to guarantee accountability in these (mostly) anonymous organisations. Furthermore, there is a trade-off between efficiency and decentralisation that culminates in the question of who should decide what? Having a board such as in the DPP process could make DAOs more efficient. Additionally, addressing the centralisation of power in DAOs and exploring strategies to mitigate this limitation could provide valuable insights for designing more resilient governance systems. For the DPP process, we are confident that the learnings from DAO governance improve the current process and reduce bias and enable fairer project selection. However, we have not yet studied the live implementation. This is something we plan to do in the next stage. Furthermore, pilot testing the proposed mechanisms and measuring outcomes, such as participation rates, reduction in bias, and overall stakeholder satisfaction, could provide valuable quantitative data to complement our qualitative findings. Additionally, it would be useful to compare the proposed DPP model with other community-based decision-making systems in different organisational contexts to assess its transferability and adaptability to various settings. Finally, future research could explore how legislators might adopt a multidisciplinary approach, involving technologists, academics, society, industry, and users, to address the socio-technical challenges and ethical implications of DAO mechanisms. Such an approach could foster more holistic governance frameworks for these emerging systems.

Competing Interests:
None declared.

Ethical Approval:
Not applicable.

Author's Contribution:
The idea for this paper was conceived by all three authors. Additionally, all authors contributed to the literature review and the discussion of the results. ML led the investigation, developed the conceptual framework, and coordinated the project administration. LK was responsible for the initial drafting of the manuscript, focusing on the investigation and visualisation. FS contributed to the development of the methodology, provided feedback on the manuscript, and assisted with visualisation.

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