POINT OF VIEW

Harnessing self-management to tackle grand challenges: the points-based participation architecture of São Paulo's housing movement

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Abstract

We propose that hierarchical organizations can engender and sustain the collaboration of large numbers of autonomous actors by establishing self-managed, mission-aligned collectives. Informing our claim are preliminary findings from an ongoing study of the housing movement in São Paulo, Brazil. Unexpectedly, we find that hierarchical Social Movement Organizations (SMOs) have, for more than three decades, incentivized broad-based voluntary engagement in protest actions aimed at formulating new housing policy by educating and encouraging low-income families to join collectives tasked with developing and self-managing new housing projects. We trace the sustainability of this participation architecture to an SMO-designed, points-based system, which functions as an integrating mechanism affording: (1) *goal alignment* between large numbers of autonomous actors and the leadership of a hierarchical organization; (2) *voluntary engagement* by autonomous actors in activities that simultaneously address local and higher order goals; (3) *role and task allocation* without legal control or close oversight; and (4) *retention* within the participation architecture by equipping autonomous actors with structure and measurable progress towards local goals and fairly distributing benefits of collective work. We discuss implications to our understanding of how to achieve concerted action at scale towards a grand challenge.

Grand challenges—complex problems with far-reaching societal implications that lack a clear solution (George et al. 2012; Ferraro et al. 2015; Grodal and O'Mahony 2017)—cannot typically be addressed by the efforts of a single organization. The grander the challenge, the more engagement is necessary from autonomous and heterogeneous actors that lie outside the boundaries and managerial control of a single organization: those with distinct bases of power, and diverse skills, knowledge sets, and grievances. Doing this well and sustainably means integrating their contributions while avoiding (1) span of control expansion beyond what is practicable for managers; and (2) free riding

or shirking problems by opportunistic contributors (Massa and O'Mahony 2021; Puranam 2021; He and Puranam 2021; George et al. 2023; Kaufmann and Danner-Schröder 2022). In other words, tackling a grand challenge entails extending opportunities and incentives for voluntary participation without overwhelming organizers with the costly drudgery of command and control. By working in concert and with shared purpose, diverse autonomous actors can lift "…critical barrier(s) that, if removed, would help solve an important societal problem" (George et al. 2016: 1881).

Extant literature suggests that one way to rally a distributed set of diverse actors is to articulate a higher order goal that is vague and ambiguous enough to be capable to leverage a subset of convergent interests (Massa 2017; Grodal and O'Mahony 2017). However, rhetoric crafted around a superordinate goal, e.g., the eradication of homelessness, does not automatically yield concerted action, because diverse actors tend to prioritize different pathways to achieve that shared goal, and espouse distinct visions for what constitutes a full-fledged solution. That is, different actors diverge on what

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constitutes a utopian vision and how to achieve it (Popper 1986), making consensus difficult to build and often leading to lackluster efforts. Another issue lies in the fact that some actors have the wherewithal to be focused on tackling large-scale, long-term goals, while others do not. While, for instance, an activist passionate about housing issues may be willing to work to upend unfair policies, an unhoused individual that suffers under the grand challenge may be occupied by local, immediate goals—e.g., finding shelter. At the same time, albeit lacking in resources and under stress, the unhoused individual may have better standing to authentically frame and voice grievances, a key component of a sustainable social change effort (Tarrow 1992). The puzzle lies, therefore, less in using rhetoric to unify heterogenous actors under a "big tent", and more on how to motivate concerted action at scale by a willing and able coalition of independent actors with differing priorities, skills, knowledge bases, and interests.

We begin to address this puzzle by drawing on evidence from preliminary findings in an ongoing study of a social movement seeking the universal right to adequate housing in São Paulo, Brazil, for over three decades. Unexpectedly, we trace collaboration between the hierarchical Social Movement Organizations (SMOs) and large numbers of autonomous families to an 'architecture of participation' (West and O'Mahony 2008: 146) that enables large numbers of autonomous families to cluster themselves into an array of self-managed collectives. Underpinning this participation architecture is a points-based system designed to encourage large numbers of autonomous actors to align themselves with the SMO goals and join self-managed base groups and later self-managed housing collectives. Sustaining this collaboration is a commitment by the SMO leadership teams to work to make progress towards achieving local goals (housing for the family units) while simultaneously pursuing unifying, higher order policy goals. In short, we contend that a points-based system can act as a linchpin that unifies a hierarchy and large numbers of autonomous actors into a participation architecture, despite their distinct priorities and interests.

Self-management in tackling grand challenges

The question of how large numbers of autonomous actors can make progress towards a grand challenge is far from new, but one that is nonetheless informed and made increasingly relevant by recent developments, in practice and theory, on new forms of organizing (Gulati et al. 2012). Because the emphasis of grand challenge research has been on collaboration between public, private, and nonprofit organizations (George et al. 2023; Grodal and O'Mahony 2017; Couture et al. 2022), less is known about how to tackle

grand challenges without relying on inter-organizational collaboration across hierarchical structures. And yet, there has been increased interest in understanding forms of organizing that do not rely on traditional hierarchical structures. Indeed, forms of organizing that eschew managerial hierarchies in favor of normative and peer-to-peer mechanisms to support the orderly allocation and execution of tasks have emerged as a promising, albeit seldom well-implemented, pathway to organizing distributed actors at scale (Lee and Edmondson 2017).

Interestingly, many experiments with self-management have happened within organizational boundaries under the watchful eyes of executives. In the 1980s and 1990s, for instance, researchers shed light on the work of self-managed teams inside organizations carrying out projects across functional areas of expertise without the direct oversight of top managers (e.g., Barker 1993; Manz and Sims 1987). In these situations, even though self-regulation occurred through peer-to-peer mechanisms without resorting to external authority (Sorensen and Triantafillou 2013; Lee and Edmondson 2017), the self-managed structures remained formally part of an organization. Larger scale experiments with self-management have also happened, although success cases remain few and far between. Still, there is empirical evidence that non-hierarchical forms of organizing can scale up sustainably without succumbing into span of control issues and collective action problems (Ostrom 1990; DeSantola and Gulati 2017; Massa and O'Mahony 2021). A case in point is Ostrom's (1965) study on the formation of a large collective spanning across public and private sectors to self-manage ground water resources in Southern California. More recent standouts include self-managed collectives such as Burning Man (Chen 2009) or Anonymous (Massa and O'Mahony 2021) that also function at scale without formal leadership.

All in all, existing evidence suggests that supporting the establishment of self-managed collectives outside the boundaries of a hierarchical organization may be a viable organizational way to tackling large scale challenges. Such an approach, in principle, would allow a hierarchy seeking to expand its influence at scale and at a high pace to enter collaborative arrangements with autonomous actors that can do what the hierarchy is not suited or willing to do. In other words, this approach would enable a hierarchy to pursue a grand challenge without expanding organizational headcount. Instead, the hierarchy would increase its reach by mobilizing actors through voluntary arrangements at little to no cost. Existing studies suggest it may be particularly useful for hierarchical organizations to collaborate with self-managed groups that lie outside their managerial umbrella because the decision-making autonomy these groups enjoy encourages creativity, adaptability, and fosters norms of cooperation and voluntary resource contributions (Burns

and Stalker 1961; Turco 2016; Ostrom 1990; Gatignon and Capron 2020). Self-managed groups also have the potential to perform with limited supervision (at lower costs) while limiting legal accountability (Lee and Edmondson 2017; Fjeldstad et al. 2012; Gulati et al. 2012). However, empirical research has lagged, focusing more on self-management within the boundaries of otherwise hierarchical organizations rather than on how hierarchies might collaborate with or align their efforts with autonomous self-managed collectives, and even help build these collectives. As such, we still know little about how hierarchies and self-managed collectives can work in concert towards a grand challenge—the concern motivating this article.

Context: the São Paulo housing movement

Our study is grounded on housing-focused Social Movement Organizations (SMOs) that emerged over the last three decades in São Paulo, Brazil, the low-income families served by the SMOs, and the political establishment that the SMOs seek to influence. In São Paulo, the fourth most populous city in the world and one of the most beset by income inequality, substantive progress has been made towards adequate housing availability and affordability since the mid-1980s—when up to 20% of its population was estimated to live in 'favelas' (slums) and 'cortiços' (slum tenements) (Budds et al. 2005). At the time, despite over 45,000 city center buildings being abandoned, the only state response was to evict slum dwellers and drive them into government housing in the periphery of the city, deprived from social infrastructure.

When we arrived at the research site in 2018, at least half a million families lacked adequate housing. Still, progress had been made. State legislation enacted in 1990 meant that in the subsequent two decades, around 70,000 low-income families had received state grants towards self-managed housing projects (Bonduki 2012). In addition, after a first organized squat of an abandoned building in the city center in 1997, many more followed, with between 150 and 200 buildings occupied by 2018, each one housing up to 130 families (Santiago 2018). Meanwhile, protests organized by the SMOs and populated by the families affiliated with the SMOs led to a constitutional amendment in 2000 establishing that all property must have a social purpose. This reform was followed by a 2001 City Statute, which equipped authorities with legal instruments to expropriate abandoned properties and complicated judicial efforts to force evictions. Policy reforms were such that, by 2009, federal rather than state funds were directed for the first time to self-managed housing projects sponsored by SMOs. In addition, although progress in reforming housing policy has occurred in fits and starts, as the ideologies of the local and federal governments

in power have oscillated over time, the housing movement has proved resilient. By 2018, 150 housing-focused SMOs were registered in São Paulo (in 1998, only seven were registered).

São Paulo's many SMOs draw inspiration from the self-managed housing cooperatives that emerged from worker associations in Uruguay in the 1960s. Like the Uruguayan cooperatives, the São Paulo SMOs are non-profit legal entities. However, unlike in Uruguay, the São Paulo SMOs are led by progressive politicians and professionals (e.g., lawyers, architects, social workers)—'conscience adherents' (McCarthy and Zald 1977) who are motivated by the pursuit of a better society, but who do not necessarily stand to benefit materially from goal accomplishment. Like other social movements, São Paulo's SMOs need to mobilize dedicated masses in visible, coordinated uprisings, protests, and other forms of contestation to garner the legitimacy needed to upset the established social order (Klandermans and Oegema 1987; Brulle et al. 2007). To accomplish this, the SMOs enlist low-income families—the 'potential beneficiaries' (McCarthy and Zald 1977)—and encourage them to participate in street activity. As with any social movement organization, voluntary engagement from large numbers of families in the housing-focused SMOs is therefore a necessary condition to develop and maintain an image of credibility, sustain campaigns in support of their goals, and leverage political opportunities (McAdam and Paulsen 1993; Perrow 1970).

Unlike the Uruguayan cooperatives of salaried workers, however, São Paulo's housing-focused SMOs fight for the cause of a much more vast and heterogeneous population. And yet, partly because of an unintended consequence of public discourse in the seventies elevating the importance of housing security in order to legitimize forced evictions from slums towards social housing in the periphery, this disenfranchised population shares an aspiration: to own a house. This aspiration—together with the achievements on the ground of the SMOs in helping self-managed collectives of families achieve their local housing goals—encourages low-income families to enlist with a SMO and join protest actions. Critically, upon enlisting, unhoused families strike a bargain: if they play by the SMO's rules and participate in protest actions and other forms of street activity, the families can garner points to become eligible to be selected to join a collective that will self-manage a housing project for themselves.

In Fig. 1, we illustrate how the efforts of different actors feed into a participation architecture of hierarchical organizations, open protests towards social change, and self-managed collectives. Note that the SMO funnels government funding and other resources such as property rights to the self-managed housing collectives without direct managerial oversight. In exchange for earning points,

Fig. 1 Participation architecture: mechanisms integrating self-managed collectives, government agencies, and a São Paulo Housing Movement Organization
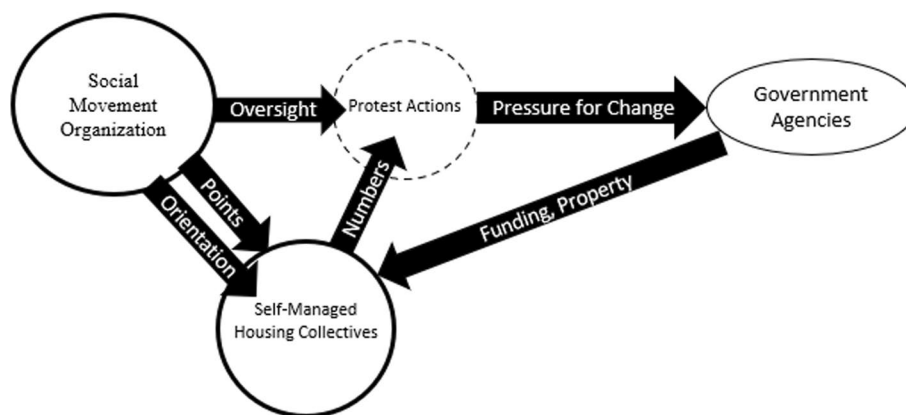
the enlisted families, before and after being selected to join a self-managed housing project, participate in SMO-sponsored protest actions designed to pressure government entities to make policy changes or protect policy reforms. The result is a virtuous cycle, wherein increased voluntary participation in pursuit of housing project placements leads to larger protests and greater political pressure for allocation of resources to housing initiatives. This, in turn, increases the chances that the housing collectives will be successful, which encourages more families to join the SMO.

Cultivating autonomous self-management

São Paulo's SMOs are 'open' systems in that families are free to join at will (Gulati et al. 2012). If families choose to do so, they enter so-called open "base" groups, which are self-managed, but where participating families are subject to a comprehensive orientation that includes presentations on the goals of the housing movement, the rules governing collective action within a SMO, and the housing and training opportunities that arise for those who play by the rules. Families enlisted with a SMO are not employees and, thus, the SMO representatives lack position power over them. To encourage enlisted families to collaborate, the SMOs rely instead on a polycentric architecture of participation that nests multiple open, self-managed base groups plus multiple closed, self-managed collectives. Underpinning this participation architecture is a points-based incentive system that plays a key role in integrating a set of rules and structures. This architecture is designed to minimize conflict among the SMO leaders and enlisted families, as well as among families, and to maximize productive discourse and activities. To mitigate the high costs and risks of breakdown associated with attempts to scale up direct participatory decision-making (Olson 1965; Kanter 1972; Swidler 1979; Casari 2018), the size of the base groups as well as of each self-managed collective

is restricted. So, while an SMO may have 1000 families enlisted or more, both the base groups as well as the self-managed collectives rarely exceed one hundred fifty families.

To help the enlisted families pursue their own local housing goals, SMOs make available two paths. In one, the SMO leaders orchestrate organized squats of properties that have been abandoned for several years, in violation of the constitutional principle that all property should have a social purpose. Once an abandoned building or plot of land is occupied, the SMO leaders will provide squatters with guidance on how to implement and run a self-managed collective, while helping the occupying families fight judicial efforts to get them evicted and criminalized, as well as to help the families to chase grants to either retrofit the building or build on the occupied land. Alternatively, a SMO can help a collective of somewhat more resourceful families identify vacant land and apply for grants to buy the land and self-manage their housing project.

To ensure collective action problems do not frustrate self-management, the SMO leaders equip each collective with rules and structure that are designed to be neither time-consuming nor costly. In particular, each self-managed housing collective is organized into a structure of committees, and all families are expected to self-select into at least one committee. All committees are accountable to an assembly, where all families have voting rights, empowering families to adopt decision-making processes that resemble a direct democracy. This aligns the structures of the collectives with Ostrom's (1990) claim that sustainable self-governance hinges on cultivating local rule and a sense of fairness and proportionality between costs and benefits. It is common for a self-managed housing project to have over 15 committees, with up to 20 people each. Families earn a pre-determined number of points by participating in these committees—the more committes they attend and volunteer, the more points they can earn. While many families shy away from joining the committees in charge of administrative tasks, such as finance and procurement, because of task complexity

and fiduciary responsibilities, other committees are seen as more accessible in that they involve more menial tasks and flexible work patterns. As such, the collectives favor self-selection-based division of labor, which can be beneficial to enhance motivation and better match between individual skills and tasks (Raveendran et al. 2021). Moreover, the collectives are expected to appoint mediators (e.g., one per floor in organized squats) to resolve conflicts between families and use direct participation in assemblies to make critical decisions that exceed the jurisdiction of the committees. Hence, in assemblies that are held monthly, committees keep the families abreast of pressing issues; organize votes on critical decisions; and can also run secret ballots (e.g., on whether to expel a member family). Under the guidance of SMO facilitators, the self-managed collectives progressively replace external guidance with internal processes. Akin to corporate experiments with self-governance (Perkmann and Spicer 2014), the SMO facilitators remain on the sidelines and are available to help resolve conflicts that the collectives struggle to resolve through assemblies, where the SMO representatives cannot vote.

Encouraging and rewarding voluntary contributions

In each self-managed collective, a structure of committees creates compartmentalized tiers of participatory decision-making that prevent conflict from getting out of hand. Furthermore, this participation architecture offers families multiple pathways to contribute towards their local housing goal, empowering them to manage each other according to "value-based normative rules" (Barker 1993: 408). In Fig. 2, we illustrate how families transition from self-managed open base groups to closed self-managed collectives by attending orientation sessions and participating in street protests and other street activity.

Once they are invited to join a housing project, families can continue to earn points by participating in project committees, assemblies, tasks, and mediation roles, as well as in street protests—and the more points they accumulate, the more priority they gain when the time comes to housing placement and selection. The points system underpinning this architecture of participation, therefore, can be said to serve four complementary functions:

Goal alignment

Every family interested in participating in a self-managed housing project is required to join an open base group. Upon joining, families go through an orientation, wherein, through a series of structured workshops for which they earn points, families get equipped with knowledge of housing laws and goals of the housing movement writ large, while underscoring the need to adhere to the SMO bylaws to preserve the lawfulness and legitimacy of their model and activities. Furthermore, the enlisted families learn about the points system, including both the opportunities that lie ahead to earn points and the potential rewards they can then reap once they join a self-managed housing collective. In other words, families learn how the points system supports alignment between their immediate, local goals of securing housing and those of the SMO leaders (i.e., achievement of policy change goals). In so doing, the points system ensures that families adhere to shared values, beliefs, and interests. This alignment reduces the propensity for collective action problems and makes it less difficult to resolve conflicts that cannot be avoided (Ostrom 1990; Hansmann 1988; He and Puranam 2021).

Voluntary engagement

Once a family enlists with a SMO and concludes the orientation within a base group, it becomes eligible to be selected to participate in a self-managed collective, an important step towards housing eligibility. The waiting list, however, is long, and to have any chances of being selected, families need to accumulate large point totals while they are members of a base group. Because families can only accumulate a large point total if they participate in SMO-defined protest action, the points system creates an incentive for people enlisted in the base groups to volunteer time and effort towards the SMO policy goals. Those families who are part of a base group but who are not keen on working for "free" and averse to the values, norms, and beliefs of the movement, are unlikely to get to a position where they can be invited to join a self-managed housing collective, which reduces heterogeneity of interests and ideologies within the latter structures. Furthermore, once a family joins a self-managed housing collective, the points system will continue to incentivize the families to voluntarily participate in street activity to further the SMO policy goals. This is because

Fig. 2 Illustration of a family's journey to housing
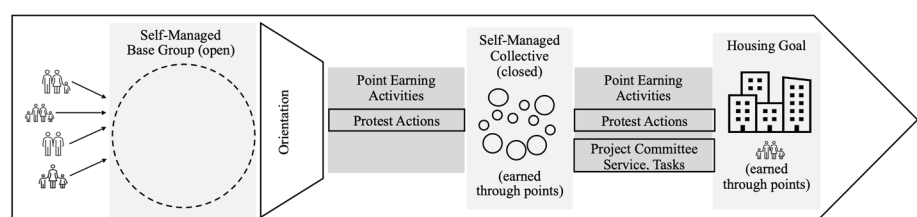
those who accumulate more points have priority placement upon the completion of the housing project. As such, the system of points encourages autonomous participants to voluntarily engage with the SMO to further, simultaneously, both the local goals of the self-managed collectives as well as the higher order policy goals of the SMO. This creates a virtuous cycle in that the more the voluntary contributions to protest actions help the collectives access essential resources—e.g., grants, property rights—the more progress those collectives make towards achieving their local housing goals. Local progress, in turn, encourages more low-income families to join the open base groups and builds further organizational capacity within the SMO.

Role and task allocation

Once in a self-managed collective, the system of points creates a de facto market mechanism when it comes to enjoying the benefits of a collective effort. In addition to a sense of fairness in the distribution of the local (housing) benefits of collective action, the points system allows a verifiable meritocracy to emerge, in that large point totals signal commitment to collective goals. Thus, in assemblies, the families reward high scorers with influential positions in committees and dispute-resolution structures, roles for which individuals can be financially rewarded in some SMOs. Furthermore, due to its objectivity, the points system helps to avoid intractable conflicts within the self-managed collectives and between the collectives and the leadership of the SMOs around issues, such as favoritism. Hence, as a purportedly neutral mechanism to regulate behavior, the points system lowers the cost of governing consensus-oriented collective action, as well as the cost of monitoring participation and managerial opportunism (Hansmann 1988).

Moreover, the points system is instrumental in creating self-managed structures that are efficient and sustainable in task allocation, in agreement with Ostrom's (1990) principles of robust collective action. Hence, points enable the creation of self-managed collectives with clear organizational boundaries; ensure proportionality between costs and benefits; create tangible evidence that supports graduated sanctions; reduce the costs of monitoring and dispute resolution; and allow for local rule. Moreover, the points system limits task interdependency among collectives, enabling a polycentric structure to emerge, i.e., a SMO can nest multiple self-managed base groups as well as multiple collectives all of which are autonomous from one another. Furthermore, within each collective, the points facilitate democratic decision-making processes, elections of committee members, and help to create relationships of deference that speed up conflict resolution and decision-making. In other words, the points enable the emergence of a meritocracy within both base groups and self-managed collectives—a structure that

can be an effective surrogate for formal authority based on employer–employee ties (O'Mahony and Ferraro 2007).

Retention

Importantly, the system of points also encourages loyalty to a SMO, because the points are not fungible. Thus, people cannot carry the points with them if they choose to seek housing through another social movement organization. Rather, the points work as a reputational mechanism within a SMO by building undisputable evidence that some families work more than others towards both the local and higher-order policy goals. This gives visibility to the top performers to whom others will tend to defer, reinforcing loyalty to the organization. By enabling rewards for voluntary contributions in a fair way, the points system thus speaks to universal human cravings for fairness, inclusiveness, and equity (Kelly 2013; Fehr and Gintis 2007), encouraging long-term commitment to the SMO.

Further encouraging loyalty and commitment to the SMOs by families is a general sense these organizations are not ineffective, nor inefficient. Indeed, street protests serve as catalysts, enabling progress both on the local goals and the policy goals. For example, a change in federal policy after street protests in Brasilia may kickstart a housing project that had been stalled for lack of funds; likewise, a change in state policy after a sit-in outside the town hall may enable a collective to resolve a nagging issue of ill-defined property rights. Hence, a priority of both the holders of points and the leaders of the sponsor SMO is maintaining the integrity and trust in the points system.

Discussion: using points to underpin an architecture of participation

The mobilization of self-managed collectives outside the legal and managerial umbrella of an organization is appealing, because these collectives offer decision-making autonomy to contributors, provide enough scaffolding to sustain the orderly achievement of distributed goals, and limit legal risk (Lee and Edmondson 2017; Fjeldstad et al. 2012; Gulati et al. 2012; He and Puranam 2021). Despite having no formal control over self-managed collectives, hierarchical organizations have been shown to be able to influence the behavior of non-employees through various means, ranging from inclusion in rituals and events to more instrumental incentives (Massa 2017). As such, leaders in organizations may be able to divest themselves of managerial responsibility for the actions of self-managed collectives, while retaining the strengths of distributed collective action, which typically lie in adjudicating divergent interests and enabling creative, adaptable, and cooperative working

relationships (Burns and Stalker 1961; Turco 2016; Ostrom 1990; Libecap 1989). To be effective, hierarchical organizations need to offer autonomous actors pathways of possibility, i.e., a participation architecture for autonomous actors to pursue their own local goals while contributing to a unifying superordinate goal (Grodal and O'Mahony 2017; Massa and O'Mahony 2021).

Self-managing ("commons-like") structures may be less efficient than hierarchical (authority-based) structures with a single locus of executive power, in part due to the complexity of consensus building processes (Hansmann 1988; Williamson 1986: Ch3; Foss and Klein 2019). However, complexity is not the same as chaos (Ostrom 2010). Allowing people to collaborate with limited or no dependence on a formal hierarchy enables hierarchical organizations to tackle 'wicked' (Rittel and Weber 1973) problems that are rooted in competing vested interests and opposition within established social systems. Furthermore, self-management allows for creativity and strategic adaptation to take place through the ingenuity of peripheral contributors to the organization that are often close to and in tune with problems and their causes. Yet, despite their promise, the mechanisms by which a hierarchy can engender and harness self-management outside its managerial auspices to make progress towards shared goals remain underexplored. In addition, in the context of tackling a grand challenge, the question goes beyond how a hierarchy can support self-managed collectives, so that they avoid collective action traps (e.g., social loafing, shirking, free riding) to ask: how can a hierarchy encourage large numbers of legally autonomous actors to volunteer scarce resources towards tackling seemingly intractable problems?

Thus far, our findings suggest that most participants in these SMOs, both at base group level and inside a self-managed collective, are skeptical of handouts. However, unexpectedly, our data suggest São Paulo's SMOs designed a participation architecture through which they encourage large numbers of actors to volunteer and cooperate without feeling they are being used by powerful structures. Central to engender and sustain this collaboration, we argue, is a points system designed *ex ante* by the SMO leaders, the system architects, to encourage and reward voluntary participation towards local goals and higher level policy goals simultaneously.

Organizational architectures that invite participants to quantify and qualify effort to encourage strangers to trust on one another are not uncommon. For example, EBay, AirBnB, Amazon, Uber and various other digital technology companies use reputation systems (e.g., reviews and points indicating quality or trustworthiness) to influence behaviours, build mutual trust, and convince strangers they can transact with little friction (Tadelis 2016). However, these reputation systems suffer from problems of under-provision, because reviews are time-consuming, and the systems lack

mechanisms to encourage people to do them; furthermore, subjective assessments compromise the credibility of the reputation systems and their aim to be self-regulating (Avery et al. 1999). In marked contrast, our findings suggest the São Paulo SMOs designed a points system that has been effective in engendering and sustaining collaboration because of its emphasis on objectivity, fairness, and transparency. Hence, on one hand, the points system incentivises and rewards voluntary participation, resolving the under-provision problem. On the other hand, the points system pre-empts problems of credibility and trustworthiness by relying only on quantifiable and verifiable contributions.

Our findings suggest this points-based architecture of participation is not perfect in that some families find it more difficult to accumulate points than others. Still, the points system has been improved over time to be as equitable as possible, and current versions let people earn points through a wide range of tasks. This architecture of participation is, therefore, not the outcome of spontaneous self-organizing. Rather, it has been designed by the SMO leaders, the hidden hand of authority that relies on the points system to both facilitate socialization and sorting within the open self-managed base groups as well as to ensure robust consensus-oriented action within the closed self-managed housing collectives. Still, the fact these "global influence structures" (Puranam 2021) have been designed centrally does not preempt voluntary engagement. Rather, creating an organizational context that enables self-managed collectives to succeed locally is *sine qua non* for the hierarchical organizations to make actual progress towards the achievement of global goals. Indeed, the local success of the housing collectives reassures families that mull over enlisting in a base group that their time will not go to waste. Greater participation garners legitimacy for protest actions, which further both housing policy and local goals. In other words, points function as marker of dedication to the policy goals, and as a currency that rewards such dedication with access to local goals in a fair way. Furthermore, as the self-managed collectives progress towards local goals, people who gain influence within the collectives (e.g., in dispute resolution or management committee roles) have more wherewithal to advance the cause. Activities to further local and policy goals thus are symbiotic in that they are mutually reinforcing and self-perpetuating, where the "glue" is provided by the points system.

Conclusion

São Paulo's housing movement offers an exciting setting to further our empirical and theoretical knowledge of how hierarchical organizations can leverage the efforts of large

numbers of autonomous actors in the pursuit of solutions to grand challenges, such as the production of public goods. Our preliminary findings uncover an architecture of participation underpinned by a points-based system, where the priorities and interests of large numbers of autonomous actors are balanced with those of the hierarchical organization. This balance is key to engendering and sustaining a virtuous cycle feeding the pursuit of local and higher order goals and going beyond unifying but vague and ambiguous rhetoric. The resilience and longevity of our focal organizations, together with the high levels of solidarity they have engendered under conditions of adversity indicate the São Paulo housing movement has much to teach us. Still, our findings also suggest this form of organizing is not perfect. More research is, therefore, needed to explain the reasons underlying its survival and boundary conditions limiting when and where points-based participation architectures like the ones examined here may function.

Declarations

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