"It Doesn't Actually Feel Very Mutual:" How Technology Impacts the Values of Mutual Aid Groups in Practice

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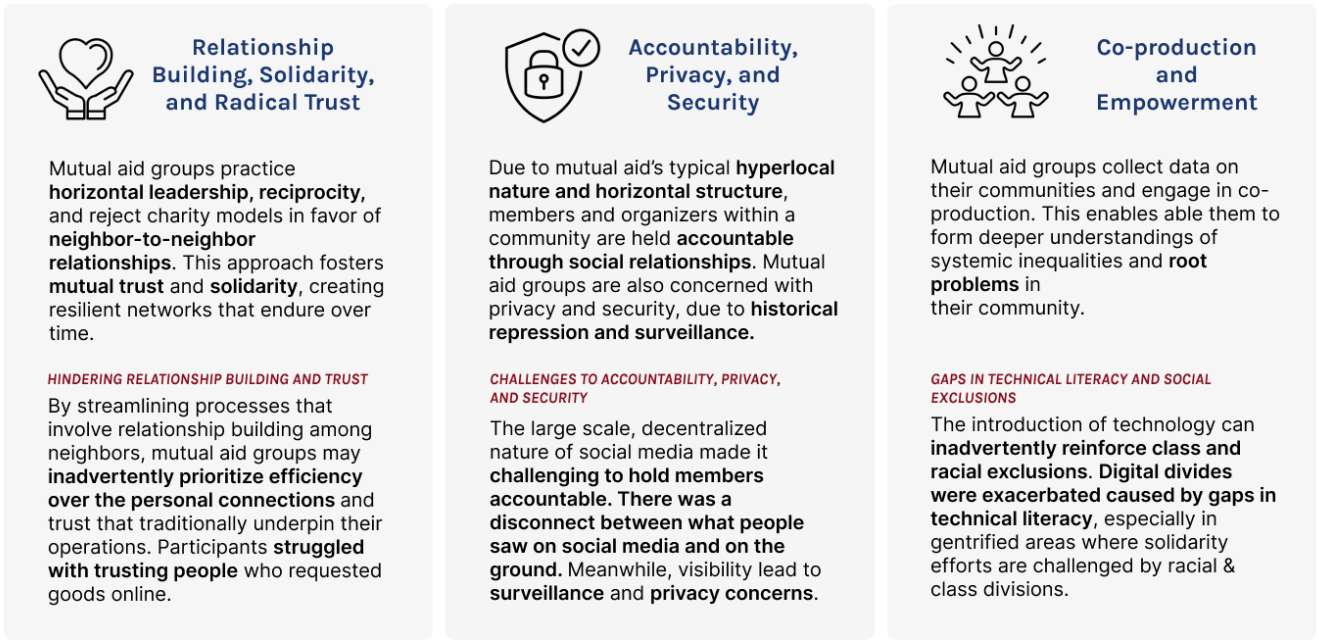

Figure 1: Mutual aid group's traditional values and how tensions arise when they rely on technology.

Abstract

Social movement organizations, such as mutual aid groups, rely on technology to increase their influence, meet immediate needs, and address systemic inequalities. In this paper, we examine the role of technology in moments of crisis and the tensions mutual aid groups face when relying on tools designed with values that may be antithetical to their own. Through a qualitative study with mutual aid volunteers in the United States, we found that mutual aid groups' values, such as solidarity, security, and co-production, are prioritized as they navigate adopting technology. However, while technology can streamline logistics and enhance visibility for mutual aid groups, we argue that the adoption of existing technologies and conventions of practice can erode opportunities for building solidarity, present challenges for accountability, and exacerbate pre-existing social exclusions. We argue that these tensions emerge not simply as a mismatch between values and technical design, but as systematic outcomes of adopting tools that embed different political assumptions and points of access. Our findings contribute to understanding how values shape — and are shaped by — technological infrastructure in mutual aid work.

CCS Concepts

• **Human-centered computing → HCI theory, concepts and models**.

Keywords

Critical and sustainable computing, value-sensitive design, Social computing, scalability, social movements, mutual aid

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1 Introduction

Social movement organizations increasingly rely on social media and information organizing software to coordinate action during crises and infrastructural breakdowns (e.g., *COVID-19 pandemic*) [28, 90, 100, 104]. However, platforms for information and communication (such as social media and digital marketplaces) have been identified as potentially damaging to trust and social cohesion [10, 38]. They may also promote values that conflict with those upheld by social movements [17, 43, 45, 98]. Furthermore, research has found that the underlying technological structures of these platforms may even cause movements to disintegrate as quickly as they form [4, 93, 104]. We examine mutual aid groups, a form of social movement organization that refers to voluntary, reciprocal exchanges of resources and services for mutual benefit, that community members themselves often organize. Historically rooted in marginalized communities striving for solidarity, autonomy, and empowerment, mutual aid groups have long played crucial roles in supporting communities during times of systemic failure and crisis.

During the height of COVID-19 physical distancing, mutual aid groups grew more reliant on technology and created an array of innovative structures to facilitate their work, such as Zoom conference calls, ICE raid hot-lines, organizing food centers via Google Docs, and automated systems for volunteer reimbursements [90]. These productivity and data management tools were originally designed for enterprise contexts, underscoring sociotechnical values such as efficiency [2, 91] and scale [49]. These authors define *efficiency* as the ability to smoothly accomplish core activities or tasks with minimal waste of resources, and *scale* as the capacity of a system or approach to expand in scope, size, or reach while maintaining its core functions and effectiveness. However, mutual aid groups' use of these tools reflect distinct, hyperlocal community needs: connecting neighbors through online platforms, building meaningful relationships, and ensuring that others have access to necessities [90, 99]. Systems designed for scale often rely on uniform, generalizable solutions, which may clash with the caring, relational approaches that are critical to mutual aid. In this study, we explore how mutual aid groups' values are enacted in practice, how those values may influence their decision-making with technology, and how reliance on technology affects mutual aid work. We focus on the unique context of physical distancing during the COVID-19 pandemic, where the disruption of normal social interactions forced mutual aid groups to rapidly adapt to unprecedented challenges [90]. In this paper, we pose the following research questions:

- What are the principal values of mutual aid groups, and how do these values shape their approaches to technology use?
- How does the use of technology influence mutual aid work?

We conducted an interview study with members of mutual aid groups that relied on technology during the COVID-19 pandemic, in the period of physical distancing. Between November 2020 and October 2021, we interviewed 12 volunteers from mutual aid groups across the United States, via Zoom or phone call. Each group focused on distinct community needs, such as grocery delivery, rent assistance, political education, and HIV/AIDS support and prevention. While some operated within single neighborhoods, others participated in broader distributed networks connecting local efforts. Using an interpretive, qualitative approach, we applied grounded theory [20] to examine how mutual aid groups adopted technology and how these tools influenced their work. Our research reveals both synergies and tensions that emerge when mutual aid becomes mediated by technology.

Our findings indicate that while technology can boost the efficiency of mutual aid efforts, its integration often reconfigures existing tools and practices in ways that introduce unintended social consequences [44, 67, 82, 101]. First, data collection tools helped mutual aid groups assess immediate needs and track emerging issues within their communities. However, prioritizing operational efficiency can undermine the trust and relational care that are central to mutual aid. Second, digital platforms, especially social media, enable rapid growth and outreach but also raise issues of accountability, access, and governance. In particular, participants noted that social media posed challenges, such as increased scrutiny, heightened security risks, and concerns about undermining the authenticity and solidarity of mutual aid efforts. Finally, the shift toward data-driven approaches risked excluding individuals without the technical skills necessary to fully participate or assume leadership roles.

We argue that value tensions emerge not merely as a drift from mutual aid ideals, but as a systematic result of adopting practices that embed different political assumptions and points of access [5, 24, 88]. Although mutual aid groups are not inherently designed to scale [49], unique circumstances, such as the COVID-19 pandemic and increased pressure to meet community needs, pushed some mutual aid groups towards work that looks more professionalized and similar to those of corporate organizations (e.g., prioritizing output and efficiency [49] over relationship building, data-driven decision making). For example, importing established digital practices from broader contexts tends to impose conventions of practice [83, 100] that can deepen existing inequalities along lines of occupation, class, and race [88]. Such shifts risk compromising core mutual aid values and features, such as informal, horizontal leadership, an emphasis on co-production, and facilitating meaningful relationships. The erosion of solidarity and human agency is not inherent in technologies mutual aid groups adopt [67], but arises from how they are deployed and adapted in response to external pressures. The challenge, then, is to balance the gains in efficiency with the preservation of the inclusive, relational values that are fundamental to mutual aid.

2 Background

2.1 Mutual Aid and its Values and Principles

The concept of mutual aid, first articulated by Peter Kropotkin in 1902, challenges Darwinian notions of *"survival of the fittest"* by proposing that cooperation and mutual support are fundamental to societal resilience and survival [62]. Mutual aid groups are grassroots organizations focused on reciprocal support and **solidarity** among members, often within local communities to address specific needs. These groups are decentralized, prioritize bottom-up cooperation, and avoid over-reliance on the state or philanthropic

intervention. Unlike traditional organizations, mutual aid operates without uniform structures or memberships and relies on volunteers and shared community resources. Due to their informal nature, mutual aid groups do not take on uniform structures or membership — it is difficult to capture a comprehensive landscape of the scale and activities of these groups.

In contrast to charity, which typically involves one-way aid from donors to recipients, mutual aid emphasizes reciprocal support and collective **empowerment**. Examples of mutual aid work include community fridges, rent assistance funds, and disaster relief services (e.g., *Occupy Sandy, Hurricane Katrina, Rolling Jubilee*) [25, 99]. The conditions that lead to mutual aid work contribute to building a shared analysis of social issues [99]. Mutual aid strives to change political conditions by building new social relations that are more survivable [33, 99]. In this sense, mutual aid groups provide resources as a catalyst for personal stability that can be reinvested into the community and not as a handout [99].

Mutual aid groups emphasize **inclusivity**, challenging systems that perpetuate social exclusions based on race, gender, and class, and offering models for dismantling entrenched inequalities [49, 99]. They connect communities, support vulnerable groups, build regenerative economies, foster resistance to social injustice, and ensure **accountability** through **co-production** and transparency [47, 51, 57, 86]. Sustaining networks of care, survival, and solidarity, mutual aid is crucial during crises when established organizations are overwhelmed [34, 99].

Mutual aid represents a transformative approach to collective action, embedded in the everyday lives of activists striving for community resilience and solidarity over extended periods [75]. It underscores the responsibility of communities to care for each other, fostering values of **solidarity**, **empowerment**, and **autonomy** through **co-production** and shared **accountability** [99].

2.2 Historical Groundings of Mutual Aid

Throughout history, marginalized communities have created spaces of resistance and solidarity as a response to systemic oppression. Despite pervasive inequalities, they are manifestations of people carving out lives that affirm their dignity and autonomy. Significant examples illuminating mutual aid values are Maroon communities, the Zapatistas, Black economic cooperatives, and the work of the Black Panthers. These historical examples lay down the foundation principles of mutual aid that endure today [34, 99]

Maroon communities were settlements operated by escaped enslaved Africans throughout the Caribbean, Latin America, and the Southern United States [85, 89]. They were self-sustaining, relying on collective labor and resource-sharing to ensure the survival of their members. The maroons' ability to thrive in hostile environments exemplifies mutual aid values such as self-reliance, **solidarity**, and collective defense, banding together to protect their freedom and sharing resources to resist re-enslavement and colonial oppression.

W.E.B Du Bois, sociologist and Pan-African civil rights activist, advocated for cooperative economic ventures as a means for Black communities to achieve self-sufficiency and resist systemic racism in the early 20th century [27, 55, 78]. Black economic cooperatives aimed to provide essential resources in Black communities and to create more sustainable economic structures that were less susceptible to external economic pressures and racial discrimination. These cooperatives represent significant efforts to build economic resilience, **security**, and **solidarity** among African Americans during a time of profound racial inequality and economic hardship in the United States.

The Zapatistas, a revolutionary indigenous movement that emerged in the early 1990s in Chiapas, Mexico, have become synonymous with autonomous self-governance and collective resistance [60]. Central to their movement is the concept of *"mandar obedeciendo"* (leading by obeying), which values grassroots democracy and community decision-making through assemblies and councils. The Zapatistas have created a model of self-reliance and solidarity where resources and responsibilities are shared collectively. This approach embodies **co-production** [32, 53, 58], where community members actively participate in and contribute to decision-making processes and the creation of communal resources and services, fostering a sense of ownership and mutual support.

A more recent example of mutual aid is the work of the Black Panther Party. In 1986, the Black Panther Party introduced its free breakfast program which, within a year, fed 20,000 people in 19 cities. The other "survival programs" created by the Party included children's development centers, political education, health clinics, and self-defense courses [3, 99]. The Black Panther Party's work was deeply tied to their efforts to procure Black self-determination through armed self-defense and socialist ideologies.

We recognize mutual aid and collective action as pivotal for connecting communities and delivering resources to vulnerable groups, and that collective action remains essential for building regenerative economies and political resistance to social injustice [47, 51, 57, 86].

2.3 Mutual Aid and Technology

The COVID-19 pandemic exposed significant gaps in traditional social support systems and imposed limitations on physical interaction, prompting a surge in mutual aid activities turning to technology. During the height of the pandemic, mutual aid groups increasingly relied on technology and implemented innovative structures such as Zoom conference calls, ICE raid hotlines, food centers organized via Google Docs, and automated systems for volunteer reimbursements [61, 90]. These tools facilitated rapid response rates, enhanced social media outreach, and expanded organizational scale.

However, the rhizomatic, consensus-bound governance structure of mutual aid groups can also hinder its goals: online platforms often fail at sustaining organizing during periods of abeyance (e.g., periods of perceived inaction) [25]. Mutual aid groups also detriment from burnout, dominance behaviors, and failures to address intersectional power structures between volunteers [87, 99], all of which may be exacerbated through differing access to technology and material resources. Thus, movements that grow rapidly also may fail to adjust their tactics, negotiate demand, or push for tangible changes [104]. To address these problems, past groups have customized their networked infrastructures as a form of political participation [25]. These technologies resemble productivity and data management tools used in other contexts, but their application in mutual aid settings during physical distancing remained crucial

for connecting neighbors in times of need, fostering solidarity, and ensuring equitable access to essentials [90].

As Hanna [49] and Tsing [103] suggest, mutual aid groups are traditionally hyperlocal and emphasize personalized, community-driven interactions that build solidarity — they are not intended to scale [49, 99, 103]. Nevertheless, historically and theoretically, mutual aid communities have grappled with the challenge of scale and liberation — how to expand networks of supportive relationships while preserving grassroots principles, free from unjust power structures [49, 99]. Technology is often framed as a promising solution to scale, offering new possibilities for coordination, communication, and resource distribution.

However, critical work has suggested that technologies and practices imbued with values such as quantification [17] and efficiency [2] can shift organizational dynamics, potentially impacting how social movement organizations coordinate and act and eroding trust between individuals [10, 38]. Moreover, some technological approaches can raise concerns about the digital divide [17] and may not afford the reciprocity characteristic of mutual aid [45, 98]. While technology brings benefits such as reliability (e.g., *communication platforms, data management systems*), resilience (e.g., *the ability to maintain operations and continue providing support even when faced with unexpected challenges*), latency (i.e., *real-time communication and coordination*, and throughput (i.e., *managing large amounts of information*) [16] — it remains essential to balance these with the values that remain central to mutual aid groups.

Collectively, these historical perspectives underscore that mutual aid is deeply rooted in values of solidarity, care, and empowerment — values that have sustained communities in the face of systemic oppression for generations. During COVID-19, the increasing integration of digital technologies into social movement work, such as mutual aid, raises important questions about how these core values may be enacted. This backdrop motivates our study, which examines how mutual aid values shape approaches to technology use and, conversely, how technological adoption intersects with and potentially influences long-standing principles of solidarity, accountability, and co-production.

3 Related Work

In this section, we rely on two main bodies of literature. The first is research on Value Sensitive Design. The second body of research comprises Human-Computer Interaction (HCI) and Computer Supported Cooperative Work (CSCW) research on the impact of technology and data-driven approaches in social movement organizations.

3.1 Value Sensitive Design

The fields of HCI and CSCW have widely examined the impacts of integrating information technology into society. In particular, these fields have demonstrated how technology impacts the lives of those who can access such technologies and those who cannot. A central line of argument within both respective fields is that technologies embody specific values [35, 106] and enact power over human lives [67]. HCI and CSCW research has strongly demonstrated that choices made during design processes reflect and reify social, ethical, and political values. Increased scrutiny on values in technology has prompted researchers to examine who holds the agency and power in technology design and development [81], highlighting that intentionally value-driven approaches often benefit those with the most privilege [18, 31, 80, 94].

As a result of unintentional and harmful consequences perpetuated by technology, calls to understand the implications of design choices, broader sociotechnical contexts, and differing stakeholder values have only grown louder [29, 41].

Broader efforts to purposefully elicit, determine, and enact values in technology are primarily articulated in Value Sensitive Design (VSD) research. VSD is articulated as a constellation of theoretically grounded practices and approaches that identify and account for stakeholders' values in the design of new technologies [39–41]. VSD employs an iterative methodology that integrates conceptual, empirical, and technical investigations. Conceptual investigations involve the analytic, theoretical, or philosophical exploration of key issues and constructs relevant to the design of a technology. For example, Shilton et al.'s framework examines how to determine the *source* of values from *attributes* of values [96]. Whereas, empirical investigations focus on understanding the human context by gathering data on stakeholders' needs, values, and perspectives. Technical investigations focus on the technology as a unit of analysis. These investigations can involve retrospectively evaluating deployed systems with respect to human values or the design of a new technology [41, 96]. This framework essentially asks, whose values are accounted for? To what extent can these values be expressed and enacted in sociotechnical systems? What properties of the technology support or hinder specific values? [41, 96].

More recent work on VSD has investigated *"value dilution"* when technical artifacts drift away from the values they are committed to embody [43], revealing that values remain dynamic and subject to change. While value dilution focuses on technology as a unit of analysis, this research explores how mutual aid groups — the *source* of values — may *enact* or potentially diverge from their core values when adopting existing tools and methods for carrying out their work. This study takes inspiration from VSD by taking on a conceptual and empirical approach to understanding how mutual aid groups, which hold strong, community-driven values, engage with and re-purpose pre-existing technologies. These technologies, originally designed for corporate, work, or consumer contexts (e.g., social media, spreadsheets, messaging tools), were not specifically built for mutual aid purposes.

3.2 Technology and Data in Social Movements and Organizations

Social movement organizations and community-led initiatives have long leveraged technology in their practices and strategies to organize and grow [56, 68, 100, 104]. For instance, social media has been widely used to disseminate core movement ideologies, mobilize activists, and coordinate action [25, 30, 63, 74, 95, 97, 102]. Recent research within HCI and CSCW has explored how community initiatives expand their influence and grow, citing the role of infrastructuring participation [6, 25, 68] in creating new networks and sustaining collective action over time. This can involve forming local groups while staying connected to a broader network [66, 77] and sharing organizational practices that are transferable to other

contexts and communities [13, 65, 73]. Such labor implies intentional acts of collaboration and sharing, nurturing trust between people, and rejecting homogenizing, monetizing, and individualized approaches to growth [70].

By focusing on mutual aid groups' experiences, we contribute empirical data on the dynamic interplay between technology, values, and social movements in contemporary crises. These intersections open up questions about the needs and values of mutual aid groups and the possible synergies or tensions that may arise when they adopt technologies imbued with values different from their own.

Adopting and curating technology in these organizations requires complex negotiations between various stakeholders based on shared values and conventions of practice. For example, activists strategically select and reject technologies based on their affordances [72]. Star and Ruhleder introduced the concept of *infrastructuring* to describe the work of creating sociotechnical resources that enable adoption and appropriation beyond the initial design scope and into new contexts. The notion of infrastructure highlights how combinations of technologies are linked with *conventions of practice*, embracing the idea that technology use is inextricably attached to social values and relations between various actors [100]. Pei et al. have introduced the term *data practices* to emphasize the promises of becoming data-driven and the practical application of data tools to politically motivated work in organizational settings [83]. The term *data-driven* refers to the increasing use of data — often collected through digital platforms — to guide decision-making and organizational processes. These studies demonstrate that an understanding of values and social dynamics remains imperative to how organizations adopt new technologies and negotiate conventions of practice.

Despite the promise of technology, critical research in this area has found that community organizers working with data must navigate dynamics that may blunt or co-opt their efforts [84], as data-driven decision-making can lead to the re-framing of priorities and further exacerbate power dynamics between decision-makers and other stakeholders [17]. Even in contexts that emphasize decentralized power, a small percentage of influential members often dictate the choice of tools and digital infrastructures their community relies on [14]. Research has also found that when concerns for efficiency and automating transactions overlook social encounters or privilege measurement over other qualities of participation, existing social hierarchies can be reproduced and erode community solidarity [91]. Orlikowski suggests that the use of technology is embedded within various interlocked social systems, and interactions with technology inevitably bring other social structures into play [43, 82]. This body of work suggests that certain conventions of practice can reinforce social exclusions in social movement organizations [46], as well as steer groups away from their intended transformative goals [49]. Ultimately, the introduction of technology into mutual aid work introduces conventions of practice that are embedded in professional, white-collar labor. However, under the context of COVID-19 physical distancing, technology grew essential for carrying out mutual aid work. In this paper, we aim to understand how mutual aid groups grapple with their values and the emergent conditions that arise when technology impacts how mutual aid groups operate.

4 Methods

Our goal in this research was to understand how mutual aid values influence the way they use technology and to assess the role of technology in mutual aid work during COVID-19 physical distancing.

4.1 Data Collection

4.1.1 Recruitment and Sampling. We recruited mutual aid groups in the United States that we had not previously engaged with through a combination of purposeful and theoretical sampling [20]. We found mutual aid groups across the United States through search engines and social media that fit our specific criteria. The groups we recruited met the following criteria: the group considered itself to be a local mutual aid group (i.e., calls itself a mutual aid group on social media), the group was publicly discoverable online, the group relied on technology, and the group was active during the time we reached out to them). To locate these groups, we employed a keyword-based search using terms directly associated with mutual aid along with activities commonly associated with mutual aid initiatives (e.g., food drives, delivery services, provision of free resources like water, buddy programs, and skill-sharing). We also incorporated geographic identifiers to target groups operating in different cities in the United States (e.g., *New York City Mutual Aid*. We attempted to recruit groups that met these criteria through private messages on social media, email addresses if one was listed, or contact forms listed on the mutual aid group's website. In these messages, we clarified that the authors were a group of researchers interested in understanding how mutual aid groups were using technology.

We sent out 34 interview requests for which we received 12 replies from volunteers representing each mutual aid group. All interview participants had participated in mutual aid organizations within the past 6 months and were at least 18 years of age. Each interview lasted for approximately one hour via remote video or phone call. All interviews were conducted in English. After the interviews were conducted, the authors sent each a $30 Visa gift card for their time. Alternatively, some participants opted for us to donate the $30 directly to their mutual aid group or stated that they would redirect the funds to acquire material resources for their group.

4.1.2 Interview Study. We conducted formal interviews with mutual aid volunteers from 12 different mutual aid groups between November 2020 and October 2021. These volunteers played integral roles within their respective groups, typically engaging in activities such as organizing community initiatives, coordinating the distribution of resources, or managing communication channels among community members.

Our interview protocol focused on capturing a comprehensive understanding of mutual aid groups, including their background, values, and services. The interview commenced with an introduction to the group's inception and objectives, focusing on understanding how each group used technology and how their values drove their coordination. Overall, the interviews covered a range of themes: volunteers' experiences, their values, methods of providing aid, governance structures, as well as the impact of the COVID-19 pandemic. We also asked questions about technical platforms and

social media use, including how platforms were maintained, their utility, and the challenges each platform posed. Participants were encouraged to reflect on frustrations or successes with technology and changes made to their digital infrastructure over time. As questions were developed, scoped, and refined, we iterated on the interview guide to reflect what we learned from participants. For example, we incorporated the question *"If at all, how have your practices changed as the pandemic has progressed?"* after several groups mentioned changes as their online communities grew throughout the pandemic. Having learned that mutual aid groups faced challenges with their technology use, we began to ask, *"What advice would you give to other groups relying on similar platforms?"*

4.2 Data Analysis

4.2.1 Qualitative Analysis. We analyzed the interview transcripts using Grounded Theory (GT) [20] to uncover unanticipated themes and insights, with a particular focus on the values and practices of mutual aid activists. GT was used both as a method for data collection and analysis and as a broader methodology aimed at theory development. This dual approach allowed us to remain flexible and adapt our study as new patterns emerged from the data.

Our decision to use GT was motivated by the novel context of mutual aid groups during the COVID-19 pandemic. Given the unprecedented nature of these digital organizing efforts — characterized by groups coordinating online to meet immediate community needs during physical distancing — GT provided the flexibility to identify unexpected patterns, rather than imposing pre-existing frameworks.

We began with two separate analyses: first, to understand mutual aid groups' values, and second, to understand how mutual aid groups use and think about technology. Throughout the analysis, the authors met regularly to discuss emerging codes and themes. For both analyses, we began by performing open coding on a line-by-line basis, using separate codebooks. Initial codes included *managing crises*, *connecting community initiatives*, and *feeling pressure to scale and meet demands*.

Then, we conducted axial coding to identify higher-level themes. The first two authors discussed their findings and resolved disagreements. In the end, we identified seven higher-level categories relevant to our research questions: *technology use*, *growth and scaling upwards*, *maintaining community networks*, *values*, *organizational features*, *challenges*, and *mutual aid values*.

- **Technology use** focused on understanding the technologies that mutual aid groups relied on and their specific purposes.
- **Values** described the guiding principles and goals of these groups, as well as their preferences for certain platforms.
- **Maintaining community networks** covered how mutual aid groups collaborated with other community initiatives for support.
- **Challenges** addressed the obstacles these groups encountered in their operations.
- **Organizational features** described how mutual aid groups organized and self-managed within their local contexts.
- **Strategies** referred to the tactics that helped mutual aid groups adapt and evolve in response to changing circumstances.

Within each category, we identified specific codes such as using *existing tools*, *managing community expectations*, and *centering community needs*.

4.3 Researcher Positionality and Approach

In this study, we aimed to investigate how mutual aid groups use technology to support their activities and explore potential tensions that may arise. The authors had prior involvement with local mutual aid groups before the commencement of this research. This involvement included initial meetings facilitated through activist networks, participant observation in both virtual and physical contexts (e.g., email chains, group chats, video calls), and active participation as volunteers. For example, one of the authors delivered groceries to neighbors as part of a mutual aid group organized on Discord during the pandemic. At times, this author felt that their role was primarily limited to providing deliveries rather than fostering meaningful connections with their neighbors. Engagements such as this played a crucial role in shaping our research questions about the role of technology in mutual aid work.

Previous research has highlighted challenges researchers face when engaging with community initiatives and organizers. Activists, wary of government infiltration and surveillance, may harbor distrust towards researchers [26, 76]. We approached this research with sensitivity to historical contexts and systems of oppression affecting these communities [7, 22, 24, 50, 54, 69, 80].

Prior work has emphasized working with trusted community members to ensure that research with marginalized communities is conducted in culturally appropriate ways, fostering legitimacy and trust among participants [22, 50]. While our online approach to recruitment proved effective, we may have overlooked mutual aid groups without an online presence. Nevertheless, we chose an online approach to remain sensitive to the burdens imposed by the ongoing COVID-19 pandemic, during which many individuals faced escalating financial insecurity and threats to their mental and physical well-being [64, 107].

Participants' perceptions of us were shaped by our identities and roles. For example, while one participant was initially wary of *"tech people,"* (P2) they engaged with us due to our position as students. Each author's public profile and online presence allowed participants to vet us before agreeing to interviews. Our interdisciplinary backgrounds, particularly in human-computer interaction, framed our exploration of sociotechnical systems within the broader discourse on technology, mutual aid, and social movements.

We reflected our findings to each mutual aid group, verifying our interpretations and contributing to ongoing discussions regarding mutual aid. In our follow-up discussions, we asked participants what they hoped to learn from our study and if they had questions for other mutual aid groups. We kept their questions and desires in mind as we iterated on our interview guide and analyzed our data.

Table 1: Mutual aid groups in the United States. The focus area describes what kinds of resources and services the group provided for their community. We do not describe the city in which the mutual aid groups are located to maintain their anonymity. Distributed networks denote large groups that are in contact with each other and connect smaller mutual aid groups.

Participant	Geographical Location (United States)	Focus Area
P1	Distributed Network	Political education, liaison, workshops, emotional support
P2	East Coast	Grocery delivery, emotional support
P3	Midwest	Hotline, grocery delivery, political education, community workshops, rent assistance, emotional support
P4	West Coast	Community refrigerator
P5	Midwest	Community refrigerator
P6	Midwest	HIV/AIDS prevention for Black and Brown trans people
P7	Midwest	Grocery delivery, rent assistance
P8	Midwest	Grocery delivery
P9	West Coast	Disaster preparedness relief, emotional support, buddy pairing program
P10	Midwest	Financial support, emotional support
P11	Pacific Northwest	Relief camps, food insecurity relief
P12	Distributed Network	Liaison, mutual aid mapping project

4.4 Limitations

Our interview study represents a small sample of mutual aid volunteers during the COVID-19 pandemic, which limits the generalizability of our findings to broader populations. The insights gained are shaped by the specific context of the pandemic, and may not fully apply to other periods or post-pandemic settings.

While all the mutual aid groups in our study self-identified as mutual aid organizations, we observed significant variation in their practices and approaches. Though we applied specific selection criteria, we acknowledge that the term mutual aid has gained considerable popularity in recent years, potentially leading to its broader and sometimes looser application. Rather than evaluating whether these groups failed to meet mutual aid principles, our analysis focuses on understanding how different groups enact mutual aid values with technology in practice.

This research draws inspiration from Value Sensitive Design (VSD), but does not engage fully with the technical investigation component of the VSD framework. Specifically, our work focuses on empirically examining how mutual aid groups interact with and repurpose technologies, rather than analyzing or designing specific technical artifacts in depth.

The mutual aid groups we spoke to operated within diverse artifact ecologies [14], relying on a wide range of platforms and tools. Given this diversity, we chose not to focus on a single platform or technology. Instead, we aimed to develop a broader understanding of how these groups adapted and enacted their values across many tools during the COVID-19 pandemic. While this approach allowed us to identify patterns and challenges across contexts, it limited our ability to deeply investigate the specific affordances or constraints of any one technology.

Future work could complement this broader analysis by conducting technical investigations into the affordances and limitations of particular platforms or by exploring how new tools might be designed to better align with mutual aid groups' values and needs.

Our focus on technology in mutual aid during the pandemic captures unique aspects of physical distancing and reliance on online communication. Recruiting participants online biased our sample toward those with internet access and involvement in organized, tech-enabled mutual aid efforts. As a result, we may have overlooked offline mutual aid initiatives. Furthermore, participants had varying levels of technical proficiency, which influenced the platforms and technologies discussed [1, 14].

Most volunteers were based in urban American centers, making it difficult to generalize findings to rural settings or non-US contexts. Some participants appeared to have relatively higher capacity for community involvement, potentially reflecting varying degrees of privilege (e.g., time, resources, or flexibility), which may have excluded those with fewer resources or greater constraints. Future research should explore the experiences of individuals with less privilege.

5 Findings

In this section, we present our findings on how mutual aid groups' needs and values shape the way they approach technology use, and how technology impacts and operates within mutual aid work. In the following sections, we organize these findings by first exploring how mutual aid values shape participants' navigation of their work and technology use, and then illustrating the tension technology presents in mutual aid work.

Table 2: Mutual aid values and values tensions that emerge when mutual aid groups adopt existing technologies and conventions of practice

Mutual Aid Value	*How Mutual Aid Groups Traditionally Enact Their Values*	*Values Tension and Technology*
Relationship Building, Solidarity, and Radical Trust	Solidarity in mutual aid is practiced by fostering broad participation through horizontal leadership, emphasizing reciprocity, and rejecting the charity model in favor of neighbor-to-neighbor relationships. Participants describe their work as rooted in mutuality and radical trust, where everyone is treated as an equal rather than as a giver or receiver.	Pressures to meet growing community needs and expand outputs have driven mutual aid groups to prioritize efficiency and serve as many people as possible. Platforms facilitating social exchanges, without fostering meaningful interactions, sometimes turned mutual aid efforts into transactional, impersonal exchanges or complicated expectations of what the mutual aid group could offer
Accountability, Privacy, and Security	Members and organizers are held accountable for their roles and responsibilities, ensuring that the group's objectives are met effectively. Individuals may wish to remain anonymous due to the stigma or personal risk associated with seeking or providing aid. Protecting this information is crucial to maintain trust.	The decentralized nature of social media can make it difficult to monitor, manage, and hold accountable the actions of all members. Social media platforms may be surveilled by various entities, potentially leading to the tracking and targeting of individuals involved in mutual aid activities.
Co-production and Empowerment	Mutual aid groups collect data on their community and engage in inclusive knowledge-production processes that enable them to form deeper understandings of systemic inequalities and root problems in their community	The adoption of technology by mutual aid groups can inadvertently reproduce processes of social exclusion. While data-driven approaches can streamline operations, they often displace the nuanced, contextual understanding that emerges from community experiences.

5.1 Reliance on tools for streamlining operations can hinder relationship building and trust

Mutual aid groups emphasize relationship building and solidarity to build resilient networks that persist over time. During the COVID-19 pandemic, mutual aid groups rapidly in response to community needs. They adopted technologies to connect people online, manage logistics, and coordinate action. While these tools helped streamline mutual aid work, they also impacted interpersonal dynamics within mutual aid groups. Participants expressed concerns that relying on online platforms diminished opportunities for face-to-face and one-on-one interactions essential for fostering meaningful relationships, weakening the sense of community solidarity vital to mutual aid. This tension highlights a critical shift where the operational efficiency, the ability to carry out mutual aid tasks in a streamlined process, necessitated by crises may compromise the interpersonal connections that traditionally sustain mutual aid efforts.

5.1.1 Mutual Aid Values: Relationship Building, Solidarity, and Radical Trust. Our participants centered their practices on core mutual aid values such as **solidarity**, **mutuality**, and **radical trust**. The participants expressed that the *"basic premise of mutual aid is neighbors helping neighbors"* (P9), especially since they couldn't *"rely on the state or the nonprofit industrial complex to come in and save"* them (P1). Recognizing the failures of the state to address crises within their communities, participants emphasized building more resilient and reciprocal social relations. Rather than bifurcating those who participate in mutual aid as opposed to those who are receiving charity, P2 expressed that,

> *We emphasize the word neighbors as both our constituency (who we serve) and people who are part of the organization [...] We try to [...] foster this neighbor-to-neighbor relationship where some of the people who deliver for their neighbors becomes a more steady relationship over time. So just trying to nurture that, wherever we can see it, without falling into the conventions of what charity work looks like in these systems. (P2)*

Mutual aid groups often form through personal connections and shared collective goals among activists who are embedded in a broader network of community initiatives. For instance, P3 explained that their mutual aid group started as *"a rapid response network in case of an ICE raid in our neighborhood"* (P3). When the pandemic began, P3's group transitioned into a response network for COVID-19. This transition occurred with ease, as P3's group was already *"peripherally connected [...] for the past few years"* (P3).

Putting solidarity into practice entails maintaining the relationships that make up the network.

> *It's a permanent network. A lot of folks have been involved since the beginning or a long time. To some extent, it will grow. The relationships are person-to-person, but we are operating on a national level. [...] It's about personal ties and being intentional about maintaining them, [...] like an email list where we send out updates. We care about each other. So we're going to check in,*

> *regardless of whether it's about the work or not. We're just going to check in and make sure each other feels cared for. (P1)*

Mutual aid plays a critical role in sustaining networks of care and solidarity over extended periods. This aligns with prior research showing that mutual aid supports the sustainability of social movements, particularly during moments of abeyance—periods of perceived inaction—by preserving relationships and infrastructure that enable future mobilization when needed [25, 75]. More than simply serving immediate community needs, mutual aid groups engage in political work by embedding principles of solidarity and community resilience into their everyday practices.

5.1.2 Values Tensions: Streamlining Processes vs. Solidarity. The introduction of technology into mutual aid practices has transformed how these groups operate, offering new ways to establish connections, organize resources, and meet community needs. These tools enable groups to streamline their operations and manage increasing demands during crises. However, the shift towards operational efficiency often comes at the expense of deeper, relationship-driven interactions central to the ethos of mutual aid.

During the pandemic, mutual aid groups repurposed technology to create virtual connection points, enabling neighbors to both offer and request help. For example, several of our participants cited messaging platforms (e.g. Slack, Signal, Discord, WhatsApp, etc.) to convene online and enable neighbors to connect and request aid (P3, P6, P7). Groups also adopted Google Voice and hotlines to take calls from community members in need (P2, P3, P7, P9). P3's group combined these tools, describing their infrastructure as a hotline that *"rings a number of different phones"* and *"hundreds of WhatsApp chats of various groups."* P3, P9, and P10 circulated spreadsheets where community members could write down their contact information and describe the help they needed. Many groups implemented *"online sign-ups"* (P4) and email lists for people to join if they were interested in volunteering (P1, P2, P3, P6, P7).

Others took a more organized approach, disseminating online surveys that included fields for requests like food, rent assistance, and companionship (P2, P7). Data collection tools (e.g., Google Form, AirTable, Microsoft Excel) enabled mutual aid groups to make sense of what kinds of problems existed in their neighborhood, how much capacity they had, and track how needs might change over time. These tools provided a structured way to assess changing needs and available resources, enabling groups to respond strategically.

As the pandemic worsened, community needs continued to expand, and mutual aid groups faced greater pressures to operate efficiently and increase their organizational capacities. P2 mentioned that they *"had the data of everything that everybody has ever requested."* Hoping to make their work more efficient, P2 *"pulled out the 20 to 30 most frequently requested things, keeping in mind categories"* to start *"wholesale buying those."*

Yet, as operations became more efficient, some participants noticed a shift away from the interpersonal connections that mutual aid seeks to foster. Yet, as operations became more efficient, some participants noticed a shift away from the interpersonal connections that mutual aid seeks to foster. P3 described that their grocery delivery process previously paired neighbors for grocery delivery, where volunteers often chose who to help or coordinated directly with neighbors requesting aid. Over time, this process transitioned into select people dropping off groceries at many people's doors organized through a centralized system where volunteers were assigned deliveries based on requests entered into a spreadsheet. While this new method was more efficient, one-to-one relationships would no longer be prioritized.

> *We ended up streamlining our delivery process. People call and ask for things, the things they ask for get entered into a spreadsheet, someone on the back-end takes the requests that have come in and sends them out to people who have volunteered to be delivery volunteers for that evening... There's some communication between folks... but then there's the deliveries where human connection happens between neighbors. We are losing that. We would not be doing the deliveries the same way. (P3)*

P3 highlights how this shift in their delivery process diminishes personal connections between neighbors, an aspect of social interaction previously integral to their approach. Before this shift, even online interactions — such as text messages, phone calls, or group chats — offered opportunities for relationship building. However, the use of centralized assignment systems to coordinate "one-to-many" deliveries eroded these interactions.

While technology empowers mutual aid groups to efficiently distribute material goods to those in need, an emphasis on operational efficiency constrains how mutual aid groups can make sense of community needs and build solidarity. The efficiency gained and forged through a process of data analysis and logistical streamlining diminishes the potential personal relationships that would have been necessary to facilitate the very material redistributions associated with mutual aid work.

Technology was necessary for carrying out the work but, in P3's case, can eclipse efforts to build enduring community relationships:

> *Because of the speed in which we built this and the platform that we went [...] mutual aid has been an aspiration direction for us from the beginning [...] We set up this call center of sorts, where people call and ask for something and then someone else goes and brings it. It actually doesn't feel very mutual. (P3)*

This tension between the values of mutual aid and technology is further amplified by the resistance to adopting platforms like Facebook, which some participants felt contradicted the values of solidarity and reciprocity. One participant emphasized that Facebook's capitalist, profit-driven model is inherently misaligned with the community-centered goals of mutual aid:

> *Facebook [...] on a values level [...] is paradoxical to what we're trying to build. [...] I'm pretty fluent in how that was built, why it was built, what the mechanisms are involved in revenue generation, how it profits [...] I would prefer to support a tool or application that would be congruent to the mutual aid effort. For example, [...] If Facebook were created on a system design basis, where [...] me and my network would earn some sort of pro-rata income based on our contributions and the value that we're creating for this network. I think Facebook has a "winner takes all model," but instead, we have*

> *"community takes off." I know that Facebook has all those features. I think that at the core of it, it seems very hypocritical.* (P10)

While technology can be an effective tool for organizing and fostering connection remotely, some participants resisted its use, preferring more direct, face-to-face interactions to build trust. One participant explained, *"there's resistance to even spending time on the computer [...] I'd rather be connecting in an authentic way"* (P10). This resistance reflects a broader tension between the ease of use technology offers and the interpersonal dynamics that sustain mutual aid, where shared values and trust are key.

While these platforms can help coordinate resources, the lack of personal, face-to-face interaction can lead to misunderstandings and frustrations. P8 illustrated this challenge, explaining how misaligned expectations in online spaces can create conflict:

> *Conflict is something that we'd like to be better at — helping people in the way that they want to be helped and not in the way that like we think that they should be helped. We've had a problem before where someone felt that we weren't responding to them quickly enough [on Facebook]. We weren't giving them enough money and they wanted to sell their art on our Facebook page. It didn't end super well.*

The use of technology, particularly for virtual financial transfers, introduces further complications for building solidarity and radical trust. For instance, P8 shared that while they initially connected community members directly for Venmo donations to cover urgent needs like rent, complications arose when recipients repeatedly requested more money. To address this, the group began acting as an intermediary, sending funds from their mutual aid Venmo account. P8 acknowledged the difficulties involved:

> *It's very understandable that when someone's desperate, they might hit up the last person who sends them cash, but it's an uncomfortable spot to put a neighbor in, who wanted to help one time. There's this idea that if you need help, you should be nice about it; we've had someone who needed more than we could give them and was angry with us. It's tricky and we have to figure it out as we go. I guess it's more about streamlining it to one extent, but things can go awry on these money apps.*

The experience shared by P8 highlights how these technological interactions can become transactional. The issues P8 described reveal how platforms like Venmo, while enabling quick transfers of aid, can also strain relationships, blurring the boundaries between one-time help and ongoing requests, and transforming mutual aid into something more transactional.

5.2 Social media boosts outreach but challenges accountability, privacy, and security

Social media served as an essential vehicle for connecting community members and supporting coordination. However, our participants noted that social media use posed challenges, such as increased visibility, heightened security risks, and concerns about diminished authenticity and solidarity of mutual aid efforts.

5.2.1 Mutual Aid Values: Accountability, Privacy, and Security. Mutual aid groups take privacy and security seriously, especially given the historical and ongoing threats of surveillance and repression [3]. One participant highlighted the risks associated with political activism, explaining that: *"there's a history of mutual aid organizations being surveilled by the government and being torn apart from the inside, from like the FBI"* (P2). P4 mentioned that, historically, their group was *"arrested over a thousand times in San Francisco in the late eighties and through in the mid-nineties."* To mitigate these risks, some groups provide material support rather than directly organizing political actions. For example, one group showed up to a protest with snacks (P2), rather than leading the front lines of protests.

Participants underscored the importance of data security in protecting both volunteers and recipients. On social media, P4 shared that they intentionally only took photos of volunteers *"from the back [...] and [they showed] no one's faces unless they wanted their faces to be in it."* (P4) One mutual aid organizer described how their group had to address IT challenges, particularly around securing personal information: *"some things we perhaps should have started thinking about much earlier [...] like password managers [...] and how to deal with identifying information from people"* (P2). This reflects a growing awareness within mutual aid groups that managing sensitive data must be a priority to ensure privacy and trust within their communities.

At the same time, the convenience of widely used tech platforms, such as Google Suite, presented a dilemma. One participant voiced concerns about Google's data collection practices, explaining that although they were wary of *"the big brother approach,"* the accessibility and ease of Google's tools meant the group had to weigh convenience against privacy concerns: *"Google reads everything [...] We don't have people's addresses; we just use zip code and neighborhood"* (P9). This careful management of personal data demonstrates a commitment to protecting the privacy of those involved in mutual aid, even as groups navigate the tension between using effective tools and safeguarding against potential privacy breaches.

Ultimately, mutual aid groups remain vigilant about ensuring security and accountability, balancing their need for operational efficiency with a deep respect for the privacy and safety of their members. These efforts help maintain the trust that is foundational to their work, ensuring that even in the face of potential risks, members feel secure in participating.

5.2.2 Values Tensions: Platforms and Threats to Accountability and Security. Drawing on participants' insights, we found that concerns about accountability and privacy emerged as mutual aid groups expanded their reach via social media or mainstream media. These findings illuminate the trade-offs between increasing visibility and maintaining authenticity and accountability within mutual aid work.

Social media platforms have widely been adopted to rapidly grow and organize around important issues [28, 104], but increased visibility and feelings of arm-chair involvement can compromise the solidarity of mutual aid groups. P11 captured this sentiment by describing how being online and organizing on the ground felt like a bifurcated experience:

> *There's a real divide between what the movement looks like on social media and what the movement is actually*

> *on the ground. Social media is fake. There was someone who [...] created a Facebook group called Hawthorne Mutual Aid to support what was happening. It became a huge joke because you'd leave the park and look at the posts [...] All the people on the Facebook group weren't actually there. Meanwhile, we're dealing with really intense stuff: right-wing militia folks circling us, law enforcement, violence, overdoses, and scary stuff [...] but on Facebook, it was sunshine and daises, like "look at this beautiful blossoming community!" [...] Let's be real. There's a lot of sketchy stuff going on. [...] People are getting traumatized. People [are] dealing with just like unreal scenarios. Facebook creates a difficulty when it's like, okay, in this shared community, you've got an activist, who's doing something creepy or harming other people. How do you create accountability across a bunch of different smaller affiliated groups and then also this giant social media sort of false reality? It becomes very difficult to figure out how to actually address behavior that needs to be addressed. Sometimes there is behavior that truly needs to be addressed because people are getting harmed. (P11)*

This disconnect between online representation and ground realities illustrates how visibility can obscure authentic, trustworthy participation in mutual aid efforts. In addition to accountability concerns, increased public visibility presents real risks for volunteers.

Visibility can make mutual aid volunteers more vulnerable to surveillance and government scrutiny. As groups expand their reach through social media, they must carefully manage their online presence. P2 expressed that they limited their political expressions online, out of worry that they would introduce a heightened risk of infiltration, surveillance, and scrutiny from entities that frequently monitor politically driven collectives. For example, P4 attributed their group's *"broad community support"* to *"seeing these images of all these people coming together or big signs and banners"* (P4). However, P4 also expressed anxieties about doxxing, describing the care their group takes to avoid posting people's faces online (P4). These actions reflect the delicate balance groups must strike between targeted growth and safeguarding their members.

While social media visibility introduces risks, it also offers mutual aid groups a powerful tool for resource mobilization and community support. Some groups have strategically partnered with mainstream media to tell their stories and garner support (P8, P9, P11). P8 highlighted that mainstream media *"plays a big role because they help you tell your story"*, while P11 reflected on their experience using local media to engage the broader community:

> *When we were at the park doing fire relief, we were really scared of local media [...] And so we didn't engage with them. That was a big mistake [...] Most local news is like really incompetent and you tell them what you want them to say and they'll say it. So it's actually like a great pool for us to get our word out [...] If we get the normie boomers in town to think that we're doing a cool thing, then when the police arrest us, they're going to be like 'What, they were just doing a warming shelter!' We can use that, put that on social media, and be like, here's a story about what we're doing. Here's how you can donate, here's our Venmo, here's our wishlist for donations, whatever.*

Collaboration with powerful entities and a public virtual presence can produce great influence for mutual aid groups. The trade-off between visibility and security forces mutual aid groups to navigate complex decisions around online presence (P11), media coverage (P8, P9, P11), and political expression (P2).

5.3 Gaps in technical literacy and social exclusions

Data collection tools and practices helped mutual aid groups assess immediate needs, track emerging issues, and make decisions within their communities. However, for some groups, the adoption of certain practices and tooling risked excluding individuals without the technical skills necessary to fully participate.

5.3.1 Mutual Aid Values: Co-production and Empowerment. Participants relied on technology to dynamically assess and respond to their community's evolving needs. This process of sense-making allowed each mutual aid group to tailor a variety of services specific to their neighborhood's context. P24 explains, *"The thing that we just sort of came back to was like, like, what do people need at this moment? How can we be a resource before we think of ourselves as an organization."* Participants highlighted embodying co-production and relying on their networks, rather than charities, to enact systemic changes in their communities. As P3 noted, this involves a commitment to *"radically trust that people are asking for what they need"* (P3). P1 also articulated their stance: *"We can't rely on the state or the nonprofit industrial complex to come in and save us."* Similarly, P8 expressed, *"Mutual aid requires this sort of notion of radical trust, right? When someone asks for help, you assume they need that help."* Participants embraced what sociologist Patricia Hill Collins describes as *"outsider within ways of seeing,"* with the insiders being formal structures of charity and aid [52]. In mutual aid, there are no checklists or requirements to determine who is deserving of aid. In this perspective, the experienced reality of individuals – what people say they need – is considered a valid source of knowledge, and there is an absence of subordination between the giver and the receiver [52]. This co-production practice, grounded in the contextual understanding of neighbors, enables individuals to cultivate trust and empathy for one another.

Mutual aid groups that make sense of community needs can highlight underlying systemic challenges. For instance, P9, a Black woman living in Chicago, began her work using an *"Excel sheet, Google docs, emails, phone calls, and text messages"* to collect information about community needs. Initially, the community's demands centered on grocery deliveries. In response, she partnered with a grocery store to *"have them deliver groceries, to select and prearrange populations in the community that included, but not limited to the elderly, the medically fragile families with low-income families."*

Shining a light on underlying systemic challenges within her neighborhood, P9 voiced that the food desert in her community was rooted in a,

> *structural issue that leads to health inequities [...] food is important, but then the reasons why their food is insecure. You start starting and probing and trying to figure out what those issues are.*

Mutual aid groups can devise solutions that fit the unique hyperlocal contexts of their community as well as draw attention to the inequitable circumstances shaping their lives. After providing food for her neighbors, she learned that *"there was a digital divide in the homes,"* and now focuses on delivering *"PCs to a lot of people that [she] provided food for"* previously. P9's story highlights the importance of self-determination, as it embodies the ethos of mutual aid: neighbors actively construct knowledge about their lives and what they need [52].

This process of data creation and community partnership, focused on addressing the immediate needs of neighbors, upholds a community-centered approach. In doing so, it also generates empirical insights and fosters a shared sociological imagination, both of which are crucial for driving meaningful transformations [52, 55]. P9 went on to describe such a transformation in her community: *"Not all businesses in Black communities have meaningful relationships. They're mostly transactional – I put my hand under a triple glass window, bulletproof window to get [my] products. And that's the end of it... but she [the grocery store] created so much goodwill... during the civil unrest, she had minimal, minimal structural damage done to her store because of the goodwill that was created. She became a person. The store became a person."* P9's work not only exemplifies the essence of mutual aid but also underscores how, under the unique constraints of the pandemic, technology played a role in fostering a shared sociological imagination and driving meaningful social change.

Mutual aid groups often address the unique needs of marginalized communities by creating inclusive spaces and services, empowering members who are directly embedded within the communities they serve. For instance, P6's mutual aid group comprised *"Black and brown trans people"* and *"sex workers."* To overcome digital barriers, their group pooled their money to rent out a *"community center for LGBTQ people"* which included a *"laser room for trans people to get facial hair removed"* and a *"crisis pantry"* (P6). In this case, their services were *"trans-specific"* and they were *"doing [mutual aid] as trans people... as part of the community that [they already] serve"* (P6). P6 illustrates empowerment and underscores the significance of inclusivity in mutual aid work by demonstrating that they were embedded in networks that encompassed those whom they aimed to serve. Thus, it is important to reflect on who is participating in the mutual aid group and what circumstances enable them to do so.

Despite efforts to create inclusive spaces, the mutual aid groups we spoke to still faced challenges related to social exclusion. Preexisting segregation and the effects of existing social networks can impact who can participate and take leadership roles. These dynamics shape the group's actions and decision-making. It is crucial to reflect on who is included in the mutual aid group and what factors enable or prevent their participation.

5.3.2 Values Tensions: Digital Divides, Gaps in Technical Literacy, and Social Exclusions. Within mutual aid groups, the introduction of technology can inadvertently reinforce class and racial exclusions, particularly when the tools are chosen by members who may not be deeply connected to their neighborhood networks. These tools often bring practices that reflect the privileges of those selecting them, excluding others who lack the same technical access or knowledge. This is especially visible in gentrified areas, where solidarity efforts can be complicated by racial and class divisions.

For example, P2 reflected on the challenges of building trust in their gentrifying neighborhood, noting the disconnect between the well-resourced members of the mutual aid group and the communities they aim to serve. P3, a white woman from Chicago, voiced that members in their mutual aid group *"sort of have a nonprofit background, had lots of time in the beginning of the pandemic, and had [...] resources, and generally look like me."* While the group was not *"exclusively white, [they were] primarily white"*, their decisions around processes—such as prioritizing speed and perfection—were shaped by this privileged background. P3 explained that while their intentions were good, *"feelings of urgency and perfectionism"* and working *"quickly and rapidly"* led to quick decision-making that bypassed more inclusive processes. These practices, driven by efficiency, can impose rigid standards that don't always fit the diverse needs of the community, and as a result, some members feel excluded. P3 acknowledged this, sharing that they have been *"backtracking from that ever since the beginning."*

Other volunteers mentioned that they had to actively be mindful of not recreating the systems of oppression that drove them to mutual aid work in the first place (P4). Distrust between wealthier, more educated members and the economically disadvantaged or racialized groups in the neighborhood often created tension. P2 voiced, *"You have this political tension of people knowing very well that their neighborhood is being gentrified. But at the same time, this mutual aid organization is probably run by a majority of people who are highly educated and well-resourced, so how do you cultivate that trust in solidarity for people?"*

This tension underscores the persistent challenge of fostering genuine solidarity when deep socioeconomic and racial divides exist. Even when individuals are aiming to do liberatory work, a lack of social trust and relationship building between those of visible social difference undercuts their efforts. This persistent racialized binary manifests through differences in agencies: many of the participants we spoke to came from a place of privilege in contrast to their neighbors. They possessed the time, resources, and skills, raising concerns that the urgency for quick and efficient actions might inadvertently exclude those most impacted by crises. Echoing sentiments in previous research, efforts towards efficiency, without the acts of care required for manifesting solidarity, can lead to less desirable outcomes for social movement organizations [91].

Tools like social media and productivity software make organizing easier for those familiar with these technologies but may exclude older adults, disabled individuals, or community members without stable internet access. For instance, P8 mentioned that all of her communication was *"99% done digitally."* However, P3, P4, P6, and P9 noted that these tools might not reach those without stable internet access, emphasizing the difficulty for individuals struggling with daily necessities to participate in group meetings. Reaching folks who didn't *"have stable access to the internet"* (P6) was more difficult, especially when *"the last thing on their mind is attending some sort of group meeting once a week. When... you don't*

know where your groceries are going to come from next, or you have to work like 60 hours a week just to pay your rent" (P6).

To address these barriers, some groups attempted to adopt more inclusive practices. P3 shared that they use a *"variety of different technologies"* but try to keep them *"accessible so that people would be able to join with a low, lowish level of technology"* (P3). Similarly, P10 described including all logistical information on their website but creating open communication channels to deliver the same information to offline community members (P10). P2's group put *"together a Google Voice number and then that number was written out on flyers that were distributed through the neighborhood—super old school"* . Despite mutual aid volunteers' commitments to inclusivity, the reliance on technology in mutual aid work introduces inherent exclusions. When activists turn to technology and data to drive decision-making, questions surface regarding what forms of knowledge are esteemed and who possesses the agency to produce it [55].

Indeed, differences in labor impacted who could take on leadership roles or organize in mutual aid groups. P3 explained that these differences *"blow out people,"* and that they hoped to potentially invite more people of color *"who have not previously been connected to the leadership aspects"* of their mutual aid group; however, this endeavor would require *"energy and commitment to thinking through hard questions"* of *"white supremacy"* and segregation in their neighborhood.

6 Discussion

In this research, we examine how mutual aid groups' values shape their use of technology and the tensions that emerge at this intersection. Our analysis reveals three primary themes. First, efforts to streamline operations with technology can inadvertently undermine the relationship building and solidarity that are foundational to mutual aid. Second, while social media platforms enable rapid growth and broaden outreach, they also introduce challenges for maintaining accountability, security, and non-hierarchical structures. Third, shifting toward data-driven approaches has the potential to exclude members lacking technical skills and to decontextualize community needs. As mutual aid groups adopt technological practices from broader institutional contexts, they often reconfigure these procedures in ways that reshape how their core values are realized on the ground. In the sections that follow, we elaborate on these themes by exploring the tensions between efficiency and care, the complexities of scale and accountability, the role of *mimetic isomorphism* in reconfiguring practices, and the implications of data-driven knowledge production in mutual aid work.

6.1 When efficiency undermines care: technology's impact on mutual aid relations

Our findings suggest that using technology to streamline mutual aid work can inadvertently undermine the relationship building and trust essential to these groups. In mutual aid, the execution of core tasks, such as distributing resources, is deeply intertwined with values of care, solidarity, and trust [91]. Participants emphasized how these values are enacted through sharing without imposing conditions or questioning recipients' worthiness (Section 5.1).

However, the adoption of digital platforms to facilitate these tasks more efficiently can erode the interpersonal connections that underpin mutual aid. Prior research has shown that technology designed primarily for efficiency and convenience often fails to prioritize the care-related values critical in community contexts [91].

For example, P8 described how their group used Venmo to enable direct financial assistance within the community (Section 5.1.2). While this made transactions easier, the platform's impersonal nature began to reshape the social dynamics. Some members started to exploit the system, making repeated requests to those who had already helped them. This strained relationships and transformed acts of generosity into hostile, impersonal transactions.

Past research has shown that relying on technology can inadvertently transform the exchange of goods between neighbors into *"crisp transactions,"* eroding opportunities for social cohesion [38]. Furthermore, economic motivations within platforms can contribute to a decline in social interaction [38]. This is particularly troubling for mutual aid groups, whose goals center on creating sustainable and supportive relations within their communities [99].

6.2 Navigating growth, time, and structurelessness

Social movement organizations widely adopt social media platforms for their ability to rapidly mobilize participation and boost visibility [74, 91, 92]. The familiarity of these widely used tools often outweighs their constraints, as groups adapt their work to fit within existing systems [42, 46]. However, these platforms' affordances and constraints can lead to unintended consequences that undermine mutual aid values.

Rapid growth enabled by social media can make it difficult to maintain the trust, accountability, and direct relationships that are essential for mutual aid [37]. As one activist (P11) noted, maintaining accountability and trust became increasingly difficult as groups expanded online, especially as their online activities may diverge from members' on-the-ground realities. Past research has shown that users behave performatively on social media [108], and how growing online communities often dilute their original values and alienate early members who helped build the community [43, 71].

The temporal dynamics of rapid growth present particular challenges for maintaining mutual aid principles, particularly around racial equity and inclusion. For example, P3, a white woman from Chicago, described how her predominantly white mutual aid group's relationship to time resulted in quick decision-making that bypassed more inclusive processes (Section 5.3.2). This dynamic can be understood through sociologist Victor Ray's argument that organizations shape racial inequality in part through their control of time — determining who can participate based on their ability to align with organizational temporal demands. This control of time fundamentally shapes agency, as it affects people's ability to plan, participate, and envision futures [88]. Thus, P3's story illustrates how time operates as a racialized resource: those with more control over their time — often shaped by racial and professional privilege — can set organizational rhythms that exclude those who cannot meet these temporal demands. Even in mutual aid groups explicitly committed to equity, the ability to participate

fully often depends on having the privilege of flexible time use, revealing how organizational temporal norms can reproduce racial hierarchies. While technology offers the potential for growth and scaling up [65, 66, 103], mutual aid groups must critically reflect on whether growth is always beneficial [8], recognizing that maintaining smaller, slower, and more intentional groups might better preserve the essential elements of care and solidarity.

These temporal dynamics intersect with another challenge: how digital platforms' lack of formal decision-making structures shapes participation. While Ray shows how organizational time use can reinforce racial hierarchies, Freeman's concept of the "tyranny of structurelessness" reveals how the absence of formal structures enables informal hierarchies to emerge [37]. In mutual aid groups, these two dynamics often reinforce each other — those with more flexible time and professional backgrounds may not only set the group's pace but also inadvertently dominate decision-making processes through their greater access to and familiarity with technology. Past work in HCI points to a related tension: horizontal structures can lead to "excess democracy," where overwhelming participation becomes burdensome and leads to disengagement [12, 79]. When this happens, decision-making often defaults to a small number of individuals, further reinforcing informal hierarchies.

To address these challenges, we recommend that system designers create flexible and reconfigurable governance structures that balance inclusive decision-making with efficiency. We advocate for sociotechnical approaches that reduce barriers to participation and create accessible spaces for community contribution, regardless of technical expertise; and validate marginalized voices while making power dynamics and resource allocation transparent [24]. These design approaches should remain adaptable rather than prescriptive, acknowledging that grassroots initiatives experience fluctuating levels of participation [12] and evolving needs.

However, before pursuing technological solutions, we also question the assumption that scaling up is inherently beneficial or necessary [103]. While technology offers the potential for growth, mutual aid groups should critically examine whether expansion or technology design aligns with their core values [8]. Our research suggests that maintaining smaller, slower, and more intentional groups might better preserve the essential elements of care and solidarity that define mutual aid work. The imperative to innovate or design new systems should not overshadow the importance of preserving these fundamental values and relationships that sustain mutual aid communities.

6.3 Mimetic isomorphism and value dilution in design

Understanding the value tensions that arise in this work requires examining how technology is adopted, reconfigured, and embedded within social processes [67, 101]. Institutional theory can help explain how social processes impact how mutual aid groups adopt existing technologies. Specifically, organizations facing uncertainty often import established practices from other contexts through *mimetic isomorphism* — adopting structures that appear successful elsewhere, even when the organizational context differs [23, 48]. For example, libraries and schools, facing diminishing state investment, adopt the entrepreneurial and innovation-driven models of tech start-ups to appear competitive and relevant, even when it compromises their foundational values [48]. Although these borrowed conventions can enhance efficiency or legitimacy, they also introduce tensions by prioritizing logics that do not fully align with the community's values [48].

Rather than relying solely on internally generated conventions, mutual aid groups may adopt professionalized or institutionalized coordination methods and practices, particularly when engaging with existing digital tools. For example, many participants mentioned relying on tools from professional work settings, such as Slack, Google Docs, and Zoom. They also cited scheduling online meeting times and workshops, which are reminiscent of corporate organizing contexts. These practices and tools are seen as reliable models for coordination in uncertain conditions [48], but may not reflect mutual aid values such as inclusivity, co-production, or solidarity with less digitally literate community members. In effect, this process mirrors *mimetic isomorphism*, whereby practices from one context are imported into another, potentially misaligning with local goals and contributing to value tensions.

As explored by Ghoshal et al., value dilution theory allows us to understand how technical artifacts move away from values they committed to embody [43]. However, in this study, we focus on mutual aid groups as the unit of analysis, as they explicitly define their values conceptually and strive towards liberatory principles [5, 99]. We argue that mutual aid groups can face tensions in enacting their values due to *mimetic isomorphism*. That is, mutual aid groups face value tensions due to the very conventions of practice they adopt. Such practices, attached to particular digital platforms, can inadvertently professionalize mutual aid work and can exclude individuals with less access to technology. Past research in HCI has shown that professional practices and tools from work are often transferred to volunteering due to the similarities in how people collaborate in both settings [15, 105].

Without critical examination of *how* values are enacted and their relationship to existing power structures, sociotechnical systems risk perpetuating systemic harms [9, 11, 18, 21, 24, 59]. For example, in our study, participation in mutual aid grew increasingly contingent upon whether or not a participant had a phone, a computer, or internet access. Access to technology is shaped by structural inequities, determines civic and economic participation, and is governed by power structures beyond individual control. Another way this can manifest is in group decision-making and knowledge production. For instance, members with professional expertise in data or technology often gain disproportionate decision-making power, contradicting the group's horizontal organizing principles. These dynamics become especially concerning when situated within broader socioeconomic inequities in the United States, where limited technological access disproportionately affects those already marginalized along intersectional axes of privilege — including race, class, gender, and socioeconomic status.

The "digital divide" that emerges in mutual aid scenarios is not merely a technical gap but a political phenomenon that demands we understand values, and their enactment, as inherently political constructs. The enactment of values in mutual aid groups is influenced and constrained by the political and institutional histories that underpin the technologies they rely on [43, 88]. By examining *mimetic isomorphism*, we can better understand how value tensions

arise — not just as a drift from original values, but as a systematic result of adopting practices that embed different political assumptions and points of access. We suggest that HCI researchers and conceptual investigations in VSD must pay attention to these systemic and structural inequities, characterizing not only local politics and power relations among stakeholders [5, 24], but also how institutional influences shape the adoption and reconfiguration of technology in practice. This can help VSD researchers account for harms and exclusions that may occur in sociotechnical systems.

These power relations manifest not only in who can access and use technology but also in how knowledge is produced and valued within mutual aid communities — a theme we explore in the following section.

6.4 Abstractions and bifurcated knowledge production

The adoption of technology by mutual aid groups can inadvertently reproduce processes of social exclusion. While data-driven approaches aim to streamline operations, they often displace the nuanced, contextual understanding that emerges from community experiences. This shift fundamentally conflicts with mutual aid values of co-production and community-driven knowledge creation. The conventions of practice inherent in these technologies [83, 100], rooted in professional or corporate labor contexts, demand technical expertise and privilege members with such knowledge, creating barriers to full participation.

These technological barriers manifest in concrete ways through power dynamics within mutual aid spaces. When data collection becomes a driving force in mutual aid work, it intensifies exclusions by concentrating power among select community members [17]. As our participant P3 noted, these dynamics compound existing challenges in diversifying leadership roles, particularly regarding the inclusion of people of color — challenges already complicated by entrenched issues of white supremacy and neighborhood segregation. Technological literacy, ostensibly neutral, disrupts potential interactions and recognition among those unable to participate, transforming technology's impact from a question of who is online to how social exclusions shape one's life outcomes.

The abstraction of community needs into data points further narrows avenues for communication and understanding [17, 55]. In the context of physical distancing, interfaces such as Google Forms establish one-way relationships between those submitting and those interpreting data. Mutual aid groups risk losing the relational depth that defines their work. In the same way that users on a technology platform must "fall within a tightly bound constraint of imagination" [49], the process of collecting data on human subjects requires constructing a model of human needs that is applicable and universalizing across different contexts [19]. The potential risk lies in the homogenization, or rather the erasure, of heterogeneous experiences. Consequently, an emphasis on technology signifies a shift away from fortifying the social bonds among individuals engaged in mutual aid. While the co-creation of data challenges traditional distinctions between deserving and undeserving recipients, it also raises questions about who takes on the role of data analysis and how these practices align with the core tenets of mutual aid. When knowledge production and decision-making processes end up excluding the very people mutual aid groups wish to center, marginalized perspectives risk being obfuscated [36, 52].

The reproduction of social exclusion through technology use stems not from the technologies themselves, but from how they are deployed in response to external pressures. The challenge lies in finding a balance where technology aids efficiency without sacrificing crucial elements of connection, understanding, and solidarity that are integral to the success of mutual aid efforts.

Future research should prioritize examining how technology can enhance inclusive decision-making and empower diverse stakeholders within social movement organizations, ensuring that technological advancements uphold community solidarity and promote inclusive participation. We also suggest that mutual aid groups critically assess their goals based on the specific needs of their communities and use this as a framework for determining where and how to integrate technology. By aligning technological adoption with community-driven priorities, mutual groups can better balance efficiency with the solidarity and connection that are central to mutual aid efforts.

7 Conclusion

In this study, we explored how mutual aid groups navigated the integration of technology amidst the pressures of increasing community needs during the COVID-19 physical distancing. Our findings underscored the complex interplay between technology adoption, community values, and organizational practices within mutual aid groups. While technologies such as data tools offered efficiency and scalability, they also posed challenges to the core principles of mutual aid, such as fostering resilient community relationships, maintaining community accountability, and ensuring inclusivity. We observed that decision-making processes shifted to digital platforms during physical distancing, inadvertently excluding those without access to technology from crucial discussions and reinforcing asymmetrical power dynamics. Future research should further explore how technology can better support inclusive decision-making and empower diverse stakeholders within mutual aid networks, ensuring that technological innovations uphold, rather than erode, community solidarity and equitable participation.

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