

How Nonprofits Use Facebook to Craft Infrastructure

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Abstract

We present findings from interviews with 23 individuals affiliated with non-profit organizations (NPOs) to understand how they deploy information and communication technologies (ICTs) in their civic engagement efforts. Existing research about NPO ICT use is often critical, but we did not find evidence that NPOs fail to use tools effectively. Rather, we detail how NPOs assemble various ICTs to create infrastructures that align with their values. Overall, we find that existing theories about technology choice (e.g., task-technology fit, uses and gratifications) do not explain the assemblages NPOs describe. We argue that the infrastructures they fashion can be explained through the lens of moral economies rather than utility. Together, the rhetorics of infrastructure and moral economies capture the motivations and constraints our participants expressed and challenge how prevailing theories of ICT use describe the non-profit landscape.

Introduction

As individuals and their communities blur the lines between online and offline life, nonprofit organizations (NPOs) increasingly choose to extend their civic engagement efforts via information and communication technologies (ICTs) like social media (Mansfield and Connor, 2018). They do this because Civically engaged communities have been shown to experience lower rates of crime, poverty, and unemployment, and have better health and education than their less engaged counterparts (Beggs *et al.*, 1996; Norris, 2001; Xenos and Moy, 2007). What does it mean for a community to be ‘engaged’ and how does this engagement happen? Generally, activities that pertain to the life of a community ‘count’ as civic engagement. Researchers often provide examples such as poker clubs and bowling leagues when writing about civic engagement, but explicitly political activities such as voting and working with labor unions also appear in the literature (Putnam, 2001; Skocpol and Fiorina, 2004; Norris, 2001). Given the broad array of civic engagement activities in which NPOs take part, it is not surprising that the decisions NPOs make about which technologies to employ reflects a set of equally broad goals.

Researchers have begun studying their technology choices and related practices as nonprofits use ICTs to engage within their local communities (Li *et al.*, 2018; Bopp *et al.*, 2017; Kim *et al.*, 2014; Volda *et al.*, 2011; Hou and Lampe, 2015). This work showcases the breadth of NPOs' civic engagement activity, ranging from the use of Twitter to encourage social action (Li *et al.*, 2018) to building a strong organization by creating bespoke technology assemblages (Volda *et al.*, 2011). While rich in empirical detail, much of this work is critical, often constructively so, when it comes to NPOs' online engagement efforts. For example, NPOs' social media use is shown to produce slacktivists or clicktivists who engage with ideas online but do not engage in offline political actions, such as rallies or lobbying days. The NPO literature largely criticizes this 'limited' engagement instead of valuing it as a type of engagement (Lovejoy and Saxton, 2012; Hou and Lampe, 2015; Svensson *et al.*, 2015; Gálvez-Rodríguez *et al.*, 2014). Moreover, collectively this body of scholarship also tends to reinforce norms about the primacy of certain NPO activities over others, such as mobilizing citizens for rallies, elections or other political actions or fund-raising. While these activities may be primary for established organizations with public advocacy goals, it is less true of nonprofit organizations as a whole given their wide range of goals and purposes.

In order to investigate why NPOs exhibit the behaviors they do, we studied the adoption and use of ICTs by 23 nonprofit organizations in Chicago, IL. These organizations vary in size, civic scope, and social reach, and employing an expanded view of what it means for an organization to 'civically engage' enabled us to reveal patterns of ICT use that were not found in prior studies. We use the lenses of infrastructure and moral economy to explain why the assemblages of tools our

participants describe emerged. We contribute to relevant literature by (a) characterizing these patterns and (b) articulating how the lenses of infrastructure and moral economies explain the assemblages NPOs create. We conclude by calling for a more situated understanding of NPOs' ICT use in information-related literature, one that embraces the design challenges posed by NPOs' variable needs and contexts, and moves past the notion that there is a 'correct' or even 'optimal' way of using ICTs to meet engagement goals.

Related Work

NPOs and Their Goals

Many definitions of nonprofit organizations exist in both practice and research literature (Vakil, 1997). Salamon and Anheier (1996, 1992) provide 4 different ways to define NPOs: *legal* (referring to the legal status of organizations in particular countries, much as proposed); *economic/financial* (institutions receiving the bulk of their income from dues and voluntary contributions); *functional* (referring to the functions organizations carry out); and *structural/operational* (the actual features of organizations). They argue for a structural/operational definition, especially because of the number of features makes it useful for analysis (its *combinatorial richness*) and its ability to 'account for new phenomena' (*organising power*, p. 137). Defining NPOs by their legal status may inadvertently exclude organizations that have not met changing political criteria. Similarly, using economic and functional criteria to set the frame for NPOs excludes organizations that many would consider part of the nonprofit sector, such as organizations that receive much of their funding from government grants and those dedicated to the arts and culture. Under a structural/operational definition (which

we use in this paper), NPOs are identified by five key criteria: they are formal, private, nonprofit-distributing, self-governing, and voluntary (Salamon and Anheier, 1992).

Salamon and Anheier make no claims about the missions of organizations, but NPOs do work to further a range of social, cultural, and humanitarian causes and advance a variety of goals. Indeed, prior work on ICTs in NPOs has included organizations with missions such as educating local residents (Kase *et al.*, 2008), improving engagement with stakeholders (Hou and Lampe, 2015), and networking with the public (Volda *et al.*, 2012). Moral economies are one useful framework for understanding and interrogating NPO practices. The term 'moral economy' was developed by Thompson (1971) to explain why and how the poor navigated their circumstances during the 18th century English food riots. Thompson asserts that the choices rioters made were not merely due to economic considerations but instead guided by a set of norms and values, which acted as a type of 'moral' compass. Dalton (1995), writing two decades later, defines the moral economy of scientists in starker terms: 'a web of affect-saturated values that stand and function in well-defined relationship to one another.' She goes on to clarify that the concept of a moral economy '... refers not to money, markets, labor, production, and distribution of material resources, but rather to an organized system that displays certain regularities, regularities that are explicable but not always predictable in their details' (p. 4). A key takeaway about the concept of a moral economy, then, is how economic decisions are rarely, if ever, mere rational acts of utility maximization. Instead, economic circumstances press values into action. These values are often implicit to the group or community in which they were conceived. Thus, moral economies function to balance self-interest and profit with fairness and legitimacy,

providing socially accepted paths through which individuals can express grievances or channel the allocation of scarce resources (Karstedt and Farrall, 2006).

Finally, social acceptance is essential to the functioning of a moral economy—underlying social, moral contracts define, establish, and enforce the legitimate distribution of resources. Actors in moral economies make decisions about their own resource use and expect other actors to make similar choices (Kissane, 2012). For NPOs, the concept of moral economies is useful for understanding NPO decision-making because it explains how fairness, legitimacy, and social relationships influence decision-making.

NPOs and Technology Choice

NPOs use ICTs to support their missions. Nah and Saxton (2012) suggest that these NPO technology choices are motivated by four key factors: *strategy* (including fund-raising, lobbying and market-based), *capacity* (including organizational size, website age and reach), *governance features* (including membership, organizations, board size and efficiency), and *external pressures* (including a dependence on donors or the government). Relatedly, Lovejoy and Saxton (2012) reveal that NPOs use ICTs for three primary reasons: *information*, *community*, and *action*; studies of ICT use in NPOs in Australia encouraged their use for efficiency, service delivery, and community building . Other research has employed the theories of task-technology fit, uses and gratifications, and affordances (all described in detail below) to explain technology choice. The moral economy framing we propose is a departure from prior work that is widely cited in information literature and augments theories rooted in *utility*.

Task-Technology Fit

Much of the technology choice literature in information systems (IS) uses a task framework when explaining how individuals select technologies to use. Tasks are actions that individuals undertake to turn 'inputs into outputs' (Goodhue and Thompson, 1995, p. 21) and are often associated with uses of data collected and provided by a computation system (Goodhue, 1998). Task-technology fit (TTF) is a measure of how well a technology facilitates this input-to-output process for individuals. The TTF model is chiefly concerned with the relationship between technology use and individual worker performance as measured by self-reported indicators of effectiveness, productivity, and performance. When users depend on a system and see a good fit between that system and their tasks, they perceive performance to improve.

Since it was initially proposed as a technology choice framework in 1995, TTF has been applied broadly to investigate a diverse range of information systems and has been combined with or used as an extension of other models related to IS outcomes such as the technology acceptance model (TAM) (Ehrlich, 2000; Klopping and McKinney, 2004). TTF has also been extended; for instance, Lu and Yang (2014) propose a social/task-technology fit (STTF) model, in which the social-technology fit refers to the degree to which a technology (especially social network sites) fits users' social needs. In this model, social characteristics refers to users' needs for social demands.

Uses and Gratifications Theory

Instead of basing technology choice on some dimension of task accomplishment, uses and gratifications theory (U&G) uses a needs framework to suggest that people actively seek out specific media to satisfy specific needs. U&G research has typically

focused on how media are used to satisfy cognitive and affective needs (Urista *et al.*, 2009). Researchers leverage U&G theory to explain what motivates individuals to switch from traditional media to new media and what kinds of gratifications these media are providing (Eighmey and McCord, 1998; LaRose and Eastin, 2004; Papacharissi and Rubin, 2000; Stafford *et al.*, 2004). A key distinguishing feature of social media are their abilities to fulfill a need for interactivity (Ha and James, 1998).

Affordances

Researchers also argue that technologies are chosen on the basis of their perceived affordance(s). The idea of an affordance originates with Gibson, who saw that people relate objects in the world with an imagined purpose or usefulness (Gibson and Walker, 1984). This imagined utility, or the perception of a relationship between an object and an outcome, is the way that affordances were largely conceived until Norman (1988) moved the idea from the realm of material objects into the digital world. Norman (1999) saw that the way an interface was designed would have an effect on how people thought about its perceived affordance(s). However, Kaptelinin and Nardi (2012) argue that the sense of a technology's potentiality is more than just a function of the technology itself; the context or environment that in which a tool is use matters too. These authors suggest that the application of any technology—whether imagined or actualized—must be understood within a context that gives it meaning. We explain more about the context in which NPOs choose and employ information and communication technologies in the section below.

NPOs and Engagement via Social Media

Researchers in a wide range of information-related disciplines have examined NPO social media use, and explicitly address issues of civic engagement via social

media. In these studies, ‘engagement’ refers to myriad activities including direct advocacy and stakeholder communication. For instance, Hou and Lampe (2015) interviewed advocacy organizations and analyzed their social media feeds with an eye towards small nonprofits. They argue that social media can facilitate NPO engagement efforts only if organizations understand their own social media performance. Similarly, Briones and colleagues’ (2011) study of ICTuse by the American Red Cross suggests that a lack of human resources and skills can create barriers for NPOs trying to use social media to build relationships. Other studies point out the challenges many nonprofit organizations face (Kase *et al.*, 2008; Volda *et al.*, 2011, 2012; Le Dantec and Edwards, 2008) while recognizing that advanced technology use is not often the highest priority for small organizations given competing demands (e.g., delivering social services) (Volda *et al.*, 2012; Hou and Lampe, 2015; Briones *et al.*, 2011).

Some information-related research criticizes NPOs more directly—usually to say they are not capitalizing on the interactive or community-building features afforded by ICTs (Lovejoy and Saxton, 2012; Hou and Lampe, 2015; Svensson *et al.*, 2015; Gálvez-Rodriguez *et al.*, 2014; Hackler and Saxton, 2007). Researchers point out that most communication on social media remains one-way rather than interactive (Svensson *et al.*, 2015) or call for more staff to be assigned to carry out social media strategies (Hou and Lampe, 2015). Researchers do recognize that the constraints NPOs face depend on their membership and resources; specifically that they rely on volunteers whose expertise may not include cutting-edge ICT use (Le Dantec and Edwards, 2008).-use . In the most extreme cases, these kinds of criticisms sound eerily like ‘blame the user’ arguments of the past.

Yet, even if we assume that NPOs want to improve their stakeholder engagement (e.g., to raise funds, to garner political support, etc.), there is little guidance in the existing research with regard to measuring social media's influence for this agenda. Whether social media use impacts participation in civic life remains an open question (Boulianne, 2015). Most studies of NPOs in this space focus on Facebook and Twitter (Nah and Saxton, 2012; Hou and Lampe, 2015), and they do not present data on engagement measures beyond dollars raised and signatures collected. For example, Carboni and Maxwell (2015) sampled five youth development organizations and found that longer Facebook posts and increased spending on advertising predict increased stakeholder engagement as measured by likes, comments, and shares. A higher number of posts negatively predicts stakeholder engagement, which suggests that frequent posting is not, on its own, a successful strategy for NPOs to employ. With the same measurement of engagement, Cho and colleagues (2014) explored NPOs' use of Facebook, finding higher levels of engagement with organizational messages, when two-way symmetrical communication was used, compared to public information or two-way asymmetrical models. These are measures of input and interactivity, not impact (see for a broader critique of social media metrics), and none of these studies address motivations or strategy behind visible communications.

Why does this narrow framing of ICT-use and civic engagement measurement matter? The world of nonprofits and their related ICT usage is much broader than the existing literature would lead us to believe. For instance, health and human service organizations, religious organizations, unfunded organizations, and those focused on hyper-local geographies (i.e., neighborhoods, small towns) are often overlooked.

Nevertheless, researchers have already begun to prescribe norms for nonprofits' technology use and choices. This implies both that NPOs are making choices from a set of distinguishable, accessible options and that a single set of norms should apply across NPOs.

Research needs to account for those NPOs that are little more than volunteer groups with no full-time paid staff—as well as those larger enterprises, such as the American Red Cross, that employ thousands of staff members. We also know that not all forms of engagement are the same, meaning that the way nonprofits choose to use ICTs must also, by definition, vary accordingly. As mentioned above, theories usually employed to explain technology choice focus on maximizing utility, and alternative frameworks for understanding NPOs' motivations are under-explored. Therefore, to address gaps in organization type, engagement form, and technology choice frameworks, we designed a study to explore this diverse landscape and to push against what we saw as a premature institutionalization of nonprofit ICT norms in the information literature.

Research Study

To better understand NPOs' choices about ICTs and their usage, we conducted a qualitative, exploratory study in fall 2017 focused on determining how organizations aim to facilitate civic engagement in their communities. We utilized a directory of nonprofits to identify eligible organizations in Chicago, IL and evaluated their salience using three key selection criteria:

1. Organizations in our sample had to meet Salamon and Anheier's (1992) structural/operational definition. Employing this approach meant that we did not

assume Chicago nonprofits possessed the structures associated with traditional forms of organization. Rather, NPOs could be either small, grassroots, local organizations or large, national, social service organizations. This strategy of seeking intentional diversity in our NPO sample was further motivated by our initial hypothesis that even among these diverse organizational actors we might be able to identify common practices.

2. We used a broad definition of civic engagement to identify eligible nonprofit organizations—namely, we defined *civic engagement* as, ‘the way(s) in which associated groups of individuals work together to improve the quality of life in their community(ies).’ Our definition mirrors that of another presented by Ehrlich (2000) and aligns with the broader examination of nonprofits in the civic engagement literature, which argues that community attachment and social capital are two mechanisms that foster civic engagement (Fieldhouse and Cutts, 2010; Halpern, 2004). *Community attachment* in this regard is the interpersonal, participatory, and sentimental connections that people have to geographic areas, organizations, and groups (Kasarda and Janowitz, 1974).
3. We intentionally sought nonprofits for our sample that were motivated by a variety of organizational missions. For instance, while public advocacy is recognized as a key factor in civic engagement, not all nonprofits consider themselves advocacy organizations. Since this was the case, we made it a point to include NPOs in our sample that had civic-oriented missions unrelated to advocacy (e.g., non-partisan interest groups, residential communities).

Data Collection

The 23 NPOs our participants represented have a variety of missions, ranging from grassroots political organizing to promoting literacy. To describe this range, we categorized these organizations across six types of mission groups: *advocacy*, *social*, *interest*, *political*, *religious*, and *residential* types (see Table 1). Every organization sought to ‘improve the quality of life’ of the stakeholders they served. Altogether, 10 of the NPOs we examined were tax-exempt, IRS-registered organizations, 6 were clubs or groups associated with municipal entities like a school or city neighborhood, and 7 were unregistered, informal clubs or groups. 14 of our participants were men, and 9 were women. 18 were White (5 of whom were Hispanic or Latino), 3 American-Indian, 1 Black, and 1 Asian.

Table 1. Categories of the 23 NPOs with whom our participants were affiliated

Type	Description	NPO Count
Advocacy organization	Raised awareness about issues among stakeholders and pushed for changes like criminal justice reform	3
Social group	Dedicated to creating or maintaining social connections	2
Interest group	Non-political groups motivated by shared interests	5
Political community	Sought to create electoral coalitions of individuals to support candidates in efforts to win office and pass laws	4
Religious community	Motivated by religious affiliations	1
Residential community	Dedicated to issues within residential geographies such as traffic congestion and gentrification	8

To collect data, we contacted each NPO via email and Twitter to connect with potential interview candidates from those organizations. We asked organizations to contact us if they were interested in participating in a study about civic engagement. We did not require interviewees to occupy specific organizational roles (e.g., social media manager); we allowed organizations to nominate someone willing to discuss their organization’s technology-enabled civic engagement efforts. Our recruitment approach

means that some of our participants are paid employees or have long tenure at their organizations, and some are relative newcomers who volunteer; we also engaged NPOs with wildly different sizes, financial structures, and missions. Our breadth-and-depth approach (in-depth conversations with a broad range of NPOs and individuals) enables us to identify common phenomena and to present detailed responses. However, it also means that we cannot comment definitively on the relationship between the experiences they relayed and particular features of the organization such as its mission, budget, etc.

Finally, we conducted semi-structured interviews to determine how NPOs aim to facilitate civic engagement using technology. During these interviews, we asked questions about the concept of community, offline communities, tools used by nonprofits to communicate with the public, civic engagement, community attachment, information access, ICT-adoption, and online interactions. None of the questions we asked were specific to moral economies or privacy, which were central to our study findings, but the semi-structured nature of our protocol let us follow-up on topics of interest when they arose. Each interview was conducted by a graduate student in a face-to-face setting, audio recorded, and then transcribed by a third-party service. For a curated list of interview questions we used to seed conversations, see *Appendix A*.

Data Analysis

To analyze our interviews, we developed two codebooks: one, an inductive structural (Saldana, 2015) codebook related to ICTs, and the second, a literature-driven codebook related to affordances and adoption causes. Our ICT-related codebook was created by listing all ICTs (N = 56) mentioned in interviews. We created our literature-

driven codebook using core concepts from the literature on technology affordances and adoption. In particular, we itemized discrete concepts from theories of technology choice and combined them with the findings of prior NPO adoption studies. We finalized the codes in each codebook through an iterative, consensus-driven process of duplicate identification and conceptual realignment. In the end, we created codes for 20 affordances and 15 adoption causes.

Using the software application Dedoose, we applied conceptual codes from our codebooks to each interview transcript at the sub-paragraph level. We did not limit the number of codes per passage, but we did require concepts to be explicitly stated or strongly implied in the text. For example, speaking about why he used an email list to work with a political group, one interviewee said that, 'Whoever makes the list will automatically put all our membership on the list and it blasts out to everybody' (P19). In this statement, the interviewee indicated that group members used a tool because others signed them up for it. This passage was coded as an adoption-cause related to *Leadership*.

Finally, to provide an additional level of granularity to our findings, we exported the coded data from Dedoose and tabulated co-occurrence counts. Examining code co-occurrences provided a way to examine relationships between codes in passages of text, such as Facebook's use as a tool to share links to news articles. To account for differences across participants in the number of tools they mentioned, and how many times they mentioned them, we normalized all co-occurrence counts. This produced a score for co-occurrence groupings that ranged between '0' and '1' and reflected the proportion of total occurrences relative to the larger code category. We calculated co-

occurrences in three tables: *ICTs x Affordances and Adoption Causes*; *Affordances and Adoption Causes x Affordances and Adoption Causes*; and *Affordances x ICTs*. A natural break occurred around 15% (or 0.15), so we discounted co-occurrences below that threshold. We chose that threshold because it lessened the potential for rare code co-occurrences to appear more meaningful than they actually were. Next, we analyzed the co-occurrence of codes from all of the codebooks, which provided a measure of how frequently, relative to all affordance and adoption references, a particular ICT was discussed.

Findings

Our data analysis revealed a set of relationships for NPOs among the ICTs they used, the affordances these ICTs were perceived to have, and articulated organizational rationales for their adoption. Our coding, shown in *Table 2*, makes clear that Facebook dominated the other ICTs that nonprofits and their affiliates reported using. With regard to affordances, five perceived uses (61.4%) were most frequently mentioned in the interview data. Finally, NPOs articulated five key explanations for their ICT adoption choices. Within our sample, these rationales accounted for 72.5% of relevant, coded interview passages. At the end of the section, we describe how NPOs assembled technologies for situated needs and report on value-based technology choices.

Table 2. Frequencies with which top-five codes were applied

Codebook	Code	Applications
ICT	Facebook	702
ICT	Twitter	266
ICT	Email	192
ICT	Facebook Events	128
ICT	Websites	106
Affordances	Sharing links, media, and other information	343

Affordances	Advertising and promoting information deemed valuable by nonprofits	298
Affordances	Finding and retrieving information	280
Affordances	Organizing and coordinating events	269
Affordances	Fostering a sense of presence or attachment	146
Adoption causes	Perceived benefits	362
Adoption causes	Cultural and personal attitudes	196
Adoption causes	Nonprofit goals and strategies	129
Adoption causes	Audience composition	120
Adoption causes	Perceptions about ICT ease of use	105

The Ubiquity of Facebook

The prevailing finding of our study with regard to NPOs and their ICT choices with regard to civic engagement is the ubiquity of Facebook. All of our participants echoed the sentiment expressed by one interviewee with regard to Facebook: ‘[It] is definitely number one just because it’s sort of like the default. It’s like the standard, you know social media that everything else is, sort of like, measured by’ (P18). We also heard mention of Facebook walls and/or pages, using Facebook to organize events, communicating (in private) with individuals through Messenger, and creating groups to coordinate activity. Looking at our co-occurrence tables, the code *Facebook* co-occurred with all 20 possible affordances and 14 of 15 possible ICT adoption codes. Unsurprisingly, the Facebook event code co-occurred with organizing and coordinating events. Interviewees also said that they used Facebook’s event functionality because they were already familiar with the tool. Even as a complement to other technologies, Facebook was called out positively by our participants. P23 elaborates:

If someone was posting a photo on Instagram, that photo would show up on Facebook and it would show up on our website and in our feed, or

something like that, and it would also mention and promote other organizations that we're collaborating with more often. So [by doing that ... we can] take advantage of the publicity that another organization might do as a result, and that could increase the number of people who would see it.

Interviewees reported using Facebook for a variety of multifaceted reasons, most of which were related to community reach in one way or another. Discussing ICTs in relation to political recruitment and organizing, P6 said: "Facebook makes it easy for people to invite their friends [to our events, because people already...] spend a lot of time on Facebook.' Participants believed that '[almost] everyone is on Facebook' (P16) and said they adopted Facebook because it provides access to 'a wider audience' (P1) than competitors, regardless of their engagement needs. One participant went so far as to call Facebook 'the universe' (P5), referring to the many functions that it afforded.

Yet, 'reach' was not the only thing NPOs cared about when communicating with members of their community. Elaborating on this point, P20 said:

We're looking to retain the attention of people who already support our issue but also making things easy enough to understand that it's accessible to a larger audience. While we don't compromise our views to reach a wider audience, we do try to use that space to really, really amplify our messaging in a way that is accessible to people who are already plugged in.

Facebook, via a variety of articulated use cases, emerged as *the* central topic in our interviews.

Assembling Alternatives for Situated Needs

Yet, interviewees also told us that Facebook could not meet NPO needs in all circumstances. They often mentioned that NPOs employed other ICT applications to improve on Facebook's identified weaknesses. For example, in interviews, a near universal complaint about Facebook was that its RSVP function did not accurately predict how many attendees events would have. NPOs 'want to know people are actually going to be there and not just clicking 'like' (P20) on events. In response, alternative tools such as Eventbrite and Evite were used to achieve more accurate head counts. Participants suggested these tools were better because using them required marginally more investment from community members to complete the RSVP form or book a ticket (even if free) than clicking 'yes' or 'interested' on Facebook: '[Eventbrite is] much more tangible and much more of a commitment than just clicking a button on Facebook' (P04).

This is just one example of how NPOs created assemblages of technologies to augment Facebook's capabilities. Indeed, our data show a 'long tail' of 46 different tools such as phones/SMS texts, Instagram, Facebook Groups, and Facebook Messenger, EveryBlock, Slack, etc. mentioned by interviewees as alternatives or extensions of Facebook. Three in particular were singled out particularly for their specific affordances—Twitter, Email, and Websites. Twitter was articulated as a popular platform for sharing 'geopolitical stuff' (P18) and 'one-liners' (P19). Twitter's hashtags were also seen to have a particular utility, as P13 commented: 'You can look up the hashtag. You can search the hashtag or follow it. There are some people there at the event also posting at the same time.' Participants noted email's value as a reliable way to contact individuals within the organization: 'The email is for my boss; the email is for

volunteers; the email is not for people in general to the community' (P02). Finally, websites were usually spoken about as specific sources of information that offered NPOs more control over their virtual presence. One participant juxtaposed her employer's website with Facebook by saying, 'we're able to put more detail on our website. [It allows us...] to control who sees what and when' (P23).

The articulation of technology affordances also occurred in relation to ICTs in certain bespoke combinations, what we refer to as assemblages. Interviewees told us how they created assemblages with certain perceived affordances to accomplish specific goals, sometimes used in sequential patterns. Discussing this, one interviewee talked about the final stage of a five-tool process used to coordinate events:

I would say that our email blast is our final funnel. We get people who learn about an event on Facebook and come to the event, but we are casting a wide net. Once we get your email we know that you're actually interested. Then we can communicate very directly about the stuff we're doing and the priorities we have going. (P11)

From our analysis, NPOs assemble ICTs most typically to create a viable means to advertise, coordinate, and organize events. Yet they also expressed instances where assembling tools together was a more general ICT strategy for the organization. Talking about leveraging multiple tools to meet organizational goals, one participant said,

If we could do anything, we would plan in advance our strategy and think about it more purposefully instead of being so haphazard about it. We would also have someone devoted to taking pictures and then putting them on Facebook or Instagram, and taking video and making sure that those were

high quality video and photos. Then as part of that strategy, everything would be connected. (P23)

Value-Based Technology Choices

Throughout our interviews we also saw evidence that personal attitudes affected thinking about appropriate technologies for civic engagement and the decision whether or not to use them to advance goals. Some of these attitudes related to personal preference alone. For example, speaking about Twitter, one interview subject felt it was ‘boring’ (P5). Similarly, Snapchat was considered a tool used by a ‘younger audience [than ours]’ (P21). But a much more predominant—and important—insight was that organizations made certain ICT choices to signal their values. One example of this relates to the use of WhatsApp. A representative of an NPO that works with undocumented immigrant communities and environmental activists that protested the Dakota Access Pipeline described choosing to use WhatsApp because of its encryption capability. This choice was based on the organization’s value of privacy in all of its communications. Another participant spoke about community organizing and inclusivity as a motive for ICT adoption: ‘I think Facebook is the easiest way for people to organize themselves but there’s also a barrier with who can and cannot [...get involved]’ (P8). Elaborating further, this ‘barrier’ was revealed to be an inability by non-English speakers to read a neighborhood association newsletter. In response, the participant’s brother created a Spanish Facebook page for the association to help promote neighborly inclusivity.

Even technology non-use was articulated through a value-based lens. In speaking about a progressive political group that used NationBuilder to register and

organize voters, P6 remarked that the company that sold it ‘took a bunch of credit for Trump winning [the 2016 election].’ In response, the NPO planned to stop using NationBuilder once their annual subscription ended; they did not want to patronize a company that served a key political antagonist. Finally, in discussing why she doesn’t use Facebook or email, one participant (P20) commented:

[A] lot of the people that we’re trying to help... they’re coming out of jail and they don’t have cell phones. If they do have a cell phone, it’s a government phone and they’re not able to access anything. Or they don’t have a computer... We actually sent snail mail out to the people that we bonded out.

In short, we saw in our data that NPOs chose ICTs based on how they aligned or did not align with the social, political, and cultural values that their organizations espoused. It also bears mentioning that these values also strongly aligned with civic missions typical of the nonprofit sector.

Discussion

The NPOs in our study relied on Facebook as infrastructure for their communication and outreach, assembled combinations of ICTs that can be described generally as ‘Facebook+’, and chose ICTs that fit their values and resource constraints. In these activities, organizations leveraged Facebook in ways that mirrored all (or nearly all) of the affordances and adoption causes identified in the existing literature. Broadly speaking, these theories of technology choice emphasize a utility model, whether that utility is expressed in terms of affordances (Norman, 1999; Kaptelinin and Nardi, 2012), uses and gratifications (Papacharissi and Rubin, 2000; Urista *et al.*, 2009), or a perceived synergy of some kind.

However, these theories do not adequately explain the assemblages that NPOs described using in our data. To explain these activities, we argue that NPO ICT use might be better explained using the dual lenses of infrastructure and moral economy rather than utility. While we are not suggesting that NPOs pay no need to technological efficacy, we do want to raise the notion that their choices appear to be motivated equally, if not more directly, by community practices, standards, and expectations. Furthermore, these choices occur in a ecosystem where Facebook-as-infrastructure creates recognized constraints. Existing theories of technology choice suggest frictionless scenarios in which technological capabilities are the most prevailing concerns when users weigh their choices. By contrast, we found that how the technology is embedded in the NPOs' worlds and how they understand ICTs to align with their values were the most salient factors in guiding their choices. In this section, we explain why prior discussions of technology choice among NPOs miss important infrastructural and moral considerations that NPOs take into account.

Facebook as NPO Infrastructure

We have shown above that Facebook is not just widely-used by the NPOs in our sample but that it is *infrastructural*. By infrastructural, we mean that it serves as a broadly, if not ubiquitously, common base upon which organizations assemble and align a handful of other technologies. In other words, it matches the traditional view of infrastructure as a sociotechnical substrate on which other tools and systems are built, used and maintained according to community standards and practices. Furthermore, by this definition, infrastructure is recognized as a fundamentally relational entity (Jewett

and Kling, 1991) that emerges (and perpetually re-emerges) in practice (Star and Ruhleder, 1996).

Recent research in Internet and digital histories has used the concept of infrastructure to discuss Facebook's position in the broader digital landscape. For instance, Helmond, Nieborg, and van der Vlist (2019) found that Facebook's apps and integrations, especially, contributed to its infrastructural position. Plantin, Lagoze, and Edwards (2018) also refer to Facebook-as-infrastructure, particularly drawing forth the way that this social media tool acts as a platform for other technologies. Our participants echo this sentiment when they talk about extending and augmenting Facebook. For the NPOs in our study, Facebook possesses all of the characteristics of infrastructure: it is a sociotechnical, relational substrate upon which NPOs create bespoke assemblages of ICTs. Indeed, the situated and ongoing practice of Facebook use among NPOs showcases the evolving and expanding nature of its infrastructural properties while still maintaining its role as a sustainable, goal-oriented substrate. These studies and ours find that Facebook's features and its embeddedness are important; its number of users, alone, is not enough to explain Facebook-as-infrastructure.

Several empirical examples underscore the framing of Facebook as infrastructure in our study. First, it is embedded in the social arrangements of nonprofit organizations, is used frequently, and supports the ICT needs of nearly every required NPO task. Accordingly, as one participant said, 'I think that [Facebook] is pretty darn complete. I mean, they got the Messenger. You can direct message people. You can invite people. And you can just post publicly' (P3). Second, Facebook was centrally recognized within NPOs' communities. We heard in an interview that one community

group forced an employee to ‘make a Facebook [account]’ even though she did not want one (P14). The rationale here is that civic engagement requires interacting with community members, and the most straightforward way to do so, according to our interview participants, is to use the same tools (e.g., Facebook). Relatedly, Nemer and Tsikerdekis (2017) found that people became more active citizens when they were comfortable using socially normative technologies. NPOs appear to recognize that their stakeholders use Facebook, are comfortable there, and may intuitively leverage that confidence to increase civic engagement. Coupled with the functions associated with Facebook as a platform (e.g., providing event details, sharing information), this reinforces its centrality as infrastructure embedded in NPO social arrangements.

Third, our claim that Facebook acts as infrastructure is in line with a study of volunteers and their technology use by Volda and colleagues (2015). They find, similarly, that volunteers in nonprofits employ technologies (e.g., productivity software, vehicles) that are ‘infrastructural already.’ In other words, volunteers seek out and use everyday tools that are extensible enough to accommodate their needs, not tools that are specifically designed for nonprofits. Our participants experienced Facebook in the same way—they leveraged it as a multipurpose infrastructure for communication and interaction, and extended and augmented it with other ICTs as needed. Volda and colleagues ask us to imagine technologies that ‘include dimensions of work and social structure’ (p. 12), and our participants describe Facebook as a boundary-crossing, transecting infrastructure.

Recalling Star and Ruhleder’s (1996) explanation of infrastructure as a dynamic, evolutionary amalgamation of technological capabilities made possible by assembling

tools together using extant standards, we claim that Facebook serves a similar function for NPOs. Facebook is not merely a tool that NPOs use because of its utility. It is a base—an *infrastructure*—that allows them to plug other ICTs into it (or vice versa). Seen together, these infrastructural maneuvers provide NPOs with desired civic impact beyond what a single tool could provide. Existing theories of technology choice do not adequately explain how and why NPOs make these ‘Facebook+’ decisions. Research on motivation in social media use suggests that motivation varies among both social media tools (e.g., Facebook, Twitter) and social context (Oh and Syn, 2015); our participants talked about their motivations in explicitly principled language. Thus, we argue that the lens of moral economies, discussed next, explains these practices with greater parsimony than existing research.

Technology Choices in Relation to Moral Economies

Why Facebook? The answer suggested by our analysis is that technology choice by nonprofits is driven significantly by a sense of moral economic fit. The NPOs in our sample used Facebook alone or in particular ICT assemblages because it enables a legitimate, socially-acceptable allocation of their technical, human, and financial resources. Moreover, it also facilitated the social relationships in their communities. In other words, NPOs’ choice to use Facebook was related to the moral economy in which these organizations exist, operate, and seek to make an impact. Vertesi and colleagues (2016) show similar practices in play when they explore how people make decisions in their personal data management practices. The authors apply a moral economy lens to develop the idea of ‘the moral economy of data management,’ which they define as ‘a locally adjudicated way of combining devices, services, and social ties so as to

personally embody a good and appropriate relationship to personal data' (p. 479). In adapting to local adjudication, actors stand in contrast to the purely economic (i.e., utility-driven) motives for their technology choices and practices. Instead, they balance their choices with local values, which are incumbent in their specific contexts. Stillman similarly found that an NPOs values impact their ICT use. He studied service delivery organizations and argued that their technology choices, use, and coordination reflect their values of care and human-centered work.

We also saw organizations seeking to align their technology choices with their values *and* attempting to maximize the resources they have at hand (i.e., social capital, legitimacy). Their conversations with us reveal that an interesting decision-making framework is often at play. On the surface, it may appear that NPOs choose merely to exploit existing systems and use ICTs that do not require specialized technical or dedicated financial resources. At the same time, however, their strategies show an intentional embrace of certain technologies as legitimate and impactful—in some cases, the only viable means to connect with constituents or affect desired social outcomes. As such, and in line with Vertesi et al.'s (2016) findings, the NPOs in our study use technology to enact a complex vision of relationality that is deemed to be normatively and technologically significant. We saw this in the example of the NPO using WhatsApp to balance their conscious aim to reach and empower constituents while ensuring maximal privacy and minimal surveillance of their constituents. In short, NPOs leverage Facebook and other technologies because they allowed them to viably meet their responsibilities and normatively support their stakeholders' needs and routines.

By employing a moral economy framework, we do not mean to suggest that NPOs imbue certain technologies with moral agency or that ICTs' values and NPOs' values match. Rather, we aim to emphasize that these organization include value considerations—not just economic ones—in their technology-related decision making. Criticisms of Facebook—e.g., around its use and sharing of user data, how it handles misinformation campaigns—highlight this distinction. NPOs choose Facebook because its features and patterns of use align with their values about spending resources conservatively, meeting users where they are, and combining technical tools. These considerations are separate from judgments about the morality of the social media company's decisions behaviors, or policies. Although our interviews occurred near the time of the 2018 Cambridge Analytica scandal, our respondents did not comment on Facebook's data practices when describing their technology choices beyond their comments about WhatsApp and surveillance.

The NPOs we talked to were also similar to the peasants in Scott's (1977) discussion of moral economies—many were struggling to survive. Participants explicitly mentioned day-to-day activities (e.g., announcing events, sharing news stories) or modified their comments with phrases such as 'just trying to share' (P04) or 'just trying to get people in [the space]' (P01) in ways that illustrated their attempts to meet their basic needs by using ICTs. They also talked about leveraging social media's reach to facilitate the creation of offline relationships but did not mention social media as the end goal or final site of engagement.

In sum, the NPOs in our study demonstrated complex moral intentionality in their ICT choices. They were not driven by utilitarian motives to maximize economic activity

or donations—participants rarely talked about fund-raising. They used Facebook as creative actors who saw a way to exploit a ubiquitous tool by refashioning it into an infrastructural assemblage with bespoke ‘gap fillers’ such as Eventbrite or WhatsApp. These choices recognize that certain social media tools enable them to access and then maximize the attentional and social resources of their community. These findings are in line with earlier research about civic engagement and ICTs in Chicago that found distinct communities selected different technologies for discussing crime, because of their various levels of trust in the police (Erete *et al.*, 2014). Erete and colleagues (2016) also found Chicagoans adapted different technologies for reaching different audiences (e.g., using email to communicate with police) or holding public officials accountable (e.g., recording meeting notes to capture public officials’ verbal statements). In their study and ours, Chicagoans used technologies that supported their values—privacy, accountability—and not just revenue generation or engagement.

Prior work on NPOs and social media use assumes that NPOs are trying to maximize engagement online and that engagement is a primary goal (Hou and Lampe, 2015). But what if NPOs, like peasants, are trying to subsist? What if their primary concern is not engagement but survival, because survival is necessary to accomplish their other goals? Sensitivity to these concerns is paramount for researchers, technology designers, and nonprofits. As Le Dantec and Edwards (2008) warned us more than 10 years ago, we must be careful to be supportive rather than disruptive when encouraging ICT use by nonprofits. NPOs operate in conditions of resource constraint, sometimes including minimal technical expertise, with majority-volunteer workforces who often attempt to serve already marginalized populations. In our project,

we witnessed NPOs appropriating existing infrastructure and extending it in line with their values—a practice that reveals commendable adaptability. Though we advocate for an empathetic reading of their activities, we recognize that researchers can also encourage NPOs to think about how social media may advance or change their activities in ways they have not considered.

Conclusion

We set out to understand how NPOs make choices about technologies to use in civic engagement activities and found that all their choices now flow through or at least contend with the Facebook platform. The accounts our participants provide reveal that NPOs leverage ICTs within their local contexts, the financial and expertise constraints they face, and the information infrastructure that Facebook has become. Because existing utility-based theories of technology choice do not adequately explain the behaviors we see, we use the lenses of infrastructure and moral economies to explain the emergence of assemblages of tools that our participants articulated. In doing so, we highlight Facebook's embeddedness in the NPO universe and clarify why particular patterns of tools and uses appear. We argue that these particular assemblages are a product of Facebook's infrastructural position in contemporary communication systems and NPOs' values generally conceived, and not, as prior work suggests, a failure of NPOs to appropriately capitalize on technical features of ICTs in a purely functional sense.

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Selected List of Interview Questions

Community

- How do you define the concept of ‘community?’
- What kind of group or organization is/is not a community? Please, explain why you feel this is the case.

Offline Communities

- Name the different communities of which you are a member and describe them.
- What kind of people are in these communities?
- How are they related?
- To which community are you the most ‘attached?’
- Who are the main actors and stakeholders in this community?
- Does this community have a governing structure? If so, tell me what is it like?

Civic Engagement

- How do you define ‘civic engagement?’ Provide some examples.
- How do you define ‘political participation?’
- Tell me about how engaged you are in relation to the community you spoke about earlier.

Information Access

- What tools and information resources do you use to stay informed about community affairs?
- How do you share information about community affairs?
- Do share via social media?
- Do you share information privately via social media, like in a direct message?
- What about face-to-face?
- How about using collaborative Technologies like Slack?

Nonprofit Use of ICTs to Promote Civic Engagement

- For your primary or 'most attached' community, group, or organization, do you use social media and/or other technologies to communicate with individuals are not a part of it?
- If so, why?
- Describe what this community, group, or organization is like for me.
- What are the three main technologies you use?

For each technology:

- How popular is it among community, group, and/or organizational members?
- What is it used for?
- Why do you think people use it?
- Are there any sub-groups that make frequent use of this tool? Please elaborate why.
- Do you like using this tool?
- What kind of benefits does using this tool bring to the community, group, or organization?

Online Interactions

- What makes interacting with people online appealing?
- Have you ever left an online community?
- Do you discuss current events and or politics online? If so, where do you do so?
- How do you decide where to discuss these issues?