MOTIVES FOR SOCIAL MEDIA USE AMONG PRACTITIONERS AT NONPROFIT ORGANIZATIONS

BY

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For my father, William C. Roback (1942-2013).

"The letter killeth, but the spirit giveth life."

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ABSTRACT

I used the motivation concept from activity theory to derive a fundamental notion of why workers at nonprofit organizations (NPOs) use social media sites. This study rejects the notion that practitioners are not taking full advantage of social media sites by not using every available feature and engaging in dialogic communication. Existing work relies too extensively on the dialogic model of communication and frequently focuses on only top-tier NPOs, ignoring the context in which smaller NPOs operate and producing recommendations that are of little practical value. To investigate this issue, I reviewed existing best practices as portrayed in NPO social media strategy guides, and used the principles of activity theory to survey practitioners at human services NPOs in Chicago. I collected data on user motivation for using Facebook and Twitter by asking users to review past posts on these sites and describe their purpose in posting this information. Using this information, I trained an automated text classifier to classify a large corpus of posts based on four types of motivations: soliciting, promoting, sharing, and credit-giving. This dissertation builds off recent studies that question existing wisdom on "effective" use of social media by NPOs and argues for an expanded consideration of user agency and intent when using social media.

CHAPTER 1

INTRODUCTION

1.1 Background

I began investigating how workers use social networking sites in late 2010 when I wrote a term paper entitled "User Behaviors, Attitudes, and Information Structure: Towards a Model for Developing an Effective Enterprise Social Media Site." When researching this paper, I had hoped to encounter a vast reservoir of papers studying how companies and workers use social media sites like Facebook, Twitter, YouTube, etc., in furtherance of their employment and professional tasks. There were many good papers studying the psychology of social media users (i.e. what they wanted to do and how they felt about it), and many papers discussing wikis and Wikipedia, but surprisingly few dealing with publicly available social media sites and how they are used in an enterprise setting. Most research at the time had to do with niche social sites built at a "large software firm" (i.e. IBM).

I mention that paper here to trace the exigence that brought this study to bear on nonprofit organizations (NPOs) and how they utilize social media. In the future work section I wrote that it was "worth noting that models explaining behavior must adapt to fit the technological context of social media" but that this context "frequently changes as new technologies and ways of displaying and organizing information are developed." Indeed, in the time since I collected data for this study, Facebook and Twitter have gone

through several design changes and fundamentally altered how user-generated content is displayed. I decided that I would need to go beyond studying the information structure of the websites and uncover why workers use social media, and what they are hoping to get from their effort. To further explore this issue, I selected NPOs as the best group of organizations to study based on two assumptions:

1. *NPOs use social media for some public purpose*. Whether brining attention to an issue or organizing pick-up hockey games, the organizations have some kind of mission they seek to accomplish in the public space.
2. *NPOs are relatively transparent* in their operations as compared with organizations in the private sector operating within a "walled garden" (DiMicco et al., 2008) or the entangled bureaucracies of the public sector, where tracing funding and purpose sometimes proves difficult. NPOs also must disclose their financial information to the IRS; this makes it easier to compare organizations with respect to their relative resources.

1.2 Framing the Problem

In this study, I use the *motivation* concept from activity theory to go beyond controlled experiments at software firms and psychological research with college students in order to derive a fundamental notion of why workers use social media and what they hope to accomplish. This directly addresses

the problem suggested by several authors that NPOs are not taking full advantage of social media because they are not fully engaged in dialogic communication. This assumption incorrectly assumes that dialogic communication is the goal of all NPOs, and fails to account for what drives NPOs to use social media in the first place.

To address this gap in research, I selected one sector of NPOs in the Chicago area (human services) and collected information on organizations and workers through a survey, including a section where I asked users to describe their motivations for posting specific content. Based on this information, I developed five motivation categories: soliciting, promoting, sharing, credit-giving, and an "other" category. I used human-coded posts to train an automated classification algorithm to categorize the motivations in a large corpus of Facebook and Twitter posts.

Dialogic theory proponents extol practitioner-stakeholder dialogue over transmission of information; research along this line is reductive and strips NPO social media practitioners of agency by imposing a set of goals and outcomes on them irrespective of context. Practitioners in this study stated that sharing information was a common motivation for using social media, and the majority of posts in the corpus (53%) reveal that this is the main motivation driving practitioner use of social media. That leaves us to ask which outcome is more important for practitioners when using social media: accomplishing what they want to do, or accomplishing what academics feel

they *should* want to do? This dissertation contributes to work in this sector by building off recent studies that question existing wisdom on "effective" use of social media by NPOs and arguing for an expanded consideration of user agency and intent when using social media. NPO practitioners can still be purposeful in their use of social media without striving for dialogic communication favored by researchers or using the all of the features that designers of these platforms include in the system.

In addition to better describing the work environment and motivations for social media use at NPOs, this study addresses troubling issues in sampling and assumptions in studies of nonprofit organizations using social media. In order to effectively study this issue, we must recognize that nonprofits have a wide range of motivations and goals when using social media that are dependent both on the nature of their mission and the stakeholders they serve as well as the resources available to them to carry out that mission. Nonprofits are not always concerned with fundraising (I found thousands of NPOs in Chicago with no declared annual income, many of which are in my sample); they don't always feel that two-way communication is necessary when posting to social media sites in order to accomplish their goals; nor do they feel the need to emulate resource-rich, national organizations like the Red Cross.

1.3 Outline of Chapters

Chapter two provides a literature review of work describing social media and collaboration in general, and moves on to outline problematic approaches to studying NPO use of social media. Early work defined social media sites based on actions that users can take based on conceptions of "networking." I update this understanding by approaching social media as an extension of users' relationship with the for-profit corporation that controls site features and content, as well as the modes of use that users engage in (personal, professional, etc.). I discuss two major issues in NPO social media research: overreliance on the dialogic theory of communication, and a problem I call the "tip of the iceberg paradox," whereby researchers base assumptions of NPO use of social media on their observations of top-tier organizations, subsequently generating findings and recommendations that are impractical for the vast majority of NPO practitioners.

Chapter three discusses the methods I used for collecting data for this study, including a detailed account of how I located a wide spectrum of Chicago human services NPOs (both in terms of organizational mission and annual income) to avoid the problems described in chapter two. Notably, this study is the first attempt to compile a large list of related organizations in this field. I outline many challenges to the process of building a list of NPO social media sites and detail how I used automated scripts to speed up the process. I then discuss the automated collectors that captured the 84,913 Facebook and Twitter posts that I later analyze with a machine learning

algorithm to reveal practitioner motivation when posting to these sites. I also describe how I modified an open-source survey platform to collect information about practitioners' work practices and use of social media.

Chapter four discusses the process by which I approached the survey instrument and the development of the questions it contains. I begin with a brief discussion of activity theory, the main theoretical approach I used to analyze social media activities at Chicago NPOs. I outline the history of the discipline and give an explanation of its main tenets. After providing my interpretation of the terminology used by its founder as well as current scholars, I go on to analyze what I term "strategy guides," popular press books targeted at NPO social media practitioners. Using the five dimensions related to the "activity system" developed by Engeström (1999), my analysis reveals that authors writing about best practices in NPO social media use often offer conflicting and self-contradictory advice. Common personas emerge in the strategy guides, such as the "youthful intern" (adroit at social media management, but lacking in field-specific knowledge) or the "ideal practitioner" (who knows how to leverage both personal and professional networks to maximize engagement). After each dimension of this analysis, I provide a detailed rationale and explanation for the questions I asked in the survey.

Chapter five presents the results of the survey discussed in chapter four. I asked NPO practitioners about their experience with Facebook and

Twitter, how their organization goes about the work of using these sites, what rules govern their site usage, and how they assess their organizations' performance when using these sites. Comparing their responses regarding frequency of use versus direct observation of the frequency with which they post to Facebook and Twitter revealed that they have a very accurate understanding of how often they use these sites. NPO practitioners in my sample are more experienced with Facebook, and have generally not used Twitter prior to their current position. They consider themselves contributors to the site, but rarely engage in larger coordinated efforts. Practitioners sometimes receive help from others, but posting to and managing social media sites is mostly a solitary effort. They view inter-organizational collaboration as important, but feel that there is rarely time to do it. Practitioners feel they are expected to know the informal rules (e.g. social conventions) from past social media use, and the small amount of organizations that employ formal rules (e.g. written policies) about posting content generally put the responsibility for generating these rules on the person posting the content (as opposed to a board of directors or top-level manager). Practitioners generally look to other organizations or strategy guides when determining "good" content to post to their social media accounts. They are also much more concerned with quantifiable outcomes (e.g. likes and retweets) over interactive outcomes (generating a large number of comments or comments with substantive content).

Chapter six discusses the motivation aspect of the study. I presented each respondent with two posts from their social media account made within the past year (at the time of the survey). I asked them to describe the underlying motivation for posting the content. I then used their responses to construct a code book for classifying posts from the corpus; I call this process "participant coding," which results in a socially-constructed classification scheme that integrates the knowledge possessed by the users when refining their own practice within the social media system. I describe the process by which my team of coders classified a set of posts used to train a machine learning classifier, which I subsequently used to classify the entire corpus (at 71.6% accuracy). The most common motivation for NPO social media users was sharing information, either by linking to relevant news stories, directing stakeholders to their website, or though stating their opinion on an issue (53% of social media posts in this corpus were information sharing in nature). Common perceptions of NPOs usually revolve around soliciting either money or time from stakeholders (perceptions usually based off massive, international NPOs), but nearly twice as many posts in my sample were made to promote NPO services, partner organizations, and upcoming events (24% promoting versus 14% soliciting). I end on the somewhat mysterious phenomenon of credit-giving behavior, which figured prominently in the strategy guides as a practitioner motivation but accounts for only 9% of posts in the algorithmically-coded set.

Chapter seven concludes with a discussion of the results and how they relate back to fundamental problems in the field. I address the limitations of this study, and explain why the results of this study (though based on two different data sets and a stratified sample) should not be used to conclude that all NPOs everywhere follow these practices and share the same motivations. Major work needs to be done in examining and classifying types of interactions between practitioners and stakeholders and how those interactions impact the motivations and goals of NPOs when using social media. I push for a research agenda heavily focused on the development of context-specific tools and achievable suggestions over broad generalizations and impossible recommendations; pragmatic research in this area will be of far greater value to nonprofit organizations than suggesting they all emulate the practices of giant organizations like the Red Cross.

CHAPTER 2

LITERATURE REVIEW

In this chapter, I will address some of the fundamental questions regarding social media studies and briefly outline some of the many sectors of social media research. I'll focus specifically on work that addresses nonprofit use of social media, highlighting the gaps this study will address.

2.1 Definitions

Before discussing past research, I'll provide some definitions of terms and concepts as I understand them. Many terms are used interchangeably in this line of research. The below section explains my interpretation of these terms.

What is "social media"? Social media is referred to by many names, including social networking sites (SNS) and information communication technologies (ICT), but these different names refer to essentially the same kind of website. I use (and prefer) "social media" since it foregrounds the means by which users do something (a "medium") as opposed to a restrictive activity ("social networking") or the system itself (a "communications technology"). This study collects user generated data only from Facebook and Twitter, but researchers have studied most varieties of social media sites

such that there are very few unexplored types of social media (even taboo or alternative sites[1] have been the focus of study).

boyd and Ellison's (2007) oft cited definition of social media includes three criteria for what social networking sites should allow users to do: "construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system" (p. 211). One can conceive of social media broadly as "collective goods produced through computer mediated collective action"; on Facebook, for instance, collective goods are the "social capital, measured in the number and kinds of people active in the social network" and the collective action is the development of an individual profile and friend network (Smith, Barash, Getoor, & Lauw, 2008, p. 92). These definitions are slightly dated since they were written when most activity on social media sites consisted of building friend connections, i.e. the so-called social "networking" function. Likewise, mobile technology supporting many of the popular functions that predominate on social media sites currently (e.g. mobile applications, photo sharing, geolocation services like check-ins, etc.) was in a state of infancy when these definitions were conceived.

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[1] See for instance Magnet's (2007) feminist study of a "suicide girl" erotic photo website. There are many such examples of researchers conducting digital ethnography on sex-related sites; Murthy (2008) discusses some of the ethnographic approaches to studying these communities. I mention this line of research to show that academics have branched out to cover a wide variety of different social media communities.

What information do social media sites contain? Social media hosts a great deal of information in addition to the underlying interpersonal networks, such as textual posts, photos, videos, tags, and lists. Social media also contains complex relational information, such as likes, shares, favorites, and timestamps/dates (including the dates the user joined the site, posted information, created connections, and even the date of the user's death and memorialization of his/her account). Users typically generate profile information such as a biography, location, website, favorite books and movies, etc.

Social media sites are generally controlled by a for-profit corporation. Large sites like Facebook (over one billion users) and Twitter (hundreds of millions of users) are publicly traded companies with boards, shareholders, and corporate officers. Their goal is to leverage the network effects of their platforms, the large amount of user page views, and the collectively generated content posted by users to make financial profit, usually through targeted advertising or driving web traffic to online commerce. Facebook's model is very profitable, and its owner, Mark Zuckerberg, is one of the richest people on the planet. All of the information users post to these sites is used for targeted advertising to generate corporate revenue.

Users generally control their own information on social media sites,[2] while terms of service[3] dictated by the site ownership determine when

[2] To the extent that they can at least delete most or all information from view *on that site*; whether that content is permanently erased is a different matter.

content is removed or suppressed. Control of social media and the site terms of service governing social media use are centralized in the hands of the site owners, which form a powerful cadre that dictates usage terms and restricts content contrary to their goals.[4] For some sites, built-in policy procedures deal with user appeals, but final determination almost always rests with the site owners and not the users.

Smaller, niche social networking sites service professional, recreational, or support groups. Some large sites like Ning market hosted niche networks to groups. Other project management services like Basecamp, Asana, PBworks, etc. incorporate social media elements like microblogging, tagging, and friend connections into their functionality. The formation of groups is an essential function of social media. While I won't be discussing small groups, they represent an alternative model of use that can be employed alongside or in lieu of a public network like Facebook (e.g. for organizations with sensitive stakeholders, like a group for survivors of incest, where people prefer their correspondence to be confidential). Most organizations gravitate towards larger sites with a large user base.

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[3] Without exception, users must agree to terms of service to use a social media site.

[4] What constitutes a violation of terms of service is often a matter of perspective. For instance, Twitter blocked the parody account @TrustySupport (originally using the display name "Twitter Support") even after they had changed their display name to "Trusty Support." Although not technically barred in their policies on parody accounts, Twitter claimed that the use of the word "support" in the display name confuses users. @TrustySupport spotlights failures on Twitter's part to curtail online harassment, and claimed that Twitter cares more about enforcing their brand than dealing with harmful actions of its members. The account was subsequently reinstated as is. (Read more at: http://motherboard.vice.com/read/trusty-support-why-twitter-suspended-an-account-that-makes-fun-of-twitter)

Users such as nonprofit organizations benefit from free, broad exposure (both Twitter and Facebook charge nothing for organizations to create a page); access to large numbers of potential stakeholders and donors; and the immediacy of that access in the form of cross-platform alerts and mobile applications (though immediacy is mitigated somewhat by algorithmic presentation of data in users' feeds and competing interests that pay for promoted content delivery).

What modes of use do users engage in? Social media sites often adopt functions that are similar to one another, or they ape conventions developed by Facebook (the most recent example being Twitter's adoption of an algorithmically controlled timeline similar to the transition Facebook made with a ranked news feed). While some sites are designed specifically for professional development (e.g. LinkedIn), most do not distinguish between or segregate functionality; this "all in one place" phenomenon (a wide variety of social features on a single site) means most sites are not solely for productivity or socializing, but offer opportunities for both types of activities (Brandtzaeg & Heim, 2011).

Similarly, it's often difficult to tell whether users are acting in purely their own interests on social media, or on behalf of a larger organization; some users even switch modes (especially as it relates to NPO practitioners), posting personal updates consistent with professional goals or a professional

image (e.g. using a running charity app to post jogging distances—the post demonstrates an interest in both a personal activity [running] and a professional interest [charitable giving]).

I will return to the topic of modes of use in chapter 4; I only mention them now to demonstrate that I considered these questions at length during this study.

Sectors of research. Since around 2007, social media research has grown to become a strong presence in a number of areas. I'll merely highlight some landmark developments in this field and then briefly summarize some of the areas of research.

Interest abounds in many different fields as to how researchers can harness the overwhelming adoption of social media to understand and encourage civic participation (Bond et al., 2012), leverage social media technology to advance our efforts in important areas such as climate change (Malone et al., 2009; de Moor, 2011), and improve communication during emergency situations (C. White, Plotnick, Kushma, Hiltz, & Turoff, 2009).

Educators have applied social media to mitigate difficulties in distance education (Lester & Perini, 2010), combined social media with GPS and mobile technology to help students become "Geolearners" (Clough, 2010), and used social media to build a sense of community in the college classroom

(Arnold & Paulus, 2010; Hung & Yuen, 2010; Kaufer, Gunawardena, Tan, & Cheek, 2011).

Public health researchers have used social media to trace human subjects in long-term studies (Nwadiuko, Isbell, Zolotor, Hussey, & Kotch, 2011) and improve communications between public health NPOs and stakeholders (Avery et al., 2010; Loos, 2013; Ramanadhan, Mendez, Rao, & Viswanath, 2013).

In political science, the promise that technology will revolutionize governance and grow civic participation is a continual topic, though researchers are skeptical about its ability to engage apathetic publics (Baumgartner & Morris, 2010) and incite them to have productive, interpersonal communications about politics (Zhang, Johnson, Seltzer, & Bichard, 2010). All members of congress and many other elected officials now use Twitter in a variety of ways to communicate their positions on partisan issues (Golbeck, Grimes, & Rogers, 2010; Hemphill, Otterbacher, & Shapiro, 2013). Likewise, constituents use Twitter to lobby their members of congress using nuanced rhetorical strategies (Hemphill & Roback, 2014; Roback & Hemphill, 2013). Political discussion may be polarizing people and causing them to withdraw from deliberations with each other (Hampton et al., 2014), but conversations between constituents and elected officials as well as the prolific use of Twitter by the President of the United States indicate that political studies of social media will continue.

Technical communicators and information scientists are naturally interested in the processes behind information storage and retrieval in social media, including music discovery (Gaffney & Rafferty, 2009), making recommendations (Liu & Lee, 2010), as well as design of social media systems (Graham & Whalen, 2008; Potts, 2009; Shen & Khalifa, 2009), and sharing and organizing information (Potts & Jones, 2011; Stolley, 2009). Although other communications-related fields have paid more attention to social media, a 2014 special issue in *Technical Communication Quarterly* shows that research on social media is becoming more commonplace in the field.

Recent work on privacy and negative outcomes associated with social media use have begun to expose the dangers inherent in posting personal information and opinions on social media, even when the user views such information as benign[5] (Andrews, 2012; Ronson, 2015). Recent controversies over the firing of Steven Salaita for his anti-Israeli tweets (Flaherty, 2015b) and controversy surrounding Saida Grundy tweets on race and privilege (Flaherty, 2015a; Jaschik, 2015) have highlighted the issues surrounding academic freedom and social media use. Persons targeted by internet trolls after controversial social media posts have been subjected to threats of bodily harm, the posting of their personal information online in a practice commonly referred to as "doxing" (including their home addresses, phone numbers, and even online dating profiles), and many other bizarre intimidation techniques

[5] This topic has crept into mainstream media with the debut of a television show entitled *The Internet Ruined My Life*.

(including phony police reports resulting in a visit from a SWAT team, a.k.a. "SWATting"). Repercussions associated with social media use are becoming an important area of social media research.

In general, investigations into social media consider issues on the personal and community level (Smith et al., 2008). Brandtzaeg and Heim (2011) argue that "no firm body of empirically-based theoretical knowledge exists about users of SNS" (p. 30). As a response to this gap in theory, long-term research is necessary in order to develop a more comprehensive understanding of user behavior in social media (Preece & Shneiderman, 2009).

While a comprehensive functional model[6] of social media use does not yet exist, and may be impossible to construct given the highly varied usage patterns and platform functionalities, many studies have tried to build on existing theories and studies to provide generalizable observations on user behavior across platforms. Taken as a whole, the past six or seven years have seen a large increase in the amount and variety of studies on social media use in a variety of different modes and contexts.

[6] Shoemaker, Tankard, & Lasorsa, (2004) differentiate functional models from structural models, noting that structural models are used to describe structural relationships and hierarchies, while functional models show processes and are well suited to describing communication processes. For more on modeling behavior on social networking sites, see Roback (2012).

2.2 Research on NPO Use of Social Media

Most investigations of how nonprofit organizations perceive of and use social media come from the public relations (PR) field. Richard Waters is a central researcher in this field, and his early work established content analysis of user-generated online data as the primary investigative technique in this field (Waters, 2007; Waters, Burnett, Lamm, & Lucas, 2009). While his early work established indispensable approaches, it raised three troubling assumptions with respect to studying NPO use of social media:

- including only top organizations (in terms of staff size and annual income) in the research sample,
- arguing that every available feature on a social media site should be used, and
- tacitly assuming that social media should facilitate every aspect of an NPO's mission.

These three assumptions persist throughout studies in this area and underpin a troubling conclusion in this field: nonprofit organizations are unsuccessful at using social media.

These early studies (2007-2011) come to this conclusion as a result of content analysis of early social media practices on specific nonprofits' websites and Facebook/Twitter feeds. In later work (2011-2016), this conclusion migrates to the introduction sections of papers, forming the basis for a tacit assumption about all nonprofit social media use.

For example, Waters, in one of his earliest studies, catalogues the many different types of information that nonprofits can put on their websites (physical address, email address, phone number, etc.) and concludes that they are not taking full advantage of their sites (Waters, 2007). With colleagues, he later extends this content analysis approach to Facebook profiles and the types of content that organizations post; they find that while organizations post links to news sites, they do not frequently post multimedia content[7] or utilize Facebook Apps to interact with persons viewing their pages (Waters et al., 2009). Their primary point is that NPOs cannot simply create a profile and let their account languish. Unfortunately, many later studies focused mostly on the underutilization-of-features aspect of their research, and that has become an assumption that many authors take for granted at the outset of their studies (in some cases, creating a self-confirming preconception of NPO social media use).

I'll return to these underlying issues and how my study seeks to address them later in this chapter. First, I'll discuss the various approaches researchers in this field take to investigating social media use by NPOs.

Approaches to studying NPO social media use. Scholars have used a variety of methods to investigate NPO use of social media sites, but they all

[7] Their study missed the explosion of smartphone ownership by at least a couple years. It obviously became much easier to share multimedia files after smartphones with high quality cameras and social media sharing apps became ubiquitous.

fall into four categories of studies that I will outline here: adoption, perception, content analysis, and theoretical studies. Table 1 (below) provides several examples of papers that use these approaches.

Adoption studies are relatively infrequent and gauge the willingness of PR professionals to adopt social media in their workplace or their perception on the effectiveness of social media to connect with stakeholders. This approach provides limited information on actual behavior of NPO practitioners since it is mostly framed in subjunctive terms (i.e. "what would you think *if* you adopted social media as a tool") and fails to account for the fact that social media is already a significant tool used in NPO public relations efforts. Much literature in this area predates the adoption studies referenced here, making the questions asked by these studies somewhat anachronistic.[8]

Perception studies investigate user behavior through surveys, focus groups, and one-on-one interviews with staff members. They attempt to discover what approaches practitioners take when using social media and what barriers prevent them from "taking full advantage" of social media sites. Apart from the inherent limitations of relying solely on user perceptions as opposed to triangulated data, sample size is one major hurdle researchers must overcome when adopting this approach. It's only possible to

[8] Though not wholly obsolete in the sense that sampling large organizations with large staffs could possibly overrepresent the number of early adopters. Nevertheless, the question of *whether* NPOs will adopt social media on a large scale is more or less settled in the affirmative.

talk to so many participants, and NPOs are a highly diverse group of organizations, with staff size, income, mission, and primary stakeholders all varying wildly (even within the same sector).[9]

The use of *content analysis* in studies goes back to Waters' (2007) analysis of NPO websites. Researchers use two basic approaches in this area. In the first approach, researchers tabulate the presence or absence of *static information* (e.g. elements of a Facebook profile) and use *statistical measures* to test the relationship between static information and information about the organization (e.g. income, location, staff size, etc.). In the second approach, researchers categorize *post data* (in the form of FB posts, tweets, multimedia content, etc.) and analyze associated *activity traces* (e.g. shares, likes, retweets, etc.) usually looking for the degree of interactivity between the organizations' social media accounts and stakeholder accounts. These studies are valuable in the sense that they provide data about actual behaviors (as opposed to perceptions), but they fail to reveal the motivation behind practitioners' posting behaviors and activity *vis-à-vis* what they are attempting to accomplish through using the site.

Finally, *theoretical* studies[10] apply underlying theories of human behavior and social structures to the NPO sector and attempt to aggregate

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[9] Although some of these papers are case studies not dependent upon statistical power to demonstrate their claims, they nevertheless apply their findings to the gamut of NPOs when in fact they fall into a sampling paradox that I will elaborate on later in this chapter.

[10] Note that I do not include studies that are guided by Kent & Taylor's (2002) dialogic theory of public relations. That theory is so pervasive and accepted out of hand that it deserves separate consideration, which I give below at length.

prior knowledge on this topic in the form of literature reviews. These studies are valuable because they question fundamental assumptions (as introduced above) that have become accepted wisdom. As of writing, theoretical studies are outnumbered significantly by the other three empirical approaches.

Some of the more interesting insights in this area come from mixed-methods studies, especially those that effectively combine user perceptions with social media data. The next logical step is to enhance findings in perception and content analysis studies by linking them to theories of behavior and social interaction so as to extend the results of individual studies into context-specific domains of practice. Before this is possible, studies in this area must address two major issues.

Table 1. Several papers written on NPO use of social media and associated approaches taken by PR researchers (*mixed methods--appears in more than one category)

Type of approach	Studies using this approach
Adoption	(Curtis et al., 2010) (Avery et al., 2010) (Bogner, Tharp, & McManus, 2013)
Perception	(Briones, Kuch, Liu, & Jin, 2011) (Dumont, 2013) (Paek, Hove, Jung, & Cole, 2013) (Robson & James, 2013) (Phethean, Tiropanis, & Harris, 2013)* (Campbell, Lambright, & Wells, 2014)* (Lee, 2014)* (Fagerstrøm, Sørum, & Vatrapu, 2014) (Maxwell & Carboni, 2014) (Warner, Abel, & Hachtmann, 2014) (Parveen, Jaafar, & Ainin, 2015) (Hou & Lampe, 2015)*
Content analysis	*Static/statistic* (Waters, 2007) (Waters et al., 2009) (McCorkindale, 2010) (Nah & Saxton, 2013) (Loos, 2013) (Campbell et al., 2014)* (Jung, No, Kim, Deed, & Works, 2014) (Gálvez-Rodriguez, Caba-Perez, & López-Godoy, 2014) (Saxton & Guo, 2014)* (Saxton & Waters, 2014)* (Carboni & Maxwell, 2015) *Post/activity* (Muralidharan, Rasmussen, Patterson, & Shin, 2011) (Waters & Williams, 2011) (Lovejoy & Saxton, 2012) (Ciszek, 2013) (Auger, 2013) (Phethean et al., 2013)* (Ramanadhan et al., 2013) (Lee, 2014)* (Merry, 2014) (O'Neil, 2014) (Giselle Andree Auger, 2014) (De Moya & Cho, 2014) (Cmeciu & Cmeciu, 2014) (Saxton & Guo, 2014)* (Saxton & Waters, 2014)* (Hou & Lampe, 2015)*
Theoretical/literature review	(Kent, 2010) (Caers et al., 2013) (McCorkindale & DiStaso, 2014) (Dimitrov, 2015) (Duhé, 2015) (Kennedy & Sommerfeldt, 2015)

2.3 Major Issues with NPO Social Media Use Research

Two major stumbling blocks exist in research conducted in this area: the overreliance on the dialogic model of communication, and a sampling phenomenon I refer to as "the tip-of-the-iceberg paradox" (TIP). In this section I'll describe each issue and how they problematize research findings in this area.

The dialogic theory. Kent & Taylor (2002) built off past work on dialogue as the primary approach for public relations communication by laying out five areas of dialogic practice that PR practitioners should employ in communications with stakeholders: mutuality, propinquity, empathy, risk, and commitment. Their general sentiment asserted that dialogue with stakeholders should naturally result from symmetrical communication techniques that treated stakeholders as equals in decision making processes, meaning practitioners should commit fully to prompt and considerate conversations (as opposed to contentious debate). This approach surely sets the bar very high for nonprofit organizations with limited staff and time, and when extrapolated to social media presents a daunting prospect in terms of responding to an overwhelming amount of input from stakeholders, not to mention having to engage with vocal opponents and opening the door to unwanted or counterproductive input.[11] This prospect can be mitigated

[11] This topic is discussed at length in chapter 4 on NPO social media strategies.

through dividing labor and training staff to deal with difficult or uncomfortable online interactions, but for many organizations this approach proves to be too tall an order.

Nevertheless, Kent & Taylor's dialogic communication theory grew to become the predominant model for interactions on social media. Echoing with Waters' (2007) findings, Briones et al. (2011) found that staff limitations were the most likely reason that the "full potential" of social media was "not being realized" at the Red Cross. Muralidharan et al. (2011) also found that the lack of dialogic communication during disaster relief in Haiti meant that social media was not being used to the fullest extent by aid NPOs. Lovejoy & Saxton (2012) subscribed to a strongly positivist interpretation of dialogic theory, arguing in their findings that there exists a "right way to use Twitter" waiting to be found by researchers and that NPOs are "missing the bigger picture" by "not using Twitter to its full capacity as a stakeholder-engagement vehicle" (p. 25).

Early rebuttals to dialogic primacy. It's worth noting that three studies were published around this time that questioned the importance of dialogic communication, some of them authored by researchers that built this theory and touted it in their findings. Reflecting on his 2002 work and studies published on this topic since then, Kent (2010) agreed with Waters (2007) that little traditional "networking" interaction takes place between NPOs on

social media, but that social media is a different phenomenon than previous PR platforms. Kent interrogated our traditional conceptions of dialogue as applied to social media since it is a medium where a great deal of user activity is non-participatory reading (sometimes called "lurking," though that term has fallen out of favor—most scholars use "reading" to describe the same behavior free of negative connotations).

Kent's assertion regarding non-participatory reading is well documented in literature covering user behavior on social media. Online social networks are most typically a recreation of offline social networks, and little (if any) network expansion occurs as a result of this mediating technology (boyd & Ellison, 2007). Models like Preece & Shneiderman's (2009) "Reader to Leader Framework" and Porter's (2010) "Funnel Model," stress that the majority Web 2.0 activity comes from lurkers who do not visibly contribute to, or organize activities on, a site. We must take into account these broad understandings of how people network and interact in social media when we discuss whether NPO practitioners are using this technology to "its fullest potential" (Kent, 2010). Kent closed his rebuttal by calling for more analytic approaches to determining successful strategies for social media use and, more importantly, more theories and criticism that extend and refine conceptions of practice beyond the megalith theories in public relations literature (including his own).

Two other studies questioned whether situational context was overlooked in the rush to embrace dialogic communication. In their investigation of public agencies, Waters & Williams (2011) proposed that dialogic communication may not be the best way to engage a public 100% of the time (e.g. in emergency situations, sometimes disseminating vital information is much more important than having a conversation). Similarly, Nah & Saxton (2013) recognized the flaw in focusing only on dialogic communication and point out that we have little in the way of information on NGO practitioners' approaches to using social media.[12] These rebuttals, though offering important counterpoints on the diversification of theoretical understandings, situational context awareness, and the need for a shift to agency-based investigations of NPO practitioners, yielded scant change in assumptions in this area.

Second-wave dialogic theory. Picking up where early dialogic theory proponents left off, Robson & James (2013) concluded that NPO practitioners may need specific training to get the hang of dialogic communication, but their study marks an important point in studies in this area. The entire study is designed around an assumption that NPO practitioners are doing something wrong, i.e. they are executing their social media work in an *ad hoc* fashion devoid of strategy. As such, the study's findings are very closely

[12] Even though their study does not collect data from practitioners, it is a valid point that such data is important to understanding practitioner behavior.

tailored to expectations developed in their introduction and literature review. At this point in the literature, non-dialogic communication has moved from a shortcoming as defined by results/data to an *a priori* assumption.

Lee's (2014) work hearkened back to results in Briones et al. (2011), citing organization resource limitations as a contributing factor to lack of dialogue, but adroitly pointed out that lack of dialogue is the basis for a perceived failure or shortcoming in NPO communications strategies/activity.[13] The failure to execute dialogic communication is chalked up by researchers to a lack of sufficient strategic planning on the part of the NPO practitioners. Metrics that demonstrate engagement with stakeholders are critical to this line of reasoning (if one has a plan, benchmarks demonstrate the successful execution of that plan). Yet Hou & Lampe (2015) posited that "NPOs lack proper strategies to make use of the technology affordances in their social media platforms to enact these [dialogic] public engagement goals" (p. 3108). Carboni & Maxwell (2015) mentioned that if getting user comments on a Facebook post equates to "winning," NPO practitioners "do not quite know how to use social media" (p. 20).[14]

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[13] This observation is confirmed in a large literature review published the following year: "Perceptions studies reveal that practitioners are becoming more comfortable, frequent users of new technologies, but an observed underutilization of dialogic potential remains a common theme in these articles" (Duhé, 2015, p. 10).

[14] They're citing a report from the Nonprofit Technology Enterprise Network when they make this assertion, but it's clear from the rest of their piece that they are in alignment with this sentiment.

Critique of the dialogic approach. PR researchers generally assume the opposite of dialogic communication to be unidirectional communication, or one-way communication from the organization to the stakeholders. This conceptualization ignores silence, or the lack of communication. Silence is often thought to be anathema to communication, but stakeholders don't necessarily want to be constantly aware of overt PR communication attempts (Dimitrov, 2015). Likewise, since silence leaves far fewer activity traces, it is an unattractive prospect for researchers seeking quantitative validation of theories (Dimitrov, 2015). In any event, my own research often uses negative connotations when referring to silent conditions (e.g. *zombie* pages, *abandoned* accounts, *stagnant* content). Researchers in this area search for models of behavior that "adhere to principles of rationality and consensus" on modes of use, privileging the win-win mode of dialogic communication over the reality of how NPOs actually use social media (Kennedy & Sommerfeldt, 2015, p. 32). Privileging a single model like dialogic communication, no matter how good its intentions, penalizes modes of use such as language games (Kennedy & Sommerfeldt, 2015) and information broadcast (Merry, 2014) no matter how valuable they are to the mission of the organization. Broadcast messages, in fact, are far more likely to be retweeted and reach larger audiences than dialogic messages (Merry, 2014). That doesn't mean that interpersonal interactions are unimportant, but the question remains as

to whether they should be treated with primacy over other types of posts/content.

Studies that advocate dialogic communication adopt a maximalist, systems-thinking mentality: if practitioners are relieved of obstacles that are preventing them from enacting dialogic communication, they will then fully utilize social media and achieve maximally effective communication. For many authors, this means full use of all features of the site and the posting of every media type the site supports (Waters et al., 2009), as well as full engagement with every comment posted and maximum reposting of relevant content, limited only by the invisible boundaries of oversharing or excessive posting (i.e. where posts become "noise" that drown out the "signal" of the communication strategy).

Thinking back to high school chemistry, the chemical equation provides a good metaphor for the systems described in dialogic communication, and two principles of stoichiometry are particularly well suited to this discussion: limiting and excess reagents. During the reaction, the excess reagent will react with the limiting reagent until the limiting reagent is completely consumed. The overall yield of the reaction depends entirely on the amount of the limiting reagent. On social media sites, the profile features, content media types, and opportunities for dialogic exchanges are the excess reagents: there's an abundance of this stuff out there waiting to be exploited. The limiting reagents are time, staff, budget,

effective strategy, etc. at the NPO, all things that researchers identify are in short supply. The thinking goes that if one can maximize the limiting reagent (i.e. get dedicated social media staff on the job, train staff to learn dialogic skills and develop strategies, etc.), then the equation will balance out and yield the maximum amount of "effective" communication. Once the limiting reagent is no longer limiting, NPO practitioners will become the ideal dialogic maximalist: fully engaged with every stakeholder and "taking full advantage" of every opportunity for dialogue. There are a few problems with this line of thinking.

First, while several researchers suggest a knowledge deficit[15] on the part of practitioners at NPOs, few actually suggest, let alone attempt, to do anything about it. One set of researchers did attempt to train practitioners from small NPOs in Wisconsin on how to use Facebook, conducting a series of seminars on the topic (Bogner et al., 2013). While well meaning, they fell into one of the assumption traps discussed above: they trained them on how they thought NPOs *should* use social media given its technological affordances, ignoring the practitioners' individual motivations.

Second, researchers tend to acknowledge an absence of knowledge about what drives practitioners to use social media (Nah & Saxton, 2013) and suggest that asking practitioners what they hope to accomplish is important

[15] Establishing a knowledge gap in this area is actually quite profitable. In chapter 4, I will analyze some of the popular press offerings dedicated to teaching NPO practitioners how to use social media effectively.

(Waters & Williams, 2011) since reading the posts and trying to derive motivation without input from practitioners is not a very productive approach (Hou & Lampe, 2015), but very few studies scratch the surface on this issue and succeed in ascribing agency[16] to the practitioners.

For instance, practitioners that utilize more than one social media site may reserve dialogic communication for a single site, such as lobbying organizations that use Twitter to thank users and politicians while soliciting stakeholder feedback through Facebook (Giselle Andree Auger, 2014). Understanding how motivational concerns impact metrics is similarly important, such as an organization that seems to have scant replies to a Facebook conversation but is actually attempting to avoid stomping out the conversation before it really gets going (Phethean et al., 2013). The value of such metrics to individual organizations is also relative. User motivations are key to understanding how and why organizations post certain content, and they will be a major component of the analysis in this study.

The tip-of-the-iceberg paradox. While not quite as complicated as the dialogic problem, the tip-of-the-iceberg paradox (for brevity's sake, I'll subsequently refer to it as "the TIP") is an equally precarious assumption about social media behavior at nonprofit organizations.

[16] Where "agency" means the ability to act without some outside force guiding and explaining to practitioners the "right" or "most effective" way to use social media to achieve their organization-specific goals.

The tip of the iceberg in this scenario is the group of organizations at the top of the philanthropy/nonprofit market, organizations like the Red Cross for instance (investigated by Briones and colleagues). These organizations collect millions of dollars each year in charitable donations; have a large, geographically distributed staff; and/or have staff members dedicated specifically to communications, sometimes solely to a single channel of social media. Researchers view these top organizations as examples to be followed (Waters, 2007), and points of comparison such as cross-cultural comparisons of the "best" (Gálvez-Rodriguez et al., 2014) or intra-cultural comparisons of top- versus middle-tier organizations (Auger, 2014).

Likewise, researchers have a tendency to gravitate toward organizations that they believe produce sufficient content to make their research endeavors worthwhile. Carboni & Maxwell (2015), for instance, specifically examine only organizations that have a revenue of $500,000 per year or more, since they "have the resources to engage" with stakeholders.

Some studies simply target organizations on lists of influential or top-grossing organizations for less explicit reasons (Cmeciu & Cmeciu, 2014; De Moya & Cho, 2014; Dumont, 2013; Lovejoy & Saxton, 2012; McCorkindale, 2010; Nah & Saxton, 2013; O'Neil, 2014). The use of Philanthropy 100/400 and Fortune 50/500 organizations as the sole object of study seems prevalent

in PR literature. Fully one third of the studies I examined for this literature review focused solely on the tip of the iceberg.

The TIP presents dual contradictory elements that explain the associated shortcomings in such a research approach. In the first sense, researchers hold up the social media strategies of top organizations as a model for small NPOs to emulate or as a basis for comparison, then acknowledge that staff, budget, time, etc. are impediments to emulating those strategies. In the second sense, researchers want to understand how all NPOs use social media, but acknowledge that top organizations are better for collecting data. Both approaches seem reasonable at first, but create a contradictory state of affairs in the research. Ultimately this research produces strategy recommendations that are not realistic (and maybe not even desirable) for small organizations that were never studied in the first place.

The TIP is understandable in the sense that locating and collecting data for a study is difficult. Even with a great deal of late-night coding, brute force solutions, and assistance from several smart undergraduate computer science students, locating organizations and collecting data from participants for this study took almost two years, not to mention the time necessary to analyze that data. Advances in data collection practices have benefitted many studies in the past few years, as researchers use computer code and machine learning to collect and analyze data. This study takes advantage of those

advances and avoids focusing on the tip of the iceberg organizations, but underscores the allure of the TIP with respect to feeling secure that time and energy are well used in collecting pertinent data.

2.4 Research Questions

To address the above issues with research on NPO use of social media, I conducted an investigation into practices and motivations for using social media at Chicago human-services NPOs. I organized my inquiries into two component questions that had many different subcomponents.

First, to what extent do work practices at nonprofit organizations impact practitioners' use of social media? I wasn't seeking to find a causal relationship between specific work practices and posting behavior/outcomes, but rather a general sense of attitudes and practices among practitioners that informed my understanding of how actual patterns of behavior differed from general assumptions of behavior in both PR research studies and a genre of book I call "strategy guides": idealized representations of work practices marketed to NPOs to help them achieve their goals. To collect information, I fielded a survey with questions based on five general principles from Engeström's (1987) activity system conception of activity theory: historicity, division of labor, rules, assessments and metrics, and (most critically) motivation. As I will discuss later, I interpret the terms along somewhat different lines than Engeström. Building off a critical reading of the advice in

strategy guides, I asked questions to uncover the work practices that inform decision making at a wide range of nonprofits.

Second, how do NPOs across a spectrum of incomes/staff/resources approach the task of posting to social media? To avoid the same pitfalls of some earlier research, I do not define a quantitative threshold for using social media "effectively" or "to its fullest potential," but I rather sought to reveal and discuss the reflexive practices that I believed were present across a variety of different-sized NPOs. As I'll discuss in chapter three, I was careful to collect data from a broad spectrum of NPOs within my sample in order to avoid the TIP.

Third, what motivates NPOs to post to social media? Based on my assumption that NPOs act with agency and reflexivity in their posting behaviors, I asked users to supply information in the coding of tweets and Facebook posts in order to develop a coding scheme for common motivations for posting content to these social media sites; I call this process "participant coding," and discuss it at length in chapter six. As demonstrated above, there are many different research methods and theories that could be employed to investigate this issue. Early in the research process, I identified motivation as the issue at the crux of the existing literature. Much current research concludes by stating that NPOs are not using social media to its "fullest potential," so I approached the topic from a different angle. Rather than simply assuming that an absence of maximalist strategies among NPOs

signaled some inherent deficit in usage or flawed strategy on the part of practitioners, I instead focused on motivation by asking NPO practitioners what they were trying to accomplish. Through this approach I hoped to find out what matter to practitioners rather than proscribe certain modes of use and dictate best practices. Activity theory foregrounds the agency of humans through which they transform the world around them according to motivations. Since I view motivation to be the primary factor in understanding the relationship between NPOs and social media, activity theory is the best approach to this issue.[17]

2.5 Summary

Social media comprises a huge array of diverse activities on the Internet, and this study focuses on the ways that nonprofit organizations use Facebook and Twitter, two commercial social media sites where users can make connections and communicate with friends and followers within the constraints of rules and algorithms. NPO practitioners use social media for social and productive purposes.

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[17] Note that there are other possible ways to view this issue, and those other interpretations would require a different theoretical approach. Activity theory, much like other theories of human behavior, is a voluntaristic framework that one can either accept as a plausible method for explaining behavior or reject as invalid. This dissertation will not try to justify the existence of activity theory as an approach nor attempt to replicate approaches of other persons who use complex units of analysis (e.g. the entire activity system) or approaches not suited to the study of this specific domain of research (e.g. genre tracing). I provide a history of the field and situate my research problem with respect to other approaches in chapter four.

Many academic fields are interested in issues related to social media, including civic participation and public policy, education, public health, political science, technical communication, and information design. Cross-disciplinary concerns about privacy and safety are becoming a major field of research. There are far too many studies to present all areas of research, but in technical communication, the past few years have seen an increase in studies of social media. The public relations field produces the most work on NPO use of social media.

Researchers employ four major approaches to studying PR practitioner use of social media. Adoption studies look at the willingness of practitioners to use social media for their work, and are largely obsolete at this point. Perception studies use methods like surveys and interviews to explore practitioner approaches to social media and obtain participant-reported data. Content analysis studies collect and analyze two types of content on social media sites: static content (as on a profile page), and post content and activity traces (as in a Facebook post or the number of retweets on Twitter). Finally, theoretical studies apply underlying theories of human behavior and social structures to the NPO sector and attempt to aggregate prior knowledge on this topic in the form of literature reviews.

Two major issues hinder research in this area: the overreliance on the dialogic model of communication, and the tip-of-the-iceberg paradox (TIP). Researchers in the first wave of dialogic theory came to the conclusion that

NPOs were not fully utilizing social media without explicitly investigating the motivations behind practitioner use of this tool. Despite a series of rebuttal articles, this fundamental assumption became accepted fact and migrated from the conclusions section of studies to the introduction and literature review, resulting in studies that carried this assumption from beginning to end (possibly leading to a self-confirming preconception of underutilization of social media features). The TIP demonstrates that focus on exclusively top-tier organizations in about one-third of studies in this area produces strategies that are not implementable for organizations that weren't studied, providing very little in terms of recommendations for small NPOs attempting to improve their use of social media.

CHAPTER 3

METHODS

In this chapter, I'll discuss the methods I used to collect data for this study. The data I collected using the code described below are the posts and metadata from Twitter and Facebook. I refer to that data as *social media data*. I used a survey to collect data about the demographics, practices, and individual/organizational relationships from public relations practitioners. I'll refer to this data as *survey data*. I also used the survey instrument to show respondents posts from Facebook and/or Twitter and prompt them to reflect on their motivations for posting that content. As this data was used to train an automated classifier, I'll refer to this as *classifier training data*. I'll reserve the explanation for how I collected and used machine learning data for chapter six, where I discuss the methods of the machine learning component of this study and present and discuss results from that component. Before addressing data collection, I'll explain how I selected the pool of nonprofit organizations examined for this study.

3.1 Sampling Chicago NPOs

As discussed in the literature review, the primary sampling problem I wished to avoid was the tip-of-the-iceberg paradox. Studies that employ TIP-based sampling ultimately produce strategy recommendations that are not

feasible for small NPOs, hence these studies have a low level of generalizability.

On the other hand, some sampling limitations are inherently necessary due to the sheer volume of NPOs. If one were to limit a study to just the United States, a representative sample of different locales would be staggeringly large and extremely difficult to compile; as of 2014, there were over 1.8 million active non-profit organizations in the United States (GuideStar.org, n.d.). Some studies have attempted to stratify their sample of NPOs to account for variables such as location, be it within a subsector of NPOs (Avery et al., 2010) or within a single organization (Briones et al., 2011). Selecting a single, large, geographically-distributed organization such as the Red Cross does not avoid the TIP. As far as location goes within a subsector, Avery and colleagues (2010) were concerned that rural areas report lower than average web access which could impact the importance NPOs place on social media use.

Early in the study, I decided to sample only NPOs from the Chicago metro area for two reasons: I would be able to more easily negotiate location and contextual issues when finding social media accounts, and I reasoned that Chicago organizations would be more likely to cooperate with a researcher in Chicago. Limiting the study to the Chicago metro area still produced a large number of NPOs to sample: currently approximately 25,000

registered NPOs.[18] I'll elaborate on two key concerns with sampling organizations from an urban area versus a wide geographic distribution: (1) the distribution of NPOs in urban areas might be inherently skewed toward particular types of organizational missions, which may translate back to their motives for using social media in some way, and (2) the population in an urban center may have a level of access to social media that both impacts practitioners' perception of this tool's ability to reach their target audience (as was the assumption by Avery and colleagues), or access levels are so radically different than other locales that the study results will not translate well to rural NPOs.

To address the first concern, one must consider the wide variety of organizational missions in the nonprofit sector. The National Center for Charitable Statistics maintains the National Taxonomy of Exempt Entities (NTEE),[19] which classifies NPOs into ten broad categories for the purpose of filing a tax return with the Internal Revenue Service. To comprehensively explore this issue, one would select a sample for analysis across many NTEE subsectors in Chicago. Given the time and resource constraints I faced, I decided to focus solely on the Human Services category. As Human Services is the largest category, it provided the largest sample from which to recruit

[18] All information concerning number, type, and income of Chicago NPOs retrieved in 2014 from GuideStar, a large proprietary database housing information on NPOs in the United States. Thank you to the anonymous informant who allowed me to access this database for my research.

[19] For further information, see: http://nccs.urban.org/classification/NTEE.cfm

participants (see Table 2 for a list of all categories in Chicago). The Human Services category also provides some of the most diverse organizations to draw from, both in terms of mission and income. I collected social media data from sport and social clubs, food banks, support organizations for ethnic groups, youth group organizations, neighborhood organizations, church charities, and labor unions, to name a few. Incomes also ranged from less than $1 to over $100 million. Even within one NTEE group located in Chicago, a diverse and large metropolitan population makes it possible to locate a broad sample of organizations with diverse missions.

Table 2. A list of the ten NTEE major groups and the corresponding number of NPOs in the Chicago metro area (data from 2014).

NTEE Major Groups	Chicago NPOs	
	N	%
I. Arts, Culture, and Humanities	506	3.8
II. Education	237	1.8
III. Environment and Animals	609	4.6
IV. Health	1,347	10.2
V. Human Services	5,326	40.3
VI. International, Foreign Affairs	237	1.8
VII. Public, Societal Benefit	2,577	19.5
VIII. Religion Related	1,079	8.1
IX. Mutual/Membership Benefit	1,159	8.8
X. Unknown, Unclassified	143	1.1

Accounting for the second issue of internet access is more challenging. While I don't wish to directly challenge Avery and colleagues (2010) findings on differences in access based on geographic location, I will note that they completed this research six years ago. Since that time, use of the Internet by rural populations has increased nine percent to 78% (on pace with increases in other groups) and lags only six percent behind urban and suburban populations (Pew Research Center, 2015a). Likewise, the methods that U.S. residents use to access the Internet have changed. Traditional methods of Internet connectivity such as home broadband or cable/satellite subscriptions (popular in urban areas) are either plateaued or on the decline, while many users rely solely on smartphones to connect to the internet (Pew Research Center, 2015b). If one speculates the opposite scenario (lower than average access to the internet in Chicago due to major economic divides), low-cost internet adoption programs and free access at public schools and libraries may offset that concern.[20] In general, connectivity is increasing for all populations, making this issue less a concern as time progresses.

Using the GuideStar.org search feature, I located 3,539 total NPOs in the Human Services NTEE category. Of those, 1,720 had an income of $1 or greater reported in 2011, and all of those organizations are included in my initial sample. Of the remaining organizations, I retrieved information on

[20] Even if service is suspended to phone-dependent populations as the Pew Report indicates is common in that population, most mobile phones allow you to access the internet via free wi-fi when it is available.

1,000 randomly selected NPOs that reported zero income in 2011.[21] As this study primarily seeks to investigate active organizations, including 1,000 organizations that have generated no income should be sufficient to represent the 1,819 total organizations that have no reported operating budget. I then sought to identify which of those 2,720 organizations have a registered Twitter or Facebook account.

Locating Twitter accounts. To locate Twitter accounts, I wrote a script[22] in the Ruby programming language to automate the search process. The script accepts an array of search terms that correspond to the name of each NPO as listed on GuideStar.org. It concatenates each value in the array with the text "Chicago Twitter" and performs a search by automating a web browser using the Watir Gem. Watir[23] is a web application testing program that can pass information to forms on a webpage and also scrape information from a webpage. The script initially looped through each item in the array and captured the URL returned for the top three Google search results (though I made some modifications when locating Facebook accounts as described below). This method is dependent on Google's PageRank algorithm in that it assumes that algorithm will return relevant results when given the

[21] The maximum download amount in the search interface was 1,000 organizations.

[22] Stored at: https://github.com/aroback/search_tools/blob/master/find_accounts.rb

[23] Available from: https://watir.com/installation/

search term. This automation is necessary, however, given the volume of accounts I needed to locate.

Once I gathered the URLs, I used Notepad++,[24] a free and open source text editor to review URLs gathered using the methods above (see Figure 1). In many cases, I discovered that collecting the top three URLs was insufficient to locate, or exclude the possibility of, a Twitter account. In cases where the top three URLs were all results from a single webpage, I performed a manual search to confirm whether an account existed or whether the account URL located by the collector actually corresponded to the organization in question. The similar naming practices of NPOs also complicated searching by making word order a significant factor. For example, all of the following separate organizations exist in Chicago:

- Good Hope Children's Fund
- Hope Children's Fund
- Children's Hope Fund
- Hope for Children

[24] Available from: https://notepad-plus-plus.org/

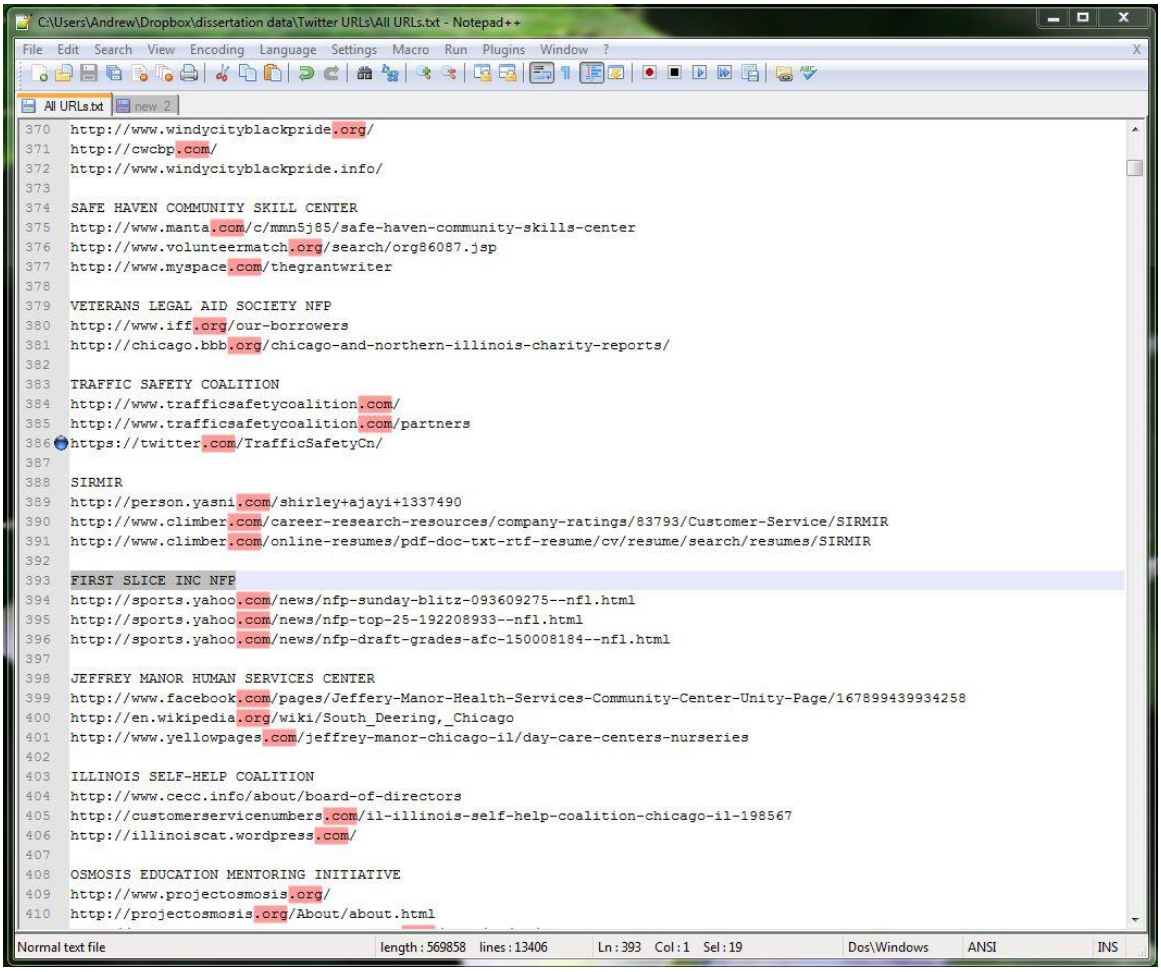

Figure 1. Screenshot of Notepad++ depicting the results from the first version of my search script (top three URLs). The blue dot is part of a useful feature that lets you mark lines in the file, which you can then use to selectively copy groups of lines.

It is unclear how well Google's search mechanism can deal with these complications, as my approach for creating a search term resulted in less than ideal recall and produced numerous false negatives. To deal with this problem, I located results that appeared to "crowd out" positive results (e.g. three URLs from the same domain) and performed a manual search.

Dealing with false positives was also challenging. Since Twitter accounts do not always link back to the organization's webpage, and, surprisingly, NPOs frequently fail to link to their social media accounts from their own website, I used a common-sense threshold for identifying which organization mapped to which social media account, focusing on a strong match between the words contained in their GuideStar listing and the words in the title of the social media page. For example, when searching for an organization listed on GuideStar as "STREETWISE," I accepted the following URL as a match: "twitter.com/StreetWise_CHI." It would be ideal to have corroborative evidence of a match or proven authenticity of the relationship between the account and organization, but the manner with which NPOs manage their web presence is idiosyncratic (as is much information management) and does not allow for that level of certainty in all cases. Additionally, many NPOs use their social media accounts as their only web presence, making it difficult to triangulate the authenticity of the account. For all searches that did not yield a common-sense match, I performed a search and attempted to find a hyperlink between their official website and the social media site. If no match was available where a reasonable link was present between a website and a social media account, I classified that as a false positive.

Using these methods, I was able to locate 274 unique Twitter accounts associated with Human Services NPOs in Chicago. To keep separate my

activities as a researcher and my personal Twitter account, I created a new username to house lists: @Roback_Research. I created a list (Chicago Human Services[25]) and used the Twitter API console to automatically populate it with the accounts I located.

Locating Facebook accounts. As described above, the Ruby script I wrote to locate Twitter URLs was unable to locate the appropriate account URL in many instances due to its limited approach of collecting only the top three URLs matching the search term. I made modifications to this script which allowed it to more effectively collect URLs and reduce the amount of time wasted on manual verification. First, I increased the number of URLs returned to ten, ensuring the script would get all URLs from the first page of results. Second, I improved the precision of the script by restricting returned URLs to only those that contained the string "facebook.com" somewhere in the text of the URL. While this script greatly increased recall from the top ten results, it also resulted in a larger number of false positives which required disambiguation. As with the search for Twitter URLs, NPO naming conventions are partly to blame for this. It's also possible that keyword matching and PageRank (as they are employed in the Google search engine) limit precision in this study due to their inability to account for semantics.

[25] Available at: http://twitter.com/Roback_Research/chicago-human-services. Note: only 265 accounts remain on the list at time of writing. It's unclear whether the accounts were deleted or if they opted out of the list by blocking my account. I have a list of username/Twitter ID pairs (available upon request).

For example, in the case of the somewhat ambiguously named "Boom Foundation" listed on GuideStar, the script returned the following Facebook URL: "facebook.com/boomchicago." At first glance this would appear to have a high probability of being a positive hit, but this organization is in fact a comedy club in Amsterdam. I know this only because I clicked on the link.

To solve this problem, I manually verified all URLs that did not match the word for word listing in GuideStar *and* did not contain a semantic clue that they were based in Chicago. For example, I manually verified "SACRED TRANSFORMATIONS" (facebook.com/sacredtransformations) but accepted as a positive hit "RISE FOUNDATION" (facebook.com/ TheRiseFoundationChicago). In some cases the GuideStar listing did not strongly match the name of the organization (e.g. "WOMEN EMPOWERED NFP" returned the URL "http://www.facebook.com/pages/Women-Empowered-for-Tomorrow-Nfp/154248054611101"). On Facebook, many organizations list their physical address on their profile page. I was able to compare addresses for organizations to try to distinguish organizations that had similar names but different locations. This was an advantage that I did not have when locating Twitter accounts since organizations do not typically include their exact addresses in their profiles.

In total, I located 677 Facebook accounts. Of those, only 482 had at least one post since 2008. Fewer than that posted during the 2013 sample

period (see Figure 3 below for a depiction of the active accounts during the sample periods for this study).

Even with all of these measures, a small margin of error is present in identifying organizations on social media. It's also worth noting that GuideStar listings, while the most complete listing of NPOs available, are not guaranteed to be comprehensive.

To my knowledge, this study is one of the first to start with a list of organization names and develop a sample rather than using the TIP method or subsector/single-organization sampling. All the tools I used to locate accounts were free or open source; my search script is available on GitHub; and my efforts are publicly documented on my blog.[26] My hope is that future researchers will be able to improve on these methods and design programs that can quickly identify and catalog NPO accounts on social media sites.

[26] Read more about locating Facebook accounts on my blog: http://blog.andrewroback.com/?p=576

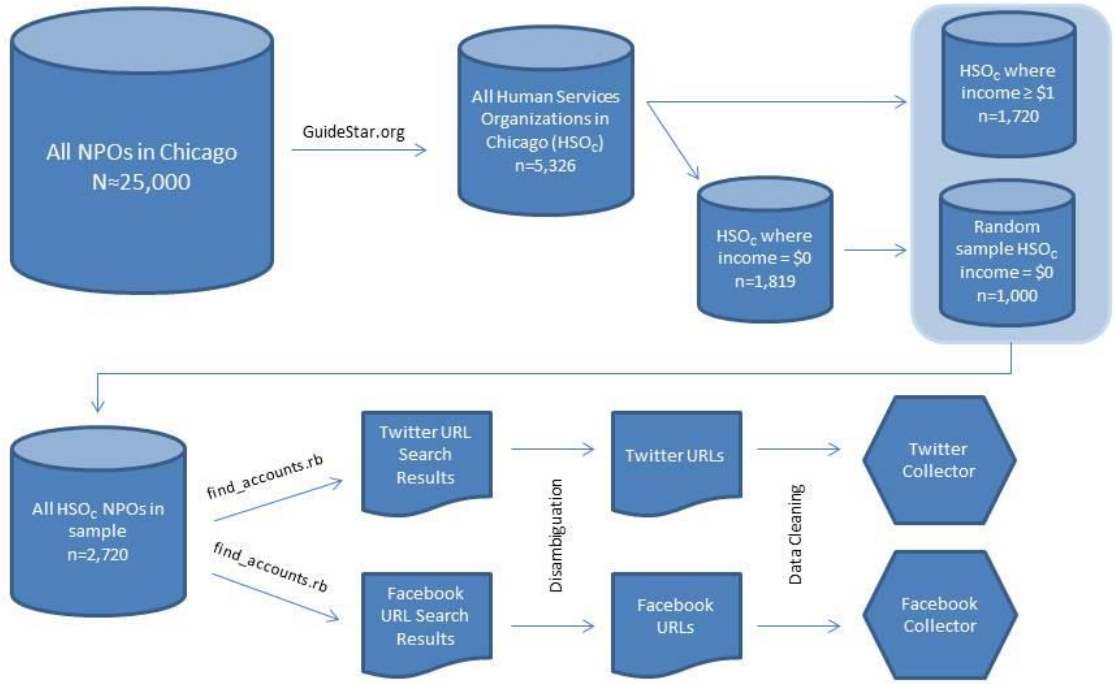

Figure 2. A summary of the process leading up to the collection of social media data

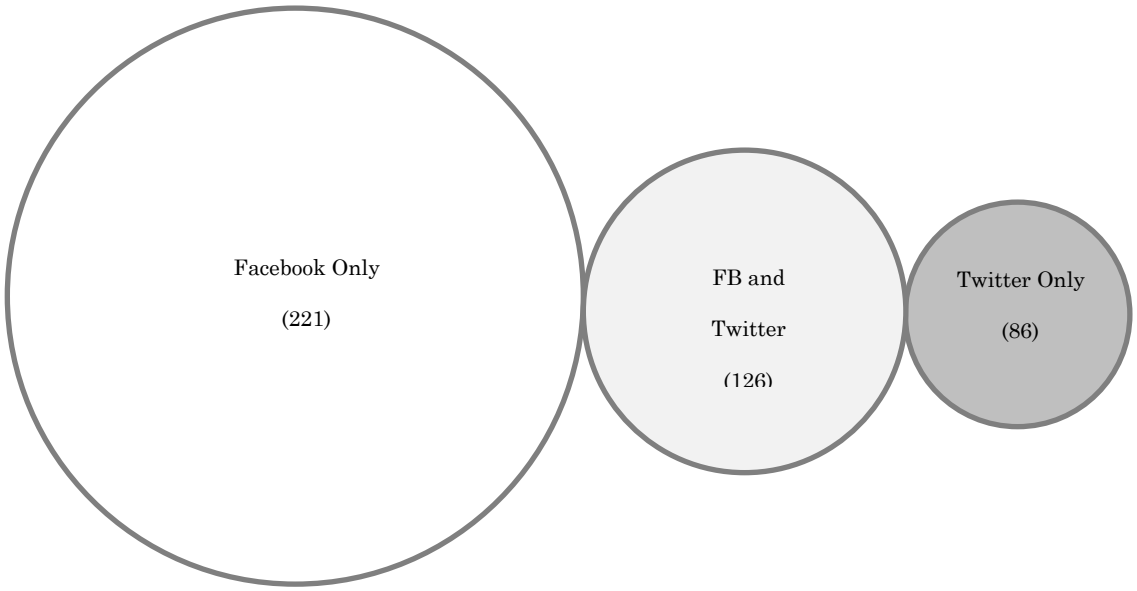

Figure 3. Number of organizations in sample pool by *active* social media accounts during the 2013 data collection periods (to scale)

3.2 Social Media Data

After selecting a sample of NPOs and locating existing social media sites, I used automated collection scripts and the Facebook and Twitter API's to collect posts from these organizations for a period of months. This section provides details about the methods of collection and figures on the total amount of social media data collected for this study.

Collectors. I first collected Twitter data using pyTwitterCollector (Hussein & Hemphill, 2016). While it collected some data, pyTwitterCollector was not able to collect complete sets of tweets due either to a paging error or changes in the Twitter API. To obtain a complete collection of tweets, I used searchTwitter,[27] a series of scripts that utilized TwitterGoggles (Maconi, Hemphill, & Goggins, 2015) to collect tweets via the Twitter Search API.

This collector produced far more complete data, but provided it in JavaScript Object Notation (JSON) data format. In order to use the data in applications like Microsoft Excel and WEKA (a text classification application), data must use a lightweight data format such as the comma separated values (CSV) file format. I used a few regular expressions to put the data into valid[28] JSON format, cleaned the data to remove invalid

[27] From Libby Hemphill's private GitHub repository (2014)

[28] The parser I used in the conversion script requires valid JSON. I used the extremely valuable JSONLint validator to validate test files: http://jsonlint.com/

characters, then I wrote a script[29] in the Ruby programming language that converted the JSON data into CSV. Finally, I cleaned the data a final time to replace (or remove) non-UTF-8 characters and delimiter characters and converted the files into the .arff file format for use in WEKA.

I collected Facebook data using FacebookCollector, a series of scripts written in the PHP programming language by CaSM Lab Research Assistant Yazan Hussein. It collected data from Fan pages using the Facebook Graph API and stored the data in a MySQL database. This data did not require any transformation other than a simple query that retrieved and structured the data as a CSV file. I did replace or remove non-UTF-8 characters and delimiter characters from the data set in order to put it in valid .arff format[30] for use in WEKA.

Data. Although I collected social media data stretching back to 2008, I elected to use data only from 1 January 2013 up to the point where I turned the collectors off (see Table 3 and Table 4 for collection dates). In total, I collected 84,912 posts and their associated metadata. While I am confident that the tweets/posts in this study represent a mostly complete picture of the information posted by NPOs in this sample during this period, I could not

[29] You can view the script on my GitHub repository: https://github.com/aroback/data_transformation

[30] The .arff file format has a user-defined data structure similar to an XML file, but WEKA will not load or correct for prematurely terminated lines or invalid characters; it simply throws and error and provides the line number of the first error.

verify that information about likes, retweets, and associated actions was accurate. In the case of Facebook, the script returned values for individual status update likes that were incongruous with the values on the web. In the case of Twitter, the retweet counts were incorrect. Our attempts to reconcile the discrepancies were unsuccessful, so I did not analyze this data in this study.

For the machine learning component of the study, I needed organizations that had posted at least twice in the 2013 calendar year. This criterion is important for two reasons: I wanted organizations that are at least attempting to use their account for some active purpose[31] (as opposed to just listing their physical address or phone number), and I designed the motivation reflection component of the survey to display two posts. I selected tweets for the motivation questions by assigning each instance a random number and sorting based on that value; I then assigned an ordinal position value for each instance using an automated repeating series formula in Excel that I wrote specifically for this project. The ordinal position allowed me to use the filter tool in Excel to easily select the first two random instances for each organization.

[31] Another future study might investigate solely those organizations that do not post on their accounts, but would have to take a different approach than this study as there are few data traces to analyze.

Out of the 258 accounts I located from my sample pool, only 215 had posted once during 2013, and only 212 had posted at least twice. See Table 3 below for a full summary of social media data collected from Twitter.

Table 3. Social media data collected from Twitter. *Three organizations were removed from the survey sample because they had only one tweet in the date range, and the survey tool was not equipped to handle this contingency.

	Total Tweets	Survey Sample
Number of Tweets	210,513	59,803
Unique Users	258	212*
Date Range	10/10/2008 to 9/17/2013	1/1/2013 to 9/17/2013

For Facebook data, the collection process and date ranges are approximately the same. I had to decommission the collector three months earlier due to a flaw in the script that caused API timeouts. I attempted to kill and restart the process regularly to keep the collector going, but there was a flaw in the process that resulted in API timeouts at increasingly smaller time intervals. Nevertheless, I managed to collect and process a large amount of posts for the time period when the collector was running (see Table 4 for a summary). I used the same method in Excel for selecting posts for the motivation survey questions.

Table 4. Social media data collected from Facebook. *22 organizations were removed from the survey sample because they had only one post with text in the date range, and the survey tool was not equipped to handle this contingency.

	Total Facebook posts	Survey Sample
Number of Posts	93,670	25,109
Unique Users	482	347*
Date Range	7/23/2008 to 6/15/2013	1/1/2013 to 6/15/2013

The only difference between the Facebook and Twitter data were the noticeable amount of posts on Facebook where the user did not post any text (mostly pictures or videos with no accompanying post text). These posts certainly have research value, but since this project was most interested in text and used a text classifier, and posts without text would not be assigned to any group, they were unsuitable for this application. In total, I eliminated 15,680 posts from the 93,670 posts collected, or around 16.7% of the total posts. For the survey sample of 25,109 posts, all posts contained some user-generated text (as well as other non-text components that were not analyzed by the classifier, such as photos and videos).

3.3 Survey Data

The survey in this study asked users to describe their personal and organizational history of social media use, the division of social media labor in their organization, rules that they follow when posting to social media sites, and how they assess and reflect upon their use of social media on behalf

of the organization. The advantage of a survey is that it can reach a large number of participants and provides a flexible format for obtaining quantitative results (Stake, 2010). This section will provide a description of the survey tool I used and the modifications I made to it in order to accommodate the goals of this study, as well as the recruitment process. I'll reserve a discussion of the types of data collected for chapters 4-6, where I discuss the rationale behind the questions in the survey and present my results.

Survey instrument. LimeSurvey (LimeSurvey Project Team & Schmitz, 2015) is an open-source survey administration platform that is flexible and affords several options that free or low-cost proprietary survey platforms (e.g. Survey Monkey) do not offer. For my project, I needed to ensure that: (1) users could authenticate using their social networking site username, (2) users could take the survey only one time, and (3) users were able to see their social networking site content in order to remark on their motivations. LimeSurvey not only allows authentication via an administrator-defined token (as opposed to randomly generated strings), but it also stores responses in a MySQL database and allows the administrator to insert relational data into the survey site through a simple variable structure (I used these variables to include the social media posts and limited metadata in the form of dates and static URLs). Chapter 6 provides a detailed account of how I

modified the source code to collect data for the machine learning portion of the study. This section describes how I modified this tool to collect the rest of the survey data.

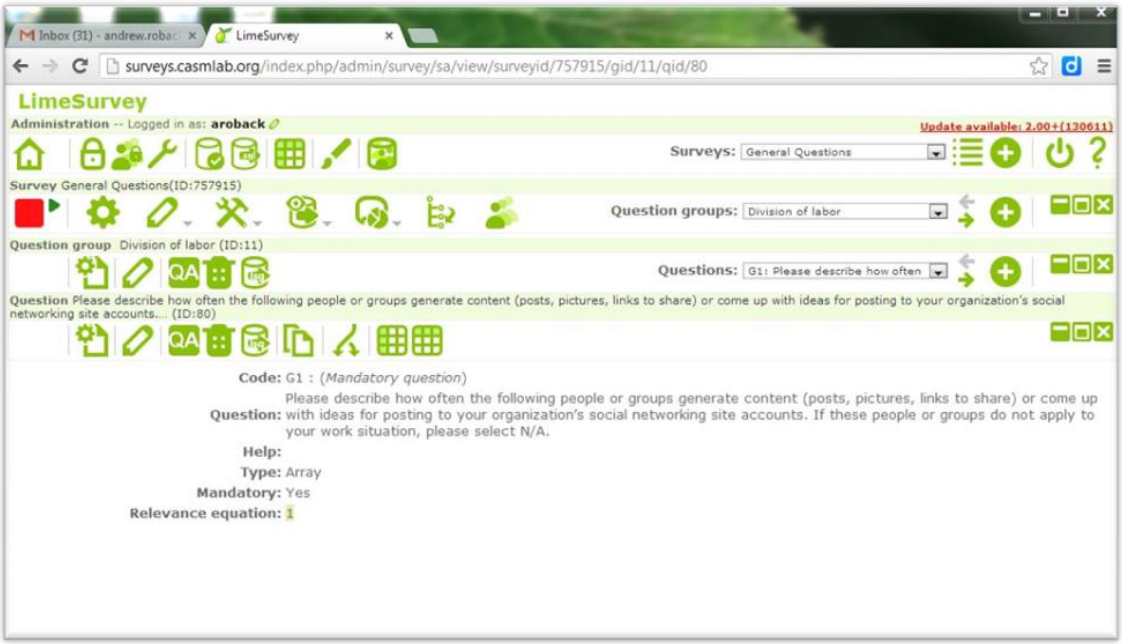

Figure 4. The user interface in LimeSurvey. Survey information is organized in a hierarchy: Survey–Question Group–Question.

While LimeSurvey is extremely flexible, it did present certain limitations. First, LimeSurvey allows for only one validation token per user per survey. A validation token is any string as defined by the administrator that survey respondents use to log in to the survey; the token matches survey data to the participant, and also ensures that a respondent takes the survey only once. I elected to use the Facebook or Twitter username of the respondent as the respective token. Since organizations frequently choose different usernames for each platform, I decided to split the survey

instrument into two separate surveys (one for each platform). I also needed a consent form and a section for general questions about the organization, demographic questions, and questions not specific to either social media platform. The resulting survey instrument was actually four component surveys presented in the following order: (1) the consent document, (2) the Facebook portion, (3) the Twitter portion, and (4) a final general questions portion.[32] You can view all of these surveys and try them out using the token "0001test" when prompted to log in:

1. Consent document:

   http://surveys.casmlab.org/index.php/survey/index/sid/194382

2. Facebook:

   http://surveys.casmlab.org/index.php/survey/index/sid/689339

3. Twitter:

   http://surveys.casmlab.org/index.php/survey/index/sid/255189

4. General Questions:

   http://surveys.casmlab.org/index.php/survey/index/sid/757915

To ensure the highest completion rate possible, I had to modify the source code of LimeSurvey to present the respondent with what appears to be one continuous survey. The survey participant needed to enter the authentication token before responding to questions in sections (2) and (3),

[32] The text and question formatting for all survey question are available at the below URL. Each question has a code number for easy reference when I discuss individual questions in chapter 4.
http://andrewroback.com/dissertation_survey/all_survey_questions.pdf

which necessitated modifications to the portal page of each survey to include instructions on how to locate their social media usernames.[33] Additionally, since not every participant had both a Facebook *and* Twitter account, the portal text had to be modified to allow participants to skip sections that do not apply to them via a hyperlink. I likewise modified the error handling page for unverifiable tokens to include instructions for emailing me and obtaining a token as well as a link to continue to the next component in lieu of providing a token (I didn't want users to try to log in, fail, and then simply give up). I added a simple PHP if/else statement that used an existing URL variable to create a new URL variable to maintain the appropriate sequencing of the survey as described above. I also made some other minor wording changes to the escaped HTML in the PHP files controlling these pages. These modifications actually rescued some respondents who skipped to section (4) and later filled out section (2) or (3).

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[33] This is a deceptively simple step. It was much clearer to present this information in a .pdf. You can view the instructions at this URL: http://andrewroback.com/papers/paper_pdf/username_instructions.pdf. Note that the user interface for both sites has changed in the intervening years. Although I was aware that Facebook used three different types of syntactic rules for URIs (see above instructions), I also discovered that Facebook at some point in time changed the conventions for their static URLs, including the portion of the URL containing the organization's username. Some username strings that contained dashes between semantic components like discrete words (primarily in Google search results or hyperlinks on NPO websites) were changed to redirect to a page with a new version of the URL where dashes were excised. The username in the URL and the login token for the survey had to match exactly since the participant located this value him-/herself to log in to the survey. I only discovered this issue after I had begun to field the survey (I had expected URLs to be more or less static as they are on Twitter). Since I was unable to determine a pattern, and I could not find a way to rewrite the PHP to handle both "dashed" and "dash-less" URLs, I manually disambiguated the 347 URLs and edited the token values. I only note it here so that future researchers might one day avoid this frustrating problem.

LimeSurvey, like many open source applications, is somewhat unruly; many files located in different directories can redundantly control the same form elements or visual presentation (CSS) of the site. Hence, locating and changing a variable in a single file did not always produce the desired change on the site. Likewise, a single error in the PHP config or token files (such as forgetting a double quote to escape some HTML content) would break the entire site. To test modifications, I created a mirrored version of the site on my computer and used Notepad++ to search the many thousands of files for repeat instances of variable definitions, then updated the files on the live site. I considered using Git to track changes to the site, but the .gitignore files would have been too time consuming to set up (based on past experience with a similarly complex PHP site, phpBB). Although I didn't make extensive modifications, the changes I made were sufficient to repurpose the site for this project.

Recruitment. I sent recruitment invitations for the survey between 23 February and 30 April 2014. I contacted participants via the Twitter @reply function or the Facebook message function (or both). I elected to use social media messaging as the mode of contact for two reasons: (1) I was reasonably sure that active users would see my messages, and (2) I had no other contact information, and some organizations did not list alternative methods of contact on their social media profiles. During that time, I sent approximately

700 messages from my personal Facebook page and 258 tweets from the @Roback_Research Twitter account. In addition to those initial contacts, I sent approximately 100 follow up messages to organizations that partially completed the survey or completed only the consent form and did not continue. I engaged in around 30 follow up conversations via FB messaging or email explaining the mechanics of taking the survey, clearing up confusion about its purpose, as well as a small number of polite exchanges such as thanking persons for their participation.

The largest source of confusion came from organizations that had a Twitter account that I collected data for, but where one of the following scenarios occurred:

- I did not locate their Facebook account in my automated search for accounts, and subsequently did not collect posts from their account, or
- The participant created a Facebook account subsequent to my search, and I did not collect posts from their account.

Since the Facebook potion of the survey preceded the Twitter portion and required users to click on a hyperlink to skip that section in the event of an invalid token, a small number of users quit without filling out the Twitter portion of the survey. I discovered this problem only after a user contacted me and I investigated the issue. At that point it was too late to change the structure of the survey or collect and add data for those organizations' Facebook accounts. I attempted to mitigate this issue during follow up

recruitment messages to Twitter-only users by directing them to a landing page[34] I created on my personal website; the page explained to that user group the exact path they needed to take in order to complete the survey. I modified existing CSS from the LimeSurvey platform to give the page a similar appearance to the survey site.

In total, during the recruitment process I manually exchanged around 1,000 or so messages with participants, with the vast majority of that correspondence coming from me (see Appendix B for the entirety of the recruitment and follow up messages, as well as a rationale for the changes I made in the follow up messages).

3.4 Summary

This section outlined the sampling process I used to locate human services NPOs in Chicago and subsequently locate their social media accounts. I avoided the TIP by starting with a diverse list of organizations with varying functions and income levels. I used automated methods to locate social media accounts for the organizations in my sample, and used collection scripts to gather a large amount of social media data in the form of posts and associated metadata. That data was important for the machine learning component of this study, which I address in chapter 6. I also fielded a survey using an instrument that I modified slightly to meet the needs of this study. I

[34] http://andrewroback.com/dissertation_survey/

recruited participants for this study by sending them messages on either Facebook, Twitter, or both. In later sections, I'll elaborate further on the rationale for my questions and the exact methods for how I coded and classified posts using a machine learning algorithm.

CHAPTER 4

ACTIVITY THEORY, STRATEGY GUIDES, AND THE DEVELOPMENT OF THE SURVEY QUESTIONS

> The behavioral and social sciences have cherished a division of labor that separates the study of socioeconomic structures from the study of individual behavior and human agency. In this traditional framework, the socioeconomic structures look stable, all-powerful, and self-sufficient. The individual may be seen as an acting subject who learns and develops, but somehow the actions of the individual do not seem to have any impact on the surrounding structures. This traditional dualistic framework does not help us to understand today's deep social transformations. *More than ever before, there is a need for an approach that can dialectically link the individual and the social structure* (Engeström, 1999, p. 19, my emphasis).

When Engeström wrote those words over fifteen years ago, Web 2.0 was nascent, and social networking sites like SixDegrees were still struggling to understand how to attract and keep users. Yet today, we widely credit Facebook and Twitter with fundamentally changing how we interact with other persons on the Internet. We have seen over the course of a decade how online interactions influence our personal lives. Yet, when scholars try to describe the impact they have, even on specific sectors such as nonprofit organizations, they struggle to formulate answers to fundamental questions like "why do practitioners use these sites?"

While researchers tend to treat Facebook and Twitter as megaliths, one need only look to Friendster or other defunct social networking sites to realize that large user bases are ephemeral. Additionally, their development history and default settings frequently change, shifting user experience from

year to year; apart from some core functions, the Facebook of 2005 is not the same as the Facebook of 2015. Focusing only on specific feature use by social media users provides a snapshot of use at any given time, but does not answer larger questions concerning the relationships between users and social networking sites.

Activity theory (AT) articulates the relationship between subjects and objects in the world. It provides a framework for analyzing human endeavors through structural units known as activity systems. In this study, I envision activity systems to be individual nonprofit organizations where an individual or several individuals are involved in social networking site activities (some individuals more than others, and some not at all).

In this chapter I will discuss why activity theory is well suited to addressing the issues of uncovering motivations for social networking site use among practitioners at nonprofit organizations. I'll then discuss the expanded concept of activity systems and use that schema to analyze several popular strategy guides that offer advice on using social media to practitioners at nonprofit organizations. As I discuss each dimension of the activity system, I'll introduce the premise for the questions in the survey instrument I distributed to participants in my study.

4.1 Activity Theory: Fundamental Concepts

For this study I use activity theory as the theoretical lens through which I focus my discussion of practitioner behavior at NPOs. The language

associated with AT contains a great number of theory-specific terms and phrases, so this section attempts to explain activity theory with sufficient background to make my approach clear. Later in this chapter, I will be more specific on applications of activity theory to my research area, including how AT informed my survey questions.

A brief history of activity theory. This section gives a brief history of activity theory as a discipline, starting with Lev Vygotsky's cultural-historical psychology. I could essentially include a citation after every sentence in this section that refers to Kaptelinin and Nardi's (2006) chapter "Activity Theory in a Nutshell," the most complete summary of major theoretical advances in AT from Vygotsky to the present. Know that this section is formulated from that piece as well as Cole & Scribner (1978) and condensed to present a brief history and contextualization of this theoretical approach for those who are new to it.

Although he did not develop activity theory, psychologist Lev Vygotsky developed many of its fundamental concepts in his work on cultural historical psychology. Vygotsky sought to create a discipline of psychology that addressed several important problems in Western psychological thought. First, he was staunchly against stimulus-response theories of behavior, judging them to be insufficient to explain complex animal behavior, let alone human behavior (especially motivations). Second, Vygotsky's work with

cognitively and physically disabled persons strongly influenced his desire to find immediate solutions to the problems of his patients as opposed to highly detached theoretical musings (Cole & Scribner, 1978). Third, he viewed Western psychology as fractured and impotent, ceaselessly debating Cartesian mind-body problems through limiting empirical research models while failing to trace the roots of behavior back to early childhood development. With this in mind, he developed the experimental-genetic approach, which was less a series of empirical experiments than a process that revealed interesting truths about development and learning through observation of closely crafted simulations; his researchers regularly interacted with and facilitated the activities of the subjects, which was fitting since he advocated for a measure of intelligence based on potential advances facilitated by a mentor (the *zone of proximal development*) rather than an evaluation of knowledge at a particular state (Cole & Scribner, 1978). His work also advanced understanding in learning and internalization of external activity, a concept I will return to.

Vygotsky famously oversaw Alexsi Leontiev's experiments that led to Leontiev's parallelogram of learning. After Vygotsky's premature death, Leontiev founded the second generation of Activity Theory, adding concepts such as discrete actions and operations, and refining many of Vygotsky's incomplete ideas.

Leontiev also expanded the connection between culture, society, and personal/cultural history. Vygotsky (1978) noted that the changing nature of human activity requires a historical perspective, which in activity theory comes from Marx's dialectical materialism. Marx analyzed the material world in *Capital*, exposing the transformation of labor relationships under capitalism, specifically the relationship between wage-laborers and capital holders. Leontiev gravitated to Marx's connection of history, thought, and action in the material world, and expanded on it, declaring "thought and perception are both social (carried out and a product of society) and historical (influenced by personal, social, and anthropological history)" (Leontiev, 1978, p. 22-3).

Despite the progress made by Leontiev, AT fell out of favor in the Soviet Union after a regime change at Leontiev's research center. It was later revived and expanded by Yrjö Engeström at the University of Helsinki. Engeström elaborated on the concept of expansive learning, and further developed Vygotsky's existing triangle of subject, tool, and object to include an additional group: the community engaged in the activity; the addition of this group into AT's unit of analysis allowed for analysis to extend beyond solitary activities. Engeström further extended the triangle to describe two additional mediating factors: rules (mediating between the community and the subject) and the division of labor (mediating between the community and object).

AT is currently in use in several fields, including interaction design, human-computer interaction, and education. It is part of a group of postcognitivist approaches including actor-network theory (ANT), ethnomethodology, ethnography, and distributed cognition. Although AT employs a complex theoretical terminology, it is highly useful in describing relationships between mediating factors and making sense of user actions. Several main threads exist in AT today, including expansive learning, workplace transformations, systems design, and the study of play / early childhood development.

Main tenets of activity theory. There are four key assumptions that Activity Theory makes: (1) humans act with intention, (2) people and nonliving things are asymmetrically related, (3) humans develop and learn over time, and (4) culture and society shape human activity (Kaptelinin & Nardi, 2006).

The intentionality of humans was critical from the outset of activity theory. Leontiev (1978) wrote that "the expression 'objectless activity' is devoid of any meaning. Activity may seem objectless, but scientific investigation of activity necessarily requires discovering its object" (p. 52). Especially in work environments, "activities are done for some purpose, and [...] the purpose is not always clear from the formal specification of the activity in 'job description' terms" (Laufer & Glick, 1998, p. 179). This does

not exclude frivolous or early childhood activities;[35] in fact, play is major area of research. Even play fulfills a human need (diversion, pleasure) and has a motive (maximum enjoyment, winning a contest, etc.). If it were objectless, play would continue even after the objectives were met. Human activity is intentional because we have needs that must be met. Our possibilities for interaction with the world are numerous, but we seek out objects that correspond to our needs and act on them, as opposed to objects we find have less value to us.

Unlike ANT, in which nonliving objects can exist as nodes equal to living persons, AT defines the relationship between people and objects as asymmetrical since people have both agency and act with intention, something objects are incapable of. Twitter, therefore, is classified as a specialized object, or tool, that humans use to transform their environments. While it is a powerful tool, it does not independently possess needs or the ability to act on those needs. That property is unique to living things. Likewise, the material world is asymmetrically related to humans, as evidenced by our ability to radically alter its composition (Kaptelinin & Nardi, 2006). Humans exist as powerful actors in the world; we create

[35] I'll leave exhaustive cataloging of fringe cases and destructive/perplexing behaviors to other scholars.

machines to serve our needs,[36] and we transform the material world to better suit our desires.

Humans learn and expand their knowledge. Activities are cyclical in nature, and as humans find problems with an activity the search for solutions allows us to reflect and refine the activity until it is significantly modified (Engeström, 1999). Some specialized knowledge is contained in the design of artifacts and the relationship of artifacts to culture and society. From an AT point of view, social media sites like Facebook are collections of past innovations and learning done by humans; the site itself has no ability to improve other than what humans put into it. Such tools are functional bridges between cognition and society, internal and external behavior, and are constantly in transition from internalization to critical self-reflection (Engeström, 1999).

As interpreted through AT, the functionality social media provides as a tool simultaneously expands on as well as subsumes social activity that was carried out through previous means, altering the fundamental activity of interacting with associates and stakeholders. At the same time, our cultural and societal history shapes the formation of those tools as a result of our thinking. The history of culture and society is embodied in our thinking, and subsequently in activity and artifacts, a reflection of the fact that society fundamentally influences our thinking and actions.

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[36] There is, of course, an argument to be made about artificial intelligence, but for now this seems to be the relationship that predominates between humans and machines.

Overview of basic concepts. AT posits that the world consists of *subjects* and *objects* that transform each other (Kaptelinin & Nardi, 2006). A subject is a living thing (typically human) while an object is a thing (material or psychological) that is representative of an outcome and becomes crystallized once it has been achieved (e.g. a bull's eye on a target or a new car) (Kaptelinin & Nardi, 2006). Humans have developed an array of *tools*[37] that we use to manipulate objects around us in order to achieve an *objective*. Take as an example a person who is cold. He/she currently has an unobjectified need (the need to get warm). Eventually, that need becomes instantiated as building a fire and becomes a *motive*, "an object, material or ideal, that satisfies a need" (Kaptelinin, 1996, p. 55). That person uses flint and steel to ignite a pile of sticks and tinder. The motive to warm oneself by a fire is achieved by using a mediating tool (flint/steel combination) to transform an object (the pile of sticks and tinder). The activity fundamentally changes the environment of the subjects (once fire is mastered, one can inhabit a colder climate) and the relative value of objects (as winter approaches, the timber contained in a forest becomes increasingly valuable). The unit of analysis to

[37] Tools are also referred to as mediating artifacts in AT. Artifacts carry a particular set of cultural and historical values and those values "stretch across activities through space and time" (Nardi, 1996, p. 37). This is an important concept in that it explains partially how the PR community ended up studying a subject's use of a tool (social media) without first identifying a motive: the tool itself is assumed in the PR context as having a primary, dialogic function that is going unrealized before considering the cultural and historical implications of that tool. As is alluded to in recent PR literature (and explored this study), those assumptions may conflict with the culture and history of that tool.

understand interactions between subjects and objects is the *activity*. Individual actions (e.g. chipping off a piece of flint from a larger rock, chopping down a tree) can appear to an observer to be unrelated to the motive, but are still necessary to achieving the desired outcome. Crucially, activities can have more than one reason for existing, and as such are *polymotivated*. The fire building activity can be motivated by a need for warmth, cooking, and even for socialization or pleasure (witness the seven-dollar bundle of wood on sale at your local grocery store).

Activities can be split into three hierarchical levels: the activity, actions as components of the activity, and operations as components of actions (Kaptelinin & Nardi, 2006). *Activities* are oriented toward *motives*. *Actions* are oriented towards *goals*, many of which may need to be achieved in order to accomplish an objective; *operations* are oriented towards creating conditions, where operations are unconscious processes used to achieve an action (Kaptelinin & Nardi, 2006). An example of the three levels would roughly follow this pattern: commuting to work (activity), boarding a bus (action), touching your transit card to a touchpad (operation). The subject's motive is to reach the office, which necessitates the goal of successfully boarding a bus, which necessitates the condition of having paid for the trip. Actions and operations can easily be adjusted if the environment changes (you can catch a cab if you miss the bus, or pay with cash if you forget your transit card), but changes in motives are frustrating (e.g. your office moves to

another town) and require more significant adjustments (Nardi, 1996). Additionally, motives and operations are typically much harder to articulate than actions and goals (e.g. when a child probes you as to "Why you work," or describing all of the physical movement processes necessary to enter a bus, pay, and move to your seat). Actions that are frequently performed can become routine, and thus transform into operations (Leontiev, 1978). Likewise, contextual circumstances may transform tacit operations into explicit actions, requiring greater attention and additional steps to complete.

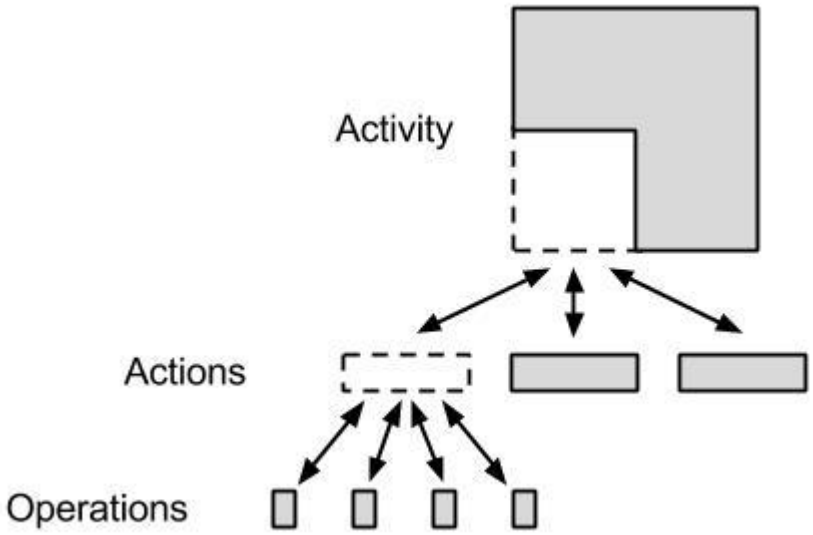

Figure 5. A depiction of the activity hierarchy. Note the bidirectional arrows, as components can move up or down in the hierarchy.

Using AT to understand motives for NPO use of social media. Applying the AT critical framework to the current literature, the top-level gap is in the understanding of the motive for NPO practitioners using social

media, an understanding that PR literature has been driving towards for the past several years. Motives can be defined as objectified needs, where *needs* describe a biological (e.g. food, water, warmth, etc.) or psychological necessity (e.g. camaraderie, sense of purpose, etc.) (Kaptelinin & Nardi, 2006). An important assumption in this study is that social media use among NPO practitioners is related to an objectified need, or motive: to wit, that they are using this tool for a purpose. Whether or not they can articulate that purpose is questionable, as an object of an activity is not necessarily part of the subject's conscious thought process (Kaptelinin & Nardi, 2006). Hence, a study that just asks practitioners why they use social media may not reveal a motive, no matter how incisive the questioning is. Therefore, in order to better understand practitioner motivations, it is necessary to approach the problem first from the action—goal level before making generalizations about the larger activity. Table 1 represents a modified application of the AT hierarchy to correspond with the activity system of NPO practitioners that I will discuss.

Table 5. The activity hierarchy with broad applications, as well as specific examples from a typical motive.

	Application	Specific Example
Activity	Interacting with stakeholders	Motive: Build a conversation around a relevant hashtag
Actions	Posting updates, moderating comments, linking to an interesting article	Tweeting content with the hashtag, retweeting other users' posts, modifying your profile background picture to include the hashtag
Operations	Clicking a social sharing tool icon on a website, editing out metadata ("via @user") from a post	Hitting tab to autocomplete a hashtag in your post, clicking on the hashtag from your timeline to open a search results page

Problems of scope: collective versus individual. Marx was certainly concerned with the big picture, but even he acknowledged that individual behavior cannot always be explained through an understanding of society (H. White, 1973). While Vygotsky bridged the gap between cognition and behavior using the activity as the unit of analysis, his work was done with individuals or small groups. Leontiev similarly focused on the individual. Engeström extended the concept of the activity into the community realm and posited that the mediator between a community of practice and an individual subject were the rules governing the activity and the position of the subject in the activity's division of labor. Still, as Davydov (1999) points

out, AT does not demonstrate a clear link between individual activities and internalization of collective activities.

How then, does one account for the appropriation of the collective activity of content creation on Facebook and Twitter with the individuals in each NPO activity system? One possibility in the workplace is training through informal interactions. The authors of strategy guides have quite a few ideas of how individuals become initialized into the collective activity of the entire site and an individual activity system. Other well-recognized, informal methods of initiation are "trial and error" or "modeling." These concepts shed some light on the conversion of macro-interpsychological processes down to intrapsychological processes. The AT concept of rules may not totally address Davydov's concern, but an examination of these initiation practices provides a relatively clear picture of different strategies that users employ in workplace settings.

The remainder of this chapter will explore strategy guides as an avenue to understanding initiation practices. First, I'll cover how and why I selected these books as a site for analysis. Second, I'll discuss Engeström's activity system model and different terminology I use in my analysis. Third, I'll offer an AT-based analysis of the strategy guides and explain how I used these concepts to develop the questions in my survey instrument.

4.2 Strategy Guides, as Interpreted Through Activity Theory

Among my respondent NPOs, 58% (n=32) acknowledged that they read best practices guides (for example: *Social Media for Social Good: A How-to Guide for Nonprofits*) or websites that offer tips, and they use those tips to help them write "good" content. In addition to being widely read by those organizations included in this study, these guides also offer a cross section of opinions on what is "ideal" or a "best practice" and what should be avoided when using social media.

To balance and supplement the information respondents gave me about best practices, I reviewed six of the most popular NPO social media strategy guides. To find books to review, I first searched Google using the query term "nonprofit social media marketing books,"[38] then selected the number one result as my starting point: *Social Media for Social Good: A How-to Guide for Nonprofits* by Beth Kanter and Allison Fine (2010). Amazon.com uses item-to-item collaborative filtering for each item in its database to recommend similar items that a consumer might want to

[38] To breakdown how I arrived at this query: "nonprofit" is the most frequently used term for 501(c) organizations in the literature (as opposed to "non-governmental organization"), "social media" appears more frequently than "social networking site" in the literature, and "marketing" because it is most prevalent in search term pairings with "social media" according to Google Trends (http://www.google.com/trends/explore#q=social%20media); at the time of writing, "marketing" was present in the top three related searches. Finally, I included "book" since I wanted to preference printed material over blogs or ad-driven journalism (I discuss this in the next section of this chapter).

purchase;[39] Amazon calls this feature "Customers Who Bought This Item Also Bought." Using those recommendations, I selected five additional titles that I estimated (from the publisher description) would contain activity/action-level recommendations and dealt specifically with NPOs and social networking sites.[40] To verify my selections, I consulted with an informant who is a media relations manager in the nonprofit sector and has extensive experience managing her organization's social media accounts. She indicated that these were likely candidates for a most-read list. Although they are referred to as "marketing books" in the popular press, "strategy" seems to be the unifying word for books I surveyed as they all emphasize planning and thoughtful consideration of approaches to using social media (with one quasi-outlier, as I will discuss in the review section). As such, from this point forward, I'll refer to these books as "strategy guides."

Why use strategy guides instead of blogs? I considered including social media blogs in my review, and I surveyed the top ten blogs according to a list of 150 nonprofit blogs[41] on TopNonprofits.com. Most of the blogs covered

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[39] For more on the mechanics of how this system works, see: Linden, G., Smith, B., & York, J. (2003). Amazon.com recommendations: item-to-item collaborative filtering. *Internet Computing, IEEE* , *7*(1), pp.76-80.

[40] I realize there are alternative methods for selecting items to review (computing sales numbers, regional distribution of readership, surveying nonprofits to see which titles they recall reading, etc.), but the approach of searching and sampling recommendations based on the number one Google result has the advantage of mimicking the steps a practitioner might take when starting from scratch.

[41] http://topnonprofits.com/lists/nonprofit-blogs/

diffuse issues that are more "general interest" pieces rather than pieces specifically focusing on strategies for using social media.[42] One blog did contain a category specifically for social media use (About.com Nonprofit Charitable Orgs[43]), but it was a small section of the blog and focused on the entire gamut of social media as opposed to Facebook and Twitter (the two platforms with which this study is concerned). One blog specifically focused on using social media to increase donations (Nonprofit Marketing Blog[44]), but didn't discuss any of the other areas that this study addresses.[45] One blog was actually not a blog *per se*, but the website for a print periodical (*Nonprofit Quarterly*). Finally, the remaining two blogs, Beth's Blog[46] and Nonprofit Tech for Good,[47] were authored primarily by two authors of print materials I reviewed, Beth Kanter and Heather Mansfield, respectively. As such, there was a significant amount of overlap between blog advice and the advice given in their published books. The main difference is that targeted strategy information on blogs was scattered in with a wide range of other

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[42] The Nonprofit Times, Skoll World Forum, Stanford Social Innovation Review Blog, Socialbrite, NTen Connect Blog. You can easily find these by searching for the titles through Google.

[43] http://nonprofit.about.com/

[44] http://www.nonprofitmarketingblog.com/

[45] Later in this section I discuss my decision to separate fundraising from other social media motivations.

[46] http://www.bethkanter.org/

[47] http://www.nonprofittechforgood.com/

material in most cases, whereas print publications regarding strategy were much more focused. With this in mind, I elected to use only print publications.

Since it is "free" to read blogs and practitioners have to pay to read the print materials, one could argue that more people are actually reading the blogs rather than the books I selected for this review. If my only goal were to sample texts that were widely read by the participants in my study, this would be a serious impediment. For my purposes, however, it is more important to examine professional advice given by subject-matter experts regarding specific actions and motivations for social media use by NPOs. The purpose of this section is to provide additional insight into analysis of the data I collected so as to challenge and confirm, as appropriate, assumptions on motivation based on the data in my study.

From this point forward, when I use the term "strategy guides," I am referring to printed publications that I reviewed for this study.

Focusing on relevant issues in strategy guides. Even within the six strategy guides I reviewed, there are a wide variety of topics and approaches to walking readers through the use of social media. This section will explain what information from these books is important for my larger study, and what is not, e.g. operational steps like setting up accounts, advice on social media other than Facebook and Twitter, advice exclusive to fundraising, etc.

Some of the strategy guides I surveyed devote significant space to the actions associated with the initial setup and use of social media (e.g. configuring your Facebook organization page), sometimes going as far as to include operational details (e.g. "click the 'save' button," etc.); those approaches are anachronistic (the constantly changing layout and feature set of social media websites virtually guarantees that these procedures are obsolete within a year or two, sometimes before the publishing cycle is even completed) and difficult for researchers to reliably observe. To observe operational detail, a researcher needs to constantly observe the participant;[48] to research activities associated with creating an account, the researcher would have to be present during the account creation. These limiting factors severely attenuate a potential pool of participants. The participants in my study demonstrated (in most instances) that their experiences with social media as a tool far exceeded the need for this type of operation-level instruction. Most importantly, while initiation actions/operations are important, they tell us less about higher-order motivations than do strategies and approaches; to wit, higher-order motivation considerations are necessarily excluded if one cannot master the operational level (except in issues that are extrapolated from a division of labor, which I will cover in detail in my review). Finally, it is unlikely that persons who need operational hand holding to set up a Facebook account are getting any useful information

[48] Or continuously monitor operations (using screen captures), then filter through vast amounts of data.

from a two or three year old book (it would make more sense to examine help features and community forums, which is another study entirely). For these reasons, I am not concerned with initial actions/operations as described in these books.

I chose to position fundraising as a separate consideration from social media use. One could presume that the primary objective of every organization is to raise money to support its mission, but that assumption is wrong: many of the organizations I collected social media data from have less than one dollar of annual income reported to the IRS. Social media is therefore not inextricably linked to fundraising, and therefore should be considered as a separate activity. I can definitively state that *NPOs are not just using social media to ask for money*. In some cases, strategies may ultimately lead to a donation from interested stakeholders, and the marketing strategy of an NPO might be heavily dependent on using social media to engage potential donors and drive them up the "engagement ladder,"[49] but it is wrong to assume that this is the dominant reason for using this technology. As such, I limited my consideration of fundraising as it relates to strategy, and I treat "asking for money" as its own distinct motivation separate from those I concern myself with in this study, not as some overarching "master" motivation.

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[49] See Kanter & Fine (2010), p. 68 for a detailed discussion. The ladder is essentially a user typology for NPO stakeholders, with sympathetic but unengaged persons at the bottom, and engaged leaders at the top. The concept is very similar to Preece & Shneiderman's (2009) "Reader to Leader Framework."

My study is limited to Facebook and Twitter, so I will not discuss material (unrelated to broader strategic concepts) that is highly focused on other social media platforms (e.g. Foursquare, and how to use Foursquare to do a scavenger hunt, etc.). These tools and strategies are so far afield that it would be difficult to relate higher-order concerns without collecting user data.

4.3 Mapping Concepts: The Activity System Model and Strategy Guides

I use activity theory to map and analyze concepts that strategy guides discuss. These are popular press advice books, so each book has a different content organization strategy; sometimes advice on related concepts is peppered in through chapters as opposed to being laid out in a distinct section. I read these books along content analysis lines, so when I identified a piece of advice that had something to do with social media, I noted it and used those notes to synthesize an overall narrative structured along activity theory principles. A summary of those notes is included as Appendix A.

Before I begin the review, I'll discuss how components of the activity system model, and activity theory more generally, apply to nonprofit organizations.

The activity system model. I use Engeström's (1987) activity system to describe individual NPO organizations within an ecology of other activity systems representing other individual NPOs (as opposed to all NPOs existing

within the same activity system). This activity system consists of six parts: the core relationship between *subject*, *community*, and *object*; and the mediating factors between them, namely *rules*, *division of labor*, and *tools*. Recall that when I use the term *motive*, I am referring to an objectified need, or a need that the subject has defined (e.g. "promote an event to increase attendance") as opposed to an amorphous need (e.g. "do better") or an unobjectified need (e.g. "get on social media"). Looking at Engeström's activity system (Figure 6), the object (and, by extension, the subject's motivation) is what remains to be explained; a further discussion about the other components of the activity system will illuminate how I went about analyzing the concepts discussed in the strategy guides.

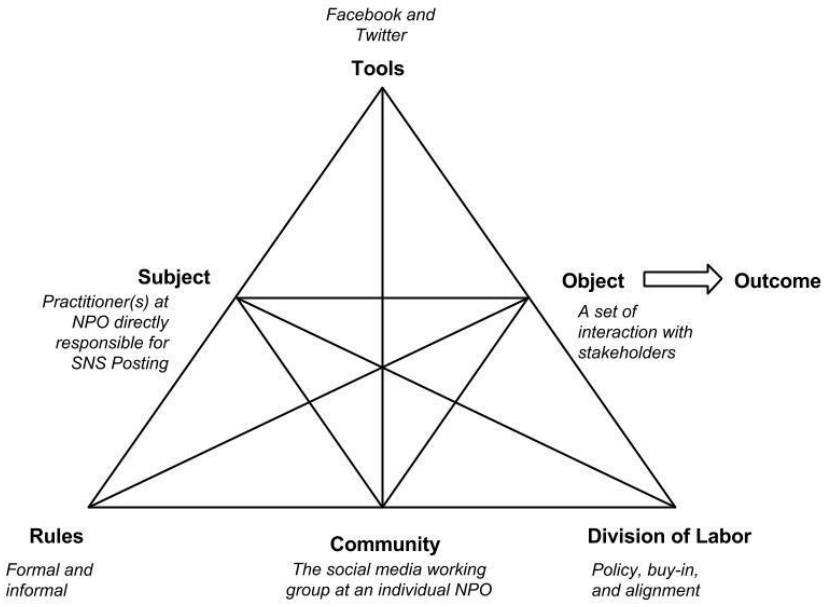

Figure 6. Activity system adapted from Engeström (1987) with study-specific labels (italics).

Social networking sites are the *tools*. There are finite ways in which to interact with other users via Facebook and Twitter. Users can access these sites via web interfaces, mobile applications, or third-party applications. The tools in the activity system in this study are Facebook and Twitter, and I'll focus primarily on how the subject uses those tools to achieve the organizational objectives.

The *subject* is the person responding to the survey in this study, and for non-respondents, the person who holds primary responsibility for content posted to social media. This is the person primarily responsible for the work of posting content and interacting with stakeholders on Facebook and

Twitter. The *community* in which the subject is situated is the NPO that they work/volunteer for and all persons that have some connection to that organization's social media operations. This is a highly variable component, as communities can exist in many forms. Small organizations may simply have a few officers or peer-associates who communicate within the community, whereas larger organizations may have an expansive hierarchy that includes a board of directors, middle management, program coordinators, staffers, interns, and volunteer coordinators or highly-engaged stakeholders. As the community expands, so do the mediating factors: division of labor and rules. Additionally, stakeholders external to the community may voluntarily take on social media duties such as posting or curating, and hence also become part of the community in the activity theory sense.

The community agrees on or implements a *division of labor* in order to transform the object and bring about an outcome. I differentiate between the division of labor within an activity system or organization, and the division of labor that is external to an activity system or organization and is useful for inter-organizational collaboration. For example, an intra-organizational division of labor consists of the work done to deliver content to the social media site and maintain "presence" (responding to and interacting with other users). In a larger organization, a coordinator might notice a lack of interest in a certain planned promotion and instruct the subject to come up with

content on social media to boost interest, but that coordinator is not the person who is responsible for generating or posting the content. This is an example of dividing labor amongst persons within the organization: one person devising a need for content in a certain area (coordinator) while another generates and posts the content (subject). As a bureaucracy expands, so does the possibility of increased division of labor. Likewise, in inter-organizational efforts, labor might be divided amongst organizations on one platform or even across multiple organizations on several platforms.

The community agrees on or implements *rules* that the subject feels compelled to (or must) follow. In this study, I differentiate between formal rules and informal rules. *Formal rules* take the form of written policies, directives, or guidelines, and are consciously or deliberately formulated and presented to the subject (regardless of whether they are composed by the community or gleaned from a prefabricated list of policies in a strategy guide). *Informal rules* take the form of "common knowledge" and "good sense" and are "understood" by the subject without having to be deliberately explained. As I will discuss, these distinctions become blurred at times in the texts I reviewed.

This section described the major components of the activity system and how they relate to NPOs, but there are other concepts from activity theory that I applied to my review of NPO strategy guides that I'll describe and explain how/why they are useful to an analysis of texts in this genre. Before I

do that, it's necessary that I clarify specific terms that I use to describe group entities in this analysis.

Stakeholders, organizations, and the community. In this section I'll discuss how I understand and use *stakeholders*, *organization*, and *community* since they have a broad overlap across social science and humanities disciplines and are not sufficiently differentiated in common usage as to provide *prima facie* distinctions in meaning.

Freeman (1984) traces the first use of *stakeholder* in management and organization studies to a 1963 memo by the Stanford Research Institute; the term describes essential groups that a firm relies on for continued existence. Freeman's own highly-cited definition defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman, 1984, p. 25). While such a definition is underpinned by its context (the term comes from consideration of for-profit corporations in a capitalist economy), it is broad enough to be a useful starting place for defining stakeholders as they relate to NPOs. This definition raises two important questions: (1) What constitutes "affecting" or "being affected by" a firm? and (2) how does one translate the concept of a "firm" to the 501(c) sector?

Mitchell, Agle, & Wood (1997) point out that almost anyone can potentially have an impact on a firm, hence they make the distinctions

between *claimants* (persons who feel they are owed something and may or may not have leverage) and *influencers* (those persons who have leverage to affect the firm and may or may not have a claim). They also distinguish between stakeholders with an actual relationship to the firm, and those with a latent or potential relationship. There are scores of other factors to differentiate various types of stakeholders (including legitimacy of claims), but these are the two most important distinctions with respect to my study. Stakeholders that have an actual relationship with a firm and are influencers, therefore, have a great deal more potential power than those who are latent or merely have a claim to make against the firm; this leverage may result in differential treatment of various stakeholders by the firm. Hence, this study is concerned with stakeholders with an extant relationship and less concerned with latent relationships.

The entity that most resembles a "firm" or "corporation" in the 503(c) sector is the nonprofit organization, or simply, the *organization*. The organization itself is a collective of stakeholders. What then differentiates any and all stakeholders from members of the organization? If this were a corporation, one might use considerations such as labor wages or customer payments to differentiate, but many NPOs are composed entirely of interns or volunteers who draw no wages. Likewise, capital considerations for NPOs are different from those of a for-profit corporation: a corporation generates capital and distributes it to workers, whereas an NPO often needs capital

provided by government organizations or private donors. Just as likely, an NPO may have no operating budget at all, rendering capital considerations completely useless when determining who is a part of the organization. Disbursement of capital, therefore, is not a reliable indicator of membership in an organization.

Other considerations such as degree of influence or amount of power that can be exerted on the organization might be used to determine who is a member; however, since these attributes are subjective, variable, and socially constructed (Mitchell, Agle, & Wood, 1997), they do not provide a clear distinction. Salience, or "the degree to which managers give priority to competing stakeholder claims" may provide more of a distinction in terms of the importance an organization places on one individual/entity over another (Mitchell, Agle, & Wood, 1997, p. 869). Salience is measured by legitimacy of attention from managers directed to a stakeholder, or who/what they should legitimately spend time and attention on (Mitchell, Agle, & Wood, 1997); as a heuristic, it is limited to distinguishing stakeholders from non-stakeholders, and not stakeholders from members of the organization. Likewise, other real-world confounding factors such as biases, preconceived notions, or interpersonal disagreements can impact the salience of stakeholders.

How then does one differentiate between a stakeholder and an organization member? Stakeholders are sometimes grouped together as either internal or external. Determinations of salience are often made by the

amorphous *management*, which Knox and Gruar (2007) isolate in their study through a set of criteria, including engagement with driving change in the organization, contact with external stakeholders, and the users of marketing practices (as opposed to those being marketed to). I prefer a more egalitarian model that includes not just management, but anyone who performs those tasks or contributes to the effort with valued input. Note that external stakeholders do not determine their own salience; that is the domain of management, or under my egalitarian interpretation, management in collaboration with internal stakeholders.

Building off Knox and Gruar's criteria, I define organization members as staff members, management, board members, and other internal stakeholders who perform the analyses of salience, and can actively initiate or conduct changes to the organization's strategies or policies. Notice that this definition does not exclude volunteers or wealthy philanthropists who contribute time or capital, so long as they have valued input into determining salience or adjusting the strategies or policies of the organization.

Whereas stakeholder theorists use *stakeholder* to describe persons both internal and external to the organization, I differentiate between stakeholders outside of the organization and members of the organization, though I recognize the relationship between the two to be fluid depending on the level of involvement an entity has with the organization. This position is supported by the thinking of other scholars. Knox and Grurar (2007)

differentiate between external stakeholders and the organization they are studying, and subsequently depict them as separate entities (see their fig. 2 on p. 119 for a representation of this distinction--notice that the organization and its employees appear as a single unit in that graphic). At the heart of Lewis, Hamel, and Richardson's (2001) study of communicating change amongst nonprofit stakeholder groups is the conception of internal/external. They identify models for communicating change among those groups, and find that external stakeholders are often informed of organization change via the *quid pro quo* model, whereby they are given access to communication at a level consistent with their contribution *to* the organization rather than the level of stake or need *from* the organization (at least at large organizations).

Not surprisingly, this finding is in line with cultural values regarding who deserves priority when communicating important information (e.g. the identity of accident victims is regularly withheld from news reports pending notification of their next of kin). Based on Lewis et al. (2001), special considerations are, in practice, afforded to what I call members of the organization (e.g. engaged volunteers, paid staff members, unpaid interns, board members, important donors, and other integral entities) above and beyond other types of stakeholders. This is why I differentiate *stakeholder* from *organization* and *organization member* in my study.

Community members in Engeström's activity system share the same object; thus the term *community*, while expansive in terms of grouping like-

minded individuals, is exclusive in terms of separating those persons who may have other ties, but are not working toward the same object. This leads to a paradoxical conception of *community*, whereby persons or entities may coexist at the same organization, but be separated by object and thereby work in separate activity systems. A large organization could have numerous activity systems that each focus on different aspects of the organization's operations (e.g. legal, financing, logistics, etc.) with different objects; these systems may interact and transform, or they may be totally separate. A single person may be a community member in multiple activity systems.

The type of activity system I am studying is concerned with the actions associated with obtaining social media objectives. In a small organization, say four people, it's possible that everyone is responsible for social media and, therefore, everyone is in the community. It's equally possible that one person does the work of generating content and posting, two people provide oversight, and one person is totally uninvolved. In this case, there are four people working at the organization, but only three people are in the community in the social media activity system (and only one is the subject).When I use *community*, I am referring to those persons who are directly involved in some way in the social media activity system (I'll elaborate on this concept further when I discuss division of labor at NPOs). Crucially, I don't use *community* in the common usage (e.g. "the community

at large" or "community being served") but rather in a limited way consistent with its use in activity theory.

Figure 7 provides a visual summary of the relationship between the three terms. The fact that *community* is smaller than *organization* is not to imply they can't be constituted of the same exact individuals. The differences in size are merely to show one possible relationship.

Figure 7. The relationship between terms.

Other pertinent activity theory concepts. Activities are cyclical, and in order to understand the nature of the subject performing the activity one must understand his/her place in the activity cycle (Engeström, 1999). A basic tenet of activity theory is human development and expansion, where subjects grow and progress (as one would expect from a human) as opposed to a repetitive cycle, in which an identical activity is carried on without

expansion or adaptation (as one would expect from a robot). While social media has only been around for a short time, it's reasonable to expect people to exhibit different behaviors on social media in an adult, professional setting than they did as middle-school aged children promoting a social club; such is the expansive cycle of activity. To understand how past transformations impact current practices, researchers examine the subject's historicity. To know users' place in the developmental cycle, researchers examine assessments and self-reflection.

Historicity, as I use the term, is consistent with a discussion of internalization, described by Engeström (1999) as "socialization and training the novices to become competent members of the activity as it is routinely carried out" (p. 33). This initiation may crystallize as artifacts (such as training manuals or the strategy guides I review here) and/or be carried out through interpersonal interaction.[50] Unlike more hierarchical initiations such as Bazerman's (1988) "socialization of the neophyte," the strategy guide authors describe interpersonal socialization based around (assumptions of) historicity, which necessarily involves the contextual use of the tool in related activities.

[50] Despite the fact that I am reviewing strategy guides, which are inherently artifacts, there is some discussion in the strategy guides of interpersonal interaction as well and the difference between those approaches.

As the internalized processes become insufficient to carry out the activity, externalization follows. Engeström (1999) best describes the meaning of externalization and how the cycle completes itself as follows:

> Creative externalization occurs first in the form of discrete individual innovations. As the disruptions and contradictions of the activity become more demanding, internalization increasingly takes the form of critical self-reflection -- and externalization, a search for solutions, increases. Externalization reaches its peak when a new model for the activity is designed and implemented. As the new model stabilizes itself, internalization of its inherent ways and means again becomes the dominant form of learning and development. (p. 33)

I interpret the "internalization of [...] inherent ways and means" as the new culture of the community as it relates to the activity system. This internalization requires a redefinition of all the components in the system, from the nature of the actor to the rules and division of labor which govern interaction with the community, as well as (in some cases) modification, enhancement, or restriction of the existing tools. This portion of the cycle causes systemic change within an organization. Therefore the conceptions of each component part of the activity system change as the activity progresses, and they have changed (possibly several times) for the subject prior to their inclusion in my study. This is where I differ with traditional conceptions of historicity.

Engeström's "novice" and Bazerman's "neophyte" connote that subject as being inexperienced, but that conception is incorrect in the social networking activity domain. As I will illustrate in my review of the strategy guides, sometimes the activities carried out prior to entering the NPO social

media activity system are considered prerequisite to the subject engaging in the activity, as no initiation or socialization is to take place since the community members themselves do not have the tool-related competencies necessary to conduct the activity without the subject's prior experience. This is why I reconceived "historicity" as a term. My justification follows.

The short timescale of those expansive cycles is a sticking point when examining social media from a traditional conception of historicity. Subjects in the activity systems that I have observed follow a pattern unlike typical collaborative or co-constructed genres where disruptions are the focus of study. Right now there's a knowledge gap concerning the methods by which persons become both trained in the methods of employing social media as a tool as well as "socialized" to the norms of the community regarding tool use.

What can an investigation into these processes tell us? When we consider the short turnaround time between novice and experienced users,[51] and the relatively short time in which individual social media sites are conceived, thrive, and decline, the historicity of the subject helps us to articulate the ways in which subjects arrive as productive actors within the activity system. Although the timescale is short, we can still learn much about what skills and initiation practices are valuable.

As a term in activity theory, "historicity" is necessarily bound to Engeström's conception of the cyclical expansions associated with long-term,

[51] And, indeed, our relative definition of what constitutes being "experienced" in this genre.

continuing activities (as social networking has surely become), but I concur with Blunden's (2010) interpretation that Engeström never meant for his terms to be comprehensively bundled and concretized as a unit of analysis in the social sciences. He instead presented what Blunden calls "a collection of abstractions which acts as a template for research" (p. 231). Blunden doesn't explicitly include historicity in that bundle, but I do. Object-oriented social networking on social media sites is an activity. The site itself is a tool. Engeström's unit of analysis for describing historicity is the expansive cycle, but to paraphrase Blunden, it's not possible to precondition all of these terms as a unit of analysis since they are constantly changing. Likewise, Engeström couldn't have accounted for expansive cycles in social media use since it didn't really exist in the same format as it does today; many past investigations deal with more conventional settings (postal workers, a Department of Transportation office, a genetics research laboratory etc.). These cycles that I describe start before a person is ever employed at an NPO, and they are difficult to generalize given the wide variability of activity system components in this study across different types of organizations; Spinuzzi (2003) claims genre tracing as a way to observe the historical evolution of an activity system, but he admits that this approach is labor and time intensive and is best suited to exigent moments where a critical change will occur in the activity system. One such critical change I describe below is the change from personal to professional social media use; many of the *faux*

pas I elaborate upon in this thesis involve the violation of a formal rule *vis a vis* context collapse of the personal and professional. While direct observation of violations is possible (indeed, I've employed this method myself in other work), direct observation of the transition from personal to professional is precluded in my approach since I located subjects via already existing organization accounts (there's no way to turn back the clock on that). Future work might observe such transitions in the wild, refining the conception of historicity I put forward in this study. For now, addressing questions of subject experience, socialization, and training provide the basis for constructing a model of experience, socialization, and expansion most similar to the expansive learning cycles Engeström talks about, even though I have deviated slightly from the original meaning of the term.

Particularly important to this study is an understanding of *assessments and critical reflection*, as they are embodied in metrics of "effectiveness" as well as goals corresponding to actions taken within the system. *Metrics* involve assessing whether the *outcome* brought about by the activity system is expected/unexpected and desirable/undesirable. They often are sought after by the community as a whole, and different metrics (or *key performance indicators* as they are sometimes called in the literature) are more or less sought after / important to different members of the community.

Goals correspond to the action level of the activity hierarchy, and achieving individual goals is necessary to transform the object. When

ingrained goals do not come about as the result of a typical action, the result is a discoordination (Spinuzzi, 2003). The resolution of discoordinations and the modification of the system to produce expected/desirable outcomes are brought about through critical self-reflection during the externalization period of an activity cycle; therefore, any system that has engaged in these activities has reached that stage of the cycle.

To summarize, the above components (historicity, division of labor, rules, assessments and metrics, and motives) are directly important to an activity theory interpretation of NPO use of social media as an activity system, and those components are what I primarily investigated in my review of strategy guide literature. Historicity, both in terms of the subject and system as a whole, gives us an idea of the experience level of the individual and organization as it relates to using the mediating artifact (social media) to transform the object. Division of labor is the component that allows one to assess the roles of community members within an organization as related to achieving an objective (or, similarly, the role of individual organizations to a community of organizations when the objective is inter-organizational). Rules, both formal and informal, help define the relational constraints of mediating artifact usage as defined or enforced by the community. Critical self-reflection results when users enter the externalization phase of the cycle and attempt to improve the processes and outcomes of an activity. In an NPO activity system, critical self-reflection

takes two forms: metrics, which are used to modify the outcome produced by the activity system, and assessment of goals, which account for the more direct feedback resulting from individual actions. Finally, motivations, the most elusive of components, describe why and for what purpose an NPO uses social media.

4.4 Review of Strategy Guides

The structure of this review mirrors that of the activity cycle itself. I begin with a discussion of historicity, followed by sections on the division of labor and rules that organizations establish to mediate the activity system. I then address assessment with a discussion of metrics and goals that are established during the critical self-reflection phase of the cycle. I conclude with an examination of the motivations that I derived from the strategy guides.

In each section, I provide a section describing my survey questions[52] and how they relate to concepts that I discussed from the strategy guides. The complete survey (in print form with corresponding question identification numbers numbers) is available on my website.[53] I discuss the results of the survey in the following chapter.

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[52] Question identification numbers appear as footnotes in these sections.

[53] See the below URL for the full text, question format, and reference number of every survey item:
http://andrewroback.com/dissertation_survey/all_survey_questions.pdf

Historicity: Personal and professional, young and experienced. At the heart of NPO historicity that strategy guide authors discuss are the concepts of "personal" social media use versus "professional" use, and the experience and preconceptions of "young" staff members versus "experienced" staff members. The strategy guides put to rest the notion that personal and professional use of social media are the same experience by nature of treating them as separate domains. Likewise, experience using social media for personal use is ascribed to the young interns whereas knowledge to effectively use that technology in the NPO domain is ascribed to more experienced staff members.

Past experience is directly attributable to age in the strategy guides. Advice repeatedly centers on avoiding the assumption that someone who is "19 and came of age using Facebook" has the requisite experience in the field to manage the social media accounts for an NPO (Mansfield, 2012, p. 62). A lot of advice describes utilizing the talents of young members of staff to set up the accounts or get the ball rolling while regularly briefing regular staff members and "senior managers" on "what he or she is doing online," and even "giving [more senior staff] some quick lessons on how you can do it yourself" (Miller, 2010, p. 187). Years of experience in the nonprofit field and at the individual NPO takes precedence over experience with social media as a technology; in the long run, it may be faster for the practitioner to "learn social media" than for the experienced youth to gain enough field experience

to successfully use social media in the NPO context (Levinson, Adkins, & Forbes, 2010). Two personas emerge from this discussion: the youthful intern who is knowledgeable about social media, but lacks requisite experience to employ it effectively in a professional context; and the experienced practitioner, who doesn't understand social media but has the "years of experience in nonprofit relationships" (Levinson, Adkins, & Forbes, 2010, p. 201) necessary to interact effectively with stakeholders and other organizations. Although they don't use activity theory terminology, they are clearly referring to the intern having tool-related competencies[54] that he/she should pass on to the experienced practitioner; once the practitioner has the tool-related competencies, he/she combines that knowledge with his/her "experience" to foster task-related competencies, or knowledge of the higher-order possibilities of tool use.

Although these personas fit public perception and may have some support from data,[55] the latter seems more grounded than the former. The authors (perhaps correctly) assume nothing from the readers of the books in terms of expertise, and if one is buying a strategy guide it's reasonable to assume that one needs some kind of support in this area. However, assuming that so called "digital natives" have additional exposure or experience to every social media technology is not necessarily correct. Assuming that youth

[54] See Kaptelinin & Nardi (2006) for a definition of tool- and task-related competencies.

[55] See http://www.pewinternet.org/data-trend/social-media/social-media-use-by-age-group/ for a survey of social media use by age group in the United States.

equals blanket knowledge of all social media platforms is perilous. In January of 2014, the Pew Internet and American Life project found that of the 19% of the general public that used Twitter, only 35% of users were 18-29 years of age compared to 20% of 30-49 year olds (not a statistically significant margin [56]). Finally, all the guides that covered historicity of youthful newcomers seemingly assume that the social media experience is purely social or recreational in nature, and does not have any parallels with NPO use of social media (e.g. moderating discussions for a large forum of users, community organizing, fundraising for school projects, etc.).

The other main thread is personal versus professional historicity, and what part each should play in the role of the NPO practitioner. Kanter & Fine (2010) take a nuanced approach, recommending personal social media use as the starting point for experienced practitioners that need to learn how to interact on social media sites. They advise using personal social media accounts to "get" what content and behavior is acceptable, and surmise that "a new user will soon learn the rules and norms of behavior that grease the wheels of the online world" (pp. 51-2). Consider that statement first in the frame of a user's historicity. Kanter and Fine's interpretation posits personal and professional historicity as separate from one another, and they suggest personal social media use as a training ground of sorts where a person's actions (assumedly including gaffes and *faux pas*) occur in a low-stakes

[56] See http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet/ for all the results.

environment as opposed to the more risky business of having a user's first social media experience (and mistakes) be at the helm of her/his organization's social media dashboard. In this "training ground" scenario, context collapse poses an obvious problem (especially for older users who may have a wealth of persons in their social network that seek them out online especially because of their organizational affiliation), and a user must demonstrate an expertise at the higher-order action of personal privacy management, something that is typically viewed as the domain of a user experienced in navigating different social media platforms. It also assumes that no one will want to know and personally connect to the person behind the brand-logo account of the NPO tweeting at them. Viewing personal and professional use as separate entities carries a host of problems.

Effectively combining the personal and professional, by contrast, seems to be the domain of Mansfield's (2012) "effective" social media manager, a person who "takes responsibility for her own privacy and takes the steps to protect it where and when she wants to" (p. 65). Although Mansfield seems to empower the social media manager, she goes on to describe a somewhat schizophrenic persona:

> [An effective social media manager] is educated about privacy settings on various social networking sites. She doesn't post anything she doesn't want her boss or her parents to see, but beyond that, mixing her personal and professional lives online is something she is willing to do in order to be the best advocate for her cause and her nonprofit (pp. 65-6).

While being adept at privacy settings, she still "doesn't post anything she doesn't want her boss" to see, which in itself is an extremely vague category that can encompass any number of things that one might tell friends, but not one's boss. The private self, or even the self-divorced from work associations, is expected to be erased on social media rather than kept separate in favor of becoming the "best advocate" possible for her organization.

Hence, the age/experience trust gap in the literature is summed up nicely with this maxim: if you must put an intern in charge of your social media, train him/her first (Mansfield, 2012). The youthful intern is the master of social media platform knowledge, and should be used to establish social media presence and educate more senior staff members so they can take over that job later (presumably the intern leaves for college or is discharged; nowhere in the strategy guides is it mentioned that the intern is groomed for a role as a permanent staff member managing the organization's social media). The experienced practitioner uses younger staff to educate and train them on the basics, but leverages his/her own extensive knowledge of how to interact in the organization's ecology to take over the role of social media manager. If a youthful intern must manage social media, it is under the training and gaze of a staffer or senior management (excluding of course Mansfield's ideal manager, who probably requires minimal or no supervision).

Finally, there are some assumptions made about community historicity with using social media as a tool. Although some authors advised developing a strategy first before even beginning to use social media (Mathos & Norman, 2012; Mansfield, 2012), Kanter & Fine (2010) emphasized what they called "microplanning," or the reduction of risk on social media strategies through small-scale, iterative campaigns. I mention it here because the difference in how to plan lines up with who is viewed as the learner with the most agency: Kanter and Fine expect the experienced practitioner to experiment on his or her own, whereas front-end planning authors return frequently to extracting knowledge from the youthful intern. The later arrangement is much like the relationship between the King and his youthful champion: the King assigns the champion to go on a quest and return to him with riches, and when the champion's day is done, he is discarded.

Though that last analogy is rather bleak, it hopefully puts into perspective the different approaches recommended in the texts and some of the assumptions of historicity of individuals within organizations. Although there was some indication that historicity of the tool was a consideration (chiefly the discussion of the ephemeral nature of social media platforms in Mansfield [2012]), mostly authors were often sucked into operational-level detail in their writings and failed to realize how quickly a platform that one does not control can obliterate the usefulness of that operational knowledge. As it relates to personal historicity, organizations that employ the youthful

intern as their font of social media knowledge should be careful to avoid the same operational-level fixation that plagues many strategy guides, lest their knowledge be rendered equally useless after the departure of said intern and a social media platform redesign.

Survey questions about Historicity. The goal of asking questions about historicity was to assess whether assumptions about personal and professional social media use history presented in strategy guides correspond with the actual histories as recalled by participants in the study. A practitioner's personal and professional historicity demonstrates where he/she actually encountered the tool and engaged in this activity before assuming his/her professional position, and what level of experience he/she has accrued using the tool up to that point. By determining these experiential dimensions, we can avoid some of the generalizations that come along with forced dichotomies (personal vs. professional, young vs. old, experienced vs. inexperienced, etc.) and construct a more nuanced interpretation of individual tool use in context.

To investigate this issue, both the Twitter and Facebook portions of my survey have a historicity section [57] that elicits information on both professional and personal experience with the respective tool. To gauge professional historicity, I asked how often they have managed a work-related

[57] Questions FB3-FB9 and T3-T9.

professional account, the number of years the NPO has used Facebook/Twitter, and how much training they have received from their NPO to manage that social networking site. I also asked whether their NPO uses a social media management client like HootSuite, TweetDeck,[58] etc. Although there is no specific study that makes the connection between user sophistication or skill and the use of a social media management client, I felt it was a reasonable assumption that if a person investigated, selected, and learned how to use a client rather than just using the website, that demonstrated some effort to alter his/her relationship with the tool and better use it (where "better" suggests a more efficient or more enjoyable experience). [59] Finally, I asked users to rate how accurate statements regarding level of engagement with the site reflected their own use. These statements roughly corresponded to the levels of engagement in Preece & Shneiderman's (2009) Reader-to-Leader user typology (e.g. "I mostly just read other peoples'/organizations' posts" corresponds roughly to a "reader" or "lurker" in most typologies, and so on).

To gauge personal historicity, I asked users how long they had used Facebook/Twitter in an informal, social context; one response option allowed for the fact that they had never used social media outside of work. I also

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[58] At the time I wrote the question, TweetDeck had been acquired by Twitter but was still a locally-run client, not a web application.

[59] There are limitations to my knowledge of third-party application use by participants in my study that I discuss fully in the Division of Labor section of this chapter.

asked them if they had, outside of their current organization, managed a Facebook/Twitter account in an organized social context, such a social club or student organization.

Finally, I asked all participants what other methods of communication they used to communicate with persons they serve *besides* social networking sites.[60] This information helps provide context for the relative centrality of social media in the NPO's communications strategy (is social media the only method, or merely one of several?). Other matter-of-fact observations about tool usage can be gleaned from the social media data I collected.

Division of labor: control, organization, and discipline. As discussed by strategy guides, the actual work of creating a social media presence involves two broad groups: the person(s) generating and posting material to the social media site(s), and everyone else. The degree to which everyone else is involved depends on the perspective of the author. Kanter and Fine (2010) argue that anyone in the organization could, and should, be able to post. The other five texts are less clear. Before discussing positions, I'll first explain my conception of division of labor as it exists in the NPO activity system.

First conceived of by Leontiev in the formation of the human mind, and later incorporated by Engeström into his activity system model, division of labor is the mediating force between the community and the object, and it

[60] Question G10

defines positions for persons in the community (Engeström, 1987). Even in an NPO with only a single staff member, there may be other stakeholders or outside persons involved in the work of creating, promoting, or sharing content, necessitating a division of labor (perhaps only the NPO practitioner generates content, while others promote or share it).

The division of labor resulted in no small part from tools,[61] which created a specific distinction (toolmaker versus tool user) that accounted for probably the earliest division of labor (Kaptelinin & Nardi, 2006). Tools were further specialized, such that they embodied the shared knowledge of the users and transmitted that knowledge to future generations (Kaptelinin & Nardi, 2006). Social networking sites are the tools examined here, and as with any tool the ability to skillfully use them makes the tool user powerful in the eyes of the nonuser. It's no wonder then that the authors make such a

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[61] Note that there are a variety of third-party applications that access Facebook and Twitter via their respective API's, and those apps offer other opportunities for cross-posting and collaboration. A recent study found that emergency managers are well aware of third-party apps (at least in the case of Twitter) and that they gravitate towards free apps over paid applications (Cobb et al., 2014). There are also many analytic platforms that users can access to monitor their posting behaviors and the social reach of their posts (including official, integrated services like Facebook Analytics and [more recently] Twitter for Business). Additionally, there are free tools that users can download to analyze their social networks (e.g. NodeXL, Gephi, and Network Workbench just to name three).

Depending on the number of staff members and the level of analysis and monitoring, there are endless permutations of division of labor for analysis activities ancillary to posting behavior, far too many to explore here. Likewise, there is little basis to speculate exactly how use of these applications changes collaborative behavior at a workplace. This study is primarily concerned with posting content and moderating comments or replies, not the many other activities sophisticated users can engage in to enhance their experience. I will report on the number of respondents that use third-party applications in the next chapter, but I don't have any application data from individual posts or any other information from users regarding third-party apps, hence I will discuss tool use primarily in relation to posting to Facebook and Twitter. A future study might examine differences in social media collaboration in nonprofit organizations when using the web user interface versus third-party clients.

large distinction between tool-related competencies (possessed by the above youthful intern) and task-related competencies (possessed by the experienced NPO practitioner after learning the function of the tool); a dichotomy exists between the person who is posting (the administrator, "person behind the wheel," etc.) and everyone else. I'll first examine why division of labor between these parties matters, then I'll explain my conception of "labor" as it relates to this type of activity system.

The most fundamental use for division of labor, according to Kaptelinin and Nardi (2006), is the disassociation of motives and goals. In the hunter and brush beater example, the brush beater has no illusion that his action will directly result in killing and eating the boar, yet he understands his role according to the division of labor as he is able to disassociate his actions and goals from more direct methods that are ultimately less productive than concerted action; this ability leads to both a favorable personal and communal outcome. To reiterate, divorced of context, the activity of hitting bushes with sticks has no connection to the object, but in context it contributes by creating the conditions for success. Labor, then, includes actions that are not apparently connected to the overt motive, but rather directed towards intermediate goals in support of obtaining the object and producing an outcome.

Specifically, what constitutes labor within the NPO social media activity system? The above-mentioned person(s) posting and generating

content for social media is the lynchpin of the labor arrangement, but what about the less well defined "everyone else"? The common thread in strategy guides appears to be defining expectations related to the use of social media by the NPO, thus altering the relationship between the community and the object. Since the definition of the division of labor component of the activity system is to mediate between those components, then any alteration of their relationship would seem to constitute labor, even if their actions are dissociated from the object itself.

That mediation comes in three distinct forms: alignment, buy-in, and policy. Kanter and Paine (2012) call the process of coming to consensus on what metrics or evaluations to use "alignment." As their text is about measurement, the example they give associates "success" with answering specific questions posed by directors at an NPO organization regarding the effectiveness of using social media to achieve their overall organizational goals. Although it may not seem like labor, (re)defining the conditions of success and maintaining accountability shows that the directors at an organization play a part in mediating between the community as a whole and the object, and the shared definitions that they co-construct change the relationship between the objective and person(s) more immediately connected to actual content creation / social media platform activity. These actions are more involved in the division of labor component when compared to the relatively passive concept of "buy-in" (Mansfield, 2012). Mansfield uses this

term to describe the process of obtaining permission from a superior to proceed with using social media. While this action is similar to alignment, the action is essentially a passive act of granting consent, which itself is binary in nature and requires little input from the grantor. It is, in essence, a bridge between the division of labor component and the rules component of the activity system. I'll discuss rules at length in the next section, but consider for now that the embodiment of formalized rules is policy, which controls what is and is not appropriate use of social media at an NPO. Along this spectrum lies the degree to which this type of mediation falls into the division of labor or rules components in the activity system (see Figure 8).

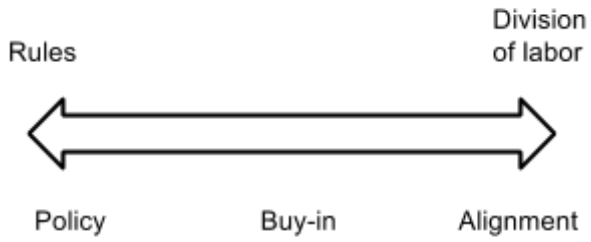

Figure 8. Spectrum of community member mediation.

Turning to the content-generation/posting aspect of the collective labor, the essential division is whether this power is vested in one person or more than one person. Having a single person responsible for all interaction on the NPO's social media accounts gives the organization tighter control over the organization's central message (Kanter & Fine, 2010). A central anxiety present in most guides is that the organization's message will become

corrupted or diluted if more than one person is allow to speak on behalf of the organization. Kanter & Fine (2010) strongly advocate that anyone in the organization should and could be able to post to the organization's social media accounts (i.e. the community and organization should have total personnel overlap). It's worth noting that while Facebook allows the administrator to delegate multiple levels of permission around posting, commenting, editing, etc., Twitter accounts have only one permissions setting: authenticated administrator/owner and allowed to post, or not logged in and not allowed to post. Since Twitter's binary permission setting does not allow for limited delegation of permissions, anyone who can log in has full control of the account, which no doubt is a greater source of anxiety for organizations described in strategy guides that are already anxious about expanding this role to multiple persons. In addition to allowing multiple persons to control one social media platform, it's equally conceivable that an organization might split the control of multiple platforms between multiple staff members (e.g. "Jane does Facebook, and John does Twitter"). Likewise, in a case where there are either not enough staff members to administer an NPO's social media platforms, or those staff members have insufficient time to do so, stakeholders outside of the formal hierarchy of staffers (advocates, volunteers, etc.) might be given some responsibility for posting and moderating content, further extending the degree to which the message of the organization might be interpreted and disseminated by individuals.

In response to loss-of-control anxiety, strategy guides offer some suggestions. Authors reflect great concern that vesting control in one person (other than oneself) may result in catastrophe, whether that person leaves suddenly (Mathos & Norman, 2012; Mansfield, 2012), or is an intern "leaving in three months" (Miller, 2010). Retaining administrative control of accounts is strongly recommended. This concept seems more tied to delegation[62] than to collaboration. Mansfield (2012) noted that dividing multiple platforms amongst multiple staffers "require[s] strict organization and disciplined leadership" to produce an "effective social media strategy" (p. 54). That being said, Mansfield abandons this concept shortly thereafter when she stresses having a singular, engaged social media manager. Control, organization, and discipline seem to be at the heart of the individual-minded approach; extending the power to administer social media to other persons brings with it questions of what needs approval versus what is at the user's discretion, and who should reply in difficult situations like addressing negative commenters on Facebook (Miller, 2010). Extension of administrative authority for the individual-minded organization involves an extension of privileges, but also the superimposition of central authority over the delegates (which to a greater or lesser extent brings about formal rulemaking).

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[62] Meaning the delegation of work to someone inside the community. Levinson, Adkins, and Forbes (2010) were the only authors to mention delegating this work to a third-party consulting firm, but they cautioned against it.

In the distributed work camp (once again led by Kanter and Fine), promotion and (limited) creation of content can be extended even as far as invested stakeholders via content that is custom designed to personalize and share (think personalizing a form letter to a member of Congress). Distributing these so called "evangelical" duties to external stakeholders[63] advances them up the ladder of engagement, and distributing them to other organizations reinforces inter-organizational ties; however, this distributed evangelizing requires a great deal of credit-giving and thanking behavior as well as "karma banking" posts that promote another entity without immediate expectations of reciprocity (yet another example of disassociating goals from motives) (Kanter & Fine, 2010, pp. 51-2, 66, 89). The distributed approach carries with it the fear of large time commitments and loss of control of the central message, leading to barriers to alignment/buy-in as well as increased rulemaking practices; the possibility of increased backlash from community members is perhaps what makes this approach more radical (and hence less discussed in the literature).

Different tools transmit different types of labor division practices. In the case of this study, Facebook organization pages reflect the division of labor through the ability to delegate permissions to multiple users, while simultaneously reflecting the top-down control and parceling of permissions

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[63] Note that these types of campaigns differ from the regular contribution of volunteers specifically tasked with some social media task (posting, reading, curating, etc.) that is a part of the organization's real-time operations.

that align closely with loss-of-control anxieties in the strategy guides. Twitter's binary permission structure (authorized or not) seems to fuel such anxieties by removing methods of control.

Community members not directly responsible for posting still participate in the division of labor, either passively through buy-in or more actively in co-constructing alignment. The decision on whether to split actual posting duties is heavily reliant on an individual organization's trepidation over loss of control of both the organizational message as well as control of the account itself; this trepidation is tempered by the ability to parcel out permissions and retain administrative control, respectively. The authors recognize the situational needs that lead to distributed work, but also point out that there are costs associated with that decision.

Survey questions about division of labor. All participants answered four division of labor questions[64] that asked them to describe content generation, the actual work of posting to Facebook and/or Twitter, how potential content was delivered to them, and inter-organizational promotion of content as a function of division of labor across activity systems. The division of labor questions seek to establish how the actual work is accomplished, an area that the strategy guides are unclear on, and which researchers are only recently coming to understand as valuable.

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[64] Questions G1-G4

The questions asking about who generates content to post and who does the work of posting had five options that represent a broad spectrum of participants as discussed above: the survey respondent, coworkers or covolunteers, supervisors, a governing body or board of directors, and external stakeholders served by the NPO. I asked participants to rate how often each group performs these actions (with a N/A option). These two questions allow for a comparison to be made between those generating content and those actually doing the work of posting (or reveal whether the survey respondent is the only person generating *and* posting content, which is an equally interesting finding). These questions are informed by the conflicting advice given by the strategy guide authors regarding whether and how work should be distributed within an organization.

Developing an understanding of alignment versus buy-in is more difficult to assess with a survey instrument. The third question in this section asks users how they receive content: via forms, email, structured meetings, informal conversations, a collectively curated content database, or through social voting (with an N/A option). Since the respondent disclosed who was generating content, if a supervisor or governing body is present in the activity system it is apparent that he/she manages what content is posted. For instance, a supervisory board that frequently generates content and holds structured meetings to discuss or brainstorm content could be considered strongly in the alignment camp. Whereas an organization where the

supervisory board infrequently generates content and never posts content, and where the respondent doesn't receive ideas from anyone, the supervisory board would be strongly in the buy-in camp. While this is rather indirect in terms of soliciting the relationship of supervisors or governing boards to the respondents, the survey already deals with a number of higher-order concepts in other sections. Asking the respondent to make the fine distinction between alignment and buy-in would both add to the cognitive load of the task and create a supposition that the user could correctly traverse the distinction as I define it in my writing. To wit, I judged that inferring this quality from the relationship between two questions would provide the same or better quality of response as articulating the concepts for the participants and directly asking them to make the distinction, and it could be done without adding to the already demanding survey instrument.

Finally, I asked users to rate on a Likert scale how strongly they agree with a series of statements about working with other organizations to collectively share and promote content. While this does not directly refer back to the strategy guides *per se*, it does help articulate the connections between individual activity systems and suggest whether there are larger, inter-organizational units of analysis to consider (that is to say, collections of like-minded organizations working together for a common goal, or even inter-organizational cross promotion between radically different organizations). Although this study isn't constructed to answer questions about such

collaboratives, it's a valid counterpoint to consider and could provide insight into behavior that is relevant for a future study.

Rules. I will now turn to the role of rules: as they are applied within and external to the organization, and in terms of organizational versus personal use of social media. Before that, I'll quickly review how rules impact an activity system and what types of rules apply to social media use.

Rules are the "explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity system" (Engeström, 1990, p. 79). Instead of using the terms "explicit" and "implicit," I prefer the terms "formal" and "informal."[65] I interpret formal rules as things explicitly detailed or documented in writing, or even deliberately explained verbally; there is an expectation of accountability and there are serious consequences for transgressors (e.g. formal reprimands, dismissal from the organization, being barred from the organization's social media accounts, etc.). Informal rules are "common sense" or defined through transgression and correction, and are not documented or explained; likewise, the consequences are minor for transgressions (e.g. embarrassment, light reprimand, etc.).

Engeström refers to rules as acting within the activity system, so using the dichotomy of internal/external may seem confusing; however, much

[65] I avoid the term "implicit" in this instance because it connotes a rigidity that I did not intend to imply in my survey instrument example.

depends on the inclusivity of the community component of the activity system of each NPO. As I discussed in the previous section, the inclusion of external stakeholders as part of the social media ecology of the NPO is individualized by organization; so too is the application of the rules of that organization onto those stakeholders. Take for example Mathos and Norman (2012), who advise NPOs to set and display rules for members of the "Facebook community"[66] by making them available on the "info tab" (since retired and replaced with "About") (p. 14). These suggested rules are designed to prevent so-called negative comments that are difficult to respond to. In an office setting, avoiding disparagement or hostility in a comments section may be a rule set that is expected; however, this notion of regimented control and civility seems quaint on the web (especially on social media sites known for particularly vitriolic comments such as YouTube).[67] Mansfield (2012) states that NPOs as a matter of policy should "delete content that is off topic or inappropriate in character," though her suggestion for identifying that content amounts to getting a "second opinion" (presumably from a colleague at work) and doesn't identify how to do this without further fanning the flames (p. 52). Others[68]

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[66] Their use of the term "Facebook community" corresponds to persons who like and comment on the Facebook organization page (typically individuals outside of the organization)

[67] Comment moderation can be particularly time consuming and expensive for larger organizations. Witness, for instance, the August 2016 decision by National Public Radio to do away with comments sections on their website.

[68] Mathos and Norman (2012) state that "opening up your Facebook page [...] is critical if you are soliciting feedback," despite their suggestion that rules for use of the page be posted in the "info" tab (p. 17). This contradictory position of advocating openness while simultaneously asserting control over content is not unusual in the literature.

see transitioning to open use of social media as an all-or-nothing proposition, and they suggest that limiting interactions is counterproductive and results from a fear that comment sections will become totally negative and unmanageable (Kanter and Fine, 2010; Mathos & Norman, 2012). While they argue on the one hand that this fear is unfounded and that most comments are generally positive, strategy guides (including those written by openness proponents) frequently cite severe stakeholder reactions to all sorts of social media oversights or gaffes. Such rules, in any case, provide little shielding from backlash (witness any number of organizations and celebrities that deactivate Twitter accounts or delete tweets when they become an embarrassment) and are limited constructs of the organization, ultimately subordinate to site terms of service agreements and legal precedent.

Maintaining informal rules for staff interaction with external stakeholders is a widely advocated concept with support from all authors. Users derive these rules from personal experience or common sense (Kanter & Fine, 2010) or already possess them as part of their personal social media historicity. As they move into representing their NPO, they learn to present a consistent image across social media for organizational use (Mathos & Norman, 2012) and build credibility (in the *ethos* sense) with their posting tactics (Kanter & Fine, 2010). Likewise, they avoid badgering stakeholders and seek "permission" (or, more accurately, implied consent such as following/liking pages or submitting an email address) before directly

marketing their NPO to an individual (Levinson, Adkins, & Forbes, 2010). While the consistent experience Mathos and Norman (2012) articulate describes a stakeholder's marketing experience (same logo on all pages, cross posting content, etc.), this idea is expanded by all the authors to include the "experience" as it relates to overall satisfaction with interactions on social media. The rules that authors suggest for governing informal interactions follow a deontological, European-Union-style approach where personal consent and privacy dominate over aggressive marketing (Ess & Jones, 2002); the results they predict are, of course, mutually beneficial.

Formal rulemaking practices develop from insecurity over the type of contact with stakeholders as well as tension between personal versus organizational use of social media at work. Mathos and Norman (2012) caution practitioners to "be sure you have a process and procedures manual for everyone on your team so everyone is on the same page," presumably about what type of content or activity is acceptable on the NPO's social media platforms (p. 33). Hedging the extent to which rules dictate behavior is common. Mansfield (2012) advises creating a social media policy that stresses "empowerment, not control and restriction" (p. 52). Miller (2010) recommends thinking of a social media policy "more as a set of guidelines and examples for staff than as *hard and fast rules*" (p. 138, my emphasis). Given this suggestion, one might expect the ideal policy to consist of heuristics or case studies that guide an employee's actions rather than scenario-based

restrictions. Miller follows this advice with a list of questions that a formal policy should answer, and an excerpt of a couple of those questions dispels the notion of an ideal policy:

- What can staff talk about and what's off limits?
- What needs to be approved in advance and what can we trust to an individual's judgment? (p.139, source material in list format)

These questions define boundaries: subjects that are "off limits" and that "need to be approved" before a staffer can proceed. The very term "off limits" seems to represent a "hard and fast rule" as much as "no trespassing" or "keep out." The nature of constructing a list of what is "off limits" precludes this as a "guideline" and engenders situations that are "borderline" or that challenge the inclusivity of the principle. An example of a guideline/specific hybrid rule comes from Mansfield (2012): "Share only content that is meant for public consumption. Don't discuss programs or campaigns that have not yet been officially launched to the public" (p. 53). The second half of the rule discusses a specific topic to be avoided, while the first half of the rule is more general in nature. The hermeneutical deciphering of these rules becomes equally about interpreting the written rule and determining which action the rule maker would take were he/she in the same situation. The same thing can be said about actions that must be "approved in advance" versus actions "we [can] trust to an individual's judgment." Though it sounds good to have a policy that avoids "control and restriction," the very nature of rules in the activity system is to regulate actions that are counterproductive to the

activity. The process of trying to make specific policies for social media use seem "empowering" or come across as "common sense" is the process of taking formal rules and attempting to pass them off as informal rules.

Such a contradictory approach defines the tension between productive and counterproductive uses of social media. Once the motives are defined in an activity system, it is up to the community members to enforce the rules that restrict counterproductive behavior (i.e. behavior that does not lead to a goal in alignment with the overall motive, whether the action is dissociated or not). Central then to the tension of personal versus professional social media use is whether personal use is a dissociated action that is in alignment with the motive, or whether it is counterproductive and should be restricted via community-established rules. As discussed, collapsing professional social media use into personal social media use was the expectation from some strategy guide authors in order to be the "best advocate possible," but how to apply rules to ensure productive behavior in both domains is less clear. Kanter and Fine (2010) advocate for context collapse, and take the informal route of "common sense" rules.[69] Mansfield's (2012) ideal social media manager is simply expected to have a work-like decorum in personal social media use, adopting the informal rules of enterprise social media use in every

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[69] They place special emphasis on the notion of "persistence," or the tendency for information posted to social media to remain viewable for longer than anticipated or wanted; for a complete definition of this term, see boyd, danah. (2007) "Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life." *MacArthur Foundation Series on Digital Learning –Youth, Identity, and Digital Media Volume* (ed. David Buckingham). Cambridge, MA: MIT Press.

aspect of their context-collapsed social media life. However, Mansfield does not assume that ideal when she lists as one of her rules: "Personal use of social media during breaks is allowed, but use of social media for work purposes must be approved." (p. 53). The rule is both vague and contradictory to her established ideal, grouping social media use with the likes of personal phone calls or watching a hockey game at work.[70] As part of the list of questions a social media policy should answer, Miller (2010) asks "What's the right mix of personal and professional information in our updates?" (p. 139). Presumably by personal information Miller means information about the staff member(s) posting the update or their personal viewpoints.[71] In the same list, Miller also asks "Which social media activities are deemed part of the nonprofit's marketing strategy and which are not (and therefore not

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[70] Some of the naiveté displayed in policies such as "no social media use at work" can be chalked up to authors that published before smart phones were ubiquitous.

[71] Distinguishing the personal from the professional in Twitter has been a topic *du jour*. How much do we represent our organizational affiliate when posting from a personal account? Does the organization have a right to impose consequences (e.g. termination of employment) for perceived rule infractions stemming from personal account posts? Take the recent decision by the University of Illinois at Urbana to revoke Steven Salaita's appointment to the faculty as a result of provocative posts to Twitter regarding his views on the Israeli-Palestinian conflict. Brian Leiter, professor at the University of Chicago Law School, writes in the Huffington Post that the revocation of the job offer by UIUC constitutes a violation of the first amendment in that it punishes an individual for expressing his viewpoint in a constitutional manner. Phyllis Wise, chancellor of UIUC, posts on her blog that the reason for the revocation was due to "disrespectful words [...] that demean and abuse either viewpoints themselves or those who express them," to which Leiter replies that they must condone such words as a matter of constitutional law. While not occurring at an NPO, this scenario highlights the ongoing tension associated with defining personal versus professional space on Twitter and whether disciplinary consequences are legal and/or fruitful for the organization. Salaita has since settled the lawsuit, and Wise has resigned (ostensibly over unrelated issues).

encouraged [72] during work hours)?" Once again, a boundary is erected between activities in support of the motive (in alignment with the "marketing strategy") and those viewed as counterproductive.[73]

To relate the concept of personal/counterproductive social media use back to previous concepts, it's important to think of the context in which rules are made. In the strategy guides, there is a clear distinction between rule makers and the people to which the rules apply; nowhere is there a discussion of the participatory design of rules by the entire community (including the subject). Written rules in the form of a policy, whether they are framed as informal guidelines or not, are written to be obeyed by the subject. Significantly, nowhere is there a discussion of how to handle transgressions or conflicts within the activity system. Such sets of policies start to run into the same problems of ineffectuality as imposing rules on stakeholders that

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[72] I read "not encouraged" as an office-speak hedge meaning "not allowed."

[73] Rules to enforce counterproductive behavior have some legal standing, but not when they interfere with collective action on the part of the employees. The National Labor Relations Board ruled in Case 03-CA-027872, Hispanics United of Buffalo, Inc. and Carlos Ortiz, to reinstate five employees who were fired from the above NPO for voicing common concern on Facebook over a coworker who planned to complain to management that the group was "not working hard enough." However, as Steven Greenhouse reports in a piece in the New York Times on "social net speech," the NLRB has also upheld firings of individual employees venting about work or bosses, which Greenhouse attributes to the NLRB favoring collective endeavors generally associated with unionization. The NLRB's judgment of social media policies as stated in a 24 January 2012 memorandum directly relate back to whether they restrict the unionization rights guaranteed employees under Section 7 of the National Labor Relations Act, where section 8(a)(1) prohibits a violation of an employee's Section 7 rights. So whereas legal experts like Brian Leiter may recognize the first amendment as controlling in terms of employer retaliation for social media posts, the NLRB appears primarily concerned with Section 7 rights; the former guarantees individual freedoms, while the later protects only collective action. The NLRB also takes into account whether employer policies prohibit the discussion of terms and conditions of employment -- also a violation of 8(a)(1) -- but "concerted action" is their paramount determiner of the lawfulness of employee's policies and actions taken against employees for infringement of those policies.

post to the Facebook page (and the like). Added to that are the inherent conflicts between valuing personal social media use when it is part of a personal historicity (and thus adds value to the organization as an acquired skill) and devaluing it when it occurs at work; the assumption seems to be that you acquire knowledge of "common sense" rules and master the operationalized actions of social media use prior entering the domain of NPO social media use and outside of work hours. Hence, the essential contradiction of personal social media use is born: when it is part of your historicity it is a valuable skill and a dissociated action that leads to becoming the ideal social media manager; when it occurs in the context of work it transforms from dissociated to counterproductive and must be mitigated with formal rules.

Survey questions about rules. There are four questions[74] regarding rules in my survey, two of which are conditional on the respondents stating that rules are present at their organization. For both formal and informal rules, I provide an example so respondents can gauge whether such rules are present at their organization. I phrased the questions in the negative (are there rules about what *not* to post) because I felt restrictive policies would be (1) easier to identify, and (2) more prevalent than empowering guidelines. If participants

[74] Questions G5-G8

answered that these types of rules were present, then they were given two follow-up questions.

For informal rules, I asked users to rate on a Likert scale how strongly they agreed with a series of statements regarding how they learn and think about informal rules (e.g. by watching how people react to other organizations' posts, that informal rules are "common sense," etc.). These statements demonstrate user perception regarding some of the assumptions made by strategy guide authors on how practitioners identify these rules. I also included two statements that allow users to express that they either don't care or haven't thought much about formal rules when posting. These don't prove that such rules are nonexistent, simply that they are not something users factor into their regular social media behavior.

For formal rules, the follow-up question asked users to rate on a Likert scale how strongly they associated an individual, group, or other entity with the making of formal rules. I provided seven different entities that represent a broad array of potential rulemaking bodies, including the respondent him-/herself. Users were able to select N/A for all entities. The question is formatted as a Likert association scale to gauge how much the user perceives an association between formal rulemaking and the entities listed, as I know full well that rules can be disassociated from the rulemaking entity or the inspiration for the creation of a rule (which may be anything, including past employee transgressions). Since one cannot definitively trace the source of

formal rules without a thorough investigation (impossible if one wants to learn about many organizations), I constructed the question to have the user articulate perceived associations. While there is no way to test the veracity of these perceived associations, the presence and strength of the association tells us who the user believes is making distinctions on counterproductive behavior.

Although learning about specific rules in the respondent's workplace would be very interesting, I felt asking the user to simply list rules would slow them down, and I was unable to formulate a list of common rules that would be widely applicable (simply developing the example rules in the leading questions was already extremely difficult). Further exploration of specific rules is better suited to a separate, dedicated study.

Assessments and critical reflection: metrics and goals. As discussed, goals are the object of actions, those portions of the activity which correspond to the daily work of the subject. Goals share a relationship with the motive and with each other that is sometimes difficult for those outside an activity system to discern (especially in the case of disassociated actions). Metrics are applied to the outcome of the activity. The outcome of the activity is different than the object or motive in that the object may not correspond to the outcome for any number of reasons.

The strategy guides demonstrate a high level of differentiation between assessing goals[75] and outcomes. Mansfield (2012) elaborates on this concept, classifying general concepts such as "instigate policy change on a particular issue" as goals separate from the evaluation of long-term or quarterly outcomes, such as "increasing traffic to the NPO's website." Goal-orientedness is discussed as using social media with "specific objectives" in mind (Kanter & Fine, 2010) and as a way to limit actions to a reasonable scope so as not to overextend or try to do everything (Miller, 2010). Setting goals for posting can correlate with time commitment, and the amount of time available to spend on social media activity can determine the extent of the user's role in the broader NPO ecosystem (Miller, 2010; Preece & Shneiderman, 2009). One goal roundly dismissed in the strategy guides is that of simply approaching the tool with undefined objectives, or "getting on YouTube" as Miller (2010) puts it. A pseudo-goal such as this does not lend itself to targeted or thoughtful use of the tool as it does not define a purpose for using the tool in the first place. When I was searching for NPO social media accounts, I came across hundreds of zombie Facebook pages that had

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[75] Strategy guides employ the common usage for goals, so when they refer to "goals" and "being goal-oriented" they are referring to motives for site use and associated outcomes. In the activity theory sense, critical reflection on goals corresponds more with immediate metrics such as a post getting hundreds of likes (or, conversely, generating a hundred angry comments). That type of immediate feedback determines whether the goal for the action of posting was achieved. Changing people's opinions on an issue is a motive for using the site. The line sometimes becomes blurred between what a person is trying to do with an individual post versus through using the site, as I demonstrated when I failed to properly make that distinction on two follow-up questions on my survey (see the survey questions section below for more details).

been created, but had zero activity; it's impossible to say for certain, but it's probable that such a pseudo-goal was responsible simultaneously for their creation and abandonment.

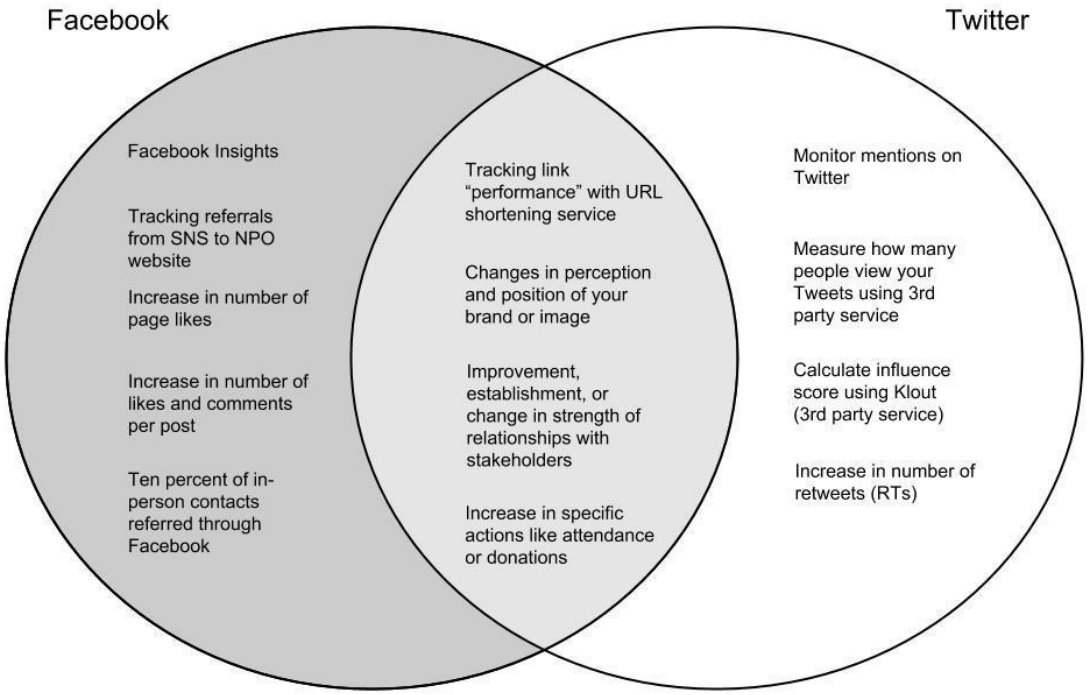

Figure 9. A comparison of assessments discussed in the strategy guides

For NPOs that evaluate their use of social media based on factors such as return on investment (ROI) or key performance indicators (KPIs), the value of using social media is established as a measurable outcome. The persistence of the activity, and therefore its "intrinsic value," has little stable relation to an outcome other than the outcome is assessed via metrics that determine the object's effectiveness and worth. Kanter & Paine (2012) argue

that measurement empowers staff at an NPO to end arguments over social media use by providing meaningful metrics on which to make "supportable decisions" (p.43). As discussed earlier, time on task is the most widely recognized "investment" or "cost" of using social media at an NPO, so the application of metrics is primarily concerned with how to recognize and quantify the outcomes produced by social media use in relation to the investment of time by the staff. The answer is complicated, as each platform generates a different type of participation; for instance, measuring the success of a traditional blog may involve looking at the number of subscribers, social bookmarking entries, comments per post, etc. (Kanter & Fine, 2010). Facebook and Twitter are different entities, and thus generate different recommendations for metrics. Figure 9 (above) shows a summary of the various metrics in the strategy guides I surveyed.

Generally, authors were tentative about providing specific numbers or targets based on staff size of the NPO, budget, NPO sector, etc. Avoiding specifics may not be without merit. Mansfield (2012) recommends that "a reasonable goal to begin with is to earn at least one comment and three thumbs ups on each status update for every 1,000 fans. Hopefully you can double those numbers within three months" (p. 78). Having one thousand page likes as a national organization may be an easy goal, but for a small community organization that services a particular sector or neighborhood, having one thousand likes may signify approaching the saturation point in

terms of outreach. Comments and "thumbs ups" (more commonly referred to as "likes") don't necessarily signify anything independent of one another (some posts generate one type of response disproportionately, as I'll discuss later in my results), and the lack of any rationale by Mansfield suggests that her proposed numbers are arbitrary. Finally, setting a goal to double those metrics is fine and good, but Mansfield offers precious little advice on how to do this. Rather, she offers more general advice on how to use various methods in Facebook with the implicit assumption that increasing general interest in your organization's Facebook page will drive up these metrics. This once again plays to the maximalist narrative that if you use all of the features on a social media platform, you will increase metrics regardless of context or motive. Facebook as a platform, for instance, only offers a "like" button as opposed to a downvote or "dislike" button. Almost every user at one point experienced the quandary of encountering a post where one wishes to acknowledge or provide support but the like button is not appropriate (e.g. "RIP posts").[76] Increasing metrics of that type may have varying importance to an organization, and defining what constitutes an appropriate increase is

[76] Facebook has since addressed this issue by adding five built in emoji responses alongside the longstanding like button. To address the example above, one might click the "sad" emoji (a "frowny face" with a downcast gaze and a solitary teardrop). Such changes offer additional proof that the control of features on this platform are vested solely in the site ownership, as well as the degree to which personal historicity matters when considering the relative ease with which users adapt to modifications of the tool (users already familiar with the emoji genre and it's contextual and social uses will likely have an easier time integrating this tool alteration into the activity).

difficult due to the wide array of contexts both for individual posts and the NPO as a whole.

Other types of perceptual metrics are difficult to quantify, such as changes in perception of the NPO's image by stakeholders. This, in combination with the questions raised above, makes for a shifting landscape of evaluation that suggests an individualized definition of metrics for each NPO (and, by extension, activity system) is more useful than an across the board definition of ROI or KPI. In addition to defining goals in advance of the effort, carefully pairing measurement tools with corresponding outcomes is essential to ensuring reliable data (Kanter & Paine, 2012). Whether setting goals or assessing outcomes, observation and emulation of other successful organizations provides a foundation for benchmarking performance on social media tasks (Kanter & Fine, 2010; Mansfield, 2012). This approach has the benefit of the touchstone, but is not foolproof in that it requires the measurer to accurately evaluate parity between NPOs and ensure reasonable expectations.

Strategy guides demonstrate a keen awareness of both goal orientedness as well as differentiation between goals and outcomes. They recommend setting a manageable scope for one's actions and avoiding pseudo-goals like "getting on Facebook." Metrics that are mentioned in strategy guides are often general, avoiding specific numbers or targets. Considering the large amount of contextual variation between NPOs, this

seems necessary (though somewhat unhelpful to individual practitioners). Some metrics are easily identified (e.g. increase in number of likes), while others are difficult to quantify through social media outcomes alone (e.g. change in perception of NPO by stakeholders).

Survey questions about assessments. Participants answered between 11 and 19 questions [77] concerning assessment and critical reflection. Four questions in both the Facebook and Twitter sections were conditional based on the participant's response to the lead-in question, and they were explicitly identified as optional. Discussing metrics and goals in activity theory phrasing is not a sound approach, so I instead mapped these concepts onto ordinary phrasing.

To assess whether participants were goal-oriented as defined by the strategy guides, I asked Facebook and Twitter users whether they had personal and professional goals for what they wanted to use the platform to accomplish. If they answered yes to either question, two follow-up questions were made available. Before sending the survey out, I had difficulty articulating examples of goals in the follow up questions, so I made these questions optional. Upon further reflection, the examples I gave the respondents were neither "goals" targeted to specific issues in the strategy guide sense nor goals that corresponded to particular actions in the activity

[77] Questions FB10-FB18 and/or T10-T18, and G9

theory sense; instead, I had provided general motives for site use. I had decided to make the follow up questions optional, and although a few respondents completed them, I decided to strike the follow up responses since I failed to make the clear distinction between a goal and a motive in the examples I provided.

I claimed in my dissertation proposal that it is likely that personal goals and organizational goals coalesce for an individual at an NPO. To interrogate that claim, I asked respondents to rate how strongly they agreed to a statement reflecting that concern.

The notification systems of Facebook and Twitter (and extant third-party clients) are set by default to immediately notify a user of responses to individual posts. To assess how users respond to these immediate metrics (as opposed to metrics associated with long-term outcomes), I asked users to select (or describe in the "other" field) what strategies they used to write "good"[78] content and how strongly they associate a list of possible positive reinforcements (of the type delivered in notifications) with "good" content. These are more immediate responses that validate the action of posting and whether that action has achieved its goal, for example a post receiving a lot of comments or the post being shared by many people who like the organization's page. Theoretically, all of the factors should be positively

[78] The word "good" appears in quotation marks in the questions to emphasize that it is subjective to the respondent.

associated with "good" content, so the question determines to which outcomes the user ascribes strongest associations.

To assess metrics associated with long-term outcomes, I asked users to rate on a Likert scale how important various metrics were in terms of evaluating how effectively their NPO uses social networking sites. These were similar to the immediate metrics, except applied to content in general (e.g. increase in likes, increase in click-through rate on links, etc.) and long-term outcomes (e.g. increase in website traffic, increase in government funding, etc.). I assume that participants are utilizing metrics that make the association between social media use and these outcomes when they select a rating since I offer N/A as an option for all outcomes.

Although I was dissatisfied with the phrasing of my follow-up questions regarding goals, this section of questions still addresses whether users perceive themselves to be goal-oriented and which metrics they find to be important to immediate assessment of the effectiveness of actions to achieve goals and long-term assessment of metrics as they relate to outcomes.

Motivation. As discussed earlier, motivation is sometimes difficult to identify and separate from objects and goals. Compounding this confusion is the distinction between individual motivations and organizational motivations (or a coalescence of motivations, as you prefer). I will first attempt to pin down some of these concepts, then I will discuss the treatment

of motivations in strategy guides, specifically the unique motivational property of transmutation between online and offline outcomes and the problem of the Motivation−Goal Confluence.

While it is not the principle goal of this study to distinguish between individual motivation and organizational motivation, it is important to note that motivations are not singular within an activity system, even if that system contains very few subjects, or even one subject. While I collapsed discussion of this concept into the blanket phrase "the motive" above, actual motivations are varied and complex. For instance, in my review of strategy guides I identified 28 distinct motivations for using social media, and that excludes motivations specific to social media outside of Facebook and Twitter. I'll return to a detailed discussion of strategy guides, but first I'll consider individual versus organizational motivations.

While it seems logical that an individual would act in the best interests of his/her organization (or be replaced), it may be that there is a degree of tension between the motivations of individuals and organizations. This question can be traced to its root: who is the representative of the content for an organizational account on Twitter/Facebook? Is it the individual posting (at the time), or the organization that the individual represents? Much like the conceptual tension in conceiving of corporations as individuals under U.S. law, the answer appears to be an oxymoron. It is likely that individuals express individuality under certain conditions (e.g. President Barack Obama

signing a tweet "BO" to indicate his authorship) and accounts revert to an anonymous organizational/team role in others. To what extent are stakeholders aware that the account is managed by a team with (potentially) different motivations or responsibilities, and how does that impact their perception of the content?[79] Much like a linguistics student suddenly noticing syntactic patterns on subway ads, do more initiated users analyze the genre on a meta level? This last question is not within the bounds of this study, but it highlights the fact that perceptions of individual versus group motivation extend into the realm of user sophistication, and that the concept of multiplicity in authorship may still be on the frontier of understanding for many users at the time of writing.

How do such fluctuations between individual and group effort influence motivation? Kaptelinin and Nardi (2006) point out that mapping one motivation to one object becomes problematic in the case of collaborative work where individual motivations create conflicts around the instantiation, or realization, of the object; these tensions can directly impact the activity. They conclude that "if we do not admit the possibility that different motives of different individuals articulate in a single activity, then we must define

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[79] Users genuinely react poorly when accounts that they believed were the product of an individual are revealed to be a product of a group effort. For instance, even though celebrity George Takei previously admitted that content published under his Facebook account was not exclusively developed by him, fans still reacted poorly when his ghost writer revealed himself as the author of several posts. A similar situation developed with activist Sui Park's #CancelColbert tweet, when the author directed her anger over an offensive tweet at the @ColbertReport twitter account (since deleted)—an account managed by a PR firm—rather than Stephen Colbert's verified personal account, @StephenAtHome. Understanding exactly who is saying what on whose behalf is a complicated business.

collaborative work as a collection of individual activities that somehow coordinate with one another" (p. 157). It's highly unlikely a researcher should conceive of a single NPO with multiple team members posting to a single social media account as a collection of individuals acting entirely independent of one another, yet somehow achieving a shared outcome. That is not to say this situation cannot occur, but when it does it is unlikely that a discoordinated approach such as this can lead to achieving any unified objective. More likely, individual motives are tempered in some way that allows for the pooling of efforts towards a common, instantiated objective. Kaptelinin and Nardi, in their observation of scientists and managers at a pharmaceutical company, noted that "the struggles to align the motives [...] [gives] rise to a single activity, rather than a set of individually coordinated activities" (p. 157). Thus, not only is it possible for multiple and even conflicting motives to exist within an activity system, but the alignment of these motives in an important part of defining that system. Reconciling disparate motivations is part of the negotiation that takes place within the activity system that instantiates the object and brings about the outcome. That doesn't exclude the possibility that not every subject in the system is happy with the results, only that the results are linked to the negotiated motivational alignment of the system. Indeed, Kaptelinin and Nardi observed self-censoring of work practices in their study, which compromised an

individual's personal motivations but more closely aligned that individual's work to the motivations of management.

Along this line of argument, the real question is whether an activity system can exist where individual motivations are constantly in conflict with one another, especially when power dynamics such as organizational hierarchies are introduced. As I've shown above, strategy guide authors are keenly aware of power dynamics associated with the content of the social media message versus the reconciliation of that message with both the social media practices of staff members and what position those staff members are in (e.g. intern versus full-time staffer). I propose that a permanent conflict between individual motivations within a group is a situation that will result *at least* in the fracturing of an activity system into multiple, concurrent activity systems with similar objects, and more probably into separate activity systems with different objects. Rather, alignment of motivations is the key factor that allows an activity system to function toward a shared objective.

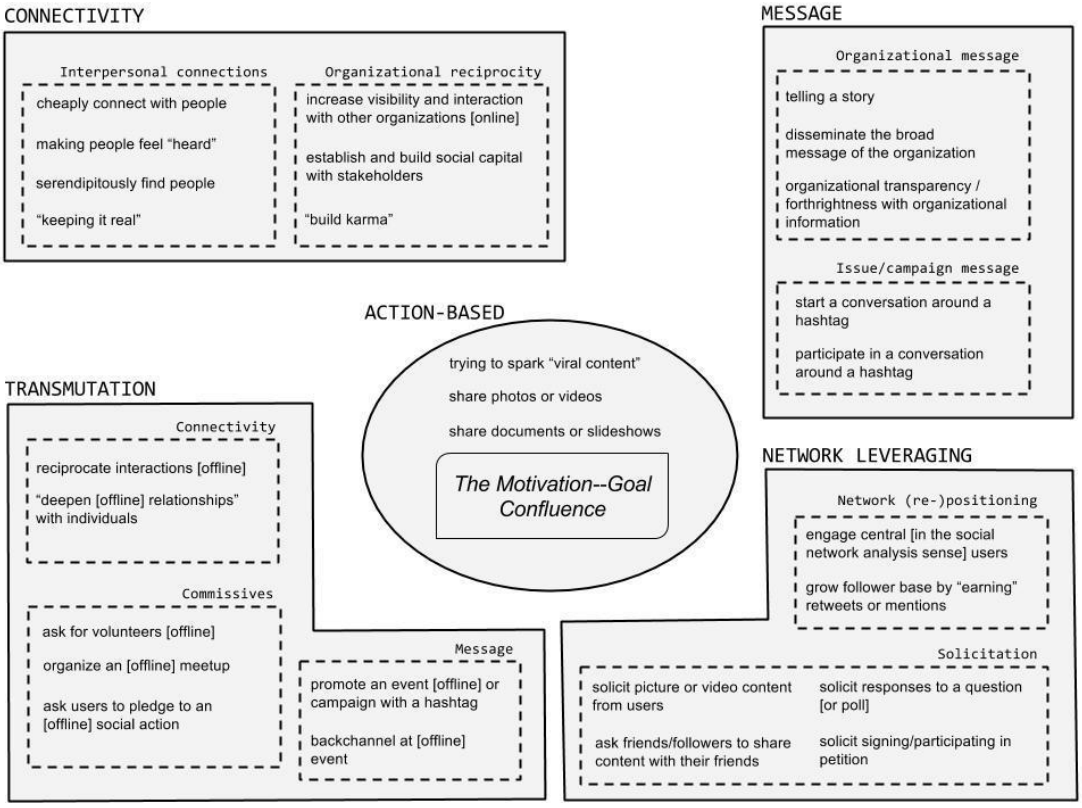

Figure 10. Motivations for use of SM by NPOs as collected from strategy guides.

In my analysis of strategy guides, I identified 28 distinct motivations for NPOs using Facebook and Twitter (and social media more broadly). Figure 10 maps these motivations into five domains and subsequent subdomains.

I first performed a content analysis on the strategy guides to try to glean every possible motivation for using social media referenced by the author. I then arranged them into these domains/subdomains in order to get

a better picture of trends in motivations.[80] These trends revealed some motivations that one might expect, but also reveal two important cases where motivation presents a problem to an activity system modeling approach of NPO use of social media. To discuss these motivations, it is useful to think of them in terms of higher-order concepts (abstracted) and lower-order concepts (concrete actions). One type is not more valuable than the other, but they represent different levels of internalization of social media platform or behavioral processes that I will discuss further.

Connectivity. Motivations in the connectivity domain focus on interpersonal connections with stakeholders online and online organizational reciprocity with other organizations and stakeholders. Building interpersonal connections is fundamental to what researchers consider social media by all traditional definitions, so there is little to unpack there. Organizational reciprocity involves performing actions on social media that will result in a "payoff" down the road when leveraging one's social network. Reciprocity-based motivations build social capital that can be expended at a later date. Connectivity motivations are higher-order in that they do not specify actions and often seem closer to outcomes rather than motivations. Euphemisms

[80] Note that there are no citations next to entries, as many of these motivations tend to overlap or are stated in implicit terms in more than one strategy guide. As I read, I found it more useful to focus on identifying distinct motivations rather than recording how often they appear in texts, especially since the purpose of my review is to identify motivations, not quantify them.

such as "keeping it real" or "building karma"[81] do not describe a route to follow, but rather an internalized set of behaviors that will result in a course of action consistent with the euphemism; one is expected to know how to "build karma" though a set of actions conducive to that mode of use. As these are expressions used in everyday life to describe our complex performative behaviors, it is perhaps no accident that they find a home in strategy guides informing online interactions as well (a place of equal or greater complexity in interactions).

Message. Message domain motivations focus on communication of the organization's overall message as well as issue or campaign messages to stakeholders. While the organizational message motivations are high-order in a manner similar to Connectivity motivations, issue/campaign message motivations are lower-order in that they begin to focus on aspects of tool usage with respect to the motivation (in this case Twitter, although Facebook also incorporates some hashtag functionality as well).

Network Leveraging. Strategy guides discuss two subdomains of motivation with respect to leveraging one's online social network: network (re-)positioning, and solicitation of a social network for some kind of online action. The two positioning motivations I describe involve targeting central users in the network (these users can occupy a variety of roles in a social network) and growing one's own following to expand the network and

[81] The word "karma" is not used in any specific religious context in any of the strategy guides, but more as a general concept.

indirectly expand one's social outreach. Although these motivations approach tool functionality as an outcome, they actually posit the user as highly sophisticated and capable of meta-analysis of one's outreach in terms of both position and quality of material (use of the term "earning" especially attaches a value quality to actions that deserve the attention of other users and expansion of one's own network).[82] Solicitation occurs when users ask for something from their followers, whether or not social capital is expended in order to get it. Some motivations may require a high degree of social capital to enact, whereas users may be motivated in other instances to act without the expenditure of social capital. Network leveraging motivations are closely related to transmutation motivations; I distinguish them by the expected outcomes: online versus offline. It takes very little effort to click "share" on Facebook, hence the stakes are somewhat lower when organizations engage solicitation behavior online.

Action-based. The most obvious motivations are the action-based motivations. An example that I used in my survey of an action-based motivational description was "I wanted to share this photo with my followers." Such descriptions of motivation are obvious, in that they describe only the action and not any underlying reason for performing it. As a rhetorical construction, they are a tautology when considering the functionality of the tool, for example:

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[82] As opposed to using artificial means of inflating a social network, e.g. robots that follow thousands of users.

Functionality: [All posted material is, by default, shared with your followers]

Question: What motivated you to post this photo?

Stated motivation: I wanted to share it with my followers.

Similarly, "viral content" or, as is commonly referred to on Facebook and Twitter, trending content, is somewhat of a misnomer for an outcome of posting content with broad appeal. Consider the following:

Functionality: [Trending content is that which appeals to a broad base of users and attracts a large amount of user attention as defined by platform]

Question: What motivated you to post this content?

Stated motivation: I wanted it to be trending content.

Describing "posting trending content" as a coherent motivation is akin to the financial strategy of "trying to win the lottery." You can certainly attempt to post content that has broad appeal, but if there were a strategy for "sparking viral content" it wouldn't be such a random event. Essentially, just as one's motivation is trying to win the lottery when buying a lottery ticket,

presumably one is trying to gain broad readership[83] when posting content. At the end of the day, this motivation might as well be "crossing your fingers."

In the action-based domain of user motivations, I include a special entity that I call the "Motivation–Goal Confluence." This is not a stated motivation in any strategy guides, but instead describes a motivation that essentially exists as a goal. If we, for instance, modify "sharing documents" to "sharing the annual report," then we are essentially talking about the goal component of an action, as opposed to an objectified need. The motivation becomes so low-order that it is now just describing the outcome of an action, not a motivation for using social media as a tool. "Motivations" of this type are equally unhelpful in determining why NPOs use social media, since they simply describe the solitary action to which they are associated and fail to address higher-order concerns on the activity level. These primarily appear in books designed to give tips (e.g. "how to go about posting a status update"), and become obsolete as soon as the platform design or functionality is changed. For example, Facebook's structured emoji responses may turn out to be wildly successful, or end up a footnote on the Facebook Wikipedia page.

Transmutation. I categorize transmutation motivations separately from all others because they have the unique property of converting an NPO's action in one domain (social media) into a response from stakeholders in

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[83] I mean readership among the group the organization is trying to engage/reach/serve. Obviously if the account is private or if the organization exclusively serves a niche community, it is not trying to directly engage the general public except, perhaps, to reach other persons interested in that niche.

another domain (offline interactions), or vice versa. Connectivity subdomain motivations involve bringing actions into the offline area online (presumably) for followers to see. Message subdomain motivations involve using social media to advertise or augment offline interactions. I borrow *commissives* from linguistics to describe another group of motivations that involve getting users to commit to some offline action, whether that is volunteering, attending an event, or changing an offline behavior to commit to a reform in social action. An example might be tweeting a pledge to only buy Fair Trade products. The offline behavior in this case is not necessarily monitored, but done as a result of online interaction with an NPO.

To summarize, activity theory provides for multiple motivations within a single activity system, though contradictory individual motivations must be reconciled. Although the motivations I collected through analyzing strategy guides were multiple and varied, they organize into five broad motivation categories: connectivity, message dissemination, network leveraging, action-based motivations, and transmutation between online and offline actions. Higher-order motivations are abstracted and display a high degree of internalization of social media platform functionality. Lower-order motivations are concretized and focus on specific actions on the social media platform. When motivations become so concretized that they are describing singular events, they fall into the Motivation–Goal Confluence, a zone where

the motivation no longer describes an objectified need and is not related to an activity, but rather an action.

Survey questions about motivation. Motives are typically much harder to articulate than actions and goals. Take for example when a child asks you "Why do you work?" It is difficult to explain the concept of work, money, and professional fulfillment to a child who does not understand highly contextual and abstract motivations. Similarly it is challenging for me, an outsider, to derive higher-order motivations from standard survey questions such as Likert scales, since I would only be guessing at potential motivations (much like some strategy guide authors); I assume a similar type of difficulty for practitioners when explaining their motivations to an outsider. One solution would be to conduct interviews, but that method is prohibitive of large-scale investigations (barring a large grant and interview assistants).

If you and the hypothetical child were to apply the same question to a discrete example of something you do during your work day (teaching students, for instance), you might be better equipped to provide a motivation for why you work on the whole (e.g., "I want to help people learn about communication"). Such an explanation is not all-encompassing, but it provides a significant insight into a complex and difficult-to-explain series of motivations.

The task for this study was to create a hybrid question format that produced something more than surface-level reactions from participants (and thus avoided the motivation-goal confluence [e.g., "I wanted to share a picture with my followers"]) while also reaching more persons than a traditional interview (so as to later provide enough information to develop a coding scheme for a machine learning classification task and make possible an analysis of the large data set I collected). Whether or not participants can articulate that purpose is questionable, as an object of an activity is not necessarily part of the subject's conscious though process (Kaptelinin & Nardi, 2006). Hence, a study following the approach of just asking practitioners why they use social media *as a whole* may not reveal a motive.

To gain a better picture of motivation behind posting various types of content, I showed participants recent posts from their organization's Facebook or Twitter accounts and had them describe their motivations when posting the content.[84] I worded the instructions[85] to ask users to think beyond action-based motivations and consider the underlying motivations behind the post. The response form allowed participants to write as much as they

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[84] FB 20-21 and/or T20-21

[85] In addition to some introductory instructions and an example, the question is worded as follows:

In some cases, your description might move beyond the nature of the request to get to the underlying motive for posting the content. For instance, if you posted a picture on Facebook of a rally held by your organization, your first thought might be "I wanted to share a picture with my followers," but your underlying motive might be "I wanted to raise awareness of an issue and show that we are committed to making ourselves heard on that issue." For each post, please consider this when describing your motivation for posting that content.

wanted. Having participants examine discrete posts rather than a large corpus of their posts prompts them to reflect on individual actions,[86] and then extrapolate underlying behavioral patterns. So while the question system provides only a single post at one time, the directions were designed to prompt participants to use that post to reflect on larger patterns of behavior. I elected to show two posts to each participant on the off chance that a post had content that displayed incorrectly on the question page (however, there was a link to the post's permanent URL that participants could open in a new browser tab if they wanted to see the actual post).

The whole data set can then be analyzed with standard coding practices to reveal trends in motivation responses. Although typical classification tasks start only with a data corpus and then ask coders to interpret and come to agreement on information trends in order to train a classifier, I predicted that a collaboration with participants in the development of categories would increase the accuracy of later classification. I call this procedure "participant coding," since study participants are asked to take on a role very similar to a traditional coder; the main difference is that they are describing their own content, which gives them greater insight into contextual information like motivation.

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[86] I took inspiration from social media reminiscence aids when developing this approach, such as the Facebook "Look Back" video or digital reminiscence services that randomly display old content.

To summarize, I concluded that this approach to questioning users about their motivation for using Facebook and Twitter would be the most effective for the following reasons: (1) I am able to access more users than if I opted for a traditional interview; (2) the machine learning classification task will be more accurate with participant coding data versus simply asking coders to interpret and agree on trends in the data; and (3) I believe users are better able and more willing to describe motivations when looking at discrete examples rather than a large corpus of tweets.

4.5 Summary

In this chapter, I provided a brief history of activity theory and its origins as well as Engeström's activity system and its associated dimensions. I discussed my analysis of strategy guides written to help nonprofit organizations better use social media. I organized my review around key activity theory components that mirror the construction of my survey: historicity, division of labor, rules, assessment and critical reflection (goals and metrics), and motivation. I also described how my survey questions map to these areas and provide data that will bridge the gap between advice and understanding.

Strategy guide authors are keenly aware of many of these components when they offer advice, but often conflict with each other and contradict themselves. In a sense, it would be much more unusual to find broad agreement between authors on social media practices given that there has

been so little time to study and analyze this phenomenon. In chapter five, I will compare these opinions to data I obtained in my survey and try to reconcile the advice from trade books, academic studies, and how my respondents consider these issues in the workplace. In chapter six, I will discuss the machine learning component of this study and discuss the motivations practitioners use when posting to Facebook and Twitter.

CHAPTER 5

SURVEY RESULTS

5.1 Introduction

Most of the questions on the survey for this study were Likert scale, progressive breakout ranges, or binary (checkbox) with a space for write-in responses. Although it might be possible to analyze some of these results with parametric statistics, non-parametric analysis is more suitable to ordinal scales; it is also less confusing to adhere to standard methods of analysis rather than implement new methods *post hoc* (Clason & Dormody, 1994).

It's important to note that there is some overlap of Twitter and Facebook users in the sample and among respondents to the survey. While I sometimes address the groups as different, some users responded to questions for both Facebook and Twitter.

In total, 34 NPO practitioners responded to questions about Facebook and 17 practitioners responded to questions about Twitter. Most questions in the survey were mandatory, but some were conditional based on responses to skip logic questions. I discarded some responses because users failed to complete most or all of the questions. The survey was constructed so that users had to input their Facebook or Twitter usernames, and general questions were last in the survey, so I retained complete responses from the Facebook or Twitter sections even if users failed to complete the general questions section. After removing incomplete responses, there were 40

useable responses to general questions concerning workplace practices across social media platforms.

5.2 Historicity

Results. Participants were generally more experienced when using Facebook as opposed to Twitter, with 55% of respondents having used Facebook in more than one other professional position. Twitter users were far more likely to have just started using Twitter professionally for their current position.

These results correspond to respondents' use of Facebook and Twitter in an informal, social context. Most respondents had been using Facebook for five or more years (71%) and had never used Twitter prior to their current position (53%). No respondents said that they had received a great deal of training for using either tool; in fact, two-thirds of total respondents stated that they received no training at all, with the remaining third indicating that they had received some training.

Over half of the organizations represented in the survey had used Facebook for three or more years, whereas most organizations had only used Twitter for three years or less. This is most likely due to the age of each service. Email (90%) and word of mouth (78%) were, by far, the most popular methods of contact other than social networking sites. Paper newsletters and bulletins (38%) were the least popular.

Using a management tool, or client, was far more prevalent for Twitter users than Facebook users, who were more or less split on the issue. This

could partially be accounted for by the number of popular Twitter clients early in the history of the site.

In terms of user typology, Facebook users fall squarely in the contributor role, with most of the users accepting that description as accurate. They are less enthusiastic, however, about joining in conversations, rejecting that statement 19-11 (with four neutral). Participants overwhelmingly rejected the lurker/reader, collaborator, and leader statements, all of which had modes at the bottom of the Likert scale (statements are "not accurate"). Twitter user distributions were remarkably similar, though they were almost split on the conversation statement, perhaps suggesting that users are more interested in using Twitter to converse with other users concerning a thread; there are too few participants to make any significant differentiation between behavior on Facebook versus Twitter.

A common issue in social media research is the dependency on either reported or observed values without the ability to cross-verify results. In this study I collected data on social media use and also asked users to report how often they thought they posted to social media. To test whether reported values were consistent with observed values for respondents in this study, I calculated the median number of posts per month for all participant organizations [87] and correlated those values with their reported posting

[87] There were two outliers where it was clear that the respondents misunderstood the scale on this question, as they reported very infrequent / no posts in the last two months, but

frequency on a seven category, progressive breakout, multiple choice question. The results show a strong, positive correlation for both Facebook (r=0.96) and Twitter (r=0.91), indicating that users in this study had an accurate understanding of their own social media use frequency.

Discussion. In the case of Facebook, data from participants confirms the notion that practitioners are expected to come into their position with a great deal of personal experience. For Twitter, most of the practitioners appeared to be placed in charge of their first account when they began their current position. Many of these organizations do not train employees on the use of social media. Compared to Facebook, Twitter is a relatively new tool, and made up a smaller share of the total number of social media sites I located when searching the original 2,720 organization sample. Since Twitter is a newer tool with a somewhat higher learning curve for new users (especially when using third-party applications like HootSuite), organizations may need time to learn and develop specific strategies and practices.[88] In that sense,

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presented among the highest post frequencies; this was directly contrary to the rest of my findings.

[88] A possible refutation of the concept of "training" as it applies to social media might be that using social media is an operationalized action instead of an activity, akin to typing or tying one's shoes. This confuses operations with the activity of social interaction. The operational aspects of social media (posting, reposting, commenting, etc.) certainly require little (if any) training, as I discussed in chapter four. The actual activity of interacting with others on social media is analogous to human interaction tasks, something infinitely more complex than just typing or tying one's shoes. Regardless, if the process required no critical self-reflection and was simply an operationalized action that we carry out without the need for initiation or expansive learning, we probably wouldn't see such an interest in strategy guides, reading about other practitioners' mistakes, improving metrics, etc. Also, if the

utilizing a client for Twitter may be related to the pathway to use of this tool, not a sign of user sophistication. Further work is needed to discriminate the precise role that a client plays in social media use.

In terms of determining a user's place in a typology, the results appear somewhat flat when compared with sophisticated theoretical typologies. Almost all the users envisioned themselves as contributors, which is either a direct result of the small sample size or points to a larger problem of categorizing use patterns and roles. Models such as the Reader-to-leader framework (Preece & Shneiderman, 2009) and models based on user motivation (Brandtzaeg & Heim, 2011) anticipate that a spectrum of users exists and that researchers can observe that spectrum within a sample. However, behavioral data in this sense are difficult to aggregate on a large scale since it often depends on the accuracy of user-reported information. The data set for this study only captures users' posting information and resulting metrics, not the liking and sharing behaviors of users themselves or private, user-to-user communications. Such interactions are undoubtedly "activity," but are difficult to quantify for both researchers and users.

On the other hand, the positive correlation between reported frequency of use and actual frequency of use suggests that the users in this study realistically described their interaction levels on social media. If that is the case, then model makers wishing to develop a typology for social media site

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practice were so operationalized as to require no critical assessment or learning, we wouldn't see so many *faux pas* and mistakes.

interactions should focus on the contributor and collaborator roles to discriminate the activity of the vast majority of users, which will yield much more insight than referring to them as a monolithic user base (e.g. the 90%, the periphery, etc.). Part of successfully establishing typologies may be to target organizations where one expects to find leaders, but given the large incomes of some of the organizations that responded to the survey and the corresponding conventional wisdom that organizations with large budgets have the most sophisticated social media operations, so-called leaders may not exist among NPO practitioners or may not fit such conventional ideas about user behavior (rebuffing maximalist, dialogic models).

Another conventional model suggests that social media site management at an NPO may be partitioned into the management of individual sites, like fiefdoms within a larger social media kingdom, with each practitioner focused on his or her own feed. This kind of "divide and conquer" mentality is worth exploring in a longitudinal, in-depth study of an individual NPO. The success of such a strategy would no doubt depend on the productive division of labor, mitigation of message control anxieties, as well as a low frequency of employee turnover (or, conversely, distributed knowledge of systems to account for turnover). I'll return to this concept in the final chapter of this study when I discuss future work in this field.

A second possible explanation is that the vast majority of users are more concerned with raising the profile of their own organization and that

most of the actions they take are towards those ends, with only the occasional plug for or thanks directed at a partner organization. That is to say, there may not be a large perceived incentive *in this domain* for the type of organizational behaviors that Preece and Schneiderman predicted.

5.3 Division of Labor

Results. Generating ideas for posting to social media is very often the domain of the person who completed the survey. While governance boards and stakeholders were not applicable to some of the organizations in the study, the data I collected shows that among the organizations where such groups were extant, these entities were rarely involved in generating ideas for social media content. Coworkers and supervisors were more engaged in the process of generating ideas, offering occasional or opportunistic assistance. It seems that most of the time the burden of generating content falls upon the person primarily responsible for posting to the site. Table 6 summarizes the data concerning the generation of ideas to post to an organization's social media sites.

Table 6. Who contributes content to post to your organization's social media sites?

Group	Applicable to *x* organizations	Modal response	%
Respondent ("I do")	40	Very often	83%
Coworkers or covolunteers	36	Sometimes	44%
Supervisors	32	Sometimes	53%
Governing body / board of directors	32	Never	69%
Persons in the community served by NPO	34	Never	53%

The actual work of posting to the site is far less varied, and is mostly conducted by the survey respondent. Among the other groups of persons who could post to the site, respondents most frequently selected "never" to describe how often they contributed, though over half of the respondents (where coworkers were applicable to that organization's structure) reported that coworkers sometimes, often, or very often contribute to posting (48%). For NPOs in my sample, the results indicate that the majority of work generating and posting to social media sites is done by a solitary individual, with contributions coming occasionally from coworkers or supervisors.

To assess whether users were part of a highly-structured effort or an informal mention network when receiving ideas about what to post, I asked users to either confirm or deny the existence of several methods for delivering

that information to the person posting content. This question was based on the assumption that one person or a small group was responsible for posting data, and that one or more of the methods I listed (derived from strategy guides, informants, and my experience in similar environments) would apply to the context of the respondents. I also provided a blank box, though only one respondent had an additional method to contribute ("Facebook message"[89]). Since responses conformed to my assumption about the solitary nature of posting, the results are worth reviewing here (summarized in Table 7).

Table 7. The methods used to deliver content for posting on social media sites, in order of popularity.

Method	%
Email	85%
Informal conversations	80%
Structured meetings to brainstorm content	30%
N/A: I don't receive ideas from anyone	5%
A collectively curated list/database of content that the respondent draws from	3%
Collectively generating ideas and voting for the best	0%
A form that people can fill out	0%

[89] The distinction between messaging using email and messaging using the social media sites was not something I anticipated when generating the survey, but points to an interesting direction future investigations can take, namely: how do workers at an organization use social media to craft content for an organizational feed?

Most ideas seem to be transmitted in unstructured, one-to-one communications between coworkers and (potentially) supervisors. However, some organizations reported holding structured meetings, which indicates that alignment-building behavior is most likely present in those organizations.

Finally, I asked organizations a series of Likert scale questions to help determine whether future studies should address the issue of inter-organizational collectives as a major facet of social media organization and behavior. Many organizations agreed that everyone in the NPO community should work together to promote each other's content (45%) and that promoting other organizations' content was important to them personally (43%) and to their organization (43%). However, most organizations agreed that they don't always have time for such behavior (60%) and that it didn't always fit with the goals of their organization (53%). The large majority of organizations felt they received little help from other organizations with promoting their own content (63%).

Discussion. There is a particular irony in respondents solitarily posting information on tools that were designed to promote interpersonal interaction. That being said, there's a certain logic to having one person act as the "keeper of the keys," so to speak. A single individual is easy to hold

accountable through assessment and metrics. A single individual does not have to worry about coordination or building consensus on an approach.

Nevertheless, the single-operator approach remains problematic for two reasons. First, one person can only accomplish so much. Maximalists such as a dialogic theory proponents and those who search for the "ideal practitioner" seem keen on hyper-engagement, but ideal humans do not exist; many opportunities for engagement are lost when a worker has to split attention between other responsibilities and managing a single social media site, or when a worker tasked with managing the consolidated social media presence is unable to pay full attention to a single channel of communication. Second, the single-operator approach only strengthens the brain drain problem indicated in numerous strategy guides and organizational management sources: when knowledge of a tool or process is vested in one person, the departure of that person seriously incapacitates the organization's ability to perform that function. The results from this study suggest that escalation of knowledge (not just operational knowledge, but activities and strategies) to the institutional level (Hughes, 2002) and coordination of tasks between individuals are approaches that NPOs should consider when scaling up their social media presence.

The presence of some contributions from coworkers and supervisors and the presence of structured meetings is a strong indicator that alignment, as extrapolated from my analysis of the strategy guides, plays a role in

selecting which content will be posted to social media sites. While posting itself is a mostly solitary affair, it would be incorrect to assume that there is no division of labor component in the activity system of many of the organizations in this study given the split results on generating content for the sites.

Inter-organizational cooperation seems to also corroborate the notion that the practitioners in this study focus mostly on promoting and sharing their own content over organizing and collaborating with groups of similar organizations. The divide between personal values concerning cooperation and reported practices suggests that organizations were honest with their self-assessment (as opposed to saving face by indicating an alignment in personal values and actions): they view collaboration as important, but recognize it is not always practical or possible.

5.4 Rules

Results. Among my respondents, 60% indicated that they follow informal rules when posting to their organization's social media sites. All but one of the respondents agreed with the notion that these rules are common sense. Users disagreed with the notion that they learn these rules by posting content that they later had to delete, but agreed that they learn them by reading articles about others' social media *faux pas*. Users were much more neutral on the concept that they learn these rules by watching for a strong positive or negative reaction to the content that others post, which implies a

distinction between monitoring other users' behavior for informal rule learning and reading about other users' behavior through a third party.

Users were divided over the notion that they form their conception of informal rules based on the feedback they receive from other users. It seems that some respondents are the beneficiaries of feedback, and some are not. Based on these responses, users responded along predicted lines on the remainder of the questions, rejecting both that they post to sites without any care for informal rules, and that they have not thought much about informal rules.

Only 33% of users indicated that their organization has formal rules about the content that they post on social media. For those that did, users overwhelmingly identified themselves as the maker of these formal rules (strongly agree, 85%). Ten percent of participants strongly agreed that their direct supervisors were involved in formal rule making, but most users agreed that trustees, boards of directors, state and national organizations, and other organizations had little impact on the rules their organization uses. Users were split over the concept that site terms of service (TOS) determine the formal rules they follow. In hindsight, I should have been more specific when discussing TOS to determine whether users had ever encountered resistance from the site ownership over TOS violations (as such an interaction would likely influence a user's response to this question). As such,

the question did not sufficiently address the issue of TOS and this concept should be examined in detail in future work.

By examining reported incomes, I determined that three of the 13 organizations in the formal rules group were most likely smaller operators or sole proprietorships; however, organizations that utilized formal rules tended to be larger operations in general based on their reported revenue. The median one-year reported revenue for organizations using formal rules was just over two million dollars. By comparison, the median one-year reported revenue for organizations *not* employing formal rules was $727,000, with a far higher proportion of organizations reporting revenues under one million dollars.[90]

Discussion. Based on the lack of training users receive and the fact that most users read about informal rules violations rather than learn about them from their own actions on social media or observing the actions/reactions of their contemporaries, we can assume that respondents mainly infer these rules from past experience or scenario-based evaluations outside of their current, professional social circle. This allows users to save face when learning or thinking about these rules privately versus facing the consequences of rule infractions in front of their peers. Practitioners are

[90] There was one notable outlier in this subset with a reported revenue over 100 times larger than the median; that organization was also very active on social media during the study period.

likely expected to already have, or quickly pick up, the informal rules that guide their interactions and compartmentalize these rules as "common sense" afterwards. In point of fact, many informal rules are complex and require observation and reconsideration as platforms change over time.[91] The common sense mentality obviates the need for training, as one does not train someone in the art of common sense.

The distribution of revenues in the formal rule set of NPOs versus those that did not report formal rule making supports the conventional wisdom that organizations generating larger revenue have a larger staffs, organizations with a larger staff have more distributed work, and coordination of that distributed work necessitates more rules. However, unlike the strategy guides which suggested/predicted formal rules to be the domain of directors or widespread collaborative efforts, most formal rules for participants in the study come from direct supervisors or the respondent him/herself. Future work examining the content of formal rules and the somewhat unexpected practice of creating formal rules for oneself (perhaps as a rigid type of personal code) could shed some light on this interesting contradiction.

[91] As of writing, Facebook introduced several "emotion" buttons to allow for quick responses to posts where "like" is insufficient or inappropriate to express acknowledgement of a status update. The informal rule practices surrounding the use of these buttons and which circumstances warrant which application of each button type are, no doubt, currently being negotiated and learned by the user base.

5.5 Assessments and Critical Reflection

Results. When developing strategies to generate "good" content on their organizations' social media accounts, practitioners were more likely to observe the behavior of other organizations online and read best practices guides to than to ask other professionals or utilize knowledge of what is "good" on their own personal account. The results for this question are summarized in Table 8.[92]

Table 8. Percent of Facebook and Twitter users that employ corresponding strategies to write good content.

Strategy	%
I watch what other organizations post and if something works for them, I try it	76%
I read best practices guides (for example: Social Media for Social Good: A How-to Guide for Nonprofits) or websites that offer tips, and I use those tips to help me write "good" content	67%
I ask other professionals who use Facebook/Twitter for their organization what tricks or strategies they use	43%
I go by what I view as "good" on my own personal Facebook/Twitter account	39%

I asked the users to read a series of outcomes for an individual post and rate how strongly they associated those metrics with a good post, the word "good" here meaning a post that generated a favorable outcome (I didn't get more specific in the question on outcomes since motivation is one of the

[92] There was no significant difference between Facebook and Twitter user results on this question.

issues that this study seeks to uncover). Since these are all positive outcomes, I was essentially looking for the outcomes that were most strongly associated with good content.

For both Facebook and Twitter, the outcome that was most strongly associated with a good post was sharing/retweeting the post by users who liked/followed that organizations' page (as depicted in Likert scale, "Strong association (5)": Facebook, 79%; Twitter 71%).

On Facebook, practitioners positively associated a high number of likes and an increase in page likes with a good post. Less strongly associated were shares by persons with a large number of friends, generating a large number of comments, and generating comments that were substantive (e.g. not pleasantries such as "nice post"). The lowest association was made with a post that generates comments of a positive nature.

On Twitter, practitioners strongly associated retweets from accounts with many followers and increases in the organizations' own number of followers after a tweet. Less strong were the associations made with posts that provoke substantive content and posts that receive a lot of replies. The lowest associated outcomes were replies that were positive in nature and a large number of favorites on a tweet. One must take into account the fact that post likes on Facebook and favorites on Twitter are not analogous.[93]

[93] There's not much point getting into the differences here, but one major difference between the two during data collection was that a Twitter user's favorites doubled as a sort of curated list, whereas a like on Facebook was akin to an acknowledgement in some circumstances, but also could result in algorithmic inclusion of the liked content in friends' news feeds. On

To determine how closely users felt that their personal work goals coincided with their organization goals, I asked them to rate a statement to that effect on a Likert scale. The differences between Facebook and Twitter responses were negligible. A combined 30 out of 51 respondents agreed that their personal goals coincided with their organizations' goals. A total of 16 respondents were neutral on the subject, and only five disagreed.

Discussion. I offered an N/A plus write in option for the question of associated outcomes and "good" posts since strategy guides suggested only a limited number possible evaluation strategies. Most of the free responses were not very enlightening, but one user wrote that "a lot of it is common sense. Collaboration is good, but at the end of the day you should have an idea of what is 'good' content. If it is positive and will gain exposure, generally it's good." This corresponds to the notion that the unwritten or informal rules of social media are also common sense. Before disruption, complex processes are often internalized (Engeström, 1999), and viewing a task as common sense (even when an evaluation of an activity balances numerous factors such as assessing whether a post is "positive" as the user articulates) masks the fact that this user presumably performs that complex

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Facebook at the time, page likes seemed closer to the favorited list on Twitter. During the course of this project, Twitter renamed "favorites" to "likes." perhaps mirroring the phrasing (if not the exact structure) of Facebook. Twitter also changed their user feeds to algorithmic presentation, including a section of "likes" from other users inside the feed (as opposed to strictly reverse-chronologically ordered posts from other users). This shift illustrates yet another example of the lack of control over presentation of data that users exert over these sites.

evaluation before posting; he or she may even avoid posting about certain topics if they will not generate the right kind of "exposure." This evaluative process, alluded to repeatedly in strategy guides, may be a learned behavior over time, but it is difficult to pinpoint the factors that contribute to the development of this behavior and the boundaries for what is and is not acceptable/desirable to post.

My initial construction of the different types of outcomes assumed that there would be a split in respondents between quantity of interactions versus quality of interactions, but the respondents for the most part sided entirely with the quantifiable outcomes. Although that makes some of the types of analyses I wanted to do on the data obsolete, it is an interesting finding nonetheless. Quality of interactions is difficult to assess with metrics, but there are many tools (offered by Facebook/Twitter as well as third-parties) that allow users to measure engagement and influence (based on engagement with connected individuals) using quantifiable metrics.[94] Whether the prevalence of these tools impacts the way in which organizations make assessments remains unknown, but it's fair to assume that the data that is easily obtained, readily available/portable, and automatically generated will be employed for assessment and critical reflection more frequently than other types of data that are more difficult to analyze/interpret.

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[94] Many of these are now automatically generated and sent to the account's administrator. I'll return to the usefulness of such tools across the board and speculate on why they are popular assessment aids in chapter 7.

It should be noted that both Facebook and Twitter recently deployed much more sophisticated tools that engage with site administrators automatically through weekly email updates. Unfortunately, this occurred after my survey had been deployed. Although I'll discuss this topic in chapter 7, future work might further examine how practitioners/supervisors use this data to evaluate their social media use outcomes.

The question of goal alignment between individual and organization is settled (at least in this population). Users overwhelmingly agreed that their personal and organizational goals are in alignment. It would be interesting to interview at a later date those workers who disagreed, and it's worth noting that this agreement is not unanimous.

5.6 Conclusion

While participation in the survey was lower than I would have liked, participants' responses showed much more variation than much of the existing literature. One possible reason for this variation is the fact that I avoided the TIP and attempted to include a broad sample of organizations with varying missions and operating revenues. In the following chapter, I'll examine the final component of the activity system: motivation.

CHAPTER 6

EXAMINING PRACTITIONER MOTIVES FOR SOCIAL MEDIA USE

6.1 Introduction

Understanding what users want to accomplish when engaging with a system is a prerequisite to designing a system that empowers them to effect change around them (Simmons & Zoetewey, 2012). Yet many scholars tend to presume motivations for nonprofit organizations without asking them why they post content or what they intend to accomplish with the content they post. Even though Facebook and Twitter are tools with broad applications, I assume that nonprofit practitioners act with agency and purpose, utilizing tools as they think will best accomplish their individual and organizational objectives (within the limits of their experience and knowledge of the system). I argue that, rather than assuming *a priori* a set of motivations for a user group, studies dealing with users' motivation to use social media should consider the motivations users describe when constructing a classification schema. Studies built on user-defined classification schemes provide valuable insight into the types of activities that users engage in, and this in turn tells us what users are trying to do with a tool rather than what they *could* or *should* do.

While it's possible to use automated approaches to define classes prior to a classification task (e.g. topic modeling, clustering, etc.), unsupervised machine learning techniques rely heavily on syntactic and lexical features of

documents within the corpus without taking into account the human knowledge present in a labeled dataset. For a corpus where the documents (a) are typically very short and contain highly varied data, (b) where users are adept at employing multiple rhetorical strategies within those short documents (Roback & Hemphill, 2013), and (c) where surface-level construction of those documents may obscure an abstract concept like motivation, constructing a categorization scheme based on user input seems an important step in producing classes that best represent the practitioners' intentions when posting to these sites. This classification data will provide a broad overview of the types of motivations guiding NPO practitioners in their use of Facebook and Twitter.

To discover common motivations for NPO practitioners posting to social media sites, I used the following procedure:

1. I surveyed NPO practitioners on their motivations for posting to Facebook and Twitter;
2. I constructed a categorization schema based on the data from (1);
3. I assembled a group of coders, and we used the classification scheme from (2) to code a training set;
4. I used the labeled training set from (3) to train a machine learning algorithm to classify the larger data set.

Technical communication as a field has frequently turned to users to explore ways in which their agency is influential in complex systems. As

discussed previously, users rarely explicitly declare their reasons for posting material within the content of the post. This study asks users to reflect on previous posts and use that reflection as the basis for describing motivation. In technical communication, uncovering users' tacit knowledge is a useful endeavor that results in better design outcomes than simply assuming conditions of operation and desired user outcomes (Hughes, 2002). As such, I relied on user input in a process I call "participant coding," which is designed based on the principle that users bring a great deal of knowledge into refining practice within a system. This approach rejects positivist, technocratic explanations of user motivation and instead uses a more socially constructed approach that takes into account the knowledge and opinions of the users (Grabill & Simmons, 1998). Although I'm not proposing design changes for either system, this study follows the spirit of participatory design (Spinuzzi, 2003) in that it seeks to incorporate workers' tacit knowledge of system operations into the design of the classification task, an approach that gives a measure of agency to the participants in the study otherwise absent in an *a priori* classification scheme.

I'll note that incorporation of user/public perspectives produces viable outcomes only when no prior determination has already been decided upon (Wallace, 2003). Likewise, user perspectives only matter when there is no overriding institutional control where asymmetrical power relations are set in stone (Grabill & Simmons, 1998; Knievel, 2008). Although not widely

discussed in academic literature, Facebook and Twitter exercise a great deal of control over the design and operation of each site. Since technical communication and HCI are design-conscious fields, studies of social media sites necessarily are limited by the amount of control exercised by these companies over content, distribution of information, and limitations imposed on users. Rather than focusing on how things should work, I took the more pragmatic approach of asking users to reflect on past activities to paint a picture of the state of practice as it exists currently (though currency takes on a different meaning when discussing social media, as Facebook and Twitter have changed in some significant ways in the past two years).

6.2 Procedure

This project presented social media users with posts that they authored in the previous year, then asked them to describe their motivations for posting that content. I introduced this concept in a previous chapter as "participant coding," whereby the participants in the study have input into the creation of classes later used in the text classification task. I argue that the inclusion of input from participants (at least in terms of an abstract concept such as motivation) will result in classes that will more accurately reflect motivations than if researchers developed a classification scheme by iterating through corpus data alone. Rather than have participants browse a large collection of their past posts, I ask them to describe motivations for a maximum of four posts. Apart from the fact that uncompensated study

participants are less likely to complete a large classification task, I feel discrete examples allow the opportunity for participants to better reflect on their motivations at the time of posting rather than broad generalizations of social media use. These tell us more than platitudes such as "using Facebook to achieve our mission of helping people," which a review of a larger corpus might engender.

Broadly speaking, the collection and categorization of data from NPOs happened in two phases: the sampling phase, whereby I located and collected data while constructing a basic motivational framework to apply in the design of the survey instrument, and the coding phase, where I analyzed participant responses and classified the data by motivation. Figure 11 summarizes the process. I will provide a detailed discussion of the stages in this process that have not been addressed in earlier chapters.

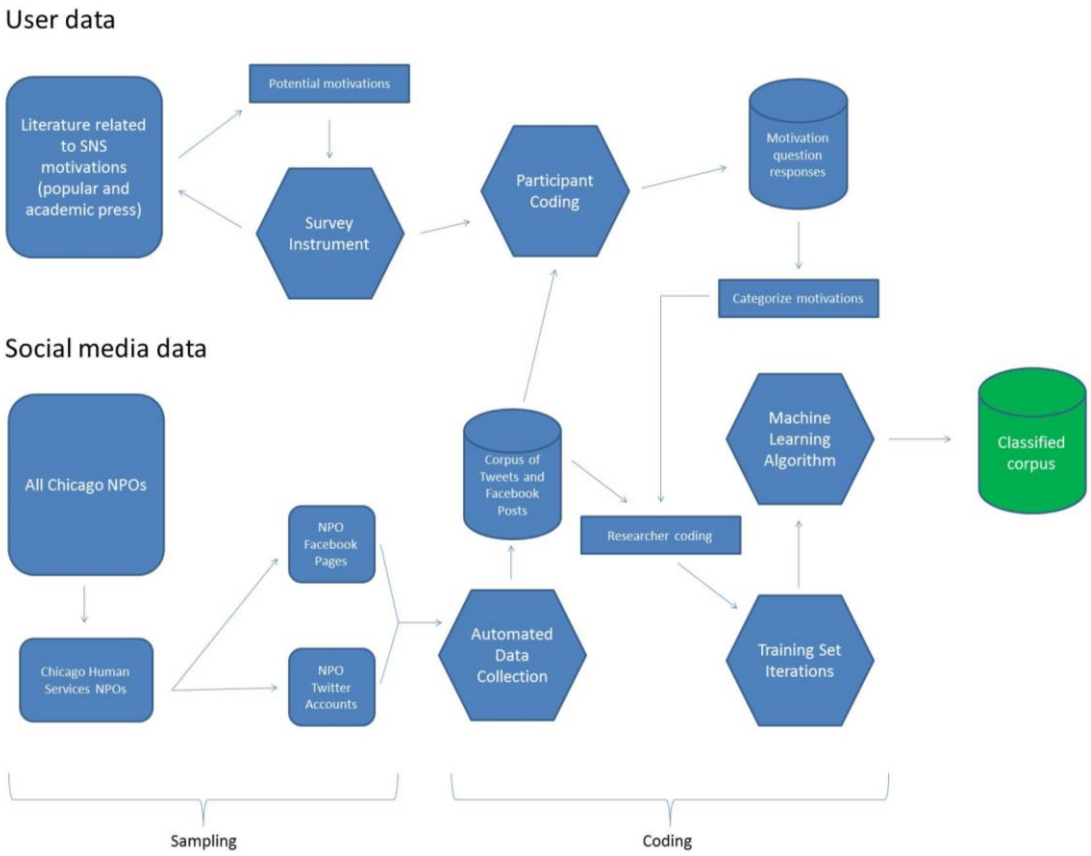

Figure 11. Summary of process for collecting participant and social media data for use in the classification task (adapted from Roback [2013]).

I'll briefly recap the steps I took to obtain data from Facebook and Twitter (the full account is in chapter 3). I winnowed a large list of Chicago NPOs down to Human Services NPOs, then conducted an automated search for Facebook and Twitter accounts associated with those NPOs and collected data from the associated accounts using automated scripts. I collected 84,912 posts (combined from Facebook and Twitter) from a period of time in 2013 and wrote a function in Excel to locate two posts for each of the organizations in my sample. I converted this social media information into a file containing

the post text, post date, and a static URL pointing to the post page; this data was used for the survey.

The remainder of this section describes the process of converting that social media data into participant coding questions in the survey instrument. I also describe how I took the information I collected from those questions and used it to create a categorization scheme for the machine learning text classification task.

When writing the instructions for these questions, I tried to anticipate potential motivations that participants might report by applying the activity theory concept of motivation to studies in this field in order to provide a helpful example that would not prime participants or cause them to latch on to the example to describe their own behavior. Chapters 3 and 4 of this study describe the process in detail, but I will add here that the process was iterative and that I made several changes to the survey instrument before fielding it. The final instruction screen and example is depicted in Figure 12.

Figure 12. Screenshot of the instructions page from the survey instrument. The wording was essentially the same for Twitter users.

Following the instruction screen, I presented each survey respondent with two posts each from either Facebook or Twitter.[95] Repurposing a token replacement feature in LimeSurvey, I designed each question page to present one post tied to the social media username the participant used to log in to the survey.[96] The components of the page were an assemblage of three types of files: (1) three XML files containing the generic instructions for the question and the HTML markup for user-specific information; (2) the post

[95] If participants used both social media sites, they eventually completed this section for both sites and responded to four questions instead of two.

[96] I had to rewrite several lines of code that limited the length of these token fields in order to present longer Facebook posts. If you're interested in seeing how I found and edited the files, review the slides from my talk for the 2014 Humanities Department speaker series: "Make it with friends, break it yourself: Open-source software and DH research"

content, date the content was posted, and a static URL[97] built using separate tokens (the source of which is a CSV file); and (3) the rest of the survey components such as the textbox, submission button, associated CSS, etc. See Figure 13 for a screenshot of the question page.

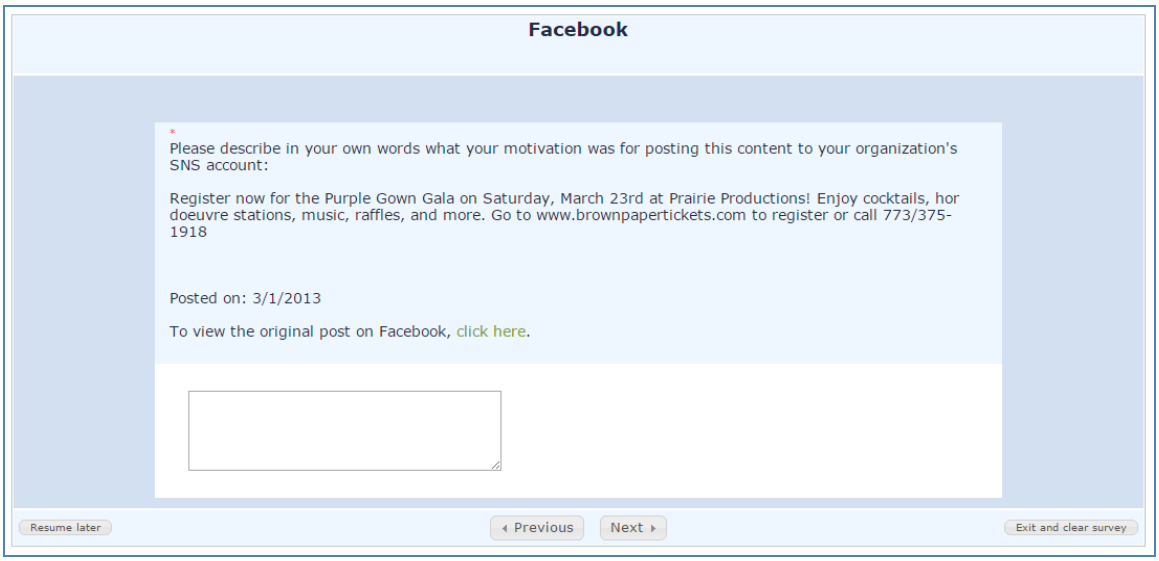

Figure 13: Screenshot of the question page where users entered their response to the motivation questions.

I asked the participants to assess the motivation behind each respective post, and then asked them to explain their motivation in a paragraph text entry box depicted in Figure 13 (above). Respondents could enter as much text as they like, but most wrote only one or two sentences describing their motivation. These responses provided input from survey

[97] The URL token is incorporated into the hyperlink "click here" and opens the Facebook or Twitter page in a new browser tab. Fortunately, Facebook and Twitter incorporate stable URIs for their post pages.

participants regarding the underlying motivations for posting content to Facebook and Twitter.

I inductively categorized motives until I felt that I had established categories that encapsulated the wide variety of motivations present in participant responses. I eventually identified 17 categories, including an "other" category (summarized in Table 9). I further classified each group by broad themes that bear some relationship to the analysis of strategy guides in chapter 4. Many subdomains that I extracted from a review of strategy guide motivations (see chapter 4, Figure 10) were well represented in this categorization scheme, including interpersonal connectivity, organizational reciprocity, message dissemination, solicitation of actions, and transmutation of behaviors (from online to offline). Less well represented were action-based motivations and network repositioning (i.e. courting central figures on these sites or other explicit network repositioning activities designed to increase followers or centrality). Whether a result of the wording of the question or because NPO practitioners are able to astutely identify abstract concepts (or both), very few responses fell into the motivation-goal confluence described earlier (e.g. "I wanted to share a photo with my followers").

Table 9. Themes and categories used for coding training set data with example posts from the training data.

Theme	Description	Example
Soliciting	Recruit volunteers	YOU can help keep kids safe from unsafe products. Consider joining KID's Action Team today http://t.co/3myE85JfOr
	Solicit social media content, response (like, share, etc.), or individual stories	Have you asked your friends to like KRCC on Facebook? If you didn't, now is the time. Please invite or poke your friends to become KRCC facebook friends.
	Encourage action on an issue	The voting period for @ChaseGiving starts tomorrow! Check out our cover photo http://t.co/PDU6cr1s so you can vote for us! :)
	Encourage reflection on commitments or individual actions	June is Post-traumatic Stress Disorder Awareness Month - up to 50% of people with PTSD do not seek treatment. It's time to change your beliefs about PTSD and learn ways that you can help. Visit http://ow.ly/m36Za to learn how you can make a difference!
	Solicit donations or individual fundraising efforts	Summer donations drop & our shelves clear out & families facing hunger still need help. Donate today #solvehunger http://t.co/7t2LWEYnKQ
Promoting	Promote NPO event / update event details	Welp. We are gonna play it safe and cancel today's racing due to the forecast. RACING IS SET FOR SUNDAY, JUNE 16. Same time. Same place.
	Promote NPO gala or fundraising event	Check out Chicago Tribune's celebrity calendar and make sure you save the date for Lynn Sage Cancer Research Foundation's Fall Benefit featuring Diane Keaton! Purchase your tickets today here: http://lynnsage.org/fall-benefit-luncheon/!
	Promote other organization / member of other organization ("shout out")	Melanie Campbell of @NCBCP: Our youth are our secret weapon. #SOBA12
	Promote partner organization's event	ATTN VETERANS! Don't forget to register for the 100,000 Jobs Mission Hiring Event taking place on Thursday, July 12. http://t.co/X51jsCDG
	Promote NPO services (or provide information about service availability) / encourage use of NPO services	We are launching a brand new program in partnership with the Lake Forest Sailing! Very exciting, servicing Northern Illinois and Southern Wisconsin. Please join us at the Open House on Saturday, June 15th from 1pm - 3pm at 501 N. Lake Road in Lake Forest and learn more about this new program!
	Cross-promote NPO services / highlight inter-organizational collaboration	We assisted over 15 LGBT seniors today with the help the West Cook Pro Bono Network!
Sharing	Share / link to NPO newsletter, blog, website, media, etc. to raise profile of organization or awareness of issue	How Foreclosure Has Devastated Latino Chicago (And What We're Doing to Help)More on how the crisis impacts Latinos: http://ow.ly/m2PHH
	Share / link to outside source / media to raise awareness of issue	Study: Deep budget pain for human service groups http://t.co/L1PxZqI9 via @STLtoday
	State position of NPO on issue (with or without media)	Afterschool programs are a positive way to expand the American dream #ExpandingMinds in #afterschool2013
Credit-giving	Thank persons / organizations for donations, participation, or social media support/sharing	Congratulations to all the dancers who performed spectacularly in the concert and the benefit!Thank you to all the students, parents, teachers, accompanists, board members, Steve Carmichael and his team, Alison Kerekes, Jennifer Tapp, Lander Ellis, Maxine Lapin, The Robert Joffrey and George Arpino Foundation, and all the volunteers for creating beautiful performances and a wonderful benefit!
	Recognize personal / organizational achievement or milestone	Please join us in congratulating one of our students for being accepted into the Google BOLD internship program! Congratulation Jamese! #edu

I assembled a group of four additional coders on February 27th, 2015 in order to expand the training set and create a better model for the automatic classifier. We trained for approximately 20 minutes by discussing the purpose of the study, coding categories, and a set of instructions for how to proceed (see Appendix C for the instructions). Coders worked alone; we only discussed instances after the coding task was complete during a debriefing session. Each coder completed a calibration set of 50 posts. To help decide edge cases, coders referenced a decision tree[98] that guided them to a specific category or "other." The five coders (including myself) achieved a good level of interrater reliability (α=0.81) on those calibration posts using the 17-class schema. The entire training set consisted of 215 posts.

Categorization schemes with a large number of classes within an attribute frequently reduce classifier accuracy,[99] so I utilized collapsed codes (the four themes summarized in Table 9 [above] plus an "other" category) for the classification task. This increased the level of interrater reliability (α=0.86). Table 10 shows the data from the human-coded training set.

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[98] The actual document is too large for the IIT dissertation format to legibly reproduce. You can view an image of the decision tree on my website: http://andrewroback.com/dissertation_survey/decision_tree.pdf

[99] This is a product of short document length (not enough attributes for the classifier to form an accurate model of each class) and small training sets (where stratification necessarily limits the number of instances from each class in each fold of a 10-fold cross validation model and reduces the number of highly predictive attributes for each class). Collapsing the number of classes in an attribute somewhat resolves this issue. An alternative approach would be to expand the training set, which was not feasible for this study and a problem that I necessarily recognize as a limitation of the classification approach I used.

Table 10. Summary of human-coded training data by motivation type.

Motivation type	Facebook	Twitter	Total	%
Soliciting	17	15	32	15%
Promoting	35	28	63	29%
Sharing	34	51	85	40%
Credit-giving	20	12	32	15%
Other	2	1	3	1%
	108	**107**	**215**	

While human-coded data is useful, large data sets require the use of an automated classifier to quickly categorize a large amount of instances. Machine learning (sometimes referred to as data mining) uses computer algorithms to identify patterns in training data (i.e. the human-coded data above) and then uses those patterns to predict the class into which individual instances will fall. Most researchers undertaking this type of classification task employ software that allows them to transform the data contained in each instance so that it can be used with a variety of different classification algorithms. In this study, I used Weka 3.6.8 (Hall et al., 2009) for all automated classification tasks. Almost all instances in the training set were coded by two coders (one of them was usually myself), but I used only one set of codes to train the classifier. For edge cases where coders differed, I made a

choice to place the training set instance in one category or another based on our discussions during the debriefing period.[100]

6.3 Results

Similar to Hemphill, Otterbacher, and Shapiro (2013), I allowed posts to fall into more than one class given the overlapping motivations and rhetorical strategies demonstrated by users. Despite the length limitations enforced in social media posts (either by convention on Facebook or by data validation on Twitter [140 characters maximum per post]) users are quite adept at employing multiple strategies within a single post (Roback & Hemphill, 2013). Given that ordinary users petitioning elected officials are adept at such strategies, it's not surprising that public relations practitioners are capable of managing multiple motivations and rhetorical strategies in the same space. As such, coders often split on motivations, yet still retained a high interrater reliability; to avoid discarding that split data, I allowed each instance to fall into multiple categories.

[100] During debriefing, we negotiated the rationale behind how raters coded some types of posts. Even though we had good agreement in the calibration set, in the interest of training a better classifier I deferred to another rater's code for the training set for a few instances. I didn't view the output of the classifier prior to making this decision (so as not to bias the results by "fine tuning"), and since I chose to measure accuracy as an agreement of the classifier with any rater, this step was really just about making the classifier better by serving it consistently rated items from each class. I made decisions on edge cases subsequent to debriefing, but before I elected to use a collapsed coding scheme (from seventeen categories to five). Collapsing the categories made many of the decisions obsolete as the edge case was resolved by collapsing similar categories into a single category. As a result, our agreement was even stronger, and I used a different category from my own initial classification in only a few cases.

Text data in the form of a string cannot be used with most machine learning algorithms. The data must be converted into a numeric format, such as a word vector or word count. *Word vectors* are numeric values that correspond to presence of a particular word, or *attribute*. The algorithm uses these values to predict which class an instance belongs in. Weka offers many different options to transform these values, but only a few were helpful in improving the accuracy of this classifier. To prepare the string values in my training set, I used the Lovins stemmer (Lovins, 1968) to group related root words; a *stemmer* takes words that are very similar (e.g. "thank" and "thanks") and groups them into a single attribute for the purposes of classification. I left in stop words as attributes (even though they appear less important than other signifying attributes like "http" or "thank," removing stop words, especially in short documents like Twitter/Facebook posts, reduces the number of attributes on which the classifier trains, thus lowering the accuracy of the classifier). Using Weka, I converted the strings to word vectors using the above parameters, then I experimented with different types of classifiers. For each classifier, I utilized 10-fold cross validation on the training set to determine accuracy and reliability.

The naïve Bayes classifier returned the best accuracy results among all the classifiers I applied to the training data.[101] Even though the Bayesian classifiers use a probability approach and ignore sematic relationships

[101] Among the classifiers I applied were J48, Decision Table, Naïve Bayes Multinomial, Random Forest, and Naïve Bayes one against all (where the individual classes are evaluated as binary values rather than nominal). No other approaches produced gains in accuracy.

between individual words, they regularly outperform more complex classifiers (Hall, Witten, & Frank, 2011). The naïve Bayes classifier correctly classified 153 instances, resulting in an accuracy rate of 71.6%. Table 11 gives the results of the classification task and compares the accuracy and reliability of each classifier.

Table 11. Comparing accuracy and reliability of classifications made by automated classifiers.

	Accuracy against training set	Reliability with training set classes as κ	Accuracy against human coders	Reliability with human coders on calibration set as α ($\Delta\alpha_{calibration}$)
naïve Bayes (nB)	64.7%	0.49	71.6%	0.86 (even)
nB multinomial	63.7%	0.47	71.1%	0.86 (even)
J48	56.7%	0.37	66.0%	0.84 (-0.02)
Decision Table	50.2%	0.24	60.9%	0.83 (-0.03)
ZeroR	39.5%	0.28	52.6%	0.76 (-0.10)

In an attempt to improve accuracy of the naïve Bayes classifier, I tried adjusting the number of words to keep in each class for the final classifier model. This is not the same as reducing attribute number, as removing words per class does not result in a round number of attributes in the final set; instead, this process limits the total number of words per class. This had no positive effect on the accuracy.

I also experimented with attribute selection, which uses various algorithms to select highly predictive attributes and discard attributes with less or no predictive power (those attributes that significantly alter the probability that an instance will fall into a particular class). Figure 14 summarizes the three algorithms I used to select attributes and the comparable accuracy of the classifier at those attribute levels. Since it was not computationally expensive to use all 1,952 attributes, and the highest attribute level provided the best accuracy, I did not use attribute selection for the naïve Bayes classifier.

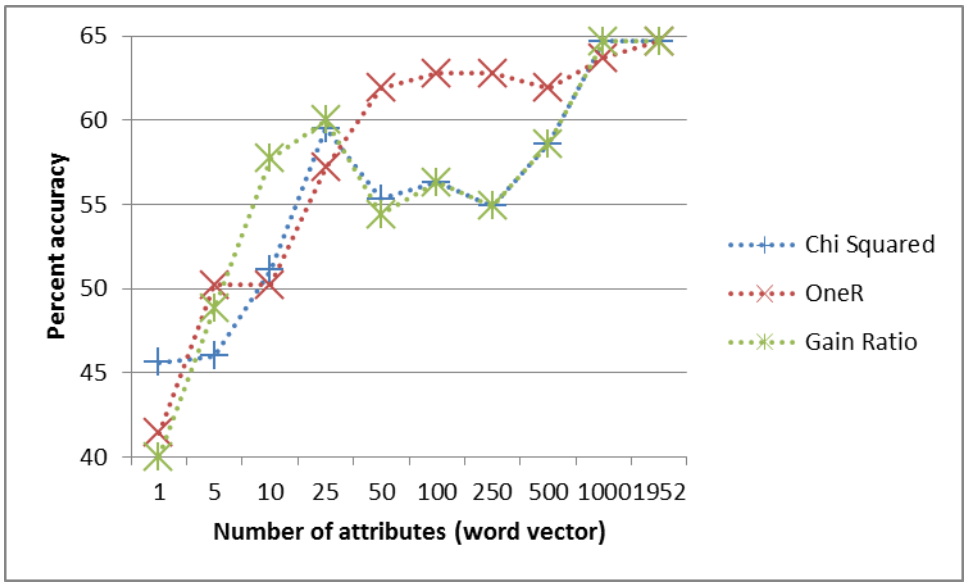

Figure 14: Classifier performance with attribute selection at various levels of attributes (attributes ranked using Ranker in Weka, no threshold, no number to select).

In order to better understand which attributes the naïve Bayes classifier used to predict the class of each item in the training set, I

constructed a table of the attributes by mean frequency value and standard deviation in each class. The results are summarized in Table 12. Although there are quite a few stop words, and it would be more satisfying to human analysts to see more semantic attributes like “http” for sharing links and “thank” for credit giving, reduction of stop words only lowers the classifiers accuracy as it eliminates attributes that occur frequently within and across classes.

Table 12. Top five attributes per class by mean values (standard deviation in parentheses). *Attribute appears in the top five of corresponding class. †Attribute is in number one position in corresponding class.

			Classes									
			1		2		3		4		5	
Soliciting	1	to	0.5313	(0.499)	0.4603*	(0.4984)	0.3529*	(0.4779)	0.5938*	(0.4911)	0.3333†	(0.4714)
		th	0.5	(0.5)	0.6349†	(0.4815)	0.5176*	(0.4997)	0.4688*	(0.499)	0	(0.1667)
		you	0.4375	(0.4961)	0.2063	(0.4047)	0.1176	(0.3222)	0.25	(0.433)	0.3333*	(0.4714)
		and	0.375	(0.4841)	0.3175	(0.4655)	0.2471	(0.4313)	0.2813	(0.4496)	0	(0.1667)
		http	0.3438	(0.475)	0.4603*	(0.4984)	0.6588†	(0.4741)	0.125	(0.3307)	0	(0.1667)
Promoting	2	th	0.5*	(0.5)	0.6349	(0.4815)	0.5176*	(0.4997)	0.4688*	(0.499)	0	(0.1667)
		for	0.1875	(0.3903)	0.5079	(0.4999)	0.2235	(0.4166)	0.6563†	(0.475)	0	(0.1667)
		to	0.5313†	(0.499)	0.4603	(0.4984)	0.3529*	(0.4779)	0.5938*	(0.4911)	0.3333†	(0.4714)
		http	0.3438*	(0.475)	0.4603	(0.4984)	0.6588†	(0.4741)	0.125	(0.3307)	0	(0.1667)
		in	0.0625	(0.2421)	0.381	(0.4856)	0.3294*	(0.47)	0.1563	(0.3631)	0	(0.1667)
Sharing	3	http	0.3438*	(0.475)	0.4603*	(0.4984)	0.6588	(0.4741)	0.125	(0.3307)	0	(0.1667)
		th	0.5*	(0.5)	0.6349†	(0.4815)	0.5176	(0.4997)	0.4688*	(0.499)	0	(0.1667)
		//t	0.1875	(0.3903)	0.2381	(0.4259)	0.4235	(0.4941)	0.0625	(0.2421)	0	(0.1667)
		to	0.5313†	(0.499)	0.4603*	(0.4984)	0.3529	(0.4779)	0.5938*	(0.4911)	0.3333†	(0.4714)
		in	0.0625	(0.2421)	0.381*	(0.4856)	0.3294	(0.47)	0.1563	(0.3631)	0	(0.1667)
Credit-giving	4	for	0.1875	(0.3903)	0.5079*	(0.4999)	0.2235	(0.4166)	0.6563	(0.475)	0	(0.1667)
		to	0.5313†	(0.499)	0.4603*	(0.4984)	0.3529*	(0.4779)	0.5938	(0.4911)	0.3333†	(0.4714)
		th	0.5*	(0.5)	0.6349†	(0.4815)	0.5176*	(0.4997)	0.4688	(0.499)	0	(0.1667)
		thank	0	(0.1667)	0.0476	(0.213)	0.0118	(0.1667)	0.4375	(0.4961)	0	(0.1667)
		a	0.2813	(0.4496)	0.1905	(0.3927)	0.2	(0.4)	0.375	(0.4841)	0	(0.1667)
Other	5	to	0.5313†	(0.499)	0.4603*	(0.4984)	0.3529*	(0.4779)	0.5938*	(0.4911)	0.3333	(0.4714)
		we	0.1875	(0.3903)	0.2063	(0.4047)	0.1176	(0.3222)	0.2813	(0.4496)	0.3333	(0.4714)
		you	0.4375*	(0.4961)	0.2063	(0.4047)	0.1176	(0.3222)	0.25	(0.433)	0.3333	(0.4714)
		our	0.0938	(0.2915)	0.1587	(0.3654)	0.1412	(0.3482)	0.2188	(0.4134)	0.3333	(0.4714)
		it	0.0625	(0.2421)	0.127	(0.333)	0.0824	(0.2749)	0.1875	(0.3903)	0.3333	(0.4714)

In order to represent highly predictive attributes by class (versus frequency values, which only represent the most commonly used words in a class), I calculated the Chi-squared value for the most predictive attributes. Table 13 provides a list of these values and the associated attributes along with their frequency value in each corresponding class. Note that the values

are word stems, so they correspond to various inflections of the words they represent (with the exception of string values like “http” and “//t” that are always exact matches--they are a [useful] byproduct of the punctuation stem-delimiting function of the Lovins stemmer).

Table 13. Chi squared attribute ranking from training set, calculated with 10-fold stratified cross validation, in order of average rank value. The attributes are represented as stems processed by the Lovins Stemmer. Mean attribute probability by class with most common class bolded.

				Mean attribute probability				
Chi-squared value	±	Attribute	Example from training set instances	1 Solicit	2 Promo	3 Share	4 Credit	5 Other
56.2	6.4	thank	**Thank** you to all the students, parents, teachers	0.00	0.05	0.01	**0.44**	0.00
29.2	3.1	http	Study: Deep budget pain for human service groups **http**://t.co/L1PxZqI9	0.34	0.46	**0.66**	0.13	0.00
27.9	2.1	for	Thank you [name redacted] **for** going extra miles, literally & figuratively	0.19	0.51	0.22	**0.66**	0.00
21.0	2.9	congratl	**Congrat**u**l**ations to each student	0.00	0.00	0.00	**0.13**	0.00
21.0	2.9	congrat	**Congrat**s to Houston area Scouts for setting a new world record!	0.00	0.00	0.00	**0.13**	0.00
18.8	2.5	join	Please **join** us at the Open House	0.09	**0.21**	0.00	0.06	0.00
17.7	9.3	wh	Thanks to everyone **who** volunteered	0.00	0.05	0.00	**0.19**	0.00
18.2	1.7	up	ask how you can sign **up** to volunteer	**0.22**	0.10	0.00	0.03	0.00
15.2	5.2	park	It's beautiful in Norwood **Park** so come on out and find some deals!	0.00	**0.11**	0.00	0.00	0.00
10.3	10.5	2	**2**. Taller y mesa redonda sobre Migracion [part of ordered list]	0.00	0.06	0.00	0.00	**0.33**
15.2	1.9	benefit	join us for a very intimate cocktail reception with proceeds to **benefit** Care for Real	0.00	**0.13**	0.00	0.03	0.00
12.2	8	thx	**Thx** for the #FeedbackChallenge tweet!	0.00	0.00	0.00	**0.09**	0.00
8.4	10.4	//t	John Claybrook vetos bill to defund #LGBT center: http:**//t**.co/S1rr8WgONB	0.19	0.24	**0.42**	0.06	0.00
12.4	4.3	tun	Stay **tun**ed to find out in our next post!	0.00	**0.10**	0.00	0.00	0.00
12.7	4.4	tickes	Purchase your **tick**et**s**	0.00	**0.10**	0.00	0.00	0.00
11.4	5.8	saturda	Leaders Forum this **Saturday**, be on the waitlist.	0.00	**0.10**	0.00	0.00	0.00
5.7	4.6	blog	Chicago Tribune **blog** highlights that	0.00	0.00	**0.07**	0.00	0.00

Table 14 shows the results of the naïve-Bayes classifier as compared to human-coded instances in the training set.[102] The largest change in proportion amongst classes is a result of a 13 percent increase in the "Sharing" class in the algorithmically-coded set. Table 15 provides the confusion matrix of the algorithmically-coded set versus the human-coded training set.

Table 14. Human-coded data versus data classified using machine learning by motivation type.

Motivation type	Human-coded training set		Algorithmically-coded set		
	N	**%**	**N**	**%**	**Δ%**
Soliciting	32	15%	11,565	14%	-1%
Promoting	63	29%	20,086	24%	-5%
Sharing	85	40%	45,148	53%	13%
Credit-giving	32	15%	8,051	9%	-6%
Other	3	1%	62	<1%	n/a
	215		**84,912**		

[102] Note that I inadvertently left the training instances in the algorithmically coded set when, in hindsight, they should have been kept separate. This introduced a +0.18% margin of error in the test-set categorization results as the classifier almost certainly correctly classified these instances in the test set.

Table 15. Confusion matrix for classifier.

	Soliciting	Promoting	Sharing	Credit-giving	Other
Soliciting	15	8	8	1	0
Promoting	4	43	15	1	0
Sharing	8	10	66	1	0
Credit-giving	1	6	10	15	0
Other	0	0	2	1	0

The worst category in terms of classifier performance was "other". The classifier was unable to correctly classify any of the three instances in the training set. This was almost certainly due to the low number on instances on which the classifier could train as well as the inherent nature of the category as a "catch all" for instances that did not fit into the first four categories. Table 16 reports additional accuracy measures for the naïve Bayes classifier. I also report the area under the receiver operating characteristic curve (AUROC); this statistic is useful for comparing classifier models, so I include it here for future researchers.

Table 16. Precision, recall, and AUROC statistics for the classifier.

	Precision	Recall	AUROC
Soliciting	0.536	0.469	0.817
Promoting	0.642	0.683	0.818
Sharing	0.653	0.776	0.828
Credit-giving	0.789	0.469	0.889
Other	0	0	0.75

"Soliciting" and "credit-giving" classes had the highest confusion by the classifier. The high AUROC scores in these categories are questionable when assessing classifier accuracy given the relatively low recall values.[103] Partly, this may be due to the lower relative number of instances in the training set in each category. The random selection of instances in the human classification task precluded a completely balanced training set with the same number of instances in each category. Future work may reconcile this imbalance through additional crowd-sourced data labeling performed by paid workers. Later in this chapter, I discuss the possible benefits that a semi-supervised approach may hold in dealing with this confusion. It may also be that there are additional features yet to be identified among the misclassified instances. A future analysis of the probability distribution on misclassified instances could reveal an important attribute or trend consistent with the larger 16-category scheme.

6.4 Discussion

Sharing was, by far, the most common type of motivation for NPOs that posted in this data set. Sharing posts provide information and link to internal and external documents, as well as state the position of an NPO on a particular issue of interest. In the training set, sharing posts provided

[103] Note that the precision, recall, and AUROC values in Table 16 come directly from Weka and do not take into account whether the classified instances match the human-coded values (a provision I discussed above in the above accuracy results). I didn't calculate these values, but keep in mind that both precision and recall would improve slightly if I presented that data instead.

information to readers on matters of public policy or the core services that the NPO provides.

While the proportion of sharing posts increased significantly in the nB set, the results conform to the most frequent and highly predicative attributes for that class, and more generally to the structure of the data I collected. Most sharing posts contain a URL to link to additional information on a topic. In the Facebook data set, where Facebook tracks different types of posts (photo, video, link, etc.), the largest category was "Link Posts" (43%). These posts include a hyperlinked title of the webpage, a photo and summary text from the page, and they allow for a status update to accompany that information. On Twitter, where posts may not exceed 140 characters, hyperlinks allow users to further discuss an issue or provide additional information. Among posts collected for this study on Twitter, the vast majority (67%) contained a hyperlink[104] of some kind, many of them formed using Twitter's t.co link shortening protocol (which results in the "//t" attribute). Since users included so many hyperlinks, it's not surprising that sharing content or stating positions on core issues is the top activity on Facebook and Twitter. The prevalence of hyperlinks in sharing instances is also likely responsible for the classifier's high recall rate in this category.

Promoting and updating information about NPO events was the second most common type of post. Since all of these organizations are human

[104] It's important to note that integration of images into posts without displaying a URL had not been implemented by Twitter at the time these posts were collected. Some of these URLs may be from third-party image services.

services providers, events like galas, social gatherings and mission-specific events (such as bike races for a biking club), cross-promotional activities, and promoting partner organizations may be more common than other types of 501(c) organizations.

Soliciting content was third most common, which counters much of the advice from nonprofit social media strategy guides encouraging practitioners to attempt to constantly increase engagement metrics such as likes and shares. One explanation might be the relatively low recall for this category in the training set. Although the AUROC for soliciting is comparable to other categories, it's reasonable to question the validity of that number given the recall value in this category. Even with the uncertainty presented by the recall value, there's sufficient practical evidence to suggest that soliciting social media responses is not vitally important to NPOs in this sector. Survey respondents associated a high number of likes for a post and an increase in page likes on a post with a "good" post, but the data shows that likes are asymmetrically distributed amongst Facebook posts. In my sample of over 25,000 posts, the average number of likes was 30, ten times more than the median number of likes per post, three. In fact, 23.4% of posts had no likes at all. I had hoped to collect similar data from the Twitter users in my sample, but the collection methods proved unreliable in that regard. Nevertheless, based on data in this study, NPO users are not primarily concerned with soliciting likes and shares from their followers. This finding also contradicts

the commonly held assumption that nonprofits use social media primarily to engage in fundraising. Quite the opposite is true. Fundraising appears to be more common through galas and other in-person events, and NPOs use social media to promote these events but not to raise funds directly.[105]

Despite its prominence in the strategy guide literature and among respondents to the survey, credit-giving behavior occupied only a small percentage of posts on Twitter and Facebook. There's no immediately satisfying explanation for this except to say that thanking individuals may frequently take place offline or through private messaging, and there is much to learn about the nature of when and why NPO practitioners choose to publicly thank or congratulate persons on social media. On a visit to a mid-size nonprofit organization in 2015, practitioners told me that privacy concerns sometimes gave them pause when mentioning individuals at their organization on social media (some employees did not use Facebook or Twitter and did not wish to have personal information shared about them for fear of unwanted attention). Hence, intra-organizational thanking behavior may be restricted to persons who demonstrate that they are frequent users of social media and wish to be tagged or mentioned in a post. Other types of human services where participation may be a sensitive subject for stakeholders (e.g. food banks and addiction recovery centers) may have similar privacy concerns.

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[105] However, many such events in the human services sector are simply activities associated with the primary function of the NPO, such as a bike race for a bicycle riding club.

Another explanation for decline in sharing posts might have to do with the composition of the sample organizations. To better understand the difference between organizations that generate a large amount of annual revenue and smaller NPOs that have no revenue or a modest revenue, I stratified the sample into eight income brackets that roughly correspond to income selection choices on Guidestar.org. Table 17 lists the organizations, their posts by motivation category, the market-share breakdown by income bracket, and the total number of organizations in each income bracket. The largest bracket in the sample are the organizations that reported no revenue on their tax filings (n=134). Organizations post to social media at different rates, so to reflect activity I plotted the posts per organization during the 2013 collection period in Figure 15.

Table 17. Breakdown of algorithmically-classified data set by NPO income bracket.

Income bracket (USD)	n	Soliciting	Promoting	Sharing	Credit-giving	Other	Total posts	Percent of total sample
0	134	2,970	4,836	11,212	1,589	0	20,607	24%
1-100k	78	1,646	2,016	3,417	540	1	7,620	9%
100k-500k	96	1,915	3,530	8,926	1,341	56	15,768	19%
500k-1m	58	1,010	2,163	4,821	770	0	8,764	10%
1m-2.5m	72	1,343	2,589	5,656	1,200	3	10,791	13%
2.5m-5m	36	926	1,822	4,608	645	1	8,002	9%
5m-10m	29	641	1,262	2,678	1,063	0	5,644	7%
>10m	40	1,114	1,868	3,830	903	1	7,716	9%

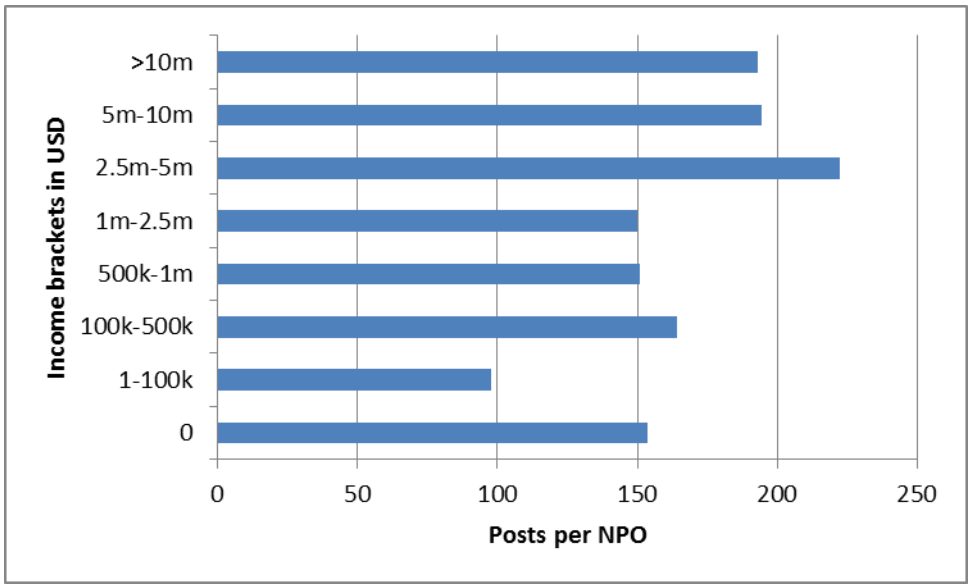

Figure 15: Posts per NPO by income bracket.

As evident in Figure 15, organizations in the top income brackets post with greater frequency than do those in the bottom brackets (with the curious exception of the $1-$100,000 bracket). The disparity in posting frequency led me to look for differences in the type of content posted by NPOs in each income bracket. Figure 16 plots the market share of each motivation type among the total posts for each income bracket.

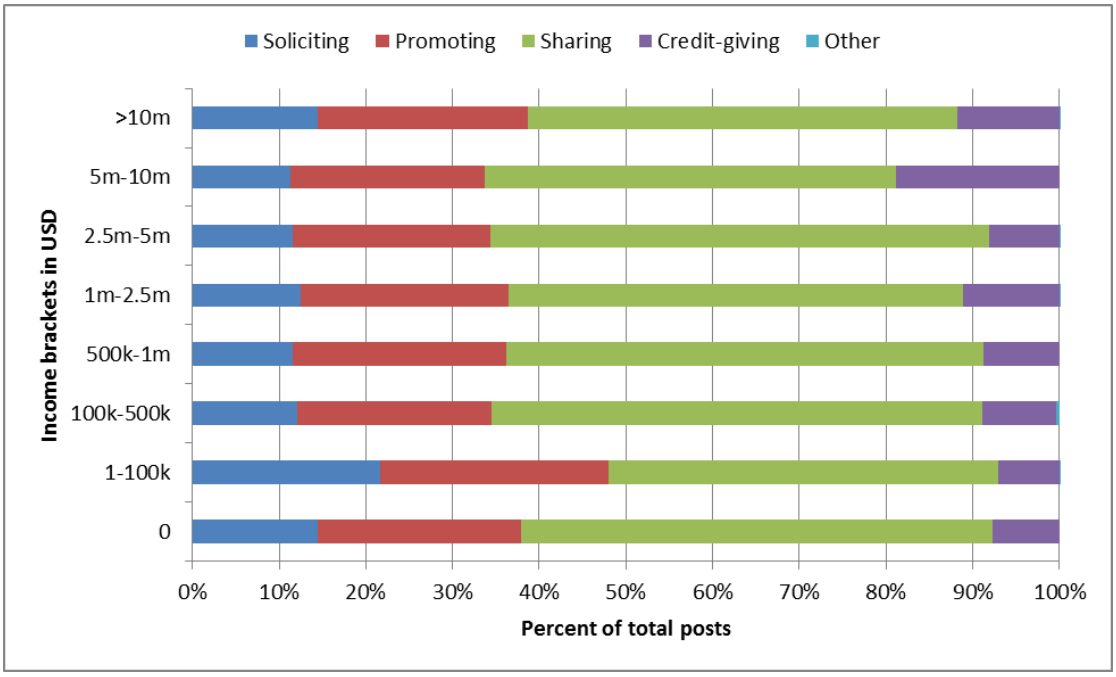

Figure 16: Proportion of posts by motivation category and income bracket.

Apart from the noticeable dip in the percentage of sharing posts for the $1-$100,000 bracket, the most noticeable change occurs in the percentage of credit giving posts among top-revenue NPOs. Figure 17 highlights the relationship between the top two income brackets and the rest of the sample concerning the percentage of posts in each motivation category.

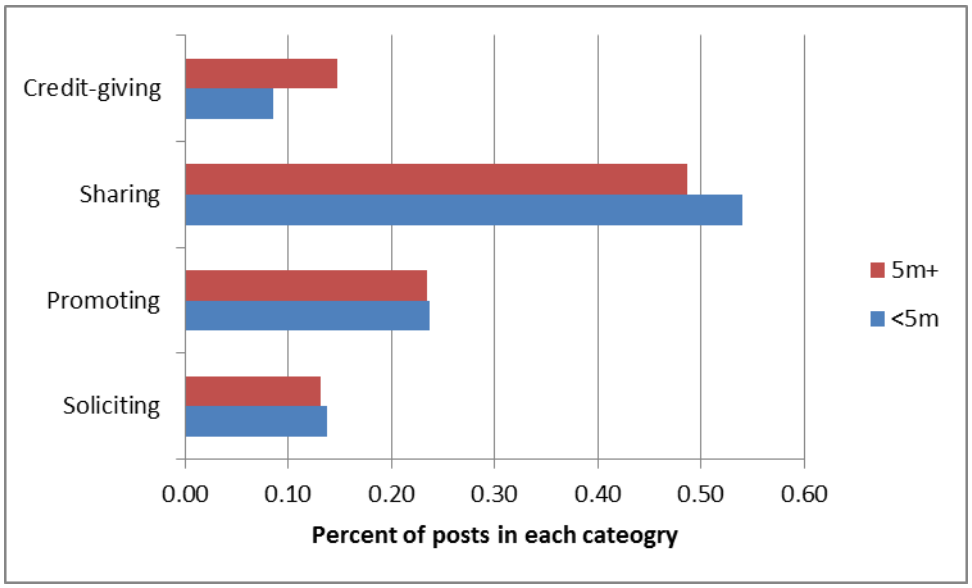

Figure 17: Proportion of posts in each motivation category by two large income brackets.

The $5,000,000 mark seems to be an important dividing line in terms of motivation at NPOs. Organizations above that mark post a lower percentage of sharing posts and a higher percentage of credit-giving posts. They also post with greater frequency, as demonstrated in Figure 18.

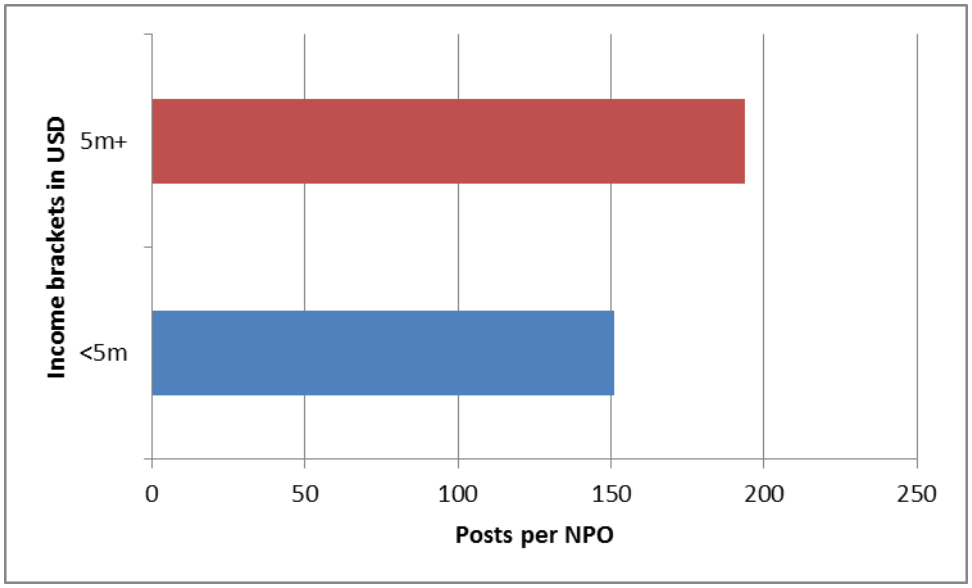

Figure 18: Posts per NPO by two large income brackets.

Despite the higher frequency with which the $5,000,000 and above organizations post, they represent only 13% of total organizations a combined 15% of posts in the sample. Now that this study has revealed the relative posting behavior by income bracket, future work might collect a larger number of instances from the top income brackets and use automated classfication to uncover whether this difference in motivation by organization revenue continues along the same trend. If so, it may reveal a key difference between motivations for posting to social media sites by practitioners at large organizations versus small and mid-size NPOs. It's also possible that the attributes associated with sharing posts are more common posts coming from the $5,000,000+ organizations. Future work should closely examine this category.

A final explanation for the decline in credit-giving posts might be that the algorithmically-coded set is radically different from the training set, which could cause the classifier to preference one class over another. To determine whether the training set and test set were radically different in terms of distributions of instances across classes, I conducted a two-sample Chi-squared test. Although there were some changes in the volume of instances in each category, the sets are not significantly different in terms of distribution, χ^2 (3, N=5) = 4.00, p = 0.26.

The results from this study reinforce earlier discussion on the perils of the TIP when collecting data from NPO social media accounts. The results of

this project reject the notion that all NPOs have similar motivations, hence researchers should not treat them as a monolith or bias sampling by focusing exclusively on top-tier NPOs. The data instead suggest that future work should address how motivations within subgroups of NPOs fluctuate based on organizational mission, size of the NPO's operation, and stakeholders serviced by the NPO.

6.5 Limitations and Future Work

While the highly predicative attributes are mostly semantically related to the corresponding lexical features in each class, the attribute "2" is something of an anomaly. Since it was drawn from the miniscule "other" class in the training data, a class set aside for instances that did not contain English-language text or did not express clearly one of the other four strategies, there were very few attributes on which the classifier could construct a prediction. In an odd coincidence, the character "2" also appeared in instances in the promotion category (e.g. "doors open at 2"). The resulting probability calculations vaulted this attribute up to the most predictive attributes. Regardless of this phenomenon, I'm reasonably confident that it did not drastically impact accuracy, nor does it reflect that the classifier is biased. To improve the stemmer, one might compile a more precise dictionary that better addressed the common words present in NPO (or even Human Services NPOs') tweets and posts; this would mitigate the above doubling

effect represented in the "congrat" and "congratl" attributes.[106] Likewise, removal of items with low semantic meaning and tokenization would also likely improve accuracy.

Since this data set has a large amount of unlabeled data that goes unused when training the algorithm in a supervised approach, a semi-supervised approach that utilizes unlabeled data to build a model would arguably produce better accuracy. Manning, Raghavan, & Schütze (2008) point out that naïve Bayes classifiers can be extended for this type of application. Likewise, iterative clustering in combination with naïve Bayes could produce a model that better fits the training data (Hall et al., 2011). Both of these approaches come with the risk of overfitting, but would extend the limited amount of training data for the classifier to improve the accuracy with which it assigns a class value to each instance.

Although sometimes difficult to obtain, the addition of participant coding input into this classification task allowed for a more nuanced and authentic classification scheme than simply using coders to identify classes without guidance. Likewise, motivation is still a somewhat problematic concept in terms of user reflections, as motivation for actions is not always at

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[106] One possible argument against combining these attributes is that perhaps the words these stems represent occur at different rates in the English language and, subsequently, that the differing rates of occurrence signify a different usage for each stem. Such is the case for these two stems in the Corpus of Contemporary American English (COCA). Since COCA contains instances of both spoken and written English, one must come to the conclusion whether text on social media is closer to spoken or written English (something that is not settled with any certainty) in order to draw comparisons between different contexts of use for each stem. Other stemmers are available for Twitter such as Carnegie-Melon's Tweet NLP. Future work should experiment with different stemmers and part-of-speech tagging methods to determine if accuracy is improved with more a complex stemming and tagging process.

the forefront of an individual's mind. Nevertheless, extending this approach into domains such as research on politicians' use of social media is an intriguing possibility. Such input would provide a great deal of insight into the nuances of the highly sophisticated approaches employed by users to accomplish their political goals using social media.

Further studies should isolate sharing posts (since they comprise the majority of all posts made on social media by NPOs in this study) and try to differentiate strategies in this category, perhaps reviewing engagement metrics and likes/shares/RTs *in concert with* user-defined motivations/goals as provided by practitioners in order to determine which strategies are the most effective for engaging the public and spreading the organizational message. Given the lower recall numbers for the sharing and soliciting categories, future research should attempt to mitigate URL predictive attributes by assigning them semantic values based on the item that they point to. All of the URL mitigation techniques used in this study had to do with isolating or smoothing associated attributes (e.g. removing "http" and "//t" from the data set, using NLP to assign URL attributes, excising URLs using a regular expression and replacing them with a binary attribute, etc.). Assigning URLs a semantic value that describes the purpose of the URL (apart from the basic purpose of hyperlinking to another document on the web) is possible through automation and may provide useful information for automated classification tasks.

6.6 Conclusion

This study argues for the inclusion of user-supplied data in constructing a coding scheme for machine learning classification tasks, and subsequently describes how one may go about doing this to uncover an abstract concept such as motivation within a text corpus. I used the responses from study participants to identify key motivation themes for posting behavior and classified a large corpus of Facebook posts and tweets according to those themes.

The most frequent motivation for posting to Facebook and Twitter was to share information or state a position. Promoting and providing details regarding events was the second-most common motivation category. Soliciting and credit-giving behavior were less common. Contrary to some literature on this topic, NPO practitioners in this study did not prioritize network repositioning or soliciting interactions from users. Likewise, contrary to popular belief, NPOs do not use social media primarily as a fundraising tool. Disseminating information about core issues and providing information about events are the most common motivations for NPOs using social media.

CHAPTER 7

CONCLUSION

In this chapter, I'll conclude the study by presenting how this work contributes to important issues that require resolution if we are to better understand social media use by nonprofit organizations. Understanding these issues will allow researchers to approach investigations in this domain with greater nuance and result in conclusions and recommendations that address the broad spectrum on nonprofit social media use. I'll present a discussion of three of these issues, then discuss possible future applications of this study.

7.1 Discussion: Three Issues to Consider in Future Research

Restoring agency and context to investigations. As demonstrated, "efficiency of use" is only a valid consideration when placed within the context of the individual motivations and goals of an NPO. Katz (1992) dramatically demonstrated the flawed vaunting of expediency as its own end when he successfully outlined the dual role of pragmatics and ethics in technical communication. This study demonstrates that investigations into NPO use of social media must be highly conscious of both individual/organizational agency and context associated with use when assessing "effective" strategies; only through this route can studies produce recommendations useful to a broad variety of NPOs (so as to avoid the TIP).

NPOs do not use a site "correctly" or "incorrectly," nor should they feel the need to conform to outside expectations of "efficient" use. Efficiency, or expediency, is not a goal just as maximalist interpretations of use (use of all features, maximized dialogue with all stakeholders) are not goals. Goals at NPOs are set contextually within activity systems as a complex process of alignment, buy in, adherence to rules, and the creation and modification of assessments and critical reflections on use. Goals are wholly a function of the underlying motivation of use. As evidenced by the survey results in this study that indicate an interest in learning about posting strategies, preference of different kinds of results and metrics over others, and the reflexive nature with which users identified and described their motivations for posting to these sites, practitioners at NPOs are not monolithic and they form contextually-dependent expectations for use of and results from social media sites. As suggested by the discrepancy in credit-giving behavior based on economic bracket, motivations may be tied to the size/staff/budget of the organization; applying "best practices" derived from studying only top-tier NPOs to the entire NPO sector means disregarding context of use and user motivations, something that ultimately reduces individual practitioner agency to something of a footnote.

Future research must continue to explore context-dependent activity and refine approaches so as to recognize NPOs as a highly diversified group. This study examined only one sector of nonprofit organizations in one

geographic location. While limiting in the sense that it is difficult to draw broader conclusions, the purpose of the study was never to define how all NPOs use social media; the opposite is true. I have demonstrated that NPOs in the sample I compiled set different priorities from those defined by researchers. Knowing this, researchers must seek to avoid technocratic explanations of "efficient" uses of social media in future research and instead learn to understand why NPO practitioners use social media in ways not described in existing literature. This study demonstrates that practitioners are not simply "doing it wrong" when they fail to conform to maximalist, dialogic views of social media use, but instead are conscious of their posting behaviors, reflective on their practices, and knowledgeable about their stakeholders and how to best communicate with them given their needs.

Further discovery of motivations. Motivations for using social media cannot be proscribed, and this study does not seek to quantify or catalog all of the varied and complex motivations for social media use for every organization. Instead, I have demonstrated through the analysis of organizations and their practices, stated motivations, and the content they post that motivations need not be enshrined in "best practices" or "effective strategies." I believe this to be the first step in better understanding what drives NPO practitioners to use social media.

After that, researchers must acknowledge that social media sites are controlled by site owners, and changes to the functionality and user interface are mostly still forced upon users who may or may not be able to opt out of the changes; when these changes are viewed as central to the profitability of the social media company, they necessarily become mandatory. Users control their own information such that they can download and preserve it in some format, but users do not own Facebook or Twitter. The phenomenon is somewhat akin to a proprietary application, except that researchers frequently speak about the positive aspects of social media (increase in voter turnout, the Arab Spring, etc.) without recognizing that social media corporations seek to maximize profit first and promote social good second, if at all. For the sake of brevity, I did not go into a great amount of detail on the history of social media in this study, but this is an important consideration moving forward.[107]

To recognize that social media sites like Facebook and Twitter are for-profit corporations intent on maximizing their profit through the sharing of user information and user-generated content is to recognize that at certain points in their development, and at certain points in the future, these

[107] As discussed earlier, boyd & Ellison (2007) give the most cited history and definition of social media sites, but much has changed since their paper. Leonardi, Huysman, and Steinfield (2013) give a history of enterprise social media sites, but it is mostly limited to the types of large software firm applications I mention in chapter one. Dijck (2013) approaches the history of social media through a critical historical perspective. Fuchs (2015) approaches social media through Marxist labor relationships. While intriguing, the primary function of this study is not to write the history of social media. Future work must continue to critically examine the history of social media and the economic and labor relations it represents.

corporations will be at cross purposes with the persons and entities that utilize them. These cross purposes come to light at critical moments where inherent tensions between the users and the site owners become apparent to the general public through reporting. In the case of Facebook, three recent examples are as follows: elimination of user site governance (2012-13),[108] the emotional contagion study (2014),[109] and the controversy over handpicked trending topics as they related to the presidential election (2016).[110] Such eruptions bring into focus the tensions between the level of control users feel they should have over the collection, presentation, and dissemination of their information on these sites, and the actual reality of control over the site and its functionality.

When considering these cross purposes, it's important to note that a user's motivation, or what he/she *wants* to do when using the site as a tool, is necessarily constrained by what he/she is *able* to do. Discussions of user agency should expand, then, to encompass possibilities of design using social media as tools. The current development cycle (at least for Facebook and Twitter) constrains users by presenting a modified version of the tool, then asking them to adjust to new modes of use; Spinuzzi (2003) described this method of providing solutions for helpless users as the "designer as hero"

[108] See Guynn (2012a) for a discussion of the voting process and ballot, and see Guynn (2012b) for a discussion of the results.

[109] See McNeal (2014) for a discussion of the study.

[110] For an immediate (and insightful) reaction to this issue, see Manjoo (2016). For more provocative takes on the issue, see Emerson (2016) and Lapowsky (2016).

model. An alternate model of research and development represented in this study is the acquisition of user motivations and knowledge; Spinuzzi (2005) describes this model as "participatory design," whereby researchers and designers iteratively co-design systems to meet user needs. Future work might take advantage of the APIs provided by social media sites to construct tools that better facilitate user motivations. Unfortunately, this work-intensive approach is always limited by changes in the API that threaten to make the mediating artifact obsolete.

Another option is to conduct an analysis of the role that the tool serves. Strategy guide authors frequently caution against using a social media site just for the sake of using it (see also the previously discussed motivation—goal confluence). Active interpretation of the role of the tool and periodic reassessment of its function helps to mitigate the lack of control over the functionality of the tool and realign motivations with intention by assessing its impact on other aspects of NPO operation. For instance, Swarts (2013) offers a heuristic for evaluating a tool along four dimensions:

1. Mediation of the user's understanding of the associated tasks;
2. Mediation of the user's social relationships;
3. The design history, and how that influences use;
4. The connection with other tools, and how mediating effects are made more stable.

Although Swartz's merger of actor-network theory and activity theory is problematic (they have fundamentally different conceptions of the relationship between humans and objects), he effectively develops a heuristic that considers the multifaceted role the tool has in the function of work practices. His work implicitly suggests that a tool can be divested of functions if those functions are counterproductive or burdensome to the task. For instance, many average users grow frustrated with Facebook and "take a break" or "quit" on a semi-regular basis. While this is a drastic example, the announcement of such a divestment of social functions with Facebook returns to the user the ability to express a disconnect between their motivations for using the site and the outcomes they are achieving. While Facebook and Twitter both offer assessment tools, they too are yet another aspect of the tool designed to encourage further use of the tool. As such, they support the dialogic maximalist perspective, which fits nicely with their own goal of increasing information sharing and advertising engagement. Tools that counterprogram this agenda can better assist NPO practitioners with assessments (I'll discuss how this study may be of use in developing tool of this ilk in the future applications section below).

On the problem of single-operator model. Division of labor is the fundamental sticking point between the maximalist model (mostly a fantasy) and the single-operator model (a common approach as suggested by the

results of this study). Both task switching and partitioning of social media responsibilities have been suggested as possible solutions to the problems presented by the single-operator model, yet they face challenges associated with message control anxieties[111] and employee turnover. I pointed out earlier the inherent irony of a practitioner tasked with social engagement remaining isolated in terms of carrying out this task on a social media site. Here I will elaborate on why this irony drives research in this field.

Researchers frequently see the possibilities of technology along the lines of functionality, then anticipate the maximum application of that functionality and translate that into unrealized user potential. In the case of multiple functions on a social media site, maximalists see the opportunity to engage users through every function as a tremendous opportunity being squandered by those who fail to take advantage of them all. In the case of virtual friend/follower connections between an organization and a large number of individuals, dialogic proponents see a potential for engagement with each of the individuals with an extant connection and view failure to engage in dialogue with these individuals, again, as an opportunity squandered. I'll relate two stories here about the internet and dialogue and then bring the discussion back to NPOs and social media.

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[111] Future work to observe and address this issue would necessitate field observations and interviews. A critical change point in an organization linked to this issue would be the hiring of a social media practitioner or the expansion of social media management from one person to two or more persons. Such specific scenarios might be difficult to locate in the wild, but would certainly support the genre tracing approach discussed in chapter four. Unlike the historicity scenario described in that chapter, genre tracing would be ideal to study the division of social media management responsibilities.

The ability to communicate with elected officials and other citizens via the internet was hailed as a great advancement in participatory democracy. However, shortly after public interest groups started using their websites to facilitate constituent communication with elected official communication, it became clear that this type of communication would be less dialogic and more of a one-way street (Sidler & Jones, 2009). Studies of use of Twitter by political figures have confirmed that interactions on the platform between members of Congress and constituents is the exception rather than the norm (Golbeck et al., 2010; Otterbacher, Hemphill, & Shapiro, 2012).

Proponents of eGovernment and online deliberation of political matters have similarly been disappointed by the internet's failure to facilitate consensus building. To the contrary, the so-called "spiral of silence" (Hampton et al., 2014) has manifested repeatedly in various forms ("white silence," for instance). Users seem more apt to self-censor on issues rather than deliberate and change their minds. Of interest currently (as of writing) are the methods by which persons evaluate the factuality of news stories, and likewise how persons attempt to employ rhetorical strategies to discuss fact-based issues (e.g. climate change). Past conceptions of the "wisdom of the crowd" in providing accurate assessments of the world in which we live are tempered by the understanding that social forces are highly influential in the type and amount of content that we share. This study has demonstrated that

practitioners at NPOs are also influenced by a variety of forces (e.g. advice from "experts," personal beliefs, and time constraints, just to name a few).

At odds with one another are researcher expectations for the potential of internet technologies versus the application of those technologies. I once made a remark in a graduate writing course that text messaging would supplant voice calls as the dominant form of mobile communication, to which the professor replied that people preferred to hear the sound of someone's voice since it allowed for more nuanced communication. Cue emoji, and the practice of expressing emotion in text-based communication via iconography. As signs and symbols continue to both facilitate and complicate our communications practices, it's worth reflecting on how emergent facets of a communications system impact practice, but from the perspective of user motivations rather than the assumption that these emergent facets are, by virtue of their existence, of value to the user. Emoji filled the vacuum in text-based communication that my writing professor articulated. Whether the categorical emoji responses on Facebook (e.g. the frowny face, as discussed earlier) will fill a similar need is still unclear. Researchers must not rush to the conclusion that because this or any other feature exists, it will be of any particular use to NPO practitioners.

It may be the case in many studies that the conventions of old media are used to evaluate the effectiveness of new media, and potentiality is evaluated before practicality. In technical communication, scholars

repeatedly state that form follows function. Part of the problem with dialogic theory proponents is that they see the form of social media and assume the optimum function based on that form. It's important to remember that individual users have very little to do with the way Facebook and Twitter structure their respective user interfaces. As noted above, the presentation of these sites is wholly dependent on motivations established by the site owners, which may conflict with those of the practitioners. Research going forward should first attempt to ascertain motivations regardless of the way in which social media sites present data, then—based on those motivations—assess how the tools meet user expectations rather than assuming an efficient model of communication based on the form of the tool.

7.2 Future Applications

The motivation categorization scheme that I developed using participant coding and a Bayesian classifier could be of use not only to researchers performing similar classification tasks in other domains, but also to organizations interested in critically reflecting on the types of tasks they are attempting to accomplish on social media platforms. As discussed throughout, motivation is a difficult concept to articulate. Even more difficult is reflecting on the polymotivated activity of posting to social media over a long duration of time (e.g. a calendar year). Much interesting work has been done on visualizing social media using sociograms that depict connections between individual actors on social media and sentiment analysis that

depicts trends in user-generated content. I believe that the type of analysis I performed in this study could be combined with visualization tools to create a critical analysis dashboard. Combined with some of the classifier enhancements discussed in the previous chapter, such a tool could allow users to reflect on long-term trends in posting behavior and motivations to assess whether content on their sites matches the types of activities they are attempting to conduct. Facebook and Twitter offer metrics on engagement, but a visualization tool that categorized posts by motivation *based on user-generated input* would help users contextually assess content at the activity level.

Practitioners (such as those represented in this study) may turn to quantitative outcomes as a major source of assessment merely because few easily available alternatives exist. Involving users in the participatory design process of a tool would bring their motivations, goals, and concerns to the forefront of assessment tools so that they can easily access the metrics that matter to them (as opposed to engagement metrics that Facebook or Twitter deem important). Figure 19 below illustrates an organization (this academic unit) where engagement metrics are not necessarily the primary motivation driving social media use, yet they receive somewhat useless reports on a weekly basis highlighting in emphatic red whenever an engagement metric decreases, along with the conspicuous "Promote Page" hyperlink that sells

the ability for the organization to pay to "promote" content to the top of users' news feeds.[112]

A famous PR campaign by Edward Bernays theorized that if you encourage home builders to include built-in bookshelves in the design of a house, the residents will buy books to fill up the shelves.[113] Along with the perceived cultural capital the books represent, the strategy plays off the human preference for the appearance of abundance over scarcity, also described in the design principle of *horror vacui*, the fear of emptiness (Lidwell, Holden, & Butler, 2010). Although one could argue that the "Weekly Page Update" is mutually beneficial in that it helps users critically assess their own tool use, it's not hard to see how the report is designed to both problematize any drop in engagement numbers (the empty bookshelf) and provide users a solution to that problem in the form of the "Promote Page" link (buying books to fill the empty shelf). Understanding what nonprofit organizations want to accomplish on social media and engaging them in the design of an assessment tool that empowers their motivated actions is a logical next step for researchers in this area.

[112] In the interest of full disclosure, I receive these reports because I was once in charge of posting content to this account, but I have not posted or performed any administrative action on the account in years.

[113] The story is slightly more layered than I discuss here (including marketing strategies and statements by public intellectuals). The full PR campaign is covered in detail by Tye (2002).

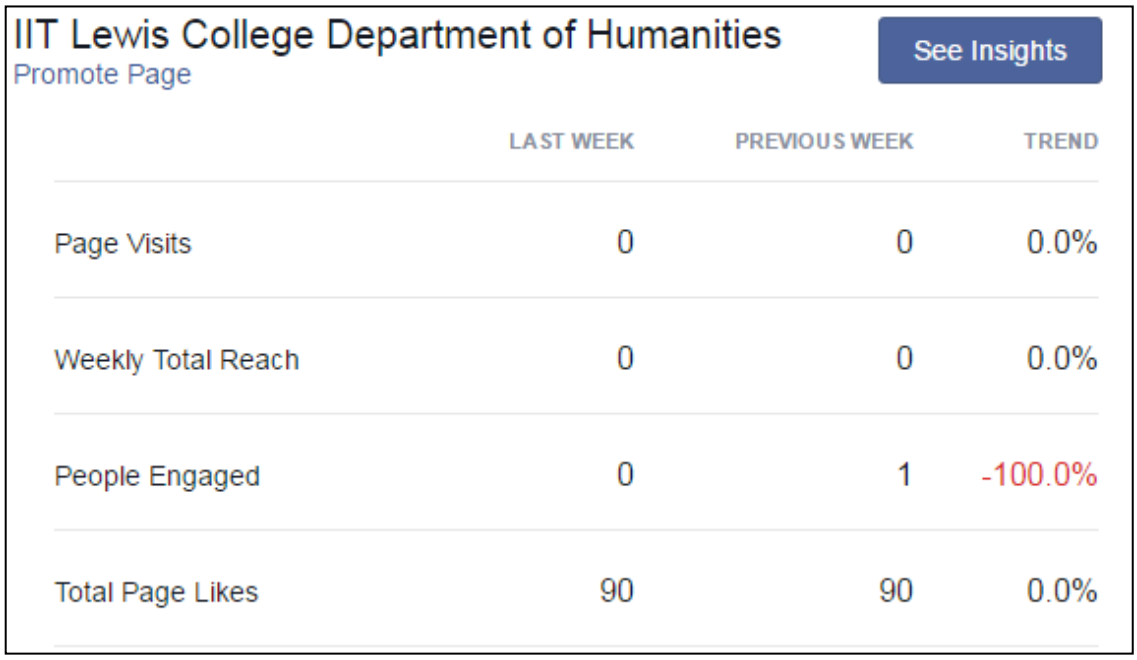

Figure 19. A "weekly page update" from Facebook. Notice the "-100.0%" figure in the trend column. What useful information does this really provide to the practitioner?

Although difficult to believe, there are virtually no free or open-source tools to locate social media accounts based on a list of names. Although Twitter offers a list function, it's often difficult to start from scratch and build a reasonably complete list of social media accounts in a given domain.[114] The difficulty in generating a list of social media accounts and collecting data from those accounts likely explains why TIP studies are so predominant in the field. Although not perfect, the methods presented in this study help address some of the difficulties associated with locating and collecting information about groups of accounts so as to get a more complete picture of activity in this area. An important step for researchers seeking to expand our

[114] I speak from personal experience, both from this study and in compiling the CaSM Lab list of Twitter accounts for the 113th Congress following the election.

understanding of NPO use of social media is to locate and categorize organizations. The methods described in chapter three were much more effective than simply manually searching for organizations, but more sophisticated social search tools that allow researchers to quickly locate and disambiguate a better variety of small- and medium-sized NPO social media accounts will facilitate more representative data collection. As discussed in detail, the TIP will continue to define results and recommendations unless researchers are able to easily locate smaller NPOs with a wider spectrum of motivations for using social media.

A sophisticated social search tool would no doubt be of use to practitioners in the NPO community, as they could locate NPOs with similar missions and find potential partner organizations. This could help address the lack of networking described by Kent (2010) and, more importantly, help address the concerns demonstrated by participants in this study that collaboration is important, but often too time consuming to be practical.

Finally, I believe this study has addressed many theoretical issues that will be of interest to researchers in this domain going forward. While already well established in the public relations domain, research into social media is gaining significant traction in technical communication (Allmer, 2015; Colton & Holmes, 2016; Dijck, 2013; Löfstedt & Holmberg, 2016; Pigg, 2014; Potts, 2014; Sullivan, 2017; Wang & Gu, 2016). Despite the 2014 special issue in *Technical Communication Quarterly* and the work done since then, the field

has significant ground to make up when compared to the volume of research in fields like public relations. Understanding context and user motivation for using social media will undoubtedly be of significant importance in technical communication moving forward, especially considering the importance that support communication, construction and dissemination of visualizations, and digital literacies and composition instruction play in research in technical communication.

In this study I used the motivation concept from activity theory to derive a fundamental notion of why practitioners at NPOs use social media sites. I rejected the notion that practitioners are not taking full advantage of social media sites by not using every available feature and engaging in dialogic communication. Existing work relies too extensively on the dialogic model of communication and frequently focuses on only top-tier NPOs, ignoring the context in which smaller NPOs operate; this results in overgeneralized recommendations that are of little practical value to many NPOs. To address this gap, I reviewed existing best practices as portrayed in NPO social media strategy guides, and used the principles of activity theory to survey practitioners at human services NPOs in Chicago. I collected data on user motivation for using Facebook and Twitter by asking users to review past posts on these sites and describe their purpose in posting this information. Using this information, I trained an automated text classifier to classify a large corpus of posts based on four types of motivations: soliciting,

promoting, sharing, and credit-giving. The majority of posts made by human services NPOs were sharing (53%), followed in order by promoting (24%), soliciting (14%), and credit-giving (9%). Practitioners in my sample were much more concerned with quantifiable outcomes (likes and retweets) over interactive outcomes (generating a large number of comments or comments with substantive content). This dissertation contributes to work in this sector by building off recent studies that question existing wisdom on "effective" use of social media by NPOs and arguing for an expanded consideration of user agency and intent when using social media. NPO practitioners can still be purposeful in their use of social media without striving for dialogic communication favored by researchers or using all of the features that designers of these platforms include in the system.

APPENDIX A

Table 18. Summary of arguments from strategy guides by activity system concept. "n/a" indicates no significant discussion of that concept in that text. For a graphic representation of motivations, see Table 9.

	K&F	M&N	MAN	K&P	LAF	MILL
Historicity	Personal use leads to professional competencies. Rather than follow trend of professional staffing, use small-scale, iterative approach to grow skills.	n/a	"The effective SM manager." Personal historicity less important than professional development, but context collapse is still expected. Platforms are ephemeral	n/a	Better that experienced practitioner learn platform than placing an uninitiated intern with platform knowledge in charge.	Assumes experienced practitioner hiring uninitiated intern with platform knowledge.
Division of Labor	Caution against centrality, but still recommend experienced practitioner be in control. Inter-/intra-organizational division of labor reduces workload, but requires a high degree of thanking and credit-giving behavior.	Stress intra-organizational communication for idea development and to escalate[115]individual knowledge to organizational knowledge in case of staff departure.	Obtain "buy-in" from executive staff. In lieu of the "effective SM manager," retain tight control over division of labor and have more than one FB admin in case of staff departure.	Identify "alignment" and "build consensus" on acceptable metrics.	You can delegate SM posting to a 3rd party service, but this will detach you from the content and your followers.	Tool expert explains SM to staff and is phased out. Policies are necessary because of division of labor. Divides staff into those posting and those granting approval.
Rules	Informal rules learned on personal SM. Formal rules arise from fear of or response to failure (e.g. Red Cross /Katrina). Advocate for "common sense" rules and "social culture" of behavior.	SM should have consistent appearance and rules governing conduct by stakeholders. Write a manual that all employees follow.	Act professional on personal SM. Policies stress "empowerment, not control and restriction." Learn by having "friends" correct mistakes.	n/a	Obtain user permission before bombarding stakeholders with content (permission-based interaction rules).	Guidelines for use are "examples" (not "rules"), but also denote what is "off limits." Also stresses permission-based interaction rules.
Assessment and critical reflection (metrics/goals)	Specify specific metrics to demonstrate value in SM (including a performance "dashboard") and reflection on your own results as well as what makes other organizations successful.	Use a variety of metrics to determine reach and response to consistent presentation of message. Demonstrate return on investment.	Makes the critical distinction between goals and metrics.	Metrics equal decision making power. Match appropriate measurement tools to objectives.	n/a	Tool use is not a goal. Goals should be scaled to the time you have available. Be goal-oriented in all actions, but experiment to begin with.

[115] To understand escalating and retaining knowledge in an organization, see Hughes (2002).

APPENDIX B

Table 19. Initial recruitment and follow up messages sent to participants.

	Facebook and FB + Twitter	Twitter only
Initial message	Dear Chicago NPO Facebook user, I am a Ph.D. student at Illinois Institute of Technology researching how non-profit organizations use social networking sites. As part of my research, I am asking persons who post content to Facebook and Twitter through their organization's accounts to complete a short survey. If you are willing to participate, please click on the below link. You will be taken to a page that will describe the research study and ask you for your email address and the name of the organization you work for. You will then be directed to a page where you can complete the survey. http://surveys.casmlab.org/index.php/survey/index/sid/194382 Please take note: Since I do not have a Twitter account on file for your organization, you should skip that portion of the survey. Every participant in this study will receive a copy of the results in executive summary format. Thank you for your consideration, Andrew Roback Illinois Institute of Technology	@CC4Seniors I am researching NPO use of Twitter and I need your help! Please consider taking a short survey: http://surveys.casmlab.org/index.php/survey/index/sid/194382 @CC4Seniors This survey is for my dissertation. All participants will receive a copy of the results. Please DM with questions. Thanks!
Follow up	Dear Chicago NPO social media user, I am following up on my original message inviting you to participate in my research study on how non-profit organizations use social networking sites. I have selected your organization to participate in this study from thousands of human-services 501(c)3 organizations in Chicago, and I'm counting on your help to learn about how NPO practitioners think about and use social media. All organizations that participate will receive a copy of the results. Information you submit is confidential and there is no obligation to participate in any future studies. I hope you'll take a few minutes to complete this survey. If you have any questions about the study, I encourage you to contact me. Please click on the URL below to go to the survey. http://surveys.casmlab.org/index.php/survey/index/sid/194382 Your Facebook username is: AsianHealthCoalition Your Twitter username is: AAPInews (you will need these to sign in to the survey) Thanks for your consideration! Sincerely, Andrew Roback Illinois Institute of Technology aroback@iit.edu http://andrewroback.com	@CC4Seniors Please take a few minutes to complete my dissertation survey on Chicago NPO Twitter use. Thanks! http://andrewroback.com/dissertation_survey/
Discussion	I changed the language slightly in the follow up message to emphasize individual organization's importance in the survey pool. I also copied and pasted each username that they need to log in to the survey from the token list. The follow up produced more responses than the initial invitation.	I shortened my recruitment message to fit in one tweet and directed them to the landing page I created.

APPENDIX C

Nonprofit Social Media Coding

Andrew Roback (aroback@hawk.iit.edu) -- February 2015

Introduction to study

- All data collected in 2013 from Chicago human services nonprofit organizations on Twitter and Facebook
- Study attempts to understand reasons why nonprofits use social media, i.e. what do they want to *do* when posting to these sites?
- Categories primarily come from public relations persons at these nonprofit organizations -- they looked at their posts and told me what their motivation was for posting this content
- I'll use the tweets and FB posts you code today to train a machine learning algorithm to classify ~85,000 additional instances.

Agenda

1. Discuss categories
2. Review instructions for coding
3. Code!
4. Briefly discuss edge cases and posts that fall into "other"

Instructions

In your spreadsheet, you'll see 150 instances. Code them in order, from top to bottom. Remember the following:

- Try to ascertain what the primary purpose of the individual post is. Many posts will include a polite "thanks" but they are not really thanking an individual. People often don't follow conventional punctuation strategies, such as omitting a question mark when asking a question.
- Please click on the link next to the post to view the post. In some cases, you may need to click on a link in the post to determine what the message in the post is trying to convey. If you view the post and it is only a URL, don't click on the URL.
- If you encounter an instance that only fits in the "other" category, please try to briefly describe what you think the user was attempting to accomplish with the post, unless that post is primarily written in a language other than English.

Once we begin coding, you must work individually. You can't ask me or anyone else their opinion on what category a post belongs in.

I made a decision tree to help you out: http://goo.gl/WDVgv8

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