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Digital Civil Society: How Nigerian NGOs Utilize Social Media Platforms

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Abstract Non-governmental organizations (NGOs) have the potential to contribute to a vibrant civil society and build social capital within countries, but the potential for social media to support these connections is unclear, particularly in the developing world. Building social capital requires constructing relationships between people, and social media will be most likely to accomplish this when it is used in an interactive way. Previous research has considered the issue of interactivity and social media usage in Western countries like the USA, but no research has focused on these issues within the developing world. Our paper explores the degree to which Nigerian NGOs are utilizing social media tools, such as Facebook and Twitter, in ways that are more interactive in nature, and thus in ways that are more likely to build robust and reciprocal relations. Utilizing a new coding scheme created by the authors and data on the use of Facebook and Twitter by 1988 Nigerian NGOs and the level of interactivity of tweets from 151 of these NGOs, we find that while few NGOs in Nigeria appear to utilize social media, those that do are more interactive in their usage than expected.

Keywords Civil society · NGOs · Nigeria · Social media · Twitter

Introduction

Non-governmental organizations (NGOs), as part of a larger civil society, play a key role in providing the space for increased interactions among individuals within a community, and such interactions are essential for building strong communities and relationships within society. For example, NGOs have played important roles in democratization and peacebuilding

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efforts in the developing world. Democratic theorists have long cited the importance of civic activity within a strong democracy. For example, in his famous book, *Democracy in America*, de Tocqueville (1994 [1840]) discussed America's vibrant associational life and its relationship to American democracy. Putnam (1993) connected participation within voluntary organizations to social capital, arguing that such participation builds reciprocal relationships that help create trust and tolerance. Social capital, for Putnam, was an important dimension of a successful democratic state. NGOs also play roles in peacebuilding efforts in post-conflict states (Paffenholz 2010, 2013). In both of these areas—increasing social capital and contributing to democracy on the one hand, and participating and facilitating peacebuilding efforts on the other hand—the importance of NGOs for building relationships between people is exceedingly important. While such relationship building has historically taken place face-to-face, NGOs, even in the developing world, are increasingly taking advantage of virtual spaces.

Our paper explores the degree to which Nigerian NGOs are utilizing social media platforms, such as Facebook and Twitter, in ways that are more interactive in nature and thus in ways that are more likely to build robust and reciprocal relations. To begin, since there has been so little research on the social media usage of NGOs in Nigeria, we focus on two simple research questions: Do Nigerian NGOs utilize Facebook and Twitter? If so, how active are they in using these social media? Since we are primarily interested in the issue of interactivity, we further ask: Do Nigerian NGOs utilize social media in an interactive way?

Voluntary organizations, such as NGOs, are one part of a larger civil society sector that exists within states. As a "domain parallel to, but separate from the state" (Carothers and Barndt 1999, p. 18), civil society can be understood as the combination of social movements, official NGOs, grassroots organizations (GROs), and other community collectives that work for development, democratization, and representation of citizens within their respective societies. Bratton (1989) suggests that NGOs in particular have the capability to bolster civil society due to their contributions across the globe in areas of human rights, the environment, trade, and labor standards (Taylor 2002). They have also "played a key role in the struggle for democracy by providing a venue for discussion and debate around issues of poverty, equality, literacy, access to credit, and more representative government" (Feldman 1997, p. 47).

There has been an abundance of work looking at civil society and peacebuilding, particularly following violent conflict. One benefit of civil society within the peacebuilding process is that it can give a voice to those that might not otherwise be heard (Fetherston 2000; Richmond 2005; Paffenholz 2010; Paffenholz 2013). Of course, not all interactions within civil society are positively associated with peace, as sometimes these interactions can be exclusionary and exacerbate tensions between groups (Paffenholz et al. 2010; Paffenholz 2013). Many have also criticized how the discussion of civil society and peacebuilding is often overly focused on "liberal" peacebuilding (often from a Western perspective) and have called for focusing on the local level (Mac Ginty 2006; Paffenholz 2013). In terms of NGOs, this might mean focusing on NGOs from within a post-conflict state, rather than on the contributions of Western NGOs, the United Nations, and the broader international community. Such NGOs are uniquely positioned to interact with their communities and represent the needs and interests of these constituents.

What is clear from the above examples is that NGOs can facilitate interaction among communities for a variety of purposes and can help build stronger societies. Such relationship building may be particularly important in the developing world, where many countries are working toward greater democracy while simultaneously dealing with a history of conflict. The strategies and tools NGOs utilize in order to make these contributions have expanded

significantly in the past two decades, especially as digital connectivity and then social networking platforms have become available to a greater portion of the global population. NGOs are increasingly connecting with stakeholders, volunteers, supporters, and beneficiaries via social media platforms, and can now build social capital from the digital sector. Digital or "virtual" civil society (Kittilson and Dalton 2008) refers to this new digital location where online social collaboration can similarly accomplish or complement the activities occurring in traditional civil society sectors. NGOs have penetrated social media platforms and have become a part of this process, seeking to connect with supporters, reach broader audiences, and promote their causes.

Of course, not all NGOs seek to connect with stakeholders via social media platforms. Some may avoid social media because it is publicly accessible and leaves a digital footprint of contact that may be undesirable and even risky for the NGO and those interacting with them— particularly in locations with oppressive regimes. Likewise, allocating the necessary resources to deal with online trolling and other demands of a social media presence may not be worth the resource allocation to some NGOs who have demands on their time and funding that are more immediate. Finally, some research (Thrall et al. 2014) suggests that social media exposure for NGOs suffers from the same limitations as traditional media coverage and remains most beneficial to those groups with the greatest resources and largest pre-existing networks. Despite all this, however, many NGOs are seeking to connect with others via social media platforms, and understanding how those groups interact and seek to connect can provide us with foundational knowledge about how NGOs are engaging digitally with their audiences.

In order for NGOs to build strong connections and relationships within society, it is important that the NGO's target audience is consistently engaged with the group. Of course, this has traditionally occurred via face-to-face communication; however, such interaction is possible within an online environment. There are multiple methods that organizations might use when interacting with their constituents in an online environment. The organization might provide information about their group (via their website or through a social media platform, such as Facebook or Twitter). Such one-way type of communication, however, does not necessarily facilitate the type of interaction that is present in face-to-face communication, as it does not create any type of reciprocal relationship between the organization and its constituency. A critique of such interactions as lacking to create vibrant civil society would certainly be on point.

However, there are ways for organizations to increase the interactivity of their online exchanges. For example, inviting the target audience to attend an event, or to connect with the organization on another virtual platform, can begin to create the type of reciprocal relationship missing from one-way communication. It is important to distinguish between one-way communications and those that are more interactive when considering organizational activity online.

While websites have long been considered more conducive to one-way communication, one of the touted benefits to social media platforms (such as Facebook and Twitter) is that their design is inherently interactive. Such social media sites are designed to allow users either to interact with content provided by other users, or to interact via the creation of their own content. This is very different from more static technology—such as websites—which tends to be more about disseminating content to a passive audience in a single direction. Such interactivity is particularly touted as one of Twitter's key contributions, as it has been considered by some to be more "proactive" in terms of interactions—helping to not only disseminate information, but to also speed up this process and become an information source

itself (DeMers 2013). One key problem, however, is that many NGOs may not be using their social media presence in a way that is likely to encourage this type of engagement and interaction. This may or may not be an intentional choice by NGOs. Depending on their unique mission and the circumstances surrounding their work, the decision to adopt a certain degree of interactivity or a certain amount of contact with target audiences is an important factor that is just one arm of a larger strategy of interaction with stakeholders, governing bodies, and service recipients.

While many studies have considered if and how various organizations utilize social media (Briones et al. 2013; Obar 2014; Waters et al. 2009), little research has been conducted on the use of social media within the developing world. Given that many countries within the developing world may have a special need for the relationships and connections that NGOs can help provide, it is important to assess how NGOs in these areas are utilizing social media.

Our contribution is twofold. First, since little research has been conducted on this topic, our paper serves as a first look at how NGOs in a developing country, Nigeria, are utilizing social media. Second, given that previous research has suggested that interactivity can be a very important tool for building relationships within communities, we develop a new coding scheme for content analysis of tweets, focusing on the various types of content and levels of interactivity.

Previous Literature

Given the nature of social media which relies on user creation and interaction with content, there is enormous potential for NGOs to use these platforms to increase the reach of their organization, and more importantly, to encourage the type of relationships that will help communities and may help improve democracy and peace. However, recent research has shown that organizations are reluctant to use more interactive technologies, such as Facebook and Twitter, and when they do use them, they tend to utilize them in passive (one-directional) ways. While there are likely differing reasons and circumstances for the degree and nature of NGO activity via social media platforms, examining them individually and with a more focused lens of analysis is a vital step in understanding the broad trends.

Interactivity

The degree of interactivity, or the "measure of a media's potential ability to let the user exert an influence on the content and/or form of the mediated communication" (Jensen 1998, p. 201) of websites was an important measure of user preferences for websites in early days of website development. McMillan (2002) proposed a four-part model of interactivity emphasizing the direction of the communication, and the degree of control users had on the exchange. Since this time, suggestions for improving interactivity with target audiences has been the focus of numerous studies for online interactivity of websites, social media platforms, governments, and more (see for example Lee (2005), Mossberger et al. (2013), Sundar et al. (2014), and Teo et al. (2003)). This emphasis on the reciprocity of interactions makes sense, as recognition and recall of interactive content is higher than interactive content (Xu and Sundar 2016). Similarly, the legitimacy of an organization is reinforced by its ability to effectively engage in interactive encounters with stakeholders (Nanz and Steffek 2005).

With the explosion of connectivity in the developing world, and with increasingly nuanced technology constantly emerging globally, interactivity has taken on expanded meaning in the nonprofit sector as well. For example, in the case of humanitarian aid and emergency response, interactivity now includes information that is exchanged between stakeholders in local communities, as well as with humanitarian aid groups abroad. The hashtags #commisaid and #infoisaid are examples of campaigns that are emphasizing the importance of information and communication during humanitarian crises and the need to assure that local communities are more than just the recipients of aid, but are active participants in recovery processes and rebuilding efforts (CDAC 2014). Likewise, the inclusion of big data and distant volunteers in NGO crisis response efforts have also entered into notions of interactivity, though not without the criticism that these have the potential to reinforce power dynamics and inequality (see for example Burns (2015), Crawford and Finn (2015), Read et al. (2016), and Taylor and Broeders (2015)).

Many issues related to power disparities are found in situations where "outside" actors, such as international organizations, or even the government of a country, are utilizing digital media as part of humanitarian action and/or in an effort to collect data on the lives of people (often with the intention of "helping" these people in some way). While such data collection may come with some advantages, it is also fraught with problems, such as being used by companies to increase their profit, issues of privacy, and the difficulties in meaningfully analyzing the data that is collected (Crawford and Finn 2015; Read et al. 2016; Taylor and Broeders 2015). We are sensitive to these issues and do not want our own work to contribute these problems. As some authors (Crawford and Finn 2015) have noted, the issue of privacy is particularly problematic during crisis situations, when people are sharing information during a time when they are still at risk. Our study takes place outside of the confines of a crisis situation and is focused on Nigerian NGOs, who by their nature are "public" entities attempting to reach out the public. As such, our study is less likely to perpetuate some of the problems noted by these authors.

NGO Usage of Technology and Social Media Platforms

Waters and Feneley (2013) look at both websites (i.e., one-directional communication) and social media (potentially more interactive platforms) use by *The NonProfit Times* top 100 organizations.[1] They find that these organizations largely prefer to use their websites for cultivating relationships with stakeholders, and are less likely to fully embrace social media platforms. Similarly, previous research has found that NGOs often do not utilize social media in a highly interactive way that might lead to a stronger civil society. For example, Waters et al. (2009) analyze the Facebook usage of 275 nonprofit organizations and find that these groups did not fully utilize various features of the platform, such as uploading multimedia resources. Further, they found that organizations did not provide many ways for their supporters to become more involved in the organization; thus, there was little effort toward interactivity.

In their study of social work advocacy groups' websites, Edwards and Hoefer (2010) find that these organizations rarely use social media for advocacy purposes, and when they did use these platforms for advocacy, they did so in ways that were not particularly effective. Lovejoy et al. (2012) analyze 4655 tweets from 73 nonprofit organizations and find that these groups

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[1] Each year, *The NonProfit Times*, a business publication for nonprofit management, publishes an annual study of the nation's largest 100 nonprofits.

are primarily using tweets for one-way communication. They find that less than 20% of tweets demonstrated conversations with users, and that about 16% provided indirect connections to users. These findings suggest that nonprofit organizations are not utilizing Twitter in a way that is very interactive.

Guo and Saxton (2014) consider the social media usage of 188 American advocacy organizations. They find that a large percentage of these organizations utilize Twitter (79.79%), Facebook (86.70%), and YouTube (71.81%), with a total of 93% of organizations in the sample used some type of social media tool. However, the authors also look at how these organizations are utilizing social media with an in-depth study of the use of Twitter by the organizations. Using Lovejoy and Saxton's (2012) coding scheme (information-community-action), Guo and Saxton (2014) code 750 randomly chosen tweets from these organizations. They find that almost 69% of these tweets are in the category of "information," which would include tweets that provide information about the organization's activities and events and other news, facts, or reports that might be important for the organization's stakeholders. Thus, the majority of tweets was not interactive in nature, and only provided updates, information, and news to the consumer. Almost 20% of the randomly selected tweets were "community" type messages; these messages were those that facilitated the creation of an online community. Finally, the remaining nearly 12% of tweets were "action" focused, meaning that they were messages that attempted to get followers to "do something." Both community and action tweets are more in line with what we might consider "interactive" elements—and thus, more likely to lead to vibrant civil society. Yet, the majority of tweets was used in a more passive way—merely providing information—and did not fully utilize the ability of social media to create a more interactive web environment.

NGOs and Nigeria

While these previous studies provide insight into whether and how various NGOs might utilize social media, this research primarily focuses on NGOs within the USA, where civil society is already considered fairly strong and vibrant. Thus, we are left wondering how democratizing countries might fare in comparison. In states that have yet to consolidate democracy, the presence of a vibrant civil society may be an important element to contribute to their democratization and aid in the strengthening of recently established democratic institutions. Yet, little research has attempted to look at how NGOs in countries outside of the West (where democracy is already flourishing) are utilizing social media. Given this gap in the research, our study is a first attempt to peek into the virtual NGO world within a democratizing state by looking at whether and how NGOs outside the West utilize social media. Thus, we consider the use of social media, especially Twitter, by NGOs in a place where it may have great consequences in terms of democratization.

There are many countries that have attempted democratic transitions and are still struggling in their efforts; however, we have chosen to consider NGOs within Nigeria. We chose Nigeria for several reasons. Since the onset of independence, Nigeria has experienced several strong democratic movements. The success and stability of democracy within Nigeria, however, has been problematic. There have been several attempts at democracy, none of which has produced a long-term, stable democratic regime. Some authors have even referred to Nigeria as in "Permanent Transition" (Beckett and Young 1997). The initial attempt at democracy in Nigeria (1959–1966) was overthrown by a military coup. The second attempt, or the Second Republic, lasted from 1979 to 1983; the third attempt at democracy lasted from 1989 to 1993; and since

the end of the 1990s, Nigeria has seen a couple of attempts at democratization, though with little gain (Dan-Iya 2000). Currently, Nigeria is considered "Partly Free" according to Freedom House's "Freedom in the World" report (2015). Given Nigeria's decades-long struggle toward a more democratic form of government, there is a strong potential role for virtual civil society to play. As such, a more detailed look at how NGOs are utilizing social media like Twitter, and thus possibly contributing to this civil society, is an important line of research.

Second, while Nigeria's Internet is not considered completely free, there is a good amount of freedom in the use of the Internet, and Nigeria is the largest Internet market in Africa (Business Day 2013). According to Freedom House's "Freedom on the Net" report (2014), Nigeria receives a Net Freedom score of Partly Free. More specifically, Freedom House reports that as of 2014, the government did not block social media and other information and communications technologies or political and/or social content on the Internet. In fact, the source reports that "online media is relatively free from restrictions," particularly when compared to traditional media activity (Freedom House 2014). Further, Internet access is increasing, up from 33% penetration in 2012 to 38% in 2013, though there remain some obstacles to full access (Freedom House 2014).

Third, there is a strong NGO presence in Nigeria. For example, Nigeria has more member NGOs in the World Association of Non-Governmental Organizations (WANGO) than most other non-democratic countries within Africa, with 1069 member organizations. As such, we have a useful starting point in creating a strong sample of Nigerian NGOs to analyze.

Nigeria's relatively high levels of social media utilization also make it an ideal case for examination. In 2014, Facebook, YouTube, and Twitter were all in the top ten most visited sites for Nigerians (AfricaPractice 2014). With over 50 million citizens able to access the Internet, Nigerians' reliance on social media platforms for information has consistently increased, with one in seven pieces of online news now originating from within a social media platform (AfricaPractice 2014). Twitter alone has 1.8 million Nigerians accessing it regularly (Ghedin 2014).

Even the Nigerian government has acknowledged the increasing role of social media and has sought to contain that impact—especially in cases where digital content is critical of governments and representatives. Senator Bala Ibn Na'allah of the APC has introduced a bill to quell digital dissent that has received enormous criticism from Nigerians (Nigeria storm over social media 2015). The bill would impose fines for propagation of false information that threatens security or could incite the public. It also prohibits "abusive statements" within social media, and content which sets the public against a person, group, or the government (BBC).

Finally, and perhaps pragmatically, the official language of Nigeria is English, facilitating the collection of data from NGO Twitter pages.

Research Questions and Hypotheses

Previous research on social media usage by organizations in the USA demonstrated that most groups use Facebook and Twitter (for example, see Guo and Saxton (2014)). However, given that Nigeria is a developing country and NGOs within this state are likely to have limited resources, we cannot assume that groups will be as likely to use social media as groups from the USA. Thus, our first question is basically to ask: *Do NGOs in Nigeria utilize social media?*

On the one hand, given limited resources, we might be inclined to think that these groups would flock to social media sites, such as Facebook and Twitter, which provide free outlets for the groups to disseminate their information and interact with potential supporters, allies, and

community members. On the other hand, these formats are fairly new, and thus, groups may have had websites for a while, but have yet to make the leap into social media. While Facebook and Twitter are less costly, we expect that more Nigerian NGOs will be more likely to have websites because this format is more familiar to the largest population of potential users and has been around much longer. Furthermore, since many groups are likely to already have websites, they also likely utilize their scarce resources to maintain websites they already have, rather than expanding their internet presence with additional social media outlets. However, while groups may be more likely to have websites than Facebook or Twitter, given limited resources, we do not expect the majority of groups to have websites.

Not only would groups need to have Internet-capable computers and reliable internet access to use Facebook and Twitter, but maintaining a social media presence takes more time on a day-to-day basis than maintaining a website, and thus, groups would need more volunteers or employees willing and able to update these sites consistently in order to fully capitalize on the benefits of social media platforms. As mentioned previously, the Internet penetration rate within Nigeria is only 38%, so many individuals lack access to this resource. The use of social media will only be useful for a group if they anticipate that many individuals (and target audiences in particular) will see the content that is posted. If many local stakeholders lack internet access, groups may choose to focus their attention elsewhere, to more face-to-face activities where they are likely to have a greater impact. NGOs also tend to value traditional media coverage and are incentivized to rely on more traditional media for connecting to stakeholders than on social media platforms (Powers 2016). As mentioned previously, there may also be safety or other issues causing NGOs to actively avoid social media platform as well. As such, we hypothesize that a minority of NGOs within our sample of Nigerian NGOs will have Facebook or Twitter pages that are active. Since Facebook has been around longer, and may "feel" somewhat similar to a webpage, we expect more groups to have a Facebook presence than a Twitter presence.

Further, we expect that groups may have created Facebook and Twitter accounts, but may not consistently post or tweet from these accounts. Lovejoy et al. (2012) found that the largest NGOs (*The NonProfit Times* top 100 NGOs) sent out around 65 tweets in a month. We would expect most NGOs to be far below these "top" NGOs and that NGOs in Nigeria would be significantly lower. As such, we expect that that Nigerian NGOs will contribute less than 20 tweets per month, or less than one-third of what the "top" NGOs are sending out. This discussion leads to the following hypotheses:

> H_1: A minority of NGOs in our sample will have active Facebook or Twitter accounts.
> H_2: NGOs in Nigeria will be more likely to utilize Facebook than Twitter.
> H_3: NGOs in Nigeria will be more likely to have websites than Facebook or Twitter pages.
> H_4: In general, NGOs that maintain a Twitter account will not utilize this social media platform consistently, contributing less than 20 tweets, on average, per month.

Aside from the very basic question of whether NGOs in Nigeria are utilizing social media platforms, such as Twitter and Facebook, we are also interested in *how* these groups are using social media. This leads to a second research question: *Do NGOs in Nigeria use social media in a way that is more one-way communication, or in a way that is more interactive?*

Based on previous research, which has primarily focused on NGOs in the USA (for example, Lovejoy et al. 2012; Guo and Saxton 2014), we expect that when Nigerian NGOs do have a social media presence, they are more likely to utilize it in a passive, one-way, non-

interactive, way. For this section of our analysis, we specifically focus on how groups utilize Twitter. Twitter, compared to websites and even Facebook, is often considered a platform that is designed to promote greater levels of interactivity. Twitter's 140 character limit also makes interaction simple, making conversational interaction convenient and concise. Thus, analyzing the specific content of NGO tweets allows us to see how well Nigerian NGOs are capitalizing on the interactive opportunities provided by Twitter. Twitter is also conducive to data collection and provides researchers with access to user account information via its API access, and also through its compatibility with multiple data collection software programs. Since previous research has shown that NGOs, at least in the USA, are not very likely to use Twitter in an interactive way, we also expect that most NGOs in Nigeria will use Twitter in a way that is more representative of one-way interaction: posting information about their group and activities but with little opportunity for (or expectation for) the "audience" to interact.

> H_5: NGOs in Nigeria will be more likely to use Twitter in a way that is largely one-way communication rather than a way that is more interactive.

However, we also expect that many of the groups in our sample will have limited resources, and as such, may be inclined to use their social media presence in lieu of a traditional website. As such, groups that are using Twitter, but do not have a formal website, may be more likely to use Twitter for one-way communication that would traditionally be housed on a website. Groups that also have a website may have more flexibility to focus their Twitter account activity on tweets that would promote more interactivity. Furthermore, Facebook allows content to be posted in a manner more similar to a traditional website than Twitter does, so if groups use Facebook in addition to Twitter, Facebook might serve as an outlet for more one-directional communication while Twitter could be utilized more fully for its interactive elements. This leads to the following hypothesis.

> H_6: Nigerian NGOs that have Twitter in addition to a traditional website or a Facebook page will be more likely to contribute interactive tweets than those NGOs that do not have a traditional website or Facebook.

Interactive content is considered to be important for a variety of reasons, but for our purposes, we believe that such content is likely to lead to greater interactions and to better build a vibrant civil society. This expectation leads to another hypothesis:

> H_7: Content that is representative of one-way communication will be retweeted less frequently than interactive content.

Given that passive content, such as providing information to one's constituents, by its nature does not encourage a lot of interactivity, we expect that such content will be retweeted less frequently than interactive content.

Methodology and Data

We utilized three lists of Nigerian NGOs to compile a sample of NGOs to consider within the study. The World Association of Non-Governmental Organizations (WANGO) provided our

starting point (World Association of Non-Governmental Organizations (WANGO) 2015). Their list of 1069 Nigerian NGOs included groups from 29 categories or types of NGOs. We also included a list from the World Nigerian Consortium of Organizations, which coordinates the activities of NGOs working in Nigeria and abroad. This list of 1075 organizations overlapped heavily with the WANGO list, but added around 500 groups not included in WANGO's directory. Finally, we added groups from Douglas P. Wilson's site: *Social Tech for Your Cause*—advanced social technology for non-governmental organizations, which included 1134 Nigerian NGOs. Again, many overlaps with the other two groups were present, but this list added more than 400 groups to our list of Nigerian NGOs. We did not include international NGOs working in Nigeria, as their inclusion would not paint an accurate picture of Nigerian NGOs, nor their unique traits or challenges. We limited our search to the groups included in the above lists because we felt that they were the mostly likely to have a social media presence given their presence in national and global outlets. They also represented a wide range of focuses including health, education, religion, the environment, human rights, economic opportunity, corporate social responsibility, youth, women's issues, indigenous groups, general community service organizations, and political interests. While this list is not comprehensive, it provided us with a sizeable group of active NGOs, and those that were not represented in any of the locations were likely smaller and less capable of directing significant resources and time to the creation and maintenance of social media content.[2] Once all duplicate groups were deleted, we sorted the list and removed several NGOs that were primarily international in scope, worked primarily in another country, or appeared to be for-profit groups. Our final sample includes 1986 Nigerian NGOs.

Initially, we intended to analyze NGO content within both Twitter and Facebook, but the logistics and actual content on Facebook made this unrealistic. Many Facebook pages were not official NGO pages, but rather groups where content could be added by anyone who was a member. Likewise, content volume varied enormously, from single-sentence to multiple-page documents. In order to maintain consistency and avoid variation due to non-NGO content inclusion, we chose to focus our analysis on Twitter alone. The platform limits word count to 140 characters and does not include group functions like Facebook—which allows multiple users to comment under the same group account. Thus, we were able to create a dataset that was consistent in both user characteristics and content.

In order to search for websites and Twitter pages for each group, general Internet searches and searches within Twitter were conducted. Twitter necessitated the use of several search approaches including the use of underscores, acronyms, and both user handle searches and account name searches. While we cannot be certain that we did not miss some accounts based on the chosen names and user handles, we were rigorous in our attempts to seek out as many potential name choices as possible. Many groups also maintained a website with links to Facebook and/or Twitter accounts, allowing us to confirm pages across platforms. When more than one Facebook or Twitter account was present for an NGO, we used such links and scanned pages for information and posts that might provide indications of legitimacy.

We also encountered challenges within each platform that necessitated adjustments to our searches. Within Twitter, several accounts were set to private and only allowed us to see the account name, user handle, and the number of tweets, followers, and following. In Facebook, many NGOs did not have official pages, but rather had groups that function within the platform

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[2] The fact that smaller groups are likely less well represented in the study is one potential limitation and may lead to our study overestimating the number of Nigerian NGOs that utilize social media, since many of these smaller groups would also be less likely to use social media.

as a community, where anyone may join or post. Some of these groups were public and others were private, but very few provided any official information from the NGO. They also frequently contained a large amount of spam and lengthy conversations that fell well outside the scope of the NGO's cause. As a result, we only included official organization pages that were categorized as such, and excluded groups and other non-official pages bearing NGO names.

Determining Content Sample

To determine whether a group was "active" on Facebook or Twitter (for our first set of hypotheses), we used a 1-year window (July 1, 2014 to June 30, 2015). If the group posted or tweeted at all during that time, we considered the group "active" on that platform. For frequency of Twitter use, we also use the same time period to determine the number of tweets that each group (with Twitter) tweeted during that year. In order to examine content within active pages, we utilized the qualitative data analysis software NVivo (and specifically their NCapture tool) to download tweets. All tweets that were not in English were dropped from the dataset. Though these non-English tweets made up a very small portion (1.21%) of total tweets, we recognize that the omission of this data may have a small effect on the overall findings, as groups may choose to use native or other non-English language tweets to specifically reach certain populations or for specific purposes, and as such, we cannot fully capture these nuances. Still, these excluded tweets are a small portion of the total tweets and, thus, we are confident that the data do provide us with considerable evidence of the general behavior of NGOs. The final dataset consists of 9760 tweets from Twitter accounts for 151 Nigerian NGOs. To form our dataset for analysis, we collected the most recent 100 tweets from each page (during the period of July 1, 2014 and June 30, 2015), and the metadata associated with each. If a group had less than 100 tweets during that time period, we included all tweets from the period. Thus, each group in the dataset contained has up to 100 recent tweets, with no tweets prior to July 1, 2014 or after June 30, 2015 being coded.

Content Analysis and Interactivity

The level of interactivity embedded in social media usage is a key variable in this paper, as we argue that more interactive social media usage can help create a vibrant civil society that has the capacity to actively engage citizens and to potentially contribute to democracy and peace. One of the purposes of this paper is to explore the degree to interactivity within social media platforms among Nigerian NGOs. Previous studies, such as Lovejoy and Saxton (2012), have created a coding scheme that includes three main categories: information-community-action. While we believe that this coding scheme is very helpful, we also felt that there are many nuances within tweets that could be captured by a more complex coding scheme. In this paper, we make two important contributions. First of all, we create a more detailed coding scheme tailored to NGO messaging which includes ten separate categories. Second, we group these categories into broader variables that measure "one-way communication," "partial interactivity," and "high interactivity." We feel that our coding scheme allows for more specificity on the one hand, and an incremental look at interactivity more broadly. Our specific categories are as follows (see Appendix Table 7 for more detailed descriptions of each category) (Table 1):

The tweets in the dataset were coded using the new categories we created. The coding process was arduous and complex; to increase coding reliability, two coders coded each tweet concentrating on the main intention of the tweet. Due to the brief nature of Twitter data,

Table 1 Tweet categories

Tweet type and description	Sample tweet from dataset	Interactivity ranking
1. Information: general information provided by the organization.	Young Youth Network for Good Leadership in Nigeria (YYNGLIN) is a youth NGO out to promote human rights, peace, and youth development.	One-way communication
2. Giving thanks: recognition for actions/donations of services that serve the goals of the organization.	VSO Nigeria says to all our #Volunteers, #Partners, #Nigeria and the #GlobalCommunity, MERRY CHRISTMAS and a HAPPY NEW YEAR!	Partially interactive
3. Acknowledging community events and asserting efficacy: reporting on the success of the group (or another organization) and its activities.	The PCC has resolved thousands of cases ranging from unfair terminations, pensions, police and compensation to injury https://t.co/z6gvxQpfXy	One-way communication
4. Soliciting dialogue: asking questions or posing a statement in an attempt to solicit dialogue.	Are there issues in your region that could pose threat to security? Tweet @LITEAfrica now and join the #CommunitySecurityDialogue	Highly interactive
5. Responses to others and interacting with other groups: interacting with another person/group directly (beyond merely retweeting).	@EFAReport @UNESCO school violence against girls starts from boys having wrong ideas about gender. Gender education is critical from day 1	Highly interactive
6. Requests for additional connections: requests to connect with the NGO via another platform.	Great benefits this JUNE! Business start-up support for #entrepreneurs http://t.co/rZBT22p0D0. Read more on our #FacebookPage "LEAP Africa".	Highly interactive
7. Appeals for donations: appeals for donation of money or items (not services).	RT @AYECIAfrica: We are happy to announce the newest addition to our fundraising drive! #GiftofLiteracyBox @LEAPAfrica @TFAAfrica http://t.…	Partially interactive
8. Selling a product	NIALS Special Offers for your law books - http://t.co/uLQlFSWBFA	Partially interactive
9. Event promotion/calls for volunteers: promoting an event sponsored by the NGO or calls for volunteers.	Join KIR Foundation as young leaders launch a #WED2015 Project @TouchPH @PHMicroscope @konnect_africa @NigeriaInfoPH http://t.co/QPLkbThZ1g	Highly interactive
10. Peripheral participation and encouragement of community engagement: requests to interact with the larger community or another group in a way that also serves the ultimate goals of the NGO.	Endorse and share this open letter to President-elect Buhari to prioritize the return of the Chibok girls (cont) http://t.co/BUnEOdFJzQ	Highly interactive

however, some interpretation was necessary. In particular, it was often difficult to distinguish between information being given (category 1) and when the NGO was interacting more with a specific person or group (category 5). In general, retweets were treated like original tweets. So, for example, a retweet of information was treated as a category 1 tweet. Exceptions to this were retweets where an organization was clearly attempting to interact with another group and added their own commentary to the tweet in order to facilitate interaction. After both coders coded all the data, disagreements were marked and each case where the coders disagreed was

Fig. 1 One-way communication

examined more closely.[3] In a majority of these cases, the coders were able to agree on a single coding upon closer inspection. In some cases, the coding scheme was updated to better articulate the categories and coding decisions, and to facilitate agreement (which also improved the coding scheme for greater reliability in future use). After these discussions, the final dataset included 100% agreement on all cases by both coders.

As mentioned previously, to best assess interactivity, the ten categories were additionally categorized as either (1) one-way communication, (2) partially interactive, or (3) highly interactive. For one-way communication, the NGO is presenting something to the audience, but there is no real expectation that the audience will reciprocate this interaction. Figure 1 illustrates what this relationship looks like.

Two of the categories are considered one-way communication, category 1: *Information* and category 3: *Acknowledging community events and asserting efficacy.* For the first category, the NGO is merely providing the audience with information (either about the NGO, or more general information). The third category is also primarily about information. While the NGO does provide some additional context for the information (i.e., efficacy), this category still, ultimately, represents one-way communication by the NGO to the audience.

The first two categories discussed above represent one-way communication; NGOs can also present tweets that are more interactive in nature. However, not all interaction is created equal. While level of interactivity is admittedly a fluid and incremental variable, for our purposes, we have divided interactivity into two broad categories—partially interactive and highly interactive. This provides more distinction between various levels of interaction while also using a focused group of categories in order to make analysis manageable and meaningful. Figures 2 and 3 demonstrate various models of partial interactivity.

Figure 2 illustrates a situation where the audience gives some impetus to the NGO, and then the NGO gives back to the audience. Category 2: *Giving thanks* would fit here. In this category, the NGO is recognizing something that the audience has done, and is taking the next step to thank those individuals, but there is no explicit message or invitation to continue the interaction at that time. Thus, the audience has acted in some way, the NGO has recognized this action, but that is the end of the line (two steps of interaction). This interaction has less potential of building a relationship between the audience and the NGO than an action that is highly interactive, but it is not merely one-way communication.

In addition to the scenario outlined in Fig. 2, Fig. 3 demonstrates another way that we might see partial interactivity. In this case, the NGO makes a distinct appeal to the audience, who might reply back, but this interaction is somewhat contained. There are two examples of such partial interactivity in our dataset, category 7: *Appeals for donations* and category 8: *Selling a product.* In the case of appeals for donations, the NGO is appealing to the audience for limited/

Fig. 2 Partial interactivity, example 1

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[3] After the initial round of coding, there was a 72.2% agreement in all cases.

Fig. 3 Partial interactivity, example 2

one-time support (donation) and the audience may do so. Again, this is, at most, two steps of interaction and has less potential of building a relationship like more highly interactive tweets. Similarly, when an NGO markets a product to the audience and the audience buys (or not) that product, there is again a limited transaction with less relationship building potential.

Finally, there are tweets that we might consider to be highly interactive; where the NGO is attempting to create a back and forth with the audience. This type of interaction is expected to either last more than one or two iterations, or is anticipated to create a broader connection or relationship with the audience. There are multiple examples of how this type of interactivity might work; these are illustrated in Figs. 4, 5, 6, and 7.

The relationship depicted in Fig. 4 is a reciprocal one. This is where we see the NGO seeking feedback from the audience with an attempt to gain their input for the NGO's later use. Of course, in a single tweet, we cannot necessarily assess whether the NGO actually acts on this information, but the idea is that the tweet appears to have the intent of creating this type of dialogue and reciprocal relationship. Category 4: *Soliciting dialogue* would fit here, with a clear two-way interaction.

Figure 5 represents a situation where the NGO asks the audience to expand its relationship with the NGO in some way. There are two examples of this type of relationship. The first is Category 6: *Requests for additional connections*. In this scenario, the NGO asks the audience to expand its connection with the NGO by joining the NGO on a different platform or in a mailing list, etc. The idea, though, is to create more of a relationship (in the end) between the audience and the NGO. So, we begin with the NGO making a request of the audience, and then, this leads to further interaction between the audience and the NGO. The second example that would fit this interactive relationship would be Category 9: *Event promotion and calls for volunteers*. In this example, the NGO asks the audience to expand its connection (by attending an event or volunteering with the NGO). Again, the idea is that this will create more of a relationship (in the end) between the audience and the NGO.

While most of the previous categorizations have assumed that the NGO's audience is very broad, the audience could also be other NGOs or specific individuals. In this case, NGOs might not just post general calls to action, but might specifically interact with individuals or groups within Twitter. However, given the public nature of Twitter, this interaction is also broadcast to other members of the audience. As such, the tweet reaches both a broad and specific audience, with the expectation of more specific interaction with the specific audience. This type of scenario is illustrated in Fig. 6. An example of this would be Category 5: *Responses to/interacting with others*. In these cases, the NGO is attempting to reach beyond its general audience and respond to or interact with other NGOs and actors. This is highly interactive because it increases the participants and scope to any given interaction.

In addition to promoting greater interaction with the NGO itself, the NGO might also expand the audience's interaction with the larger community or with other similar NGOs (as demonstrated in Fig. 7). Category 10: *Peripheral community participation* is such an example.

Fig. 4 High interactivity, example 1

Fig. 5 High interactivity, example 2

This is when the NGO encourages additional interaction outside of the NGO, but with causes that are similar to its own. This category is similar to category 9, but the interaction does not necessarily come back to the NGO itself, but goes out further into the broader community. This is highly interactive because it increases the scope of any given interaction.

Analysis and Discussion

The first hypothesis of this paper posited that most Nigerian NGOs in our sample would not actively utilize Facebook or Twitter. Overall, we find that only 366 (or 18.4%) of the Nigerian NGOs in our set have active Facebook pages and only 151 (7.6%) have active Twitter accounts. These data lend support for hypothesis 1, as very few groups actually utilize these social media sites. In fact, given that our sample likely overestimates social media use by NGOs (since smaller NGOs are less likely to be included in the sample since they are less likely to appear in the databases we used to identify NGOs), the actual social media usage of NGOs in Nigeria may even be lower than we report. Similarly, we find support for hypothesis 2, which suggested that more groups would use Facebook (18.4%) than Twitter (7.6%), as Facebook is an older platform and thus there would have been a longer period of time for groups to become familiar with and utilize Facebook.

Additionally, given that websites have been utilized for years before social media platforms became widely accessible, we expected more groups to have websites than Facebook or Twitter pages. The data support this hypothesis (hypothesis 3); around 29.1% of Nigerian NGOs in our dataset have websites, compared to only 18.4% with an active Facebook account and 7.6% with an active Twitter account. Thus, traditional websites are generally still a more common electronic means of communication for the NGOs in our study. This indicates that Nigerian NGOs do lag behind in general paths toward interactivity—though an exact reason cannot be ascertained from this research alone. While we cannot be sure of an exact number or reason for inaccessibility, as expected, we did encounter many groups that provided websites that were inactive or appeared to belong to another group or host, suggesting that website maintenance may in fact be an issue for Nigerian NGOs, but the overall number of active websites still exceeded the number of social media accounts.

When looking at the use of Twitter specifically, we hypothesized (hypothesis 4) that NGOs who maintained a Twitter account would not be extremely active or consistent with the use of their accounts, tweeting less than 20 tweets a month. We actually find that groups posted an average of 424.7 tweets for the year, or around 35 tweets per month. Thus, these groups
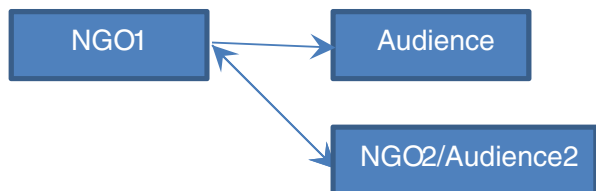
Fig. 6 High interactivity, example 3

Fig. 7 High interactivity, example 4

demonstrated slightly greater activity than we had anticipated. Of course, there was a wide range of activity, with some groups posting only a few times for the entire year, and others posting multiple thousands of tweets over the course of the year. Overall, though, these results suggest that while few groups may actually use Twitter (only 7.6%), those that do use this platform are consistently active users.

Turning toward interactivity, hypothesis 5 suggests that we expect that the majority of tweets from organizations would be one-way communication rather than more interactive in nature. Our findings support this hypothesis. Table 2 presents the frequency distributions for various types of tweets. As this table shows, nearly half (48.9%) of all tweets were merely informational tweets. Table 3 demonstrates that, overall, one-way communication comprised around 55.68% of all tweets in the dataset. However, it should be noted that there does appear to be more interactivity among the Nigerian NGOs that we considered than what has been observed in previous studies of various nonprofit organizations in the USA. For example, Lovejoy et al. (2012) found that less than 36% of 4655 tweets from 73 organizations were either direct conversations or indirect connections to users. Similarly, Guo and Saxton (2014) found that 69% of the tweets they analyzed were categorized as information. Our analysis suggests that nearly 40% of tweets in our sample were highly interactive, with 48.9% being purely informational. So, while we find support for hypothesis 5, we also find that the Nigerian NGOs in our sample are more interactive in their Twitter usage than we expected. One potential explanation for the greater interactivity of tweets is that fewer of the NGOs in our set utilize social media than those in the samples of US organizations. As such, groups that commit to using social media may do so with more purpose than those in contexts where social media is more common. Furthermore, there may be culturally different communication styles and imagined audiences that account for some of these differences. As mentioned previously, further research into the specific motives for social media usage among various Nigerian NGOs would be particularly useful for understanding this variation. Likewise, this information would allow NGOs to evaluate their own effectiveness in implementing a specific social media strategy.

We also considered whether having a website or Facebook page would affect the way that Nigerian NGOs utilized Twitter. Twitter is considered to have greater capacity for high levels

Table 2 Frequency of distribution of tweets per individual category

Tweet code	Frequency	Percent of total tweets
1: Information	4773	48.90
2: Giving thanks	212	2.17
3: Acknowledgement	661	6.77
4: Soliciting dialogue	434	4.45
5: Responses to others	1653	16.94
6: Additional connections	406	4.16
7: Donations	213	2.18
8: Selling a product	10	.10
9: Event/volunteer promotion	733	7.51
10: Community engagement	665	6.81
Total	*9760*	

Table 3 Frequency of distribution of tweets per interactive category

Interactivity code*	Frequency	Percent of total tweets
One-way communication	5434	55.68
Partially interactive	435	4.46
Highly interactive	3891	39.87
Total	*9760*	

*Categories 1 and 3 are considered one-way communication; categories 2, 7, and 8 are considered partially interactive; categories 4, 5, 6, 9, and 10 are considered highly interactive

of interaction and a platform more conducive to conversations (as compared to more traditional websites and even Facebook). As such, hypothesis 6 suggests that groups that do not have websites or Facebook pages might use Twitter for more one-way communications (in addition to more active communications) than those groups that have both mediums through which to communicate with their constituents. In our sample, 82.1% of groups that use Twitter also have websites. Furthermore, 89.4% of groups with Twitter accounts also have Facebook accounts, which are comparatively more similar to a traditional website than Twitter. Overall, 96% of tweeting groups have either a website and/or a Facebook page. Thus, there is little variation within this sample and no support for hypothesis 6. As presented in Table 4, a simple regression shows that having a Facebook page and/or a website has no statistically significant impact on the amount that a group tweets.

Similarly, if we combine partially interactive and highly interactive categories of tweets into a single category and run a logit model to see if having a website or Facebook account affects whether tweets are more likely to be interactive (clustering on NGOs to control for the fact that the errors are likely not independent within each group), we find no statistically significant relationship between having Facebook or a website on the one hand, and the level of interactivity of tweets (see Table 5). Thus, we find no support for hypothesis 6, which suggested that NGOs that have Twitter accounts in addition to a traditional website or Facebook would be more likely to use Twitter in a more interactive way.

Our seventh and final hypothesis suggests that tweets that are representative of one-way communication will be likely to be retweeted less frequently than more interactive content. A simple regression model (Table 6) demonstrates that tweets with more interactive content are more likely to be retweeted. However, when we cluster on NGOs for more robust standard errors, the relationship no longer holds. Thus, we cannot be confident that interactivity does, in fact, increase the likelihood of retweets, but there is some evidence to suggest that this may be the case.

Table 4 Simple regression model for activity

Independent variable	Coefficient (robust std. err.)	Z-score
Website	75.87 (157.92)	0.48
Facebook	71.94 (196.60)	0.37
Constant	298.08 (207.91)	1.43
Number of observations	151	
F-statistic	*0.22*	
R-square	*0.0030*	
Adjusted R-square	*−0.0105*	

DV: number of tweets in the year

$**p < .01$; $*p < .05$; $†p < .10$

Table 5 Logit model for interactivity

Independent variable	Coefficient (robust std. err.)	Z-score
Website	0.0592 (0.1796)	0.33
Facebook	0.1928 (0.2390)	0.81
Constant	− 0.4562 (0.2732)	− 1.67†
Number of observations	*9760*	
Pseudo R-square	*0.0006*	
Wald chi-square test	*0.69*	

DV: 1 = partially or highly interactive/0 = one-way communication

Clustering on NGO group; **$p < .01$; *$p < .05$; †$p < .10$

Additional Discussion

As noted previously, there is a lot of variation in terms of how frequently groups use Twitter to engage with their communities. Some groups with Twitter accounts post thousands of tweets a year, while others only a few. In terms of interactivity, we also see wide variation. The mean for the interactivity variable is 1.84 (with the variable being measured as 1 for one-directional communication, 2 for partially interactive tweets, and 3 for highly interactive tweets). However, there are 52 out of 151 groups that have an average of 2.0 or higher. Of these, 12 groups have an average of 2.5 or higher—indicating that most of their tweets are partially or highly interactive. A closer look at some of these groups, particularly those that score very high, may provide some additional insight into how and why these groups tweet in ways that are more interactive than many of their counterparts.

For example, the 100 tweets from the Cognisci Info Systems and Tech for Development Foundation score a mean of 2.98 for interactivity; the 100 tweets from the Foundation for Partnership Initiatives in Niger Delta score a 2.86, and 100 tweets from the Feky Andrew-Essien Care Foundation score a 2.94. These groups appear to tweet almost exclusively in ways that are highly interactive. It would be useful for future research to delve more deeply into organizations such as these to more fully understand their strategies for utilizing Twitter and the effects of such high levels of interactivity.

Another area that warrants further exploration is a comparison of various types of NGOs and their respective levels of interactivity. For example, many INGOs have capitalized on the

Table 6 Simple regression model for retweets

Independent variable	Coefficient (robust std. err.)	Z-score
Interactivity	200.24 (63.31)	3.16**
Constant	1815.12 (42.15)	43.07**
Number of observations	*9760*	
F-statistic	*10.00**	
R-square	*0.0010*	
Adjusted R-square	*0.0009*	

DV: number of retweets for the tweet

For interactivity, 1 = partially or highly interactive/0 = one-way communication; **$p < .01$; *$p < .05$; †$p < .10$

availability of mass amounts of data during humanitarian crises. Tools like Ushahidi[4] which can capture and analyze enormous amounts of data have been used globally by both INGOs and more local NGOs that focus on disaster relief. We saw very little of this type of highly developed analysis being used within our sample of NGOs, however. By exploring which types of NGOs are using this and other newer tools (for example Sahana[5] or Openstreetmap[6]) and actually interacting with data from social media platforms, we might begin to understand when NGOs are at the forefront of interactivity, and when they lag behind.

Conclusions

Most previous research on social media usage by NGOs has focused on developed states, such as the USA. Our study is a first attempt to view social media usage by NGOs in a developing state, Nigeria. While merely a first look into these groups, our results show some interesting trends. First of all, our findings are generally in agreement with previous research that suggests that NGOs often utilize social media, such as Twitter, in ways that do not fully capitalize on the interactive nature of these platforms. We find that more than half of the tweets from groups in our dataset were representative of one-way communication, rather than being more interactive in nature. However, contrary to previous studies, which focused on nonprofit organizations in the USA, our analysis of Nigerian NGOs demonstrated that these groups did use Twitter in a way that was more interactive than what might have been expected. This finding provides some reason for optimism in relation to the likelihood that social media usage by groups within Nigeria might contribute to a more vibrant civil society, and thus could potentially contribute to democracy and peace.

Still, the fact remains that a very small portion of Nigerian NGOs in our sample utilized social media at all. Only 18.4% of groups had active Facebook accounts and a mere 7.6% used Twitter. Further, less than a third of the groups in the set (only 29%) even had websites. Given that our sample may have excluded many very small NGOs that would be even less likely to have websites and use social media, the actual usage of these Internet communication mechanisms is likely even smaller than we report. This suggests that Internet interactions are unlikely to have a broad impact on civil society within Nigeria, as such communication mechanisms are used by a small portion of NGOs. Though NGOs are clearly attempting to harness the power of social media platforms for reaching audiences, Internet access and mobile device connectivity in Nigeria are a potential limitation to social media interaction for NGOs (Saeed 2009). Since many NGOs seek to serve groups that may face both financial and educational barriers, this may explain some of the lower numbers of website, Facebook, and Twitter accounts we observed.

However, one interesting finding is that there are some NGOs in Nigeria that are quite active, and some that are also using Twitter in very interactive ways. Future research that focuses more specifically on some of these groups may be able to provide a more nuanced understanding of how and why Nigerian NGOs use Twitter in interactive ways and how successful these attempts at interaction have been. In particular, interviews with these very active and interactive groups would likely provide some useful insights into their social media

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[4] For more information on Ushahidi, see https://www.ushahidi.com/features.
[5] For more information on Sahana, see https://sahanafoundation.org/.
[6] For more information on Openstreetmap, see https://www.openstreetmap.org/.

usage and whether their attempts at engaging with constituents have been successful. In addition, while our study provides a first look at social media usage by Nigerian NGOs, it is unable to fully analyze the decision-making process and agency associated with the choice of social media usage among these NGOs. Further research focusing specifically on how NGOs determine whether and how to use social media platforms would help to create more robust theorizing and empirical analysis of social media usage by NGOs.

While we were unable to confirm that interactive content was more likely to be interacted with (or retweeted), our results do suggest that this may be the case. However, given the uncertainty of these results, it appears that even one-way communication from NGOs might be useful for helping build and strengthen relationships between people, and thus, could help build a robust civil society. Still, our results do suggest that some organizations are using social media in highly interactive ways. Evaluating the success of these attempts at building relationships and engaging individuals and groups would be a useful next step forward.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

Appendix

Table 7 Twitter coding scheme

	Content category	Description
1	Information	This category includes news, reports, links to other social media and websites, and "learn how to help" information, but does not include information about specific events. This category also includes basic information that informs tweet recipients about general ideas or beliefs of a group, for example, inspirational quotes. Retweets where the original tweets contain information and the retweeter adds no additional content will also fall within this category. Simply sharing information by retweeting is not considered conversational; it merely expands the audience for information dissemination.
2	Giving thanks	This category includes recognition for actions or donations that serve the specific goals of an NGO. Thanks can be expressed to donors, volunteers, recipients, and the community at large. Excluded from this category are thanks offered for retweets, favorites, and other actions taking place within Twitter, which

Table 7 (continued)

	Content category	Description
		we consider more interactive and indicative of two-way engagement (category 5).
3	Acknowledging community events and asserting efficacy	This category includes reporting on the success of its own, or another organization's activities and acknowledging community events that have already occurred. This is distinct from (1) because it is more editorial in nature, presenting content that extends beyond information and promotes the efficacy and activities of the NGO or some other favorable opinion that seeks to present the NGO in a positive light. It differs from (9), promoting an event, because it occurs after the event. While not all tweets that fit into this category are inherently positive, they do all promote the events and goals of the NGO, which can raise its visibility and foster support.
4	Soliciting dialogue	This category emphasizes asking a question or posing a statement within a tweet or post that solicits responses within the same platform, often using the @ symbol in order to direct the question toward a specific person or group. These messages can be asking for reactions to an external link, can pose a question, or can be general calls for input from others. Not included in this category are attempts to direct people to engage in a conversation elsewhere or conversation external to the NGO (e.g., write your congressional representative about bill X). This category also includes requests for retweets and the general emphasis should be on spreading a message or expanding a conversation.
5	Responses to others and interacting with other groups	This category includes tweets that engage with or respond to another person or group by interacting in some way with that group beyond merely retweeting. Retweets are included here if the tweeting group adds original content or commentary to the tweet. This also includes any tweets where the group directs followers to another group (within Twitter) or points out what another group is doing. If they are directed outside of twitter, the tweet is coded as a 10. Finally, tweets that offer thanks to a specific user for favoriting or retweeting NGO content are included here, as they are more interactive than thanks extended without an @ username, and are specific to Twitter interaction.
6	Requests for additional connections	This category includes requests for users to connect with the NGO by visiting another social media platform, joining a mailing list, or providing their information to the NGO. The main purpose of such tweets and posts is to provide more opportunities for interaction and community building. This also includes FB.me links, connections to YouTube videos, LinkedIn, and other social media platforms where the NGO is engaged.Other general web links fall outside this category, and would be considered information if they are not a social media platform or offer no opportunity for interactive communication (comment sections for videos, direct messaging, etc.). The emphasis in this category should be on networking and user connections, not necessarily on content.
7	Appeals for donations	This category includes any request for money or items by an NGO. It does not include appeals for the donation of services (9).
8	Selling a product	This category includes advertising of a product or service offered by the NGO in exchange for money.
9	Event promotion and calls for volunteers	This category includes promotion of an event that provides enough information to allow those receiving the tweet to participate (location, date, time, and purpose). This could

Table 7 (continued)

Content category	Description
	target recipients, volunteers, or others. The distinction between this and (1) is that the main purpose of the tweet is to solicit action (typically participation), rather than merely providing information. Calls for volunteers include any call for participation in NGO activities—both virtual and digital. It includes calls for participation in specific events, contests, membership drives, and general NGO needs. Additionally, job opportunities for the NGO are included in this category. The category does not include promotion of events external to the NGO (10).
10 Peripheral participation and encouragement of community engagement	This category includes requests from an NGO for the recipient of a message to engage in some action not directly connected with the NGO, rather within another platform or with another person, but still peripherally related to the goals of the NGO. This includes promotion of non-NGO events or events that fall outside the scope of the NGO. This does not include any actions requested to be taken within the Twitter platform- only those that require some action outside of Twitter. This category includes information about participating in outside competitions or contests; urging individuals to sign petitions; promotions of broad events (such as Earth Day, or International Women's Day); statements such as "join us to fight x problem..."; and job announcements outside of the organization posting the tweet.

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