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Navigating Identity Through Social Media: Twitter Use of Muslim-American Nonprofits

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Social media enables nonprofits to communicate with stakeholders. Literature has primarily focused on the social media communication of mostly large and secular nonprofit organisations. This study contributes to this literature by looking at nonprofits' social media activity belonging to religious minorities, specifically the Muslim-American nonprofit sector. Using Lovejoy and Saxton's (2012) Hierarchy of Engagement framework, we find that Muslim-American nonprofits conventionally use social media for information, community, and action messaging. However, these nonprofits also utilise social media to encourage religious practices and strongly advocate for Muslim rights. We also find that organisational identity affects social media framing as organisational type affects the type of topics these organisations pick to advocate on social media. Moreover, organisational size also affects social media activity, as smaller organisations are more likely to use social media for fundraising purposes.

Introduction

Nonprofits conventionally use social media for different purposes, including stakeholder engagement (Bortree and Seltzer, 2009; Waters et al, 2009), community building (Lovejoy and Saxton, 2012), and advocacy work (Guo and Saxton, 2014; 2018; 2020), as well as enabling conversations between nonprofits and their audiences (Lovejoy and Saxton, 2012). However, different organisations' (faith-based, environmental, community organisations, and so on) use of social media varies substantially in messaging and fundraising (Waters et al, 2009). For example, environmental organisations are more likely to use social media to promote events than other organisations (Lovejoy and Saxton, 2012; Kim et al, 2014). Furthermore, advocacy organisations appear to use Twitter noticeably more for information sharing

than the average nonprofit agency (Lovejoy and Saxton, 2012; Guo and Saxton, 2014). Similarly, significant differences exist between messages espoused by different sports and humanitarian organisations (Campbell et al, 2014; Svensson et al, 2015; Lai and Fu, 2020).

Faith-based organisations play a major role in this public discourse, leveraging new technologies like social media. They are also unique in that they navigate both religious and secular ethical and organisational/professional identities that value efficiency and veracity versus religious connection in their communications.

A limited literature focuses on social media adoption of religious nonprofits (Lee, 2018), as well as communication strategies of religious nonprofits like fundraising (Maqbool et al, 2019; Kailani and Slama, 2020). We contribute to the literature by studying how faith-based organisations use social media, not only for fundraising but also for building community and providing information, by using Lovejoy and Saxton's (2012) framework.

It is important to study faith-based organisations because they work at the intersection of faith and service. Moreover, a highly diverse range of nonprofit organisations can be influenced by a faith identity. For instance, a religious institution of worship like a church can be a faith-based organisation while at the same time an international relief organisation can also be a faith-based organisation. Both are inspired by their faith values yet both their function and service area, as well as staff capacity, can be fundamentally different. Therefore, it is critical to not only study how faith-based organisations leverage social media but also how their organisational characteristics (including size and mission of nonprofits) impact their social media communication. We attempt to answer these questions by studying the Twitter usage of Muslim–American nonprofit organisations. This paper attempts to answer two major research questions:

RQ1: How do Muslim–American organisations use Twitter to disseminate information, build engagement, and facilitate action?
RQ2: How do organisational mission and size affect Muslim nonprofits' use of Twitter?

Muslim Americans belong to a highly diverse religious minority with no one ethnic group constituting a majority. Furthermore, Muslim Americans consist mainly of African Americans, Arabs, and Asians, with increasing numbers of Latinos converting to Islam (Morales, 2018). Understanding these organisations' communications has implications for the future when the US is projected to have no majority ethnic group. Both faith-based and non-faith-based organisations will have to adapt their communication strategies to engage with increasing racially diverse groups.

Studying the Muslim–American nonprofit sector is also crucial, as they are highly under-resourced, with most nonprofits working with limited budgets (Khan and Siddiqui, 2017; Noor et al, 2021; Wasif, 2021). Most research has focused on large organisations, and scholars have stated the need to address the underrepresentation of smaller organisations in social media research (Nah and Saxton, 2013; Eimhjellen, 2014).

Using Lovejoy and Saxton's (2012) Hierarchy of Engagement framework, we find that Muslim–American nonprofits conventionally use social media for information, community, and action messaging. However, these nonprofits also utilise social media

to encourage religious practices and strongly advocate for Muslim rights. We also find that organisational identity affects social media framing, as organisational type affects the topics these organisations pick to support. Moreover, organisational size affects social media activity, as smaller organisations are more likely to use social media for fundraising purposes.

Overall, these findings suggest that nonprofit organisations can leverage social media channels to not only communicate and bond with their audiences, but also to advance their religious identity and encourage religious actions from their adherents. Additionally, nonprofit organisations belonging to religious minorities can use social media to promote social equity goals and highlight injustices faced by their constituents.

Literature review

Research has steadily developed to better explain the significance of social media in nonprofits. The first phase of nonprofit research focused on social media adoption and was interested in determining social media levels (Bortree and Seltzer, 2009; Campbell et al, 2014).

The second phase was primarily interested in understanding how nonprofit organisations use social media (Guo and Saxton, 2014; Lai et al, 2017). This research employed content and social network analysis. Some studies found that charities engaged in both one-way and two-way communications with audiences (Waters and Jamal, 2011; Galvez et al, 2016). Similarly, Lovejoy and Saxton (2012) and later Guo and Saxton (2014) introduced a typology of nonprofit social media communication: providing information, community building, and calling community to action. This messaging strategy was framed as the Hierarchy of Engagement (Lovejoy and Saxton, 2012). In addition to content analysis, scholars used social network analysis methods (Lai et al, 2017; Xu and Saxton, 2019) to assess how nonprofits interact with other nonprofits on social media.

The third stream of nonprofit research focused on social media's offline impact on nonprofit operations. For instance, scholars suggested that social media enhances nonprofits' ability to communicate (Eimhjellen, 2014), increases their social capital with audiences (Xu and Saxton, 2019), and amplifies their ability to market their activities, maintain relevance, raise social awareness (Campbell et al, 2014), and provide a platform for advocacy (Guo and Saxton, 2014; 2018). More recently, scholars have tried to merge these themes to better explain the social media presence of nonprofits. For instance, Guo and Saxton (2018; 2020) studied the organisational and content characteristics that enable nonprofits to engage audiences, thus elaborating on what kind of content and administrative features make organisations more likely to gain social media attention.

Faith-based organisations play a critical role in the nonprofit sector because they are a unique hybrid of religious beliefs and service delivery (Campbell and Evolvi, 2020). With the rise of social media, people now rely on platforms such as Facebook and Twitter, challenging scholars of different religions in communicating their message (Campbell and Evolvi, 2020). Although the initial research was sceptical about religious adoption of social media – as religious organisations have historically been slower embracing newer technologies (Meadows, 2012) – recent studies have shown religious leaders to be among the most innovative social media users (Weng, 2018; Moberg et al, 2019; Kailani and Slama, 2020).

Muslim-American nonprofit sector

To analyse and understand Muslim-American nonprofit social media communication, it is important to understand their significance in American society and some of their major challenges. The Muslim-American nonprofit subsector primarily represents the interests of the Muslim-American population (Siddiqui, 2010; Khan and Siddiqui, 2017), and it has grown in prominence over the last few years, especially after 9/11/2001.

Despite its impressive growth, the Muslim nonprofit sector, along with the general Muslim population, has also faced increased scrutiny. Post-9/11, public and government feelings about Islamic nonprofits became increasingly hostile. For example, in 2001, US law enforcement agencies raided and shut down three prominent Islamic charities for their alleged links to terrorism. Subsequently, law enforcement agencies raided five more with no prosecutions (Wasif, 2021; 2022). As a result, not only are Muslim charities supporting the identity of a minority group under siege, they are also advocating for a faith group. Moreover, they work with one of the most diverse communities in the US, with Muslims representing a highly diverse social and ethnic group, from immigrants from all over the world to many Muslims who were born in the US.

This paper attempts to analyse Muslim-American nonprofit social media communication to answer the first research question in the Muslim-American context:

> RQ1: How do Muslim-American organisations use Twitter to disseminate information, build engagement, and facilitate action?

Social media communication for nonprofits is heavily influenced by several organisational factors. Besides the organisations' mission and vision, major contributors include size and resources (Nah and Saxton, 2013), availability of government grants (Maxwell and Carboni, 2016; McCaskill and Harrington, 2017), and fundraising strategy (Lee and Shon, 2018). These factors manifest somewhat differently in faith-based organisations as their mission and vision are usually aligned with the faith groups they represent. They rely less on public grants than secular organisations, while their fundraising is often tied to mandatory and optional faith-based giving doctrine, such as tithing, *tazkieh*, *zakat*, and so on. (Gazley and Brudney, 2007).

Literature on the influence of organisational factors in social media communication of religious nonprofits is limited. Prior literature looked at how organisational characteristics influenced an organisation's adoption of social media, such as having a social media or Facebook account (Lee, 2018). It also looked at the use of social media by religious organisations for fundraising purposes (Lee, 2018; Maqbool et al, 2019). We contribute to this literature by better explaining how organisational factors influence religious nonprofits' broader social media communications (information, community, and action).

Moreover, Muslims also belong to a highly diverse group of organisations influenced by Muslim values. These include large organisations as well as much smaller organisations. Moreover, they also come from a spectrum of organisations providing a range of services like education, relief, and social services, among others. Therefore, it is important to understand how the social media communication of different types of faith-based organisations gets influenced by organisational characteristic. Our study addresses this literature gap by answering the following research question:

RQ2: How do organisational mission and size affect Muslim nonprofits' use of Twitter?

Data

This paper analysed the Twitter activity of 67 Muslim nonprofits, taking their data from GuideStar (www.GuideStar.org). GuideStar (now Candid after the 2019 merger between GuideStar and Foundation Center) has a collection of Muslim nonprofits based on their categorisation by the IRS. The IRS categorises Muslim nonprofits as category X40. Since X40 does not capture all Muslim nonprofits, we also added 'Islamic', 'Muslim', 'Quran', 'Quranic', 'Allah', 'Muhammad', and 'Deen', in our search.

Different scales are used to classify nonprofit organisations in the US based on their revenue. The IRS's Tax Statistics rank their assets with caps of $100,000, $500,000, $1 million, and $10 million and over. *The NonProfit Times* operating budget caps are $500,000, $1 million, $2.5 million, and $5 million and over (Hallman, 2014). We divided Muslim nonprofits into five strata based on their annual revenue as reported to the IRS through the GuideStar database (www.GuideStar.org). 'Very small' organisations had annual revenues below $500,000, 'small' organisations' annual revenues ranged between $500,001 and $1,000,000, 'medium' organisations between $1,000,001 and $2,500,000, 'large organisations' between $2,500,001 and $5,000,000, and finally 'very large' organisations had revenues of $5,000,001 and above. The goal was to randomly select 75 organisations with an active Twitter account, with 15 organisations from each stratum. After screening all nonprofits, we fell short of three nonprofits in the 'small', three in the 'very small' and two in the 'large' strata meeting the selection criteria. We finally selected a total of 67 organisations for the analysis. We deliberately used a purposive sample of different Muslim nonprofits to assess how organisational size may impact social media use of organisations. Table 1 provides further details.

After we sampled these nonprofits based on their size and the availability of Twitter handles, we included the last 3,200 tweets from each nonprofit, as this was the amount of data allowed by the Twitter API.

We collected 67,551 tweets from the 67 nonprofits by accessing Twitter API using R (free statistical language used for collecting data and conducting statistical analysis). The Twitter API allows access to Twitter data. By using R to access Twitter API, researchers can directly download and collect tweets and access other information about them, including the tweet date, time, the user account, and additional information.

Table 1: Frequency table of nonprofit size

Category	Revenue	Number	Percentage
Very small	Below $500,000	12	17.91
Small	$500,001 and $1,000,000	12	17.91
Medium	$1,000,001 and $2,500,000	15	22.39
Large	$2,500,001 and $5,000,000	13	19.40
Very large	$5,000,001 and above	15	22.39

The nonprofits under study were small; the overall mean revenue was $ 6,708,875. There was also substantial diversity within the nonprofits, with a standard deviation of $ 21,205,926. On average, the mean of the tweets was 1,008.224 per account, meaning each account on average had 1,008 tweets. Again, there was a lot of variation within the number of tweets with a very high standard deviation (3,067.701). Overall, the sample was highly diverse, belonging to several NTEE categories: Religious, Relief, Education, Advocacy, and Human Services.

Methodology

Twitter is unique because of the sheer size of its dataset. Consequently, nonprofit scholars often restrict their analysis to smaller subsamples of the data. To address this issue, we employed machine learning. Machine learning allows systematic analysis of large-scale text collections without massive funding support. Moreover, machine learning enables the discovery of new topics in huge texts without massive human effort.

Machine-learning methods employ computer algorithms to categorise text by looking at frequently co-occurring words (Anastasopoulos and Whitford, 2019). Several studies have leveraged machine learning to understand patterns from large datasets for nonprofit studies (Lecy and Thornton, 2015; Fyall et al, 2018; Ma et al, 2018). In this study, we employed unsupervised machine-learning methods to discover the main topics or themes in text by looking at co-occurring word clusters.

In unsupervised machine learning, the system recognises regularly occurring patterns in the data and forms clusters of data based on these patterns. The unsupervised learning system will then identify all similar objects and group them. After the model finds a set of co-occurring words, researchers interpret and label these topics. For example, a researcher can construe a collection of terms such as 'Latinos', 'Muslims', and 'border' as an immigration topic. In addition, researchers interpret these words by looking at each topic's examples.

We employed the Structural Topic Model (STM), a probabilistic mixed-membership model, meaning that it considers each document a mixture of various topics. Scholars have extensively used STM to explore Twitter datasets (Aslett et al, 2020). In practice, this meant that we could add organisation-level covariates like the nonprofit's size, history, or its focus area to assess whether these covariates impacted the nonprofit's social media messaging. As an illustration, we could see whether the nonprofit size as a covariate impacted the prevalence of the fundraising topic.

STM model: an illustration

The unsupervised model found that there was a topic in which the words 'Islam', 'Just', 'America', 'Justice', 'First', and 'Faith' were occurring quite frequently. After looking at these words and examples of tweets with this topic, the researchers interpreted the topic as Inclusion Advocacy. In cases where there was disagreement, the authors voted based on majority based on prior literature (Wasif, 2021). The flow chart shown in Figure 1 illustrates the process. First, the unsupervised algorithm found words that frequently co-occurred. Then the algorithm found examples of tweets that had the cluster of these words. Then looking at the cluster of frequently occurring words and the examples, the research adjudicated the topic as Inclusion Advocacy. The flowchart in Figure 1 clearly illustrates this example.

Topics

Using two measures (semantic coherence and exclusivity), we ended up with 20 topics. We further categorised the words by looking at the most frequent and exclusive ones in each topic. We also verified each topic by looking at specific examples of each topic. Figure 2 provides the list and frequency of each topic, and Table 2 provides the words with the highest FREX (FREX attempts to find words that are both frequent and exclusive to a topic of interest). Many of the words were cut into smaller pieces because of stemming, which is part of the text-cleaning process before running machine-learning algorithms based on prior best research (Aslett et al, 2020).

Theoretical framework

After going through examples, we categorised each topic under Lovejoy and Saxton's (2012) typology of information, communication, and action. In their research Lovejoy
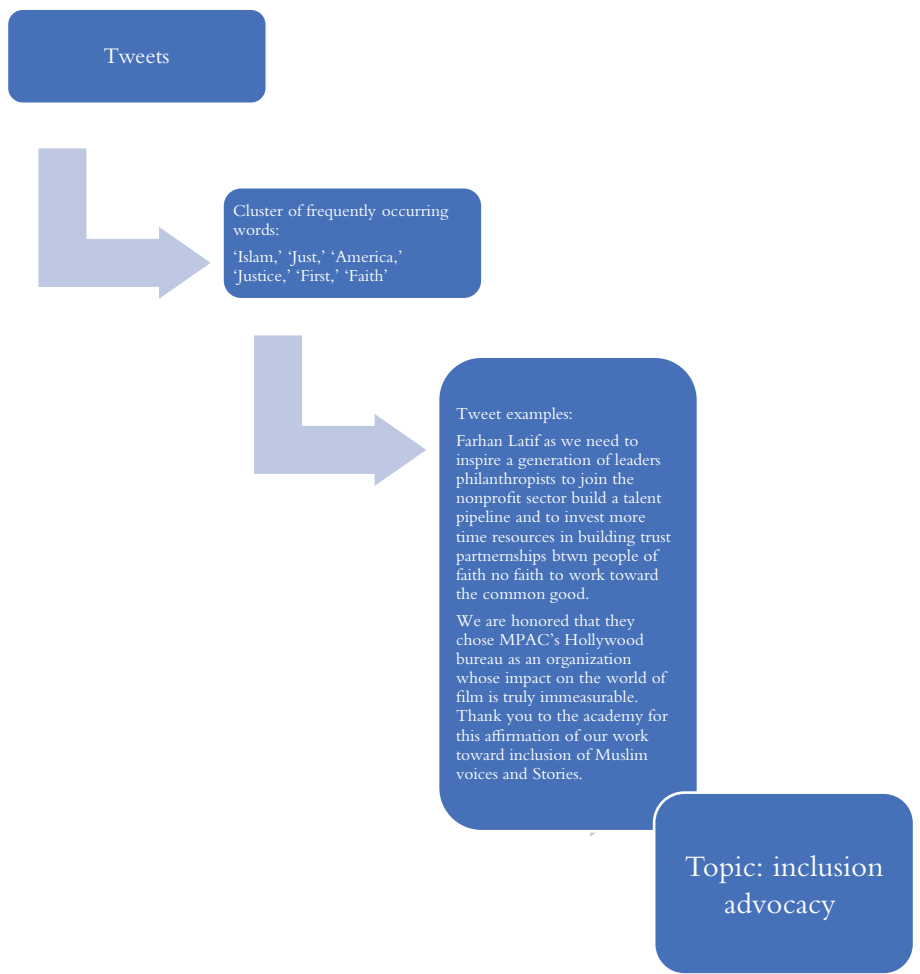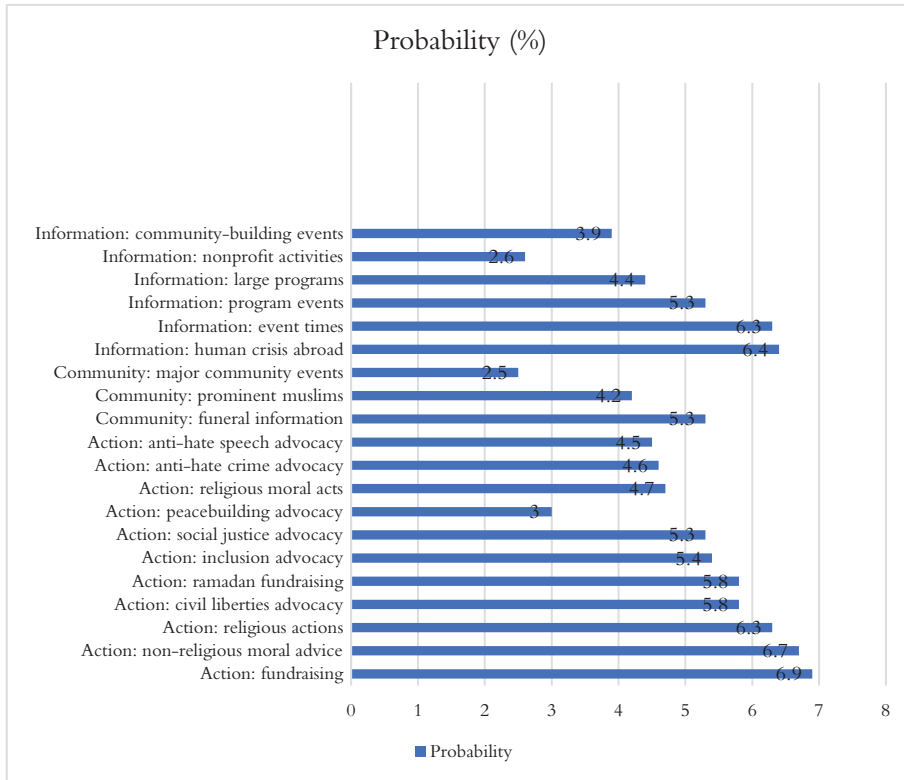
Figure 1: STM example

Figure 2: Topics

Probability (%)

Topic	Probability
Information: community-building events	3.9
Information: nonprofit activities	2.6
Information: large programs	4.4
Information: program events	5.3
Information: event times	6.3
Information: human crisis abroad	6.4
Community: major community events	2.5
Community: prominent muslims	4.2
Community: funeral information	5.3
Action: anti-hate speech advocacy	4.5
Action: anti-hate crime advocacy	4.6
Action: religious moral acts	4.7
Action: peacebuilding advocacy	3
Action: social justice advocacy	5.3
Action: inclusion advocacy	5.4
Action: ramadan fundraising	5.8
Action: civil liberties advocacy	5.8
Action: religious actions	6.3
Action: non-religious moral advice	6.7
Action: fundraising	6.9

and Saxton argued that we can categorise social media communication of nonprofit under three broad themes of: (a) information, (b) community, and (c) action. Since 2012, several scholars have used this framework to study the social media strategy of nonprofits (Guo and Saxton, 2020; Svensson et al, 2015).

The information frame included social media communications when nonprofits provided information about their programme activities or other salient issues through one-way communication. Under the community frame, nonprofits attempted to foster relationships and promote interactivity, helping two-way communication between them and their Twitter audience or talk about prominent community members in the community. Under the action frame nonprofits encouraged followers to take action and 'do something' on behalf of the organisation, including volunteering, donating, or attending an event.

Based on these criteria, after looking at each topic, we arranged them under the categories of Lovejoy and Saxton's (2012) framework. We attempted to categorise whether the topic comes under the community, information or action category. For instance, we were able to easily categorise the topic 'fundraising' under the action category, since in this framework the nonprofit were asking their social media followers to donate money. Therefore, it was easy to categorise it under the action category since nonprofits were asking their follower to do an action on behalf of the nonprofit.

However, some topics were difficult to categorise under one category. For instance, Topic 1 (funeral information) supplied information about deaths and funerals in

Table 2: Topics with FREX scores

Topics	1	2	3	4	5	6	7
Information: program events	zaytuna	college	hamza	academic	zaid	nui	shakir
Information: large programs	icna	isna	mas	IslaminSpanish	dawah	centro	azhar
Information: humanitarian crisis abroad	relief	distribute	water	aid	umr	winter	USA
Information: community-building events	iman	uniti	oppo	reentri	fightfearbuildpow	market	grassroot
Information: nonprofit activities	eid	park	mother	lot	design	key	adha
Information: event times	friday	sta	tune	Thursday	isha	khateeb	schedule
Community: funeral information	iscj	icoi	album	blog	elahi	huda	ihw
Community: major community events	year	back	time	first	past	talk	ever
Community: prominent muslims	check	film	interfaith	announce	iswv	scholarship	isf
Action: non-religious moral advise	just	feel	think	realli	doesn	can	differ
Action: religious moral acts	shaykh	pearl	surah	qur	recite	knowledge	lightingtheway
Action: fundraising	event	Saturday	miss	ticket	dinner	registr	avail
Action: civil liberties advocacy	right	justice	ban	relig	civil	cou	freedom
Action: hate speech advocacy	america	African	danger	platform	ident	Jew	stereotype
Action: religious actions	allah	prophet	almaghrib	pray	upon	dua	pbuh
Action: peacebuilding advocacy	got	everyday	countdown	broken	neuropeac	nonviol	dhulhijjah
Action: social justice advocacy	impo	ant	covid	nyc	resource	aafsc	domest
Action: advocacy against hate crimes	cair	elect	condemn	voter	hijab	racist	Biden
Action: ramadan fundraising	thank	friend	tmwf	wonder	goal	big	givingtuesday
Action: inclusion advocacy	divers	inclus	nonprofit	recogn	Hollywood	beyond	mpac

the Muslim community, which put it under the information category. At the same time, it played a critical role in facilitating communication on Twitter, as members would offer prayers for the deceased in the Twitter chain, which is part of Muslim tradition. Therefore, we (the three authors) voted on the topics based on the framework adopted by Wasif (2021). Most topics were easy to categorise, but in the case of disagreement, we went with the majority opinion. We put topics under the information frame when nonprofits provided information about their programme activities or other salient issues through one-way communication. We put topics under the community frame when nonprofits attempted to foster relationships and promote interactivity, helping two-way communication between them and their Twitter audience or talk about prominent members in the community. We put topics under the action frame when nonprofits encouraged followers to take action and 'do something' on behalf of the organisation, including volunteering, donating, or attending an event (see Figure 3).
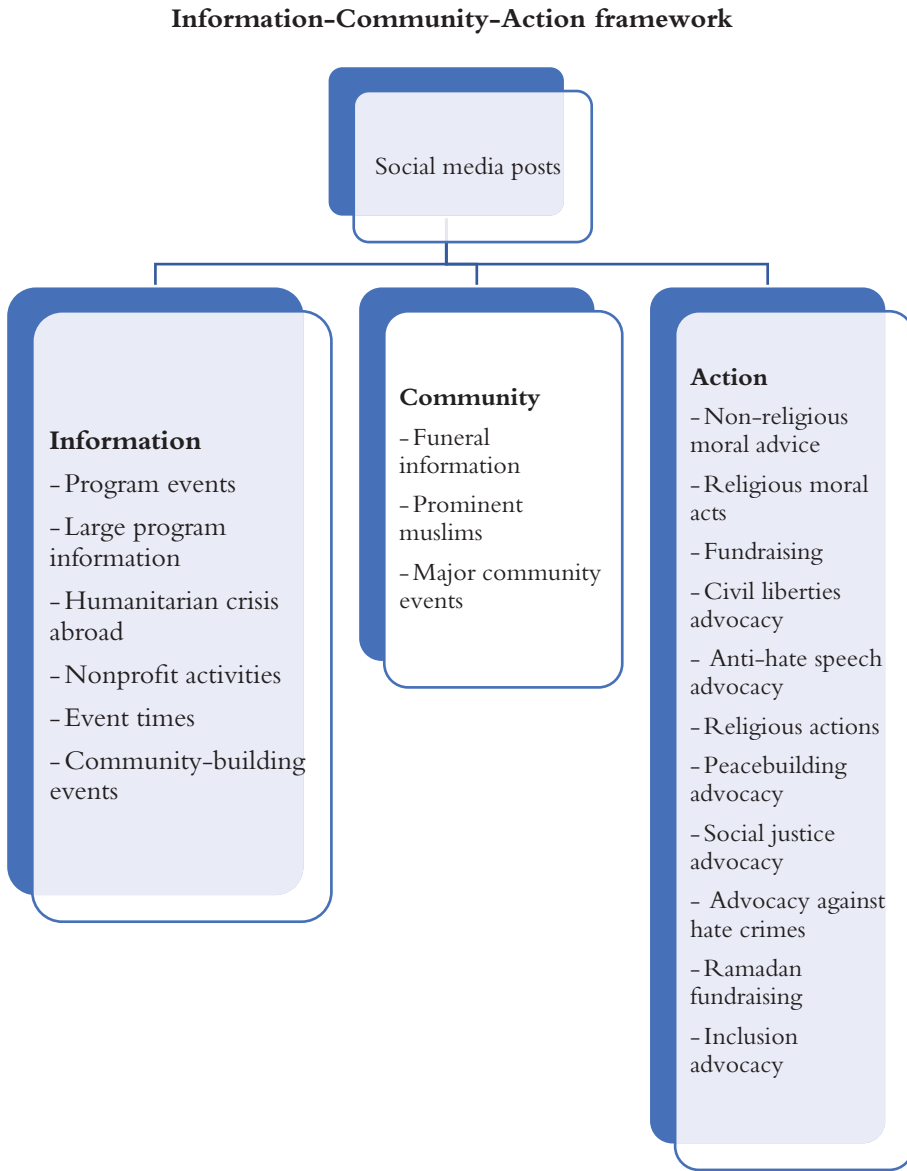
Information

The information topic held one-way communication messages. These tweets supplied programmatic and non-programmatic information to their audience, and their primary purpose was to inform rather than promote dialogue. Several topics, including topic 3 (programme events), topic 12 (nonprofit activities), and topic 10 (community-building activities), supplied information about nonprofit activities. The following tweet updated members' activities for topic 3 (member activities): 'Zaytuna Freshmen at the University of California Berkeley library yesterday with the Dean of Faculty'.

Topic 10 (community-building activities) supplied further information about the nonprofit's activities, for instance, 'Iman staff attorney organiser Aaron Siebe Llera leads a deep discussion centered on the power of healing and reconciliation during tonight's grassroots power hour #fightfearbuildpower'. Similarly, topic 12 (nonprofit activities) supplied information about activities, such as this tweet about a bake sale: 'Today's Deese Auction item Homemade Organic Oatmeal Chocolate Chip Cookies No Nuts Soft and Chewy'. Sometimes these tweets even held updates about construction happening at the nonprofits: 'Steel guys have reached 3rd-floor beams installed joists are up there by the mid next week they are planning to start steel decking'.

International activities

Other tweets discussed international relief efforts, as several Muslim nonprofits supply relief to humanitarian causes outside the US. They also use Twitter to provide information about humanitarian issues. As an illustration, topic 7 (international relief information) supplied us with information about Islamic Relief's work in Gaza: 'Gaza in turmoil the death toll in Gaza is rising, and more than 100 people have been injured. We have already begun distributing food packages to families in need and are preparing medical shipments to send. Donate here'. Therefore, programmatic information about the work these nonprofits were doing was crucial.

Figure 3: Themes in Information-Community-Action framework

Information–Community–Action framework

Social media posts

Information

– Program events

– Large program information

– Humanitarian crisis abroad

– Nonprofit activities

– Event times

– Community-building events

Community

– Funeral information

– Prominent muslims

– Major community events

Action

– Non–religious moral advice

– Religious moral acts

– Fundraising

– Civil liberties advocacy

– Anti–hate speech advocacy

– Religious actions

– Peacebuilding advocacy

– Social justice advocacy

– Advocacy against hate crimes

– Ramadan fundraising

– Inclusion advocacy

Events

Another programmatic activity topic provided details on these organisations' events. As an illustration, topic 5 (large programme events) supplied information about recent events: 'Over the weekend, ISNA convention steering committee chair Zeyn Patel held an onsite prep meeting for the Annual ISNA and MSA conventions with the MSA national board Lone Star Council Leadership and MSA National Conference Steering Committee Members in Houston, TX'.

Similarly, topic 18 (events time) supplied information about new events, but also included the exact details on the time and venue: For instance, the following tweet

supplies details of the prayer organised by the Islamic Center: 'Jummah Mubarak. Today's Khateeb is Shaikh Jamaal Diwan. We will have 3 Jummah prayers starting at 12 pm'.

Community

Several tweets focus on community building, particularly acknowledging current and local events (Lovejoy and Saxton, 2012). Topic 1 (funeral information) supplied information about deaths and funerals in the Muslim community, thus playing a critical role in facilitating communication. For instance, one tweet said: 'Inna lillahi Wa Inna ilahi rajioon (Islamic prayer for someone who has passed away) we are sad to inform the community that Mohamed Elshenawy passed away'.

Similarly, topic 14 (prominent Muslims) highlighted significant achievements of noted Muslims, such as Noor Inayat Khan, a Muslim woman executed by the Nazis as an allied spy during the Nazi occupation of Western Europe; and local Muslim filmmaker Justin Mash, including details about a PBS documentary highlighting Muslim women's role in the gender equality movement.

Furthermore, topic 20 (major community events) discussed noteworthy events in the Muslim community, including the Boston bombing, removal of ISIS from Iraq, and major religious landmarks like Ramadan: 'Remembers those lost or injured two years ago at the Boston marathon as we work to counter violent extremism. Stay Boston Strong'.

Other tweets focused on the last 10 nights of Ramadan, a special occasion of prayer for Muslims: 'Let's take advantage of these last 10 nights as best we can. The first 20 days were just a warmup for these last'. Overall, these tweets served the Muslim community by supplying information about significant events, highlighting major Muslim heroes, and providing information about critical events that impact Muslims.

Action

Fundraising

In several topics nonprofits wanted their followers to do something on their behalf. For instance, like other organisations, Muslim nonprofits try to fundraise through social media and ask their followers to donate to their causes (topic 6: fundraising). The following tweet provided a good example: 'Less than 3 weeks away to our 13th annual fundraising gala and seats are filling up fast reserve your seat now purchase a table or purchase an ad or sponsorship on our website'.

Topic 17 (Ramadan fundraising) again focused on fundraising, but this time in the context of Ramadan. Ramadan is the month of fasting for Muslims, during which nonprofits raise most of their funds. Thus, it is natural that nonprofits will focus on fundraising at that time. As an illustration, note the following tweet about Ramadan fundraising: 'We are deeply grateful for your contributions to our 2018 Ramadan fundraising drive. All donations are zakat eligible and tax–deductible; please help us reach our 15 million goals'. Similarly, another tweet mentioned matching all donations dollar for dollar: 'Double your love during these last 10 days of Ramadan; a generous supporter will match donations dollar for dollar to ensure your love goes twice as far. Please donate generously to help us reach or exceed our #offthelistonthelove Ramadan Drive Goal'.

Religious acts

Unlike other nonprofits, religious organisations also desire to improve their followers' spiritual and temporal lives. Thus, it is natural that they will encourage their followers to do good acts. Interestingly, often they may not even mention religious reasons to do so. For instance, topic 2 (non-religious moral advice) supplied moral guidance on how individuals live their lives. The following are two good examples: 'We are often quick to judge someone because we think to ourselves, I would never do that; however, the reality is that we don't know for sure how we would behave in that same situation unless we are actually in it'. These tweets provided general moral advice about good acts without any particular religious text.

Other topics provided religious texts to give moral guidance. For instance, topic 4 (religious moral acts) used religious texts to guide actions and often encouraged followers to disseminate this information. The following tweet is a good example: 'Tafsir of Surah Taha Ayah 48 56 in-depth analysis of the Quran Learn Share with Others'. Tafsir means 'understanding', and Surah Taha Ayah is a subsection of the Quran. Thus, the nonprofit encouraged its followers to read and share this portion of the Holy Quran.

Similarly, topic 11 (religious actions) provided moral information about things individuals should be doing based on Muhammad's advice, his companions, and other prominent individuals. The following tweets narrated one of the companions of Muhammad and provided information concerning Islamic injunctions about how one should act: 'Ibn Abbas (RA) said the Messenger PBUH said perform hajj and umrah consecutively for they remove poverty and sin as the bellows remove impurity from iron (Nasa-i-Almaghrib)'. Overall, these tweets asked their followers to act religiously or morally on their behalf.

Advocacy

Muslim nonprofits also use their platform to advocate for social causes. As a minority often exposed to hate crimes and Islamophobia, Muslim nonprofits leverage their social media presence to highlight and raise a voice against Islamophobia. However, unlike earlier studies (Waters and Jamal, 2011; Svensson et al, 2015), in this study we found that advocacy formed a large portion of Muslim nonprofits' tweets. Several topics underlined the advocacy function of the Muslim–American nonprofit sector. For instance, in topic 8 (civil liberties advocacy), nonprofits advocated for Muslim Americans' civil rights issues. For example, in the following tweet, they took an explicit position toward justice: 'We believe that without justice, there is no freedom or liberty. #religiousfreedom #mlfa #clcma #supportjustice #buildlegalpower #freelegalservices criminal, civil immigration law center Muslims guilt by association American Muslims attorneys federal court justice'.

Similarly, in topic 9 (hate speech advocacy), we found that they spoke out against the hate speech faced by American Muslims. For instance, the following tweet asked an Islamophobic person to apologise: 'Unfortunately, this is not the first time she has shown Anti-Muslim bias publicly; this is not a slip of the tongue; it's a part of a

pattern we call on her to apologise on-air and MSNBC to ensure that steps are taken to end Anti-Muslim bigotry at the network'.

Similarly, the following tweet made a clear connection between right-wing conspiracies and Islamophobia: 'Right-wing conspiracies and Anti-Muslim bigotry go hand in hand. Anti-Muslim hate publication rebel news helped spread a false conspiracy about voting machines'.

Some of this advocacy highlighted issues faced by Muslims and other religious and racial minorities as well. The following tweet not only called out Islamophobia but also antisemitism and hate crimes against African Americans: 'CAIR condemns apparent death threat against squad urges capitol police to probe cair asks feds to probe shooting of a black man in la cair calls for the removal of the confederate statue from the hometown of black panther actor'.

Social justice

Similarly, Islamic charities leverage their social media to advocate for social justice issues (topic 15: social justice advocacy), including separating families at the border and accessing the English language and healthcare. For instance, this tweet talked about ending the Muslim ban and highlighted its problems: 'Stop separating families…. End the Muslim ban'.

Another tweet discussed healthcare access for people in New York City irrespective of their race and ethnicity. These tweets did not reference specific Muslim-American or immigrant issues but talked about the inequity prevalent in these communities: 'Ultimately, everyone benefits from language access by creating a more efficient, fair, and accessible system of care to keep all new Yorkers healthy #speakmylanguage #lostintranslation #languageaccesshealth'.

Peacebuilding

Another main area of advocacy is peacebuilding (topic 14: peacebuilding advocacy). These tweets encourage Muslims not only to use nonviolent methods but also to advocate peace in other parts of the world, for example, 'Anybody at cdia2015 focusing on peace and conflict resolution checks out our peace education program'.

Inclusion

Similarly, tweets in topic 19 (inclusion advocacy) focused on racial and religious inclusivity and Muslim-American voices: 'Farhan Latif as we need to inspire a generation of leaders philanthropists to join the nonprofit sector build a talent pipeline and to invest more time resources in building trust partnerships btwn people of faith no faith to work toward the common good'.

Results and discussion

We find that the tweets are proportioned on the following issues: 31.4% information, 59% action, and 10% community. Thus, the tweets focused predominantly

on fundraising (12.7%), advocacy (28.6%), and encouraging good religious actions (17.7%).

We could not find a topic that focused explicitly on response solicitation, a sub-category of action under the Lovejoy and Saxton (2012) framework. None of the tweets we assessed asked audiences for their opinion.

Although we did not find a separate topic for response solicitation, 59% of tweets by the nonprofits tagged at least one or more accounts. However, it is not clear that by tagging accounts, the nonprofits were soliciting response from these users.

Topic analysis

In addition to looking at the main nonprofit topics, we were also interested in ascertaining whether a particular organisation type was more likely to focus on specific topics. Additionally, we were interested in how organisational size (income) affected social media activities. The main advantage of STM was that it could incorporate document-level external covariates. It enabled us to estimate regression models that treat each identified topic's prevalence as an 'outcome variable' of the explanatory variables. To do so, we ran a regression where the outcome was the proportion of each document about a topic in an STM model (topic proportion).

Topic proportion refers to the probability that the topic belongs to the Tweet. As such, the sum of the topic proportions across all topics for a tweet is one. For instance, taking the examples we use in Figure 1 for the tweet: 'Farhan Latif as we need to inspire a generation of leaders philanthropists to join the nonprofit sector build a talent pipeline and to invest more time resources in building trust partnerships btwn people of faith no faith to work toward the common good'; the probability that the inclusion advocacy topic belongs to this tweet will be high (more than 0 but less than 1). However, the probability that another topic, for instance fundraising, belongs to this tweet will be very low (less than 1 but still not 0). Overall, the sum of topic proportions of each individual topics belonging to this tweet will be 1.

Each document was a tweet. Therefore, a tweet was the unit of analysis. We controlled for several Twitter account-level factors for the account that posted the tweet, including the number of tweets posted and favoured by the organisational account and the number of its followers. We also controlled for various factors at the tweet level, including whether the tweet had a hashtag, a picture, mention of other profiles, as well as the year in which the tweet was posted. The Twitter metadata contains this information. Additionally, we controlled for several organisational-level covariates, including the organisational revenue and organisational function category from NTEE codes (human services, disaster relief, international relief, civil rights, foundations or religious). We used organisational revenue as a proxy of the organisation's size. The IRS uses National Taxonomy of Exempt Entities (NTEE) Classification System to categorise nonprofits based on their main mission and service area.

We also used estimate effects to assess the impact of the organisational type on the tweet topic proportion. The following figures demonstrate the change in topic proportion of the different topics shifting from one specific value to another (say, from a tweet from a non-education organisation to an education nonprofit).[1] In these figures, the X-axis denotes the average change in topic proportion of a tweet based on the covariate. For instance, the topic proportion of the topic 'Action: religious

moral acts' increased 0.035 with a change in nonprofit category from non-religious charity to religious charity.

For instance, religious nonprofits are less likely to ask people to discuss moral acts without any religious connotation. Similarly, they are more likely to talk about religious acts. Interestingly, they are less likely to use Twitter for advocacy purposes.

In contrast, international nonprofits are more likely to use Twitter to supply information about humanitarian crises abroad. They are also less likely to use Twitter for advocacy purposes. Again, this is their primary work, and therefore it suggests that these organisations use social media for this purpose.

We could not discern a specific pattern for education nonprofits. However, we found that they are more likely to focus on inclusion and advocacy against hate speech. Similarly, they were more likely to provide moral advice without any religious mention. Interestingly, they were also less likely to focus on social justice advocacy, suggesting that some organisations may be more likely to support certain kinds of advocacy over others.

Impact of organisational size

Additionally, we looked at another significant organisational characteristic: organisational size or income. We controlled for the organisational size according to their revenue. We found that larger organisations were less likely to use Twitter for fundraising. We found that, based on the regression, topic proportion of fundraising topic reduced with size of the nonprofit. It may be possible that organisations with successful fundraising strategies in the offline world are less likely to use social media for these purposes. Further research is needed to address this issue.

Discussion

Research on nonprofits primarily focuses on large organisations or secular nonprofits. This paper contributes to this literature by focusing on smaller nonprofits belonging to religious minorities. Social media sites such as Twitter provide these organisations with an opportunity to make their voices heard and engage with a diverse audience.

Overall, we find that Muslim–American nonprofits conventionally use social media for information, community, and action messaging. However, these nonprofits also utilise social media to encourage religious practices and strongly advocate for Muslim rights. We also find that organisational identity affects social media framing, as organisational type affects the topics these organisations pick to support social media. Moreover, organisational size affects social media activity, as smaller organisations are more likely to use social media for fundraising purposes.

One of this study's significant findings is that there is a prevalence of tweets encouraging their followers to act more religiously and morally. The frequency of such messages supports the notion that religious organisations use Twitter to spread their message. This action is vastly different from earlier research, where most organisations encouraged their followers to act on their behalf (Lovejoy and Saxton, 2012; Guo and Saxton, 2014), but not specifically in a religious manner.

These tweets are substantial (18%), suggesting that Twitter is a tool to promote their religious beliefs.

Another significant finding is that these organisations use Twitter for advocating for Muslim rights (28.6%), which suggests they are using Twitter to raise awareness about the problems they face. This finding suggests that Twitter is a tool for minorities and underrepresented groups to voice their concerns.

Third, our findings suggest that smaller organisations are more likely to use Twitter for fundraising than larger ones. This finding supports earlier research that discusses whether Twitter and other social media channels enable smaller organisations to compensate for their size (Saxton and Wang, 2014).

This study has certain limitations. First, while unsupervised machine-learning methods are very useful for finding main themes, we suggest that supervised machine-learning methods be used in future research to delve deeper into coding tweets and discovering more themes. Similarly, this research is based on a sample of Muslim charities from IRS data. Thus, probably some Muslim charities are not categorised. Third, the study focused only on Muslim charities. Future research needs to look at other racial and religious minorities and compare them to other organisations.

Theoretical implications

The findings in our study also facilitate theory building on the adoption and use of social media among religious organisations by looking at how organisational resources impact fundraising solicitation. The annual revenue was significantly associated with Twitter in Muslim revenues. It suggests that organisational size does impact fundraising solicitations on social media. However, the fact that smaller organisations were more likely to fundraise than larger organisations on social media suggests that they are trying to use Twitter to reduce some of their constraints.

Thus, this research adds to the recent embrace of nonprofit research in machine learning to study social media data (Guo and Saxton, 2020). Machine learning offers great promise for exploring the social media communication strategies of the nonprofit sector.

Practical implications

These findings also have important practical implications for religious organisations and minorities that face a high level of discrimination. These nonprofit organisations can leverage the tools discussed here to advocate for social causes and highlight the issues that religious and racial minorities face. The organisations can use these tools to connect with their audience and inform them about religious issues, as well as encourage them to partake in religious actions. Additionally, they can use these forums to highlight the issues of discrimination faced by their religious groups.

Future research and the resulting literature need to take a broader look at faith-based organisations' use of social media, including majority religious groups such as Christian faith-based organisations in the US and other minorities such as Jewish Americans, as well as how other organisations address social justice issues through the use of social media.

Figure 4: Change in topic proportion as a result of change from non-religion to religion-focused nonprofits
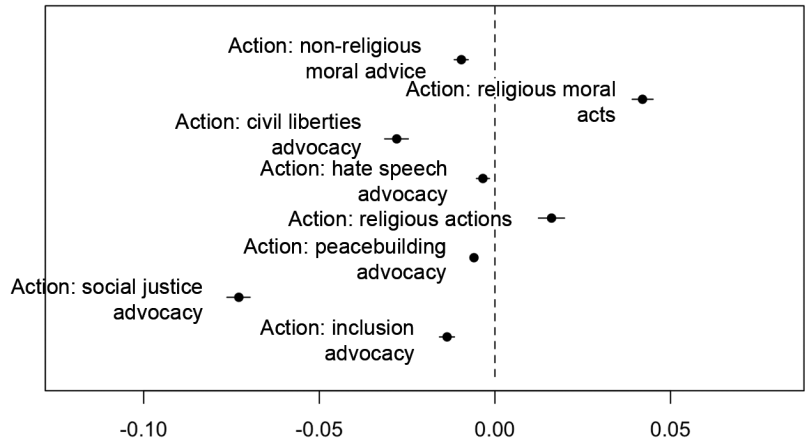

Figure 5: Change in topic proportion as a result of change from non-international to international-focused nonprofits
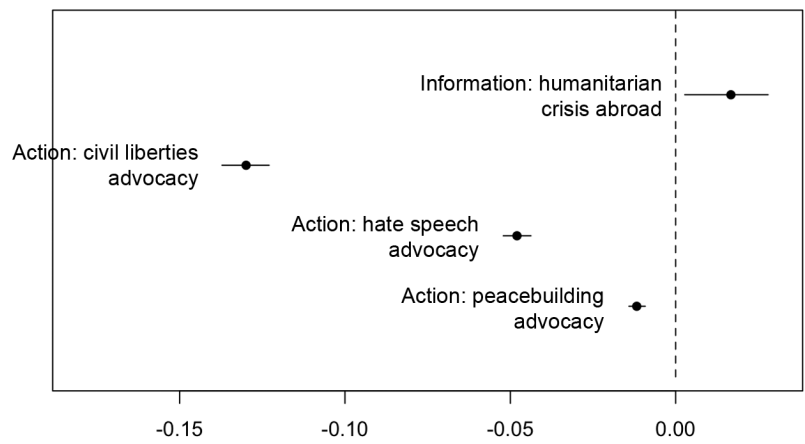

Figure 6: Change in topic proportion as a result of change from non-education to education-focused nonprofit (NTEE Category B)
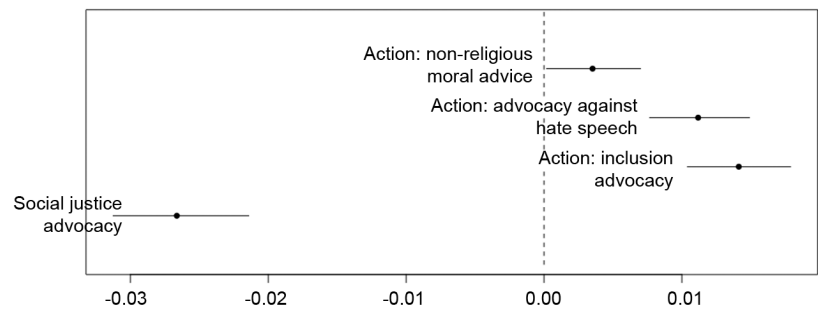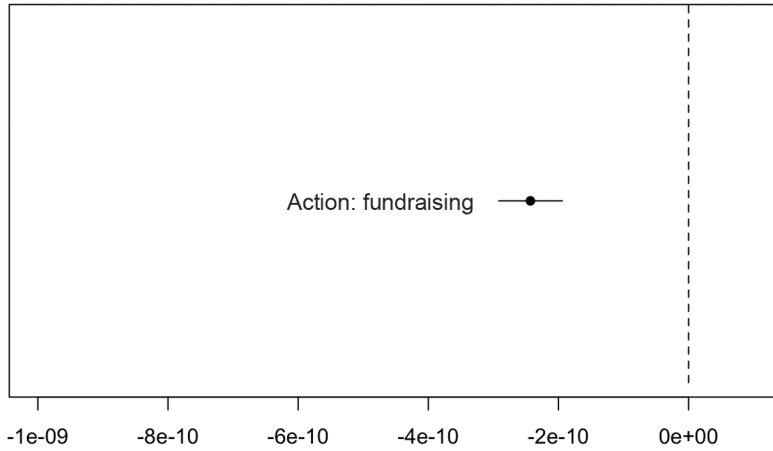
Figure 7: Change in topic proportion as a result of increase in nonprofit revenue

Note

[1] Figures 4, 5, 6, and 7 plot the change in topic proportion when shifting from one specific value to another. For instance, Figure 6 plots the change in expected topic proportion when shifting from a binary variable non-religious (not categorised under NTEE category X) to a religious nonprofit (nonprofit categorised under NTEE category X). It shows that the topic proportion of topics religious moral acts and religious actions increase significantly with a shift from a non-religious category nonprofit to a religious nonprofit. For more information, please refer to https://cran.r–project.org/web/packages/stm/vignettes/stmVignette.pdf.

Conflict of interest
The authors declare that there is no conflict of interest.

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