Organizational communication on Twitter: Differences between non-profit and for-profit organizations in the context of climate change

Kim Holmberg & Iina Hellsten

Abstract

Twitter as a socio-technical platform provides organizations with new ways to reach their stakeholders. In this paper, we compare the use of Twitter specific affordances – such as hashtags, mentions of usernames and sharing of URLs along the tweets in a sample of 1520 tweets sent by 16 profit organizations, and 1042 tweets sent by 18 non-profit organizations in the context of climate change debate. We also compare the use of Twitter for information sharing, engaging in the community and calls-for-action (Lovejoy & Saxton 2012) between the organizations. Our results show that non-profit organizations used Twitter more for engaging in community than profit organizations whose tweets were almost completely (96%) about information sharing. Non-profit organizations shared more hashtags than profit-organizations, in particular hashtags related to campaigns and events. We can conclude that the two types of organizations used Twitter specific affordances differently to reach their targeted audiences.

1. Introduction

Earlier studies about organizational communication on the web in general, and in social media in particular, have mainly focused on how these forums are being used as communicative tools to reach organization's stakeholders (Waters & Yamal 2011; Lyon & Montgomery 2013; Werder, Helms & Slinger, 2014), and as a way to enhance activism (Segerberg & Bennett 2011; Vromen, 2015). Specifically research into how for-profit organizations use social media have focused on marketing efforts (e.g., Davidson & Keup 2014; Gretzel & Yoo 2014), while research about non-profit organizations have involved use of social media sites to engage and activate people in various campaigns and movements

or to try to engage people in the organizational goals (e.g., Auger 2013; Guo & Saxton 2014).

One of the web-based tools to communicate with stakeholders is Twitter that allows for sending of short, 140-character long messages. Twitter facilitates specific type of affordances that both enable and restrict its social uses (Foot & Schneider, 2006), such as the technical options to re-tweet messages, the use of hashtags to indicate shared interests, the option to disseminate URLs as well as mentioning of other usernames. In this paper, we will compare the use of Twitter-specific affordances in a sample of profit and non-profit organizations' tweets in the context of climate change.

Environmental, 'green' values have become increasingly important for organizations' public image (Lyon & Montgomery 2013), and hence these values are communicated to the general publics in different ways. Social media has an increasingly important role in organizational communication, as companies and non-profit organizations are using social media sites such as Facebook and Twitter to interact with their stakeholders (Guo & Saxton, 2012; Inauen & Schoneborn, 2014), to promote their products, services and agendas (Fischer & Reuber, 2014), and to enhance the corporate image by communicating their 'green values' to the general public (Reilly & Hynan, 2014). One way of communicating these values is to take part in the climate change debate in social media. In particular, Twitter, being a platform for rapid short messages that can potentially spread very quickly through social connections, has become an important tool to engage with the publics and the stakeholders, as well as to share and receive information about the organizations' key activities.

In recent years, the use of Twitter has gained increasing attention in public relations research as potentially enhancing 1) interaction between the organization and its public (e.g. Saffer et al. 2013), 2) engagement with stakeholders (Lovejoy et al., 2012), and 3) updates of organizational information (Waters & Yamal 2011). Twitter use in climate change debate has been analysed both at the level of individual Twitter users (Pearce et al. 2014) and as tools for organizing activism around climate change (Segerberg & Bennett 2011).

Lovejoy and Saxton (2012) developed a codebook to capture the different types of communicative strategies organizations have on Twitter. These different types of strategies and activities were: information sharing, community building and call for action. Messages that clearly disseminated some information from online sources and that did not contain any additional commenting or recommendations by the tweeter were coded as information sharing. Community building messages contained responses to earlier messages, gave recognition or thanks to someone, or acknowledged some upcoming events. The calls for action were promotional messages encouraging others to participate in an

event or a campaign of some kind, they requested donations or volunteers, or they were lobbying for something and asking people to participate. In their study Lovejoy and Saxton (2012) discovered that almost 60% of the tweets by nonprofit organizations were related to information sharing, while about 25% were related to community building, and about 15% called for participation and action.

We focus on how for-profit and non-profit organizations use Twitter to engage in the climate change debate. Climate change debate provides organizations a way to engage in communicating green values. We will investigate how a sample of for-profit organizations (such as clean energy or sustainable building companies) and non-profit organizations (such as organizations campaigning to raise awareness about climate change) use Twitter as part of their communicative strategies and whether they actively use Twitter to enhance their corporate image. The overall research question of this study is, how are non-profit and for-profit organizations participating in the climate change debate on Twitter? We will seek to answer this question by comparing the use of Twitter specific affordances, and the communication strategies in a sample of profit and non-profit organizations who participated in the climate change debate in Twitter.

We describe first our data set and methods, including example tweets of our coding. We then proceed to our results, and conclude with discussion of the relevance and importance of our findings and pointing avenues for further research interested in the use of Twitter for organizational communication.

2. Data and methods

From a dataset of over 1 million tweets containing the words “climate change” collected through Twitter’s API between October 26, 2013, and January 10, 2014, we retrieved a sample of tweets sent by Twitter accounts that could be identified as for-profit companies or non-profit organizations. The sample consisted of 1,520 tweets sent by 16 companies and 1,042 tweets sent by 18 non-profit organizations. It should be emphasized that all the tweets collected contained the words “climate change”, which means that the selected organizations could have participated in the climate change debate without explicitly mentioning “climate change” in their tweets and those tweets would not have been collected. We used a random sample to include both smaller and larger organizations that tweeted about the climate change. The organizations selected for this study represent a wide variety of organizations interested in climate change.

From the tweets the hashtags, usernames and the URLs were extracted and analyzed separately. The short URLs shared in tweets were first converted into full URLs with Webometric Analyst (Thelwall, http://lexiurl.wlv.ac.uk/). Spearman rank correlations were calculated to see how the two groups differ in their use of specific affordances on Twitter.

A more qualitative approach was taken in order to gain a deeper understanding of content of the tweets and about how the organizations use Twitter as part of their communicative strategy. The tweets were coded into 3 categories, following a coding developed by Lovejoy and Saxton (2012). A typical tweet about engaging the community sent by a non-profit organization is: "M*ake your voice heard. Share your climate change story. http://t.co/XEq4wyQ6RJ #Action4Climate #climate"* while a Tweet coded as a call for action is: "*We support the Philippines' Climate Change Commissioner Yeb Sano's plea. Do you? http://t.co/oy83jw2XrZ http://t.co/ucvxXbz4Gl"* and a typical tweet where information is being shared: "*UK Prime Minister Cameron on climate change increasing the risk of extreme weather http://t.co/4jfOuKWEz6 via @kellyrigg".*

The coding was conducted by the authors and inter-coder agreement was assessed with the standard Cohen's Kappa (Neuendorf 2002). First a small set of tweets were coded as a pilot study and the results were discussed, in order to increase the accuracy of the actual coding.

3. Results

How the for-profit and non-profit organizations used the various affordances of Twitter varied greatly. In the tweets sent by for-profit organizations only 7% of the tweets contained a username (73 unique usernames that were mentioned 109 times), while 55% of the tweets sent by non-profit organizations contained a username (406 unique usernames that were mentioned 573 times). This shows that non-profit organizations were clearly more active in targeting specific users with their tweets, while for-profit organizations rarely mentioned other usernames in their tweets. This may indicate that the non-profit organizations used Twitter more for communicative purposes compared to for-profit organizations. A negative Spearman correlation of -0.397 ($p<0.0001$) between the usernames mentioned by both groups shows that the usernames mentioned differ significantly, meaning that the two types of organizations reach out to very different user groups.

There were also differences in the use of hashtags by the groups. About 20% of tweets sent by for-profit organizations contained a hashtag (71 unique hashtags mentioned 313 times), while about 41% of the tweets sent by non-

profit organizations contained a hashtags (102 unique hashtags mentioned 423 times). A negative Spearman correlation of -0.593 ($p<0.0001$) between the hashtags used by both groups showed that the groups use very different hashtags. A closer look at the hashtags reveals that the most frequently used hashtags by for-profit organizations were related to climate change in general (e.g., #climatechange), those influenced by climate change (e.g., #wildlife, #food, #ocean) and to various alternative energy solutions (e.g., #CleanEnergy, #RenewableEnergy, #SolarEnergy). The most frequently used hashtags by non-profit organizations were mainly connected to specific campaigns, movements or events related to climate change (e.g., #climsec2013, #Action4Climate, #act-nowPH, #COP19) (Table 1).

Table 1. Fifteen most frequently used hashtags by for-profit and non-profit organizations

Hashtags mentioned by for-profit organizations	**n**	**Hashtags mentioned by non-profit organizations**	**n**
#climatechange	74	#climsec2013	54
#FPG	49	#climate	49
#CleanEnergy	27	#Action4Climate	35
#COP19	15	#actnowPH	21
#RenewableEnergy	14	#COP19	16
#wildlife	12	#c4cMovement	10
#ClimateDeclaration	7	#ClimateThanks	8
#conflict	7	#IPCC	8
#Climate	5	#UniteBlue	8
#Israel	5	#climatechange	7
#SolarEnergy	5	#CostOfCarbon	7
#climatethanks	4	#gender	7
#food	4	#HISF2013	7
#Ocean	4	#IAMPROSNOW	7
#Seabirds	4	#SFU	7

Both for-profit and non-profit organizations shared URLs frequently. In both groups almost every tweet contained a URL and some contained two or more, indicating extensive use of Twitter for information sharing. In the 1,520 tweets

sent by companies there were a total of 1,558 URLs. The two most frequently shared URLs were both shared 7 times (http://www.nbcnews.com/ and http://blogs.adb.org/chats/facing-natures-wrath-dealing-climate-change-and-its-effects), showing that none of the URLs were significantly more shared than the others. Organizations shared a total of 957 URLs in a total of 1042 tweets. Among these two specific URLs were clearly more popular than the others: http://ourhorizon.org/wp-content/uploads/2013/11/Our-Horizon-in-New-York.pdf and http://www.connect4climate.org/competition/action4climate were shared 56 times and 20 times respectively. The remaining URLs were shared 8 or fewer times. In both cases the URLs showed that news sharing is an important activity on Twitter, as URLs to news articles on sites such as Guardian, Huffington Post and Washington Post were frequently shared. However, a strong negative Spearman correlation of -0.822 ($p<0.0001$) between the full URLs indicate that the two groups shared very different types of stories. When comparing the domains only (in contrast to full URLs) the same trend remains, as the Spearman correlation between the domains shared was -0.397 ($p<0.0001$).

When coding the tweet content into information sharing, community reaching and calling for action the intercoder reliability was measured with Cohen's Kappa. For the sample of tweets from for-profit organizations Cohen's Kappa was measured as 0.742. A total of 96% of the tweets in the sample were coded as information sharing, and only 2% were coded as community engaging and as calling for action each. In the sample of non-profit organizations, a total of 68% of the tweets were coded as information sharing, while 17% were coded as engaging the community and 15% as calls for action. The inter-coder agreement was calculated with the standard Cohen's Kappa to 0.663.

Table 2: Communication strategies in Twitter use by for-profit and non-profit organizations

	Information sharing	Engaging community	Call for action	Chi-square	Cohen's Kappa
For-profit organizations	96 %	2 %	2 %	115.5	0.742
Non-profit organizations	68 %	17 %	15 %	85.2	0.663

We also compared the most frequently used words in the tweets between profit and non-profit organizations. Table 3 contains a list of the 25 most frequently used by both groups. While profit organizations used words that clearly indicate that the tweet content is mainly news items being shared, non-profit

organizations focused more on tweeting about issues related to security and endorsing action.

Table 3: The 25 most frequently used words by non-profit organizations and for profit companies

Non-profit organizations	n	For-profit organizations	n
can	76	news	104
action	62	guardian	73
climsec	54	energy	70
will	54	new	66
new	52	will	66
security	46	post	65
nyc	36	global	57
talk	36	says	56
now	33	fpg	49
global	32	times	49
impacts	32	blog	46
love	31	obama	46
people	31	huffington	45
national	29	study	45
make	27	world	45
week	27	can	44
risk	26	report	42
share	25	warsaw	42
energy	24	business	40
help	23	action	36
one	23	amp	36
pls	23	un	35
story	23	weather	35
world	23	may	33
tackle	22	science	32

The results of the content of the tweets supports the results showing that profit and non-profit organizations differ in how they use Twitter specific affordances, with profit organizations mainly using Twitter for information dissemination instead of engagement with the stakeholders. This calls for more research that compares the social media strategies of profit and non-profit organizations.

4. Discussion

Our results show systematic differences between profit and non-profit organizations Twitter use in the context of climate change debate. First, profit and non-profit organizations use Twitter specific affordances differently: Non-profit organizations mention significantly more often usernames and hashtags in their tweets than profit organizations, while both use URLs almost in every tweet. Non-profit organizations are more active in targeting others on Twitter. In addition, non-profit organizations use hashtags linked to campaigns and climate related events, while profit organizations preferred hashtags related to climate change in general, areas influenced by climate change and various energy solutions.

In addition, we found significant differences in the use of Twitter specific affordances between the profit and non-profit organizations. The differences were discovered in the usernames mentioned (-0.397 Spearman, $p<0.0001$), hashtags used (-0.593, $p<0.0001$) and in the noun phrases that were extracted from the tweets (-0.311, $p<0.0001$). The moderate negative Spearman rank correlations show that the two groups of tweeters used the Twitter affordances very differently. This calls for further research into the underlying communication strategies of these two types of organizations.

Profit and non-profit organizations also use Twitter according to different communication strategies. Non-profit organizations use tweets more often for community-building and calls-for-action than profit organizations that mainly use twitter for information sharing. Our results are fairly consistent with the results by Lovejoy and Saxton (2012), and seem to imply a systematic difference in Twitter use across the two types of organizations. Coding of a sample of tweets showed that while for-profit organizations focused clearly more on sharing news about climate change and by doing so showing their engagement in the issue, non-profit organizations used Twitter also to activate people and for community building.

This systematic difference in Twitter use has implications for further research comparing profit and non-profit organizations' Twitter use in other cases

than the climate change debate. Does this difference present a more systematic way of using social media for one-way communication by profit organizations and for more interactive communication by non-profit organizations?

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