How do corporate actors communicate their emerging technology? Exploring Twitter messages by AI chatbot companies and their individual representatives

Saymin Lee
Ph.D. Candidate
Department of Communication
University of Maryland

Abstract

This report presents how corporate actors, including companies and their individual representatives, communicate their emerging technology. Twitter messages from the corporate actors in the AI-chatbot industry were analyzed. The results revealed that their messages, especially those from individual representatives, served not just to promote their technology but also to address it as a 'wicked' problem and open public discussions. The findings guide the strategizing of individual representatives' social media channels to facilitate public discussions that address the 'wickedness' of emerging technology.

Background

We are witnessing the emergence of new technologies that have the potential to transform our daily lives and society. These emerging technologies are often considered 'wicked' problems due to the complex societal challenges they introduce, which lack straightforward solutions (Wirz et al., 2020). The recent advent of AI-powered chatbots, for instance, has raised the issues about their responsible development and ethical use. In the meantime, PR has been spotlighted as a key to address wicked issues, as it can facilitate public discourse where diverse actors advance multiple approaches to resolve the issues (Capizzo, 2023; Roper & Hurst, 2019; Willis, 2016). For the successful integration of emerging technology, such PR efforts to foster public discussions on the 'wickedness' of the technology are also required.

Historically, companies have strategized mass media coverage to favorably present their technologies. However, as social media reshapes the communication landscape, their communication practices have the potential to evolve, fostering public discourse even on the wickedness of their technologies. Corporate representatives (e.g., CEOs), in particular, can spark public discussions using their strong online presence and present varied framings of the technology while being on their personal social media accounts. One of the examples is the Twitter thread driven by Sam Altman (2022), CEO of OpenAI, where both the limitations and strengths of the current ChatGPT were discussed, highlighting its ongoing development.

This report delves into such potential by analyzing Twitter messages from corporate actors, including companies and individual representatives, about their emerging technologies. It further investigates the varied communicative impact and engagement driven by these messages. The findings guide how corporate actors strategize both their institutional and personal social media to initiate and expand public discourse on their emerging technology, especially to address the wickedness of their technologies.

Research Questions

The purpose of this report is to identify the social media communication practices of companies and their individual representatives, in the context of AI-chatbot technology. This involves analyzing the topics, frames, and purposes of the Twitter messages related to AI-chatbot technology from both companies and individual representatives. Specifically, it seeks to answer the following questions:

(1) How do message topics, frames, and purposes differ between companies and their individual representatives?
(2) How do the communicative effects (e.g., reach) of the Twitter messages vary by message author, topics, frames, and purposes?

Method

Data

Three major companies were selected due to their leadership in the AI chatbot industry: *OpenAI*, *Microsoft*, and *Google*. Individual representatives from each company held chief positions, such as CEO or CTO. A total of 10 Twitter accounts of companies and individual representatives, as shown in Table 1, were scrutinized for the study.

Table 1. AI-chatbot companies and individual representatives selected for the study

AI chatbot	Twitter accounts	
	Company	Individual representatives
ChatGPT	@OpenAI	@sama (Sam Altman, CEO); @gdb (Greg Brockman, President)
Bard	@Google	@sundarpichai (Sundar Pichai, CEO); @JeffDean (Jeff Dean, AI Chief)
Bing Chat	@bing; @Microsoft	@satyanadella (Satya Nadella, CEO); @yusuf_i_mehdi (Yusuf Mehdi, CVP)

Using Brandwatch, a social media listening platform, Twitter messages from the corporate actors were collected. A query was set to extract only the messages about AI-chatbot technology. See Appendix for the search keywords used in the query. The timeframe was set from November 2022 to August 2023[1]. The total number of collected Twitter messages (tweets, retweets, or replies) was 2,156. Along with the author and the text of each Twitter message, social media metrics such as the number of likes or replies for each message were collected. Brandwatch also provided information on the influence metrics of each message, such as 'impressions', 'reach', and 'impact'[2].

Coding

To identify message topics, frames, and purposes, a coding scheme for content analysis was developed based on emerging technologies literature. Categories for the message topic include technology development, application, and control. Categories for the message frame include risk and benefit framing. The purpose of the message was coded to determine if it aimed to initiate public discussions on the technology ('deliberative engagement'; Roper & Hurst, 2019), promote the organization or the product/service, or other purposes. If the message addressed the wickedness of the technology, it was coded based on whether it acknowledged uncertainty, diverse actors, or multiple voices (Capizzo, 2023; Roper & Hurst, 2019), or plotted future solutions or outcomes (scenario building; Roper & Hurst, 2019). Preliminary coding was conducted to refine the coding scheme and include additional necessary categories. Table 2 outlines the final coding scheme used for content analysis.

Table 2. Coding scheme

Category	Description
I. Message topics	
1) Product/service updates	Updates on the product or service (i.e., AI chatbot)
2) Scientific developments	Developments or events in the AI field; Not product-specific
3) Daily application	Daily or personal use of the AI chatbot
4) Societal impacts	Impacts of the AI chatbot technology on society (e.g., as a solution for societal problems)
5) Rules/systems	The development and application systems of the AI chatbot technology (e.g., safety regulations)
6) Regulations/control	Need for regulations or control for the technology

[1] ChatGPT was launched on November 30, 2022, sparking active discussions about AI-chatbot technology. Accordingly, the timeframe was set to collect messages from November 2022 to the present (i.e., August 2023).

[2] 'Impressions' refers to the potential number of times the message has been seen. 'Reach' denotes the number of unique audiences who have viewed the message. 'Impact' assesses both the potential for the message to be viewed and the extent to which the message has been seen and shared (Brandwatch, n.d.).

7) Ethics	Ethical issues or questions about AI chatbots
8) Others	Topics other than 1-7
II. Message frames	
1) Risk	Covering only risks; Risk-oriented
2) Benefit	Covering only benefits; Benefit-oriented
3) Both	Covering both risks and benefits
4) Neutral	Covering neither risks nor benefits
III. Message purpose	
1) Product promotion	Promoting the company or its product/service (i.e., AI chatbot)
2) Technology promotion	Promoting the AI chatbot technology in general; not product-specific
3) Deliberative engagement	Throwing discussion agendas or initiating public discussions
4) Social media interaction	Engaging with the public (e.g., responding to messages, entertaining) without sparking deliberative discussions
5) Others	Purposes other than 1-4
IV. Addressing wickedness	
1) Acknowledging uncertainty	Recognizing the uncertainty of the AI chatbot technology (e.g., no simple solutions)
2) Acknowledging diverse actors	Recognizing diverse actors involved in the AI chatbot technology, including the public
3) Acknowledging multiple voices	Recognizing various views about the AI chatbot technology, including either dissenting or supporting voices
4) Scenario building	Taking a future-oriented stance, plotting potential solutions or outcomes
5) Not applicable	Not addressing wickedness

A pilot content analysis was conducted using a random subset of the sample. In this analysis, a total of 272 Twitter messages (representing approximately 12.6% of the sample) were coded. Note that this report presents the results of the pilot content analysis.

Key Findings

To identify differences in message topics, frames, or purposes between companies and individual representatives, chi-square tests were conducted. There were significant differences in featuring messages about AI-chatbot technology between companies and individual representatives.

1-1. The topics of technology-related messages varied between companies and individual representatives.

Companies' messages primarily discussed AI-chatbot technology with the focus on their products, whereas individual representatives also addressed the societal implications of the technology.

Message topics differed between companies and individual representatives: $\chi^2[6, 217] = 54.15$, $p < .001$. As shown in Table 3, the most frequent topic companies addressed in their messages was the daily application or personal use of AI-chatbot technology ('daily application': $n = 70$, 43.2%), followed by updates on their product or service ('product/service updates': $n = 63$, 38.9%). While companies frequently addressed the technology at the product-specific level (i.e., their AI chatbots), they seldom touched upon AI-chatbot technology from a broader societal perspective. For instance, topics like ‘scientific developments’ and ‘societal impacts’ of the technology were mentioned in only 3.7% ($n = 6$) and 6.2% ($n = 10$) of companies’ messages, respectively. However, individual representatives often addressed ‘scientific developments’ ($n = 25$, 22.9%) and ‘societal impacts’ ($n = 15$, 13.8%) in their messages, while they also mentioned ‘product/service updates’ ($n = 31$, 28.4%) and ‘daily applications’ ($n = 17$, 15.6%).

Table 3. Message topic frequencies by companies and individual representatives

Message topic	Companies	Individual representatives
1) Product/service updates	63 **(38.9%)**	31 **(28.4%)**
2) Scientific developments	6 (3.7%)	25 **(22.9%)**
3) Daily application	70 **(43.2%)**	17 (15.6%)
4) Societal impacts	10 (6.2%)	15 (13.8%)
5) Rules/systems	3 (1.9%)	12 (11%)
6) Regulations/control	0 (0%)	1 (0.9%)
7) Ethics	0 (0%)	0 (0%)
8) Others	10 (6.2%)	8 (7.3%)

1-2. Message framing also varied between companies and individual representatives.

While companies and individual representatives were benefit-oriented in mentioning AI-chatbot technology, individual representatives sometimes addressed both benefits and risks.

Message frames differed between companies and individual representatives: $\chi^2[3, 217] = 18.29$, $p < .001$. Both companies and individual representatives featured benefits of the technology more than risks. However, as shown in Table 4, individual representatives occasionally addressed both risks and benefits of the technology ($n = 14$, 12.8%), whereas companies rarely touched upon both ($n = 2$, 1.2%).

Table 4. Message frame frequencies by companies and individual representatives

Message frame	Companies	Individual representatives	χ^2	*Df*	*P*
1) Risk	0 (0%)	1 (0.9%)	0.04	1	0.84
2) Benefit	62 (38.3%)	42 (38.5%)	0.00	1	1
3) Both	2 (1.2%)	14 (**12.8%**)	13.79	1	< .001
4) Neutral	98 (60.5%)	52 (47.7%)	3.81	1	0.05

1-3. The purposes of messages varied between companies and individual representatives.

While companies primarily focused on product promotion, individual representatives also aimed to open public discussions on AI-chatbot technology and to promote the technology as a whole.

Message purposes differed between companies and individual representatives: $\chi^2[4, 217] = 80.85$, $p < .001$. As shown in Table 5, companies primarily used their messages to promote their products or services ('product promotion': $n = 94$, 58%) or to engage with their social media audiences, such as by responding to audience comments ('social media interaction': $n = 55$, 33.9%). Meanwhile, individual representatives sometimes used their Twitter messages to initiate discussion agendas and open public discourse on AI-chatbot technology ('deliberative engagement': $n = 24$, 22%) and to promote the technology at large ('technology promotion': $n = 21$, 19.3%), while also promoting their specific products ('product promotion': $n = 51$, 46.8%).

Table 5. Message purpose frequencies by companies and individual representatives

Message purpose	Companies	Individual representatives
1) Product promotion	94 **(58.0%)**	51 **(46.8%)**
2) Technology promotion	9 (5.6%)	21 **(19.3%)**
3) Deliberative engagement	2 (1.2%)	24 **(22.0%)**
4) Social media interaction	55 **(33.9%)**	3 (2.8%)
5) Others	2 (1.2%)	10 (%)

1-4. The way of addressing technology as a wicked issue also varied between companies and individual representatives.

Individual representatives further addressed AI-chatbot technology as wicked issues, acknowledging uncertainty and adopting a future-oriented approach to plot potential solutions.

The ways in which corporate actors acknowledged and addressed the wickedness of AI-chatbot technology in their messages differed between companies and individual representatives: $\chi^2[4, 217] = 54.99$, $p < .001$. Companies seldom addressed the technology as a wicked issue. However, as shown in Table 6, individual representatives occasionally addressed the wickedness of AI-chatbot technology by acknowledging the scientific or societal uncertainty of the technology ('acknowledging uncertainty': $n = 16$, 12.8%), plotting potential outcomes or solutions from a future-oriented view ('scenario building': $n = 17$, 13.6%), or acknowledging the diversity of actors ('acknowledging diverse actors': $n = 4$, 3.2%) and the multiplicity of views ('acknowledging multiple voices': $n = 5$, 4%).

Table 6. Wickedness acknowledgement frequencies by companies and individual representatives

Addressing wickedness	Companies	Individual Representatives
1) Acknowledging uncertainty	0 (0%)	16 (12.8%)
2) Acknowledging diverse actors	1 (0.6%)	4 (3.2%)
3) Acknowledging multiple voices	0 (0%)	5 (4.0%)
4) Scenario building	2 (1.2%)	17 (13.6%)
5) Not applicable	160 (98.2%)	83 (66.4%)

Kruskal-Wallis tests by ranks[3] were conducted to compare the communicative effects of messages (e.g., reach or the number of likes) 1) between companies and individual representatives and 2) across message content. Additionally, Wilcoxon tests were performed to reveal pairwise differences.

2-1. Overall, messages from individual representatives showed greater communicative effects than those from companies.

Messages from individual representatives had greater communicative effects than company messages.

First, there was a significant difference in the message impact between companies and individual representatives ($H[1] = 4.56$, $p = .03$). The 'impact' metric for messages from individual representatives was statistically higher than for companies. Second, the 'reach' metric for messages from individual representatives also exceeded that of companies, and this difference was also significant ($H[1] = 10.48$, $p = .001$). Additionally, there were statistical differences in the number of likes (Kruskal-Wallis χ^2 [1, 271] = 57.37, $p = .001$) and replies ($H[1] = 45.55$, $p = .001$) that messages received. Messages from individual representatives earned a greater number of likes and replies compared to those from companies. See Table 6 for the mean of each communicative effect for both companies and individual representatives.

Table 6. Communicative effects between companies and individual representatives

		Impact[1]		Reach[1]		Likes		Replies	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Companies	162	78.8	13.0	163,449	326,685	585	2,239	52.8	187
Individual representatives	109	**81.2**	**13.2**	**253,405**	**398,829**	**1,745**	**3,222**	**117**	**212**

[1] Brandwatch metrics

[3] The Kruskal-Wallis test is a non-parametric statistical test, also called the one-way ANOVA on ranks. Since the data for this report did not meet the assumption of homogeneity of variance required for ANOVA tests, the Kruskal-Wallis tests were employed for analyses.

2-2. Communicative effects of messages differed across message topics.

Topics at the societal level, such as 'scientific developments' or 'societal impacts' showed greater communicative effects than a product-specific topic such as 'daily application.'

There were significant differences in the communicative effects (i.e., message impact, reach, likes, replies) across eight message topics. First, the impact metric for messages differed by the topics: $H[6] = 30.2$, $p < .001$. Specifically, when compared to the product-specific topic 'daily application,' the impact for the topics at the societal level such as 'scientific developments,' 'societal impacts,' and 'rules/systems' were significantly greater at $p < .001$. Second, the reach metric for messages also showed a statistically significant difference: $H[6] = 29.66$, $p < .001$. Similar to the impact metric, the reach metrics for 'scientific developments,' 'societal impacts,' and 'rules/systems' were significantly greater than 'daily application' at $p < .001$. Lastly, the number of likes ($H[6] = 19.24$, $p = .004$) or replies ($H[6] = 17.26$, $p = .008$) also varied across message topics. Specifically, compared to the topic 'daily application', the number of likes or the number of replies were significantly greater when the topics were 'scientific developments' or 'societal impacts' at $p < .05$. See Table 7 for the mean of each communicative effect by message topic.

Table 7. Communicative effects across message topics

		Impact[1]		Reach[1]		Likes		Replies	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1) Product/service updates	94	80.4	14.7	256,062	423,403	1,484	3,501	97.3	205
2) Scientific developments	31	**83.2**	14.2	**211,431**	230,512	**1,334**	2,255	**86.3**	135
3) Daily application	87	74.3	9.43	82,618	118,835	302	1,160	20.5	63.6
4) Societal impacts	25	**87.1**	11.9	**218,659**	286,119	**733**	1,269	**84.9**	183
5) Rules/systems	15	**86.6**	7.88	**176,708**	127,700	691	819	64.5	75.8
6) Regulations/control	1	96.7	-	751,512	-	2,807	-	437	-
7) Ethics	0	-	-	-	-	-	-	-	-
8) Others	18	80.2	13.4	412,188	789,092	2,572	5,096	229	497

[1] Brandwatch metrics

In the meantime, no statistically significant difference was found in the communicative effects across risk and/or benefit frames.

2-3. Communicative effects of messages also differed across message purposes.

Messages to initiate 'deliberative engagement' showed greater communicative effects, such as the number of likes and replies, than other messages did.

There were significant differences in the communicative effects (i.e., message impact, reach, likes, replies) across five message purposes. First, the impact metric for messages differed by the purposes: $H[6] = 65.36$, $p < .001$. Specifically, when compared to messages to interact with social media audiences ('social media interaction'), messages to initiate 'deliberative engagement' showed the significantly greater impact at $p < .001$. Second, the 'reach' metric for messages also showed a statistically significant difference: $H[6] = 62.01$, $p < .001$. Similar to the impact metric, 'deliberative engagement' showed significantly greater reach than 'social media interaction' at $p < .001$. Moreover, the number of likes ($H[6] = 60.65$, $p < .001$) or replies ($H[6] = 59.26$, $p < .001$) also varied across message purposes. Specifically, messages to initiate 'deliberative engagement' showed the statistically significantly greatest likes or replies among other purposes. See Table 8 for the mean of each communicative effect by message purpose.

Table 8. Communicative effects across message purposes

		Impact[1]		Reach[1]		Likes		Replies	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1) Product promotion	145	**81.8**	12.7	**211,628**	349,132	**1,091**	2,872	**75.2**	169
2) Technology promotion	30	**84.1**	14.3	**159,877**	126,553	**685**	1,003	**47.8**	74.3
3) Deliberative engagement	26	**84.7**	10.5	**280,742**	339213	**1,621**	2,275	**141**	204
4) Social media interaction	58	69.1	8.24	67,548	147,555	214	1,394	15.9	83.1
5) Others	12	84.6	13.3	616,706	925,168	4,303	5,871	360	582

[1] Brandwatch metrics

2-4. Addressing technology as a wicked problem showed greater communicative effects than not doing it.

Messages addressing wickedness in varied ways showed greater communicative effects than messages not addressing it at all

There were significant differences in the communicative effects (i.e., message impact, reach, likes, replies) across messages addressing wickedness. First, the impact metric ($H[6] = 10.55$, $p = .03$) or reach metric ($H[6] = 17.90$, $p = .001$) differed across message groups. Specifically, when compared to messages not addressing wickedness ('not applicable'), messages plotting future resolutions showed the significantly greater reach at $p < .01$. Moreover, the number of likes ($H[6] = 30.87$, $p < .001$) or replies ($H[6] = 28.77$, $p < .001$) also varied across message groups. Messages acknowledging uncertainty or plotting future resolutions showed the significantly greater likes or replies than message not addressing wickedness at all at $p < .01$. See Table 9 for the mean of each communicative effect by message groups addressing wickedness.

Table 9. Communicative effects across wickedness acknowledgement types

		Impact[1]		Reach[1]		Likes		Replies	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1) Acknowledging uncertainty	16	84.6	9.72	84.6	9.72	**1,459**	1,703	**156**	234
2) Acknowledging diverse actors	5	85.7	8.8	85.7	8.8	1,150	884	93.8	111
3) Acknowledging multiple voices	5	85.2	14.8	85.2	14.8	**3,487**	3,854	170	206
4) Scenario building	19	87.7	8.57	**87.7**	8.57	**1,826**	2,381	**157**	216
5) Not applicable	243	79.1	13.3	79.1	13.3	985	2,785	72	199

[1] Brandwatch metrics

Implications

The findings offer practical implications for corporate actors in the field of emerging technology regarding how to communicate their technology.

First, the findings indicate that the current communication practices of corporate actors are evolving to include public discussions about their technology. Although the majority of corporate actors' communications remain focused on promoting their AI chatbots or covering product-specific topics such as service updates, it is observed that they also communicate for deliberative engagement with publics or cover broader societal-level topics. Such communication efforts are more frequent among individual representatives than companies. These practices reflect our changing communication landscape where diverse actors, from organizations to publics, open and engage public discourse. Such discourse is essential to address wicked issues for the successful integration of emerging technology.

Additionally, messages covering societal topics regarding technology or encouraging deliberative engagement show more communicative impacts and responses than other product-specific messages.

Then, this brings up the following question: How can corporate actors effectively address the wickedness of emerging technology? Corporate actors can strategize individual representatives' personal social media to address wicked issues and foster public discussions, while companies' social media channels may continue to advocate for the technology. As previously mentioned, individual representatives maintain a high-profile presence on social media, which can drive online discussions, and their personal accounts can allow the exchange of varied perspectives on emerging technology, going beyond mere endorsement. Given that, the findings confirm that messages from individual representatives are more diverse in terms of topics and framing and have a broader reach than messages from companies.

Conclusion

This report presents how companies in the AI-chatbot industry and their individual representatives communicate their technology. The findings shed light on how message topics and purposes, especially from individual representatives, not just promote their technology but also address it as a 'wicked' problem. Corporate actors can strategize individual representatives' social media channels to facilitate publics discussions on wicked issues. Further research is needed to develop specific strategies for such 'wicked' communication, which will serve to settle emerging technology into our society 'well.'

References

Brandwatch. (n.d.). *Mention Field Definitions*. https://developers.brandwatch.com/docs/mention-metadata-field-definitions

Capizzo, L. (2023). Managing intractability: Wrestling with wicked problems and seeing beyond consensus in public relations. *Public Relations Review*, *49*(1), 102263. https://doi.org/10.1016/j.pubrev.2022.102263

Roper, J., & Hurst, B. (2019). Public relations, futures planning and political talk for addressing wicked problems. *Public Relations Review*, *45*(5), 101828. https://doi.org/10.1016/j.pubrev.2019.101828

Sam Altman [@sama]. (2022, December 11). *ChatGPT is incredibly limited, but good enough at some things to create a misleading impression of greatness. It's a mistake to be relying on it for anything important right now. It's a preview of progress; we have lots of work to do on robustness and truthfulness.* [Tweet]. Twitter. https://twitter.com/sama/status/1601731295792414720

Willis, P. (2016). From humble inquiry to humble intelligence: Confronting wicked problems and augmenting public relations. *Public Relations Review*, *42*(2), 306–313. https://doi.org/10.1016/j.pubrev.2015.05.007

Wirz, C. D., Scheufele, D. A., & Brossard, D. (2020). Societal debates about emerging genetic technologies: Toward a science of public engagement. *Environmental Communication*, *14*(7), 859–864. https://doi.org/10.1080/17524032.2020.1811478

Appendix. Data Collection

1. Query Setup

```
(author:OpenAI AND (ChatGPT OR GPT OR GPT* OR AI OR AGI))
OR
((author:gdb OR author:sama) AND
        (AI OR tech* OR (intelligence OR AGI) OR
        (product OR service OR instructions OR plugin* OR tool* OR model*) OR
        (regulat* OR solution* OR alignment) OR
        ChatGPT OR GPT OR GPT* OR chat*))

OR

(author:Google AND (Bard OR bard* OR AI))
OR
((author:sundarpichai OR author:JeffDean) AND
    (AI OR Bard OR bard*))

OR

((author:Microsoft OR author:Bing) AND (AI OR Bing OR chat))
OR
((author:satyanadella OR author:yusuf_i_mehdi) AND
    (AI OR Bing OR chat))
```

2. Sample

Author	Twitter messages			
	as tweets	as retweets	as replies	Total
@OpenAI	42 **(7)**	2 **(0)**	8 **(1)**	52 **(8)**
@sama (Sam Altman, CEO)	92 **(13)**	34 **(4)**	67 **(11)**	193 **(28)**
@gdb (Greg Brockman, President)	95 **(16)**	119 **(27)**	17 **(3)**	231 **(46)**
@Google	116 **(13)**	36 **(5)**	27 **(0)**	179 **(18)**
@sundarpichai (Sundar Pichai, CEO)	22 **(7)**	20 **(4)**	19 **(2)**	61 **(13)**
@jeffdean (Jeff Dean, AI Chief)	10 **(1)**	63 **(7)**	13 **(0)**	86 **(8)**
@bing	375 **(34)**	92 **(7)**	504 **(60)**	971 **(101)**
@Microsoft	118 **(15)**	61 **(12)**	72 **(7)**	251 **(34)**
@satyanadella (Satya Nadella, CEO)	25 **(2)**	23 **(4)**	0 **(0)**	48 **(6)**
@yusuf_i_mehdi (Yusuf Mehdi, CVP)	54 **(3)**	21 **(3)**	9 **(3)**	84 **(9)**
Total				2,156 **(271)**

Note: Numbers in parentheses indicate the count of Twitter messages used for the pilot analysis. This report presents the results of the pilot analysis.