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# Microblogging Use by the Chinese Government

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UNIVERSITY OF MIAMI

MICROBLOGGING USE BY THE CHINESE GOVERNMENT

By

Jiangmeng Liu

A THESIS

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements for  
the degree of Master of Arts

Coral Gables, Florida

May 2013

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UNIVERSITY OF MIAMI

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MICROBLOGGING USE BY THE CHINESE GOVERNMENT

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The current study aimed to examine how the Chinese government agencies adopted Sina Weibo, a popular microblogging platform used by majority of the Internet users in China. Through a content analysis of 270 tweets from 27 governmental accounts, this study tried to understand what the government agencies tweet about, how they tweet, and what citizens think about these tweets. The differences among accounts at the federal-, state-, and local-level were revealed, in terms of basic status, utilizing of multimedia tools, desired content types and comments received. The federal-level agencies were seldom utilizing Sina Weibo, in spite they usually launched earlier, had more followers and received more comments and re-tweets. The state-level agencies were more active, following more accounts, and in favor of emoticons and other multimedia tools. Even though a great deal of the local-level agencies operated Weibo accounts, accounts from this level distributed fewer tweets every day, more likely to re-tweet, had fewer followers, and rarely obtained comments or re-tweets. The accounts from three bureaucratic levels also had different preference for content type. In general, *Service Information* was more frequently tweeted by those governmental accounts, which distinguished from previous studies about Governments' use of Twitter. Most of comments were neutral, and in overall the comments were positive over negative.

## TABLE OF CONTENTS

LIST OF TABLES .....	iv
LIST OF FIGURES .....	v
Chapter	
1 INTRODUCTION .....	1
2 LITERATURE REVIEW .....	3
Microblogging and Sina Weibo in China.....	3
Government and Microblogging .....	6
Chinese Government and Weibo.....	9
Research Questions.....	10
3 METHODOLOGY .....	12
Sampling and Data Collecting.....	12
Coding Procedures.....	13
Intercoder Reliability .....	15
4 RESULTS .....	17
5 DISCUSSION .....	27
Limitations.....	29
Implications .....	30
REFERENCES.....	31
Appendix A. Sampled Government Accounts .....	34
Appendix B: Coding Sheet .....	36

## LIST OF TABLES

Table 3.1. Intercoder data .....	16
Table 4.1 Type of content at federal-level.....	20
Table 4.2 Type of content at federal-level .....	21
Table 4.3 Type of content at state-level .....	21
Table 4.4 Type of content at local-level .....	22
Table 4.5 Multimedia use in overall .....	23
Table 4.6 Multimedia use at federal-level .....	23
Table 4.7 Multimedia use at state-level .....	23
Table 4.8 Multimedia use at local-level .....	23

## LIST OF FIGURES

Figure 4.1. Comments and re-tweets in overall and at three levels.....	24
Figure 4.2 Comments and re-tweets for seven content types .....	25

## Chapter 1

### Introduction

Across the globe, “microblogging” is utilized by government agencies, officials and political candidates to communicate with the public. Microblogging (such as Twitter, Jaiku, Sina Weibo) is a platform allowing users to transmit short messages that frequently maintain and instantly update target audiences on their activities, opinions, and status (Barnes, Böhringer, Kurze, & Stietze, 2010). This simple and convenient form of communication dramatically assists the sharing and broadcasting of information through microblogging (Java, Song, Finin, & Tseng, 2007). This makes Microblogging an efficient and valuable public relations (PR) tool. In particular, government agencies and officers can extend the reach to citizens by sharing information through microblogging networks, gain feedback, and build relationships with stakeholders (Wigand, 2010).

Because Twitter has been blocked by the Chinese government since 2009, government agencies and officials in China adopted the domestic microblogging platform **Sina Weibo**, which is known as “Chinese Twitter.” Launched in 2010, Sina Weibo has achieved remarkable success in a relative short time. By June 2012, more than half of the Internet users in China had maintained a Weibo profile (CNNIC, 2012; Zhang & Pentina, 2012). The first governmental account on Sina Weibo “Yunnan Weibo” was opened in November 2009 (Hao, Zhang, and Liang, 2011). After then, numerous government agencies at all bureaucratic levels and all administrative functions began to use Weibo to facilitate connecting to citizens (Chan, Wu, Hao, Xi, & Jin, 2012). So far, 33,132 government agency and 17,825 government officer accounts have been verified by Sina administrators (Sina, 2012).

Scholars have explored how governments integrate Twitter into their PR practices in the countries such as U.S., Australia, the U.K. (Golbeck, Grimes, & Rogers, 2009; Grant, Moon, & Grant, 2010; Alam & Lucas, 2011). However, there are few publications on use of Weibo by the Chinese government. It remains unclear who tweet, what they tweet about, how widely these tweets are spread, and how citizens respond to tweets from different government accounts. To address these questions, the current research examined the Chinese government use of Weibo to understand government microblogging use through a content analysis. The result would provide perspectives for further research about the PR function's use of microblogging and some guidance for government's practices on microblogging sites.

## Chapter 2

### Literature Review

#### Microblogging and Sina Weibo in China

There are several microblogging platforms in the world, such as Twitter ([www.twitter.com](http://www.twitter.com)), Jaiku ([www.jaiku.com](http://www.jaiku.com)) and Pownce ([www.pownce.com](http://www.pownce.com)). Twitter is the most well-known one for crossing continental boundaries. Launched by Jack Dorsey in 2006, Twitter invites users to communicate and connect with others through with a maximized of 140-character post, called a “tweet.” Users can follow others on Twitter. The followers will read the tweet from people they decided to follow in follower’s, listed in reverse chronological order on follower’s own page. (Grant et al., 2010). By the end of March 2012, Twitter had more than 140 million active users all over the world (Moscaritolo, 2012).

The success of Twitter motivated many Chinese companies to launch similar microblogging services in China. In 2007, TaoTao, Jiwai and Fanfou were started and known as the earliest Chinese microblogging sites, but only have a few millions users (Sullivan, 2012). Microblogging broke out in 2009 when witness shared the information, photos and videos via Twitter and local microblogs about the suspicious fire in the new headquarters of China Central Television (CCTV) Station, while traditional media did not response quickly considering the sensitiveness of the topic (Ramzy, 2011). The efforts of microblogging were more significant with respect to sensitive topics related to politics and the government (Sullivan, 2012). The citizens’ trust toward microblogging and other online communication platforms was built through a series social events such as the SARS outbreak, the Wenchuan earthquake, and multiple food security scandals

(Ambrozy, 2011). However, Twitter, along with Facebook and Youtube, has been blocked by Chinese government since 2009. Though any explanation and comments were not being issued by the government (Christopher Bodeen Associate Press [CBAP], 2009), several media in the U.S. gave their speculations. One was the Chinese government feared that agitators in Xinjiang, in where ethnic riots occurred in July, would use popular Twitter to foment unrest (The Economist, 2010). Reporters from New York Times believed this block was relevant to the 20th anniversary of 1989 Tiananmen Square pro-democracy movement, in which hundreds of students and ordinary citizens were killed by the Chinese army (Jacobs & Wine, 2009). The China's government tried to barricade its citizens from any clue that might provoke the discussion and critics about the sensitive anniversary (CBAP, 2009; Jacobs & Wine, 2009).

The prospects for a microblogging market stirred businessmen to find an alternative. Sina Weibo became the first microblogging platform authorized by government (Ramzy, 2011), because "the government-trusted CEO" of Sina Corporation, Guowei Cao, promised to regulate user-generated contents (Sullivan, 2012). Learning from the experiences of pre-crackdown Twitter and the ill-fated Fanfou, self-censorship has been pro-actively and comprehensively executed by Sina Weibo (Sullivan, 2012). Tweets involved in sensitive topics are deleted by Sina administrators before gaining the permission and knowledge of users (Chan et al., 2012). Nevertheless, the censorship is not harsh enough to extinguish Chinese netizens' enthusiasm toward microblogging. Since ordinary Chinese people do not have the opportunity, occasion, and power to influence the central government in real life, they would not give up the chance provided by Weibo and other Internet service to discuss politics and government (Chan et al., 2012). Besides,

the majority of users treat this kind of regulation as “a necessary trade-off required to obtain the right to interact online” (Marolt, 2011, p. 58).

Similar to Twitter, Sina Weibo allows users to post a short text message within 140 characters, supporting searching, trend (topic with # symbol), conversation (message with @ symbol) and other basic utilities. A user’s Weibo page is fully open to the public, and mutual followers can exchange private messages. However, a piece of Chinese tweets of 140 characters can convey much more information than in English, since a whole word in Chinese is counted as one character. As Ai Weiwei notes, “in the Chinese language, 140 characters is a novella” (Ambrozy, 2011, p.241). Also, Sina Weibo imported some features of Social Networking Sites (SNS) (Zhang & Pentina, 2012). Users can directly post pictures and videos in the tweet and comment on other’s tweets listed under each tweet such as in Facebook. More than one thousand applications, including games, news, online survey, music, and file sharing, were launched in Sina Weibo (Zhang, 2011). These functions make Sina Weibo an information-rich vehicle hybrid and SNS platform, which satisfy various needs and attract more users (Chan et al., 2012; Zhang & Pentina, 2012).

Sina Weibo users utilized the platform for a wide spectrum of motivations (Zhang & Pentina, 2012). Sina Weibo could facilitate their information seeking and social connection, assist professional development, satisfy emotional needs, give back by providing advice and information to others, enhance social status, express oneself, and interact with the site and other users. In contrast, Twitter was used mainly for social (daily chatter and conversations) and information (sharing information and posting news and comments) activities (Java et al., 2007; (Krishnamurthy, Gill, & Arlitt, 2008). In 2010, there were only 6.3 million Chinese citizens used microblogging, accounting for 13.8% of

total Internet users. After an explosive growth in 2011 and steady increasing in 2012, the size of microblogging users reached 274 million, more than half the Chinese Internet population (50.9 percent of a total of 538 million netizens). At the same time, the proportions of Internet users engaged in blogging, online gaming, and social networking slightly decreased (CNNIC, 2011; CNNIC, 2012). As the vast majority of microblogging users consume Sina Weibo, Chinese people directly use microblogging or Weibo to refer to Sina Weibo (Liu & Zhou, 2011).

### **Government and Microblogging**

The late start of microblogging use leads to a lack of research on Weibo in China (Liu & Zhou, 2011), especially about the government's utilizing of Weibo. Hence, the current study will review the Twitter usage of Government agencies and politicians as a beginning.

Twitter is one of the most used social media applications outside China by professionals, celebrities, non-profit organizations, and governments (Alam & Lucas, 2011; Waters & Williams, 2011). Compared to Facebook, on which information remains private and needs approving by both sides, the default position of Twitter is for user sharing with the public and visible to everyone (Grant, Moon, & Grant, 2010). This opens a new door for organizations to connect with their stakeholders by providing followers more in-depth reports, video, and data (Alam & Lucas, 2011). Served as raw materials for the mainstream media, tweets can also reach the audience outside Twitter (Lee & Shin, 2012). More importantly, the organizations can receive real-time feedback about their announcements and build long-term relationships with stakeholders (Lovejoy, Waters, & Saxton, 2012).

Governments in several countries have realized the power of microblogging platforms to contact and influence their citizens, and to obtain their opinions on government issues. Although Twitter has not released any official data about how many government accounts are launched on Twitter, the data provided by @GOVsites—a particular account on Twitter which merely follows representatives of state and federal governments—can be used to reveal the whole picture (Waters & Williams, 2011). According to this account, by September 2010 there were more than 1,000 government official and agency accounts in the U.S., 250 in the U.K., 175 in other European countries, 150 Latin America accounts, 100 Asian accounts, 80 Canadian accounts, and 30 African accounts (Waters & Williams, 2011). Not only are federal and state governments using Twitter, but also local level government agencies. Alam and Lucas (2011) asserted that Australian government agencies at every level (local as well as federal and state) adopted Twitter due to the wide utilization among citizens, businesses, and non-profit organizations. Twitter in Korea is a must for politicians; more than 80 percent of National Assembly members were actively using Twitter; how well a politician performs on Twitter, evaluated by “Twitter Influence Index,” is considered when choosing the nominated candidate of incumbent party (Lee & Shin, 2012).

As for the government adoption of Twitter, scholars state that it benefits information sharing, public communication (Maciel, Roque, & Bicharra, 2010), and increased transparency (Bertot, Jaegera, Munson, & Glaisyer, 2010). However, recent research of Twitter use by the U.S. Congress, has raised new insights into how Twitter works as a self-promotion vehicle, rather than an arena exhibiting transparency and accountability alone (Golbeck, Grimes, and Rogers, 2009). Alam and Lucas (2011)

conducted a content analysis of tweets from six Australian government agencies to investigate their communicative practices and usage pattern. They categorized the tweets into seven genres: news and updates, external information, retweets, respond to user, external event announcement, and asking a question. The results indicated that government agencies mostly used Twitter to disperse news and updates, especially about themselves, rather than ask questions for generating responses. Waters and Williams (2011) examined the same topic in the context of the U.S. To understand how the U.S. government agencies use Twitter, they analyze thirty tweets per account for a total of sixty randomly-selected official accounts of government agencies. Four models of public relations—press agentry (one-way asymmetrical communication), public information (one-way symmetrical communication), two-way asymmetrical communication, and two-way symmetrical communication (Grunig & Hunt, 1974)—were adopted to analyze the operation of Twitter. Results found that public information was the most widely used of the four models. However, the authors did not deny the value of government communication practice on Twitter. They claimed that one-way communication still has quite a few advantages and many controls, and there are times that one-way symmetrical communication is favored and more useful for governments or politicians. Lee and Shin's (2012) Web-based experiment explored the effect of politician interactivity with citizens on Twitter on viewer's evaluation of politicians. Even though exposure to the high interactivity (the politician actively responding to his followers) should generate more positive evaluations, participants showed poorer recognition of the issue topic the politician talked about in Twitter.

## **Chinese Government and Weibo**

Chinese media, corporations, and government did not realize the power of Sina Weibo until the occurrence of a number of sensational social events during 2010. In April 2010, for instance, an earthquake happened in Yushu, Qinghai Province. The remote location and weak communication signals restricted traditional media's transmission. People from all walks of life used their mobile phones to report the situation through Weibo every second. Because of that, government, social organizations, and citizens kept updated on the situation and effectively operated the rescue (Hu, 2011). Citizens also paid so much attention to this event on Weibo that a total 1,382,034 tweets about the Yushu Earthquake were posted. It was the first time that Weibo became the leading channel in a serious social event. Since then, more and more government agencies and officials have launched Weibo to provide short news, "or out of fear of being left behind" (Hao et al., 2011).

"Yunnan Weibo" is recognized as the first governmental Weibo account in China (Hao et al., 2011). The account, registered by News Office of Yunnan Province on November 21, 2009, was primarily aimed at solving the Removal of Luoshi Bay Market in Kunming (the capital city of Yunnan Province) (Hu, 2011). Thus far, there are 50,947 verified government accounts (33,132 government agency accounts and 17,825 government officer accounts) consisting of public security organizations, Party institutions, judicial systems, transport authorities, tourism organizations and so on.

However, there are few studies examining how government organizations use Weibo in China. It is not clear --in a systematic sense-- what they tweet about on Weibo, whether the content differs from federal- to state- and local-levels, whether government

Weibo accounts are employing propaganda or indenting to build relationship with citizens, and how audiences think about tweets of various topics and from different levels of governmental agencies. Hence, a systematical examination need be conducted at this moment, to provide some descriptive data and basic understandings for any further researches.

### **Research Questions**

Firstly, much basic information, such as the number of followers, following, total tweets and so on, needs to be known and summarized. Here, an important variable—the bureaucratic level of the governmental agency—need to be considered. Similar to the U.S., the Chinese government has three main bureaucratic levels. The upper level, including central government and several functional departments, was equal to the federal level in the U.S. The middle level in China was like the state-level in the U.S. It contained the government and other functional department of provinces, autonomous regions, municipalities (Beijing, Shanghai, Tianjin, and Chongqing) and special administrative regions (Hong Kong, Marco).

The difference of much basic information among agencies at different bureaucratic levels was expected. For example, federal agencies have larger term of references, therefore should relate to more citizens. On the other hand, federal agencies were perceived more about national policy and sit up in high, which might make it receive less attentions from the citizens. How one bureaucratic level differs from another need to be studied.

**RQ1:** Whether 1) the number of followings, 2) the number of followers, 3) the amount of total tweets, 4) days of operation, or 5) the amount of tweets published per day differs from agencies at federal level to state- and local- level?

Secondly, we take content type into consideration. Based on previous study, there were seven categories of tweet content: internal updates, external governmental updates, policies and regulations, service information, questions, news irrelevant to the Chinese government, and comments and opinions. It needs to be known:

**RQ2:** Which content do they tweet most?

**RQ3:** Whether the content tweeted mostly differs from agencies at federal level to state- and local-level?

Thirdly, it is unclear how citizens interact with those accounts. Citizen interaction was mainly through re-tweet and comment on each tweet. The amount of comments and re-tweet times could be seen as the degree of engagement with the tweet and account. The valence of comments was also important by providing citizens' attitude towards the tweet, account, and agencies.

**RQ4:** At which level do the accounts have the most 1) comment or 2) re-tweet from other users?

**RQ5:** Which content do other users 1) comment or 2) re-tweet most?

**RQ6:** How do citizens respond to the tweets from governmental account?

**RQ7:** a) Whether the valence of comments differs from agencies at federal level to state- and local-level?

b) Whether the valence of comments differs from one content type of another?

## Chapter 3

### Methodology

The present study aimed to understand how Chinese governmental agencies were using Weibo. The agency accounts were firstly categorized into three groups according to their bureaucratic level: federal-, state-, and local- level. Then, a random sample of 27 government Weibo accounts (nine accounts per level) was selected. Then the collection of posts, as well as the feedback from each sampling account were collected, coded, and analyzed.

#### Sampling and Data Collecting

Because there are more than 30,000 government agency accounts on Weibo verified by Sina, it is almost impossible to generate a full list of these accounts. Therefore, a list of accounts for the study was developed through keyword searching. The keywords used in the study included “Government (政府),” “Agency (机关),” “Information Office (新闻办公室),” “Communist Party (共产党, 中共),” “Release (发布),” and “Publicity Department (宣传部)” and so on. The accounts gathered had been filtered (irrelevant or non-government accounts will be deleted based on account’s self-description in profile page) and divided into three groups (Federal, state-, and local level). In total, there were 442 local agency accounts, 64 state-level accounts and 23 federal agency accounts in the account list. The collection of accounts was restricted by the fact that it relied on the identifying characteristics of government agencies (certificated by Sina Weibo, identifying themselves in the account nickname or “introduction”) and human search techniques. In the end, 27 randomly selected accounts (nine accounts from each group)

and ten most recent posts for each account were collected and filed. Agencies that have fewer than 10 tweets will have all tweets in their histories collected.

### **Coding Procedures**

Two reviewers who are graduate students currently in U.S. and native Chinese speakers coded the tweets as well as comments. Firstly, the basic information about that governmental account, including the account name, the number of followers and following, the total number of tweets, the date of the first tweet, and the days of operation, were recorded. The number of followers and following, and the number of total tweets were listed in the top of the profile page. As the tweets were listed in reverse chronological order, the coders went back to the last page of the tweets and record the specific date of distributing the first tweet. The days of operation were counted from the day of first tweet to the day of data collecting. Then the average tweet per day was calculated through the total number of tweets divided the days of operation.

Each tweet was then classified into as many categories as is appropriate. Classifications were revised based on an earlier study of Australian government's adoption of twitter (Alam & Lucas, 2011). The definitions of each content category to be employed are:

1. **Internal Updates:** Agency tweets about news and updates related to their department. This includes the news about the account and agency itself, sub-departments within the agency, and officials working for the agency.
2. **External Governmental Updates:** Agency tweets about information that is external to the agency and related to other government agencies or officials.

3. **Policies and Regulations:** Agency tweets about information related to governmental policies and legal regulations. This includes the change, explanation, and release of legal provision, regulations, and policies about transportation, education, administration and so on.
4. **Service Information:** Agency tweets about restaurants and shopping, weather reports, transportations, travels, education, entertainment events and so on to service for and benefit of citizens' daily life.
5. **Questions:** The agency tweets that are questions used to initiate discussions with users.
6. **News Irrelevant to the Chinese government:** The agency tweets about local news, national news, and international news irrelevant to Chinese government and officials.
7. **Comments and Opinion:** Agency tweets about their opinions, comments, and position toward particular events, phenomenon, and news; it can also be the agency's self-expressions of thoughts and feelings in general.

Whether the tweet is original tweet, whether it contains picture, hyperlink, video or emoticon were coded as well.

Finally, the times of re-tweets and the number of comments on each tweet will be recorded. The comment will be coded into four categories dealing with comment **tone**:

1. **Positive:** Comments that appraise, affirm, or congratulate the efforts of agencies or officials, or to express agreement with the tweet.
2. **Negative:** Comments showing disagreement with the tweet posted by government agencies, or complaint about service, policies, and officials.

3. **Neutral:** Comments not showing positive or negative emotions to the agency; when no agreements or disagreements are mentioned in the comments.
4. **Mixed:** The inclusion of both negative and positive comments.

The amounts of comments and re-tweets were compared among three bureaucratic levels and among seven content types. The valence of comments was also taken into consideration. Since the numbers of comments at each level (or from each content type) were different, the valence here was simply conceptualized as the amount of negative comments subtract from the number of positive ones.

### **Intercoder Reliability**

Two graduate students, including the author, served as coders in this study. A one-hour training was conducted to explain the coding procedure and definitions in coding book. Before the formal test, the coding book was pre-tested on 40 tweets from 4 accounts that were excluded from formal sample. Then two coders had a meeting to discuss the disaccord items and unify the understandings. Coding book was revised according to the result of pretest and discussion between two coders. After modifying of coding book and clarifying of definitions, these two coders reviewed and coded 270 tweets for formal test. The result of intercoder reliability shows in Table 3.1:

	Percent Agreement	Scott's Pi	Cohen's Kappa	Krippendorff's Alpha
Number of Characters	84.81	0.84	0.84	0.84
Original tweet	98.15	0.96	0.96	0.96
Hyperlink	96.30	0.90	0.90	0.90
Picture	99.26	0.98	0.98	0.98
Video	99.63	0.95	0.95	0.95
Emoticon	97.04	0.87	0.87	0.87
Internal	91.85	0.67	0.67	0.67
External	88.89	0.68	0.68	0.68
Policies & Regulations	98.52	0.66	0.66	0.66
Service Information	85.93	0.67	0.67	0.67
Question	98.89	0.76	0.76	0.76
News irrelevant to government	84.81	0.49	0.49	0.49
Comments & opinions	90.74	0.76	0.76	0.76
Re-tweet Times	98.89	0.99	0.99	0.99
Responds from the Profile Owner	98.52	0.89	0.89	0.89
Number of Comments	91.48	0.89	0.89	0.89
Comment Tone	83.62	0.70	0.70	0.70

Table 3.1. Inter-coder reliability data across three reliability statistics

## Chapter 4

### Results

The coded data were input into excel and analyzed by the IBM SPSS Statistics program (version 20). A series of frequency and ANOVA tests were conducted to answer the research questions.

***RQ1:** Whether 1) the number of followings, 2) the number of followers, 3) the amount of total tweets, 4) days of operation, or 5) the amount of tweets published per day differs from agencies at federal level to state- and local- level?*

The first research question aimed to examine whether the basic status of governmental accounts at different levels are significantly different. The result of one-way ANOVA indicated that there is significant difference between governmental accounts at different levels with respect to those five items listed below.

#### *The number of followings*

The average number of Weibo accounts the government organizations was following ranged from a minimum of 18 to a high of 4723, with a mean of 656.15 (SD= 964.39). There is significant difference among accounts at three levels,  $F(2, 267) = 15.34$ ,  $p = .000$ ,  $\eta^2 = .10$ , indicating a medium effect. Follow-up Bonferroni test indicated the governmental accounts at state-level followed ( $M = 1068.78$ ,  $SD = 1409.42$ ) significantly more Weibo accounts than those at local- ( $p = .001$ , effect size  $d = .54$ ) and federal-level ( $p = .000$ ,  $d = .81$ ). However, the governmental accounts at local-level ( $M = 574.44$ ,  $SD = 565.62$ ) were not differentiated from those at federal-level ( $M = 325.22$ ,  $SD = 463.63$ ), with respect to the number of following accounts.

### *The number of followers*

The governmental account had an average of 1034150.19 followers (SD=1351755.42), ranging from 4520 to 4722763. The result of ANOVA suggested the difference of followers size among three levels,  $F(2, 267) = 47.17$ ,  $p = .000$ ,  $\eta^2 = .26$ , indicating a large effect. The accounts at federal-level ( $M = 1722002.22$ ,  $SD = 1413.093$ ) had more followers than those at state-level ( $p = .040$ ,  $d = .37$ ) and local-level ( $p = .000$ ,  $d = 1.39$ ). The state-level accounts ( $M = 1288592.33$ ,  $SD = 1433849.28$ ) also had more followers than local-level accounts ( $p = .000$ ,  $d = 1.02$ ).

### *The amount of total tweets*

The sampled accounts sent out at least 113 tweet and 39127 tweets at most. The average amount of total tweets was 4430.22 (SD=7421.00). The amounts of total tweets from accounts at three levels were significantly different,  $F(2, 267) = 31.16$ ,  $p = .000$ ,  $\eta^2 = .19$ , indicating a large effect. The state-level accounts published far more tweets ( $M = 8981.22$ ,  $SD = 11304.41$ ) than those at local-level ( $p = .000$ ,  $d = 1.05$ ) and federal-level ( $p = .000$ ,  $d = .99$ ). The local-level accounts ( $M = 1953.78$ ,  $SD = 1544.22$ ) and federal-level accounts ( $M = 2355.67$ ,  $SD = 2185.99$ ) had similar amount of total tweets.

### *Days of operation*

The duration of the governmental accounts operated had a mean number of 451.07 ( $M = 451.07$ ,  $SD = 158.00$ ). The youngest account was launched 115 days ago, meanwhile the oldest account had maintained for 726 days, almost 2 years. There is significant difference among accounts at three levels,  $F(2, 267) = 9.31$ ,  $p = .000$ ,  $\eta^2 = .07$ , indicating a medium effect. The federal-level accounts ( $M = 498.11$ ,  $SD = 166.38$ ) launched earlier than those at state-level ( $M = 455.33$ ,  $SD = 144.26$ ),  $p = .187$ ,  $d = .28$ . The local-level

accounts launched later ( $M=399.78$ ,  $SD=148.46$ ) than state- ( $p= .047$ ,  $d= .36$ ) and federal-level accounts ( $p= .000$ ,  $d= .64$ ).

*The amount of tweets published per day*

On average, the governmental account released 8.93 tweets per day ( $M=8.93$ ,  $SD=11.86$ ). The most active account tweeted more than 61 times, and the most inactive account had less than 1 tweet (Minimum = .29) in a day. The amount of tweets per day differed from one bureaucratic level to another,  $F(2, 267)= 34.18$ ,  $p= .000$ ,  $\eta^2= .20$ , indicating a large effect. Federal- ( $M=4.83$ ,  $SD=4.73$ ,  $p= .000$ ,  $d=1.10$ ) and local-level accounts ( $M=5.50$ ,  $SD=4.32$ ,  $p= .000$ ,  $d=1.03$ ) tweeted less than accounts at state-level ( $M= 16.49$ ,  $SD=17.24$ ). No significant difference found between local-level and federal-level account.

**RQ2:** *Which content do they tweet most?*

**RQ3:** *Whether the content tweeted mostly differs from agencies at federal level to state- and local-level?*

To answer the second and third research question, a frequency test was conducted. Out of 270 tweets, there were 91 pieces (33.7%) contained information serviced for and benefit of citizens' daily life, which made *Service Information* the most frequently tweeted type (see Table 4.1). With 74 pieces (27.4%) in total, *Comments & Opinions* was the second-most commonly used content, with 74 pieces (27.4%) in total, followed by *External Updates* ( $n=66$ , 24.4%) and *News Irrelevant to the Government* ( $n=57$ , 21.12%). The next one is *Internal Updates*, which was discussed in 39 tweets (14.4%). *Policies & Regulations* (9 pieces, 3.3%) and *Questions* ( $n=7$ , 2.6%) were least used content types. A Cochran test, which was conducted to evaluate differences among related proportions,

was significant,  $\chi^2(6, N=270)=137.04, p = .000$ . Follow-up pairwise comparisons were conducted using a McNemars' test and controlling for familywise error rate at the .05 level using the LSD procedure. The proportion of *Service Information* was significantly higher than *External Updates* ( $p= .048$ ) and afterwards contents ( $p= .000$ ). The proportion also differed between *Comments & Opinions* and *Internal Updates* ( $p= .001$ ), *External Updates* and *Internal Updates* ( $p= .009$ ), *News Irrelevant to the Government* and *Policies & Regulations* ( $p= .000$ ), and *Internal Updates* and *Polices & Regulations* ( $p= .000$ ).

#### OVERALL

Content Type	Frequency	Percent (%)	Rank
Internal Updates	39	14.4	5
External Updates	66	24.4	3
Policies & Regulations	9	3.3	6
Service Information	91	33.7	1
Questions	7	2.6	7
News Irrelevant to the Government	57	21.1	4
Comments & Opinions	74	27.4	2

Note: N= 270

Table 4.1 Type of content in Overall

Additional Cochran tests also indicated that proportions of content types differs significantly among accounts at federal-level ( $\chi^2(6, N=90)=73.23, p = .000$ ), state-level ( $\chi^2(6, N=90)=50.97, p = .000$ ), and local-level ( $\chi^2(6, N=90)=62.39, p = .000$ ). However, the rankings of proportions were not same when divided accounts into three groups based on bureaucratic levels. As shown in Table 4.2-4.4, *Service Information* was still the most frequently tweeted content in federal- ( $n=32, 35.6\%$ ) and state-level group ( $n=36, 40\%$ ), but was the third-most used type in local-level group ( $n=23, 25.6\%$ ), right after *Comments & Opinions* ( $n=38, 42.2\%$ ) and *External Updates* ( $n=25, 27.8\%$ ). In federal-level group, *External Updates* ( $n=28, 31.1\%$ ) and *Internal Updates* ( $n=24, 26.7\%$ ) appeared more

frequently than *Comments & Opinions* (n=16, 17.8%) and *News Irrelevant to the Government* (n=14, 15.6%). The situation was opposite in the state-level group-- *News Irrelevant to the Government* (n=22, 24.4%) and *Comments & Opinions* (n=20, 22.2%) were used more often than *External Updates* (n=13, 14%) and *Internal Updates* (n=11, 12.2%). *Policies & Regulations* and *Questions* were the least used types in three groups.

#### FEDERAL

Content Type	Frequency	Percent (%)	Rank
Internal Updates	24	26.7	3
External Updates	28	31.1	2
Policies & Regulations	1	1.1	6
Service Information	32	35.6	1
Questions	0	0	7
News Irrelevant to the Government	14	15.6	5
Comments & Opinions	16	17.8	4

Note: N=90

Table 4.2 Type of content at federal-level

#### STATE

Content Type	Frequency	Percent (%)	Rank
Internal Updates	11	12.2	5
External Updates	13	14.4	4
Policies & Regulations	6	6.7	6
Service Information	36	40	1
Questions	3	3.3	7
News Irrelevant to the Government	22	24.4	2
Comments & Opinions	20	22.2	3

Note: N=90

Table 4.3 Type of content at state-level

LOCAL				
Content Type	Frequency	Percent (%)	Rank	
Internal Updates	4	4.4	5	
External Updates	25	27.8	2	
Policies & Regulations	2	2.2	7	
Service Information	23	25.6	3	
Questions	4	4.4	5	
News Irrelevant to the Government	21	23.3	4	
Comments & Opinions	38	42.2	1	

Note: N=90

Table 4.4 Type of content at local-level

Besides, the result showed that on average a tweet from the sampled accounts had around 78.60 characters (SD=54.99). Local-level agencies tweet shorter, with a mean of 53.57 (SD=53.73) characteristics, than federal- (M= 89.90, SD=51.15,  $p= .000$ ) and state-level agencies (M=92.32, SD=51.81,  $p= .000$ ).

More than half of the tweets were originated by the profile owner (n=170, 63%). Majority of tweets (n=171, 63.3%) were attached with a picture. 26.3 % of them (n=71) included links, 12.2% (n=33) used emoticons, and only 3.3% (n=9) uploaded video (see Table 4.5). These ratios slightly differed from one bureaucratic level to another (see Table 4.6-4.8). For example, compared with agencies at other two levels, the local-level agencies tended to re-tweet (n=41, 54.4%) rather than originate a tweet, and they adopted fewer tweets with picture. The federal-level agencies rarely used emoticon (n=5, 5.6%), while 20 % tweets (n=18) from the state-level accounts included emoticon.

## OVERALL

	Frequency	Percent (%)
Original Tweets	170	63
Hyperlink	71	26.3
Picture	171	63.3
Video	9	3.3
Audio	0	0
Emoticon	33	12.2

Note: N= 270

Table 4.5 Multimedia use in overall

## FEDERAL

	Frequency	Percent (%)
Original Tweets	65	72.2
Hyperlink	19	21.1
Picture	61	67.8
Video	5	5.5
Emoticon	5	5.6

Note: N= 90

Table 4.6 Multimedia use at federal-level

## STATE

	Frequency	Percent (%)
Original Tweets	64	71.1
Hyperlink	25	27.8
Picture	60	66.7
Video	3	3.3
Emoticon	18	20

Note: N= 90

Table 4.7 Multimedia use at state-level

## LOCAL

	Frequency	Percent (%)
Original Tweets	41	54.4
Hyperlink	27	30.0
Picture	50	55.6
Video	1	1.1
Emoticon	10	11.1

Note: N= 90

Table 4.8 Multimedia use at local-level

**RQ4:** *At which level do the accounts have the most 1) comment or 2) re-tweet from other users?*

**RQ5:** *Which content do other users 1) comment or 2) re-tweet most?*

To answer the fourth research question, a series of ANOVA tests were conducted. In total, 270 sampled tweets had been re-tweeted 4487 times, and 1086 comments from other users were collected, on average 16.61 times of re-tweet and 4.02 comments for each tweet. There are 115 tweets (42.6%) that no comment was made, 63 at local-, 27 at state- and 25 at federal-level. One tweet from accounts at federal-level usually generated 6.29 comments and 35.12 re-tweets, 4.83 comments and 12.54 re-tweets from the state-level accounts, and only 0.83 comments and 5.42 re-tweets from the local-level accounts. In another words, tweets from the federal-level accounts were re-tweeted significantly more times than those from state- ( $p = .001$ ) and local-level ( $p = .000$ ) (see Figure 4.1). Users made significantly fewer comments on tweets from accounts at local-level than those at federal- ( $p = .000$ ) and state-level ( $p = .003$ ).

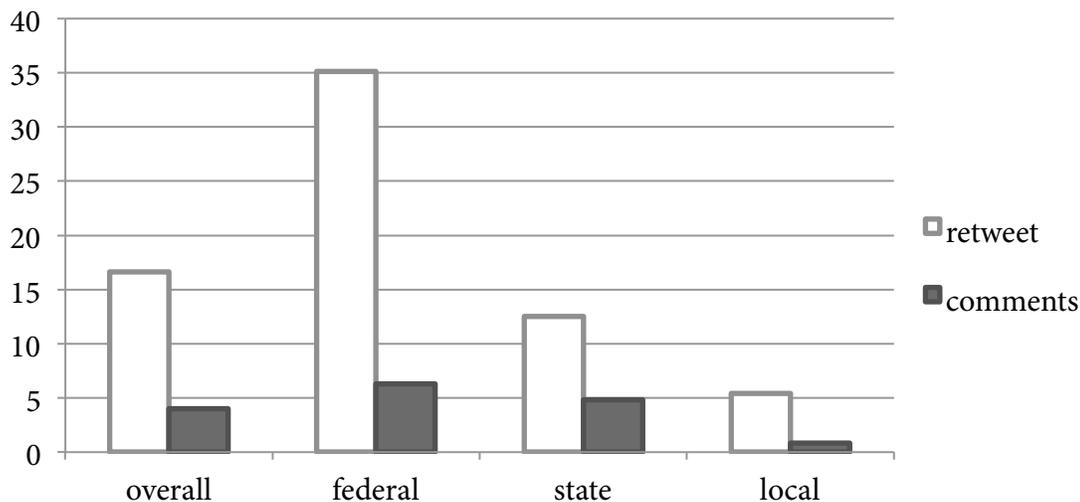


Figure 4.1 Comments and re-tweets in overall and at three levels

As mentioned above, these seven types of content were not equally tweeted in whole and at every bureaucratic level. To answer Research Question 5, the amount of tweets of each content type should be controlled during the analysis. Two Friedman tests were conducted to evaluate difference in medians of re-tweet and comments among seven content types. The results were significant for both re-tweet ( $\chi^2(6, N=270)=97.22, p = .000$ ) and comments ( $\chi^2(6, N=270)=76.72, p = .000$ ). Follow-up pairwise comparisons were conducted using Wilcoxon tests. *Service Information* was re-tweeted significant more times than *Internal Updates* (See Figure 4.2). Weibo users were made significantly more comments on *Service Information* and *News Irrelevant to the Government* than *Internal Updates* and *Comments & Opinions*. *Policies & Regulations* and *Questions* were the most unpopular content type, which received significantly less comments and re-tweets than other five content types.

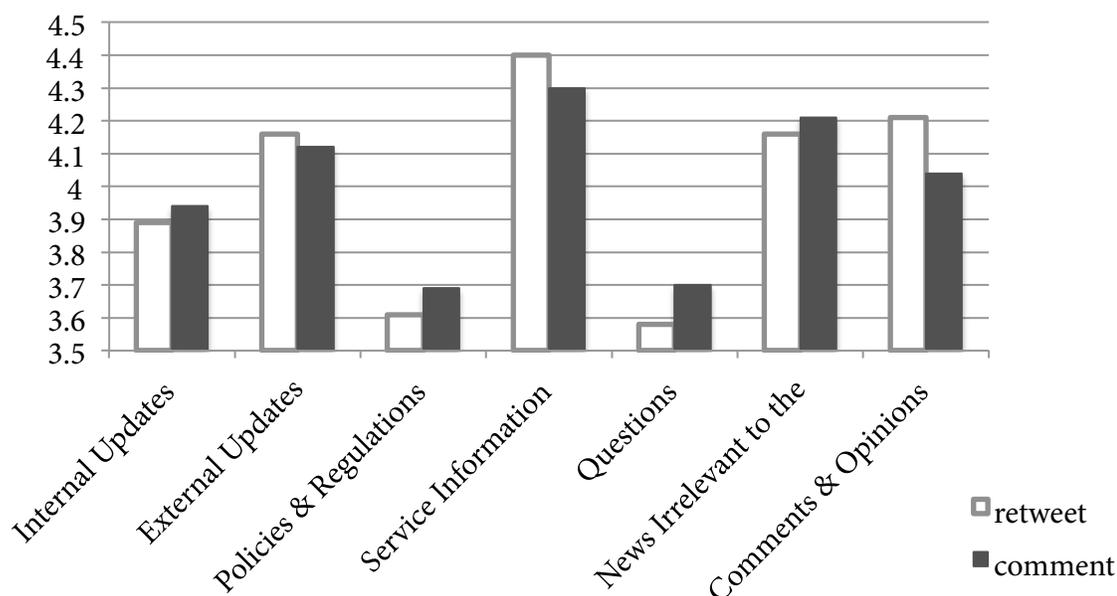


Figure 4.2 Comments and re-tweets for seven content types

**RQ6:** *How do citizens respond to the tweets from governmental account?*

**RQ7:** *a) Whether the valence of comments differs from agencies at federal level to state- and local-level?*

*b) Whether the valence of comments differs from one content type of another?*

Among 1086 collected comments, 56.35% (n=612) were neutral, 29.74% (n=323) were positive, 11.60% (n=126) were negative, and 2.30% (n=25) were positive-negative mixed.

The valence here was simply conceptualized as the amount of positive comments minus that of negative ones. Zero value suggested the equal quantity of positive and negative comments; positive value indicated more positive comments were made than negative comments, vice versa. The larger value, the more positive of valence.

The ANOVA test suggested significantly difference of valence among three levels  $F(2, 267) = 6.60, p = .002$ . Accounts at all three levels had more positive comments than negative ones, State- (M= .256) and Federal- (M=1.844) levels account were significantly more positive than Local- (M= .089). No significant difference of valence was found among seven content types, even though the value is negative for *Policies & Regulations* and positive for the rest types remained.

## Chapter 5

### Discussion

The current study examined the use of Weibo by the Chinese government agencies and by citizen interactions. With the data and result presented above, we could gain a better understanding of microblogging practices by government agencies.

There was significant difference of basic status among governmental accounts at different levels. The federal-level accounts usually launched earlier and had more followers. Ordinary users on Sina Weibo were more likely to re-tweet and made comments on their tweets. It is consistent with the larger influence and term of references of federal governmental agencies in the offline world. Hence, the absence in Weibo platform should be considered as a big loses of opportunities to connect to the public. However, only a few federal governmental agencies in China maintained a weibo account. In spite of the incomplete of sampling method, the keyword searching in the present study only generated 16 accounts at federal-level, which is far fewer than the amount collected for local- and state-level agencies.

The data also support the different preference for using Weibo by governmental agencies at different levels. State-level agencies were more active, sent out more than 16 tweets per day. They preferred longer tweets, emoticons, and writing the tweets by themselves. Local-level agency accounts tend to re-tweeted, rather than create, and convey information through pictures, hyperlinks. In between federal-level accounts were normative and more serious, with seldom emoticons. In general, government agencies create the majority of tweets and provide new information to the public, instead of

distributing the messages existing in the platform. However, the several communication tools, such as hyperlinks, video, and emoticon, were not fully utilized by the governmental agencies. For example, hyperlinks were contained in 26.3% tweets in this study, while the ratio was always higher than 50% in previous studies about Twitter use by agencies in foreigner countries (Golbeck, Grimes, & Rogers, 2010; Waters & Williams, 2011).

Through categorizing 270 tweets into seven genres based on content type, the analysis disclosed that *Service Information* was the most frequently used content. This result was surprisingly distinct from some previous studies about Twitter use by the Australian government and the U.S. government agencies (Alam & Lucas, 2011; Waters & Williams, 2011). Waters and Williams found the sampled Twitter accounts of the U.S. agencies principally share their own information (67.8%). In Alam and Lucas's study, Australian governmental agencies were primarily aimed at disseminating or broadcasting news about their own agencies (62%). In this study, *Internal Updates* about agencies themselves were comprised less than 15% for most levels and around 27% for federal-levels. Updates about external governmental agencies were comprised 24.4 % of total tweets, more than *Internal Updates* but less than *Service Information*. These data demonstrated that Chinese governmental agencies have not adopted Sina Weibo as a platform for propaganda, but rather to communicate or connect with the citizens.

Citizen interactions with agency accounts were mostly in the form of comments made after each tweet. Even though government agencies attempted to connect with the citizens, the results are somewhat discouraging that not many comments were fed back by the citizens. There are 115 tweets (42.6%) that no comment was made. The local-level

accounts had less one comment per tweets on average. The situation was a bit optimal for agencies' at federal- and state-level, with an average of 6.29 and 4.83 comments. The result also implied that those governmental accounts were unwilling to answer questions or respond to citizens' comments. Only eight accounts made 35 pieces of feedbacks to citizens' comments--12 feedbacks from federal-level, 20 from state-level, and 3 from local-level agencies. To achieve a two-way communication, more responds should be given by the government agencies. Whether the responses from agencies could benefit for their account needs further investigation.

### **Limitation**

This study has several flaws that need to be acknowledged here. Firstly, the way of collect data through keyword searching was imperfect. Albeit the researcher tried many words to generate as many accounts as possible, only 23 federal- and 64 state-level accounts were collected in the account list. There should be many governmental agencies accounts outside. It will be better for further study to find a more effective and scientific method to collect accounts.

Second, the sample size was restricted by time and energy limitation. Only 270 tweets and 27 accounts were investigated, compared to thousands of tweets analyzed in a single previous study. Because the research collected the latest 10 tweets from each account, the study looked at tweets from a very short timeframe. It will be ideal for further study conducted with a larger sample size.

Third, the current study only compared the difference between accounts at federal-, state-, and local-level. However, some important variables (such as the function of agencies, agencies with different functions might have their particular favor of some

content types) were not investigated or controlled. Those variables need to be studied separately in further researches.

### **Implications**

As Sina Weibo continues to be the social media platform used most often by government agencies, understanding how government agencies use the service is beneficial for research and practices. The research presented a systematic study of the Chinese governmental agencies accounts and the content they posted on Sina Weibo. Since few investigations have been made about this topic, this study provides some basic statistics and understanding for any further research. Additionally, the research revealed many differences among agencies at different bureaucratic levels in their use of Weibo. The data also indicated that the Chinese government utilized Sina Weibo as a tool to communicate with the public, rather than broadcasting the news and information about agency itself. This result is very distinct from uses by the U.S. and Australia government. A comparison could be made to improve the theory about public relations models. Further research could also use surveys or qualitative measures to investigate how citizens feel about the government agencies' use of Weibo, why and why do not citizens follow agency accounts, and which content do they need mostly in tweets.

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## Appendix A. Sampled Governmental Accounts

ID	Account name	Government Agency	Bureaucratic level
1	China Tourism (中国旅游)	National Tourism Administration	Federal
2	China-Africa (直通阿非利亚)	Department of African Affairs, the Chinese Ministry of Foreign Affairs	Federal
3	Source of Foreign Affairs (外交小灵通)	Office of Public Diplomacy, the Chinese Ministry of Foreign Affairs	Federal
4	Information Office of Ministry of Commerce (商务部新闻办)	Information Office, Ministry of Commerce	Federal
5	National Water Park (水利风景区)	Office of National Water Park, Ministry of Water Resources	Federal
6	Police and citizens working together (警民携手同行)	Publicity Bureau, Ministry of Public Security	Federal
7	CFDA (中国食品药品监管)	China Food and Drug Administration	Federal
8	Information Office of Public Health (卫生新闻宣传)	Information Office, Ministry of Public Health	Federal
9	Weibo Release of Transportation and Safety (交通安全微发布)	Department of publicity and education, Transportation bureau, Ministry of Public Security	Federal
10	Release of Xinjiang (新疆发布)	Information Office of Xinjiang Autonomous Region government	State
11	Release of Shanghai MSA (上海海事发布)	Maritime Safety Administration of Shanghai, China	State
12	Release of Ningxia (宁夏发布)	Information Office of Ningxia Autonomous Region government	State
13	Beijing Liaison Office of Macau (澳门驻京办)	Beijing Liaison Office of Macau Special Administrative Region government	State
14	Gansu CYL (甘肃共青团)	The Communist Youth League Gansu Provincial Committee	State
15	Fujian Police (福建警方)	Fujian Provincial Public Security Department	State

16	Safe Beijing (平安北京)	Beijing Public Security Bureau	State
17	Weibo Guizhou (微博贵州)	Information Office of Guizhou provincial government	State
18	Release of Tianjin (天津发布)	Information Office of Tianjin Municipal government	State
19	Release of Fengxian (奉贤发布)	Information Office of Fengxian District government, Shanghai	Local
20	Release of Yuxi (玉溪发布厅)	Information Office of Yuxi Municipal Party Committee	Local
21	Release of Xinyi (新沂发布)	Information Office of Xinyi Municipal government	Local
22	Release of Hetian (和田发布)	Information Office of Hetian District government	Local
23	Legal Zhaoqing (法治肇庆)	Political and Legal Affairs Committee of Zhaoqing	Local
24	Fuxin CYL (共青团阜新市委)	The Communist Youth League Fuxin Municipal Committee	Local
25	Lingwu Weibo (灵武微博)	Lingwu Municipal government and Party Committee	Local
26	Nanning CYL (南宁共青团)	The Communist Youth League Nanning Municipal Committee	Local
27	Publicity Office of Pingdingshan (平顶山外宣)	Publicity Office of Pingdingshan Municipal Party Committee	Local

## Appendix B: Coding Sheet

Coder \_\_\_\_\_

**Weibo account#1** \_\_\_\_\_

Number of followers \_\_\_\_\_

Number of accounts the agency was following \_\_\_\_\_

Total number of tweets this account posts \_\_\_\_\_

Time length of this account launched Weibo \_\_\_\_\_ in days

Tweets per day on average \_\_\_\_\_

Bureaucratic level \_\_\_\_\_

1) Federal Level 2) State level 3) Local level

### **Tweet#1:**

Number of characters \_\_\_\_\_

Tweet type \_\_\_\_\_

1) Tweet 0) Re-tweet

With link \_\_\_\_\_

1) Yes 0) No

With picture \_\_\_\_\_

1) Yes 0) No

With video \_\_\_\_\_

1) Yes 0) No

With audio \_\_\_\_\_

1) Yes 0) No

With emoticon \_\_\_\_\_

1) Yes 0) No

Content type: Yes=1, No=0 (as many categories as is appropriate)

1) Internal Updates \_\_\_\_\_

2) External Governmental Updates \_\_\_\_\_

3) Policies and Regulations \_\_\_\_\_

4) Service Information \_\_\_\_\_

5) Questions \_\_\_\_\_

6) News \_\_\_\_\_

7) Comments and Opinions \_\_\_\_\_

Number of times other users re-tweeting this tweet \_\_\_\_\_

Number of responds made by profile owner \_\_\_\_\_

Number of comments from other users \_\_\_\_\_

Comment#1 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed

Comment#2 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed

Comment#3 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed

Comment#4 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed

Comment#5 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed

Comment#6 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#7 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#8 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#9 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#10 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#11 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#12 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#13 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#14 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#15 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#16 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#17 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#18 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#19 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#20 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#21 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#22 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#23 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#24 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#25 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#26 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#27 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#28 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#29 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed  
Comment#30 \_\_\_\_\_ 1) Negative 2) Positive 3) Neutral 4) Mixed