A Case Study of Risk Communication: The Beijing Smog: The Communication Battle between the Public and Government

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Abstract. Due to globalization and industrialization, the environment has become a major problem in many developing countries. Environmental crisis not only bring a healthy problem to a country but also have a big impact of economy and political affair, even international crisis. Therefore, how to delivery the risk information to the public, and what is the appropriate strategy to manage the public outrage are very important research topics. In this paper, I used the framework of risk communication from Cox (2015) to assess the communication of risk of Beijing air pollution issue. And the second part I used Sandman’s risk formula “Risk=Hazard + Outrage” and Outrage management methods to analyze what is wrong with Chinese government in this risk communication, and what is role of U.S Embassy in this risk communication. Furthermore, I discussed the role of new media, how social media has helped lay people to engage to this risk communication. I hope this paper can help readers to better understand what is risk communication, and how to manage the public outrage.

Introduction

In early 2013, Beijing’s smog issue became a global news headline because of a historically high level of particulate matter suspended in air (PM) 2.5. While, the Chinese air pollution issue is not the first time to hit the global news. It was a major concern of 2008 Beijing Olympic Games. In 2008, a news photo of U.S athletes wearing the protective masks arrived at Beijing International Airport put the U.S team at the forefront of Chinese public opinion. Chinese public felt that the U.S athletes were too sensitive to the environment, their action made China lose face in front of the world. Du shaozhong, the spokesperson of Beijing Environmental Protection Bureau (EPB), responded to the public “I think it is really unnecessary to wear a mask during the Olympic Game. The only function of mask will be added more weight to your luggage” (Chinanews.com, 2008). This speech ridiculed the U.S team’s overreaction, and tried to finger that wearing a protective mask is such an international joke since air quality is good in China. The result of this event is that under big social pressure, U.S team not only publicly apologized, but also wrote an apology statement to the Chinese and International Olympic Committee. However, it was just the opening act of international debate about Beijing air pollution between China and United States. Since 2012, the Chinese government already hid the air quality information from the public for many years. According to China Weekly magazine, one journal report confirmed by the Chinese environmental protection department official, more than forty air monitoring stations already have been monitoring PM 2.5 for more than ten years, but the results have not been posted to the public (Chinaweekly, 2013).” Why did Chinese people start to become concerned PM 2.5 around 2013? How has the information spread to the public? In order to answer these questions we need to dig deeper in the story of Beijing smog crisis.

According to the World Health Organization’s definition, PM 2.5 stands for particulate matter suspended in air. It is particulate matter with an aerodynamic diameter smaller than 2.5 micrometers. PM 2.5 is more dangerous than another measure of pollutant called PM 10, which has an aerodynamic diameter of up to 10 micrometers, because the particulate matter with smaller size can enter the lungs and heart to cause the serious diseases. The major health effects of PM 2.5 include “irritation of the eyes, nose and throat; coughing, chest tightness and shortness of breath;
reduced lung function; irregular heartbeat; and premature death in people with heart or lung disease” (WHO, 2013). Beijing Cancer Institute released a report Beijing lung cancer rate has risen threefold over the last 40 years, even though the smoking rates has declined.

Before 2012, instead of posting the PM 2.5 Index to the public. Chinese Minister of Environmental Protection using the traditional and rough pollutant indicators likes PM 10 to evaluate air quality. The result of this measurement was meant to show that the air quality was acceptable in China.

A turning point occurred in 2009 concerning the health of officials who worked at the U.S Embassy in Beijing. U.S Embassy installed an air monitor on the roof of Beijing embassy’s building and started to post the PM 2.5 index of China at their twitter account. Since the Chinese government has blocked twitter as the security issue, therefore at that moment only a small group of population in China used the third party software to follow U.S Embassy’s air quality report. PM 2.5 not became a well-known term to Chinese people until 2011. On October 22nd, 2011, after a series of smog days happened at Beijing. Shiyi Pan, a rich Beijing real estate developer and opinion leader, started to re-tweet his first message about the U.S Embassy’s air quality (AQI) figure to Weibo, a Twitter-like Chinese micro-blog website. On that day, the U.S Embassy’s AQI figure showed that the air pollution level was “Hazardous” and Shiyi Pan wrote the comment “oh my God, the air is toxic!” Six hours later, Weibo users forwarded this message more than 7,000 times. Ironically, on the same day the data posted by the Beijing EPB’s website showed that the air quality was “slightly-polluted.” The data was too rosy, which is out set of public perception. The big difference between Embassy’s data and Beijing EPB’s data let the Chinese public realized that Chinese government hid the severity of the air pollution problem. The Chinese government started to lose the trust of the public. Shiyi Pan continuously posted the U.S Embassy’s daily AQI figure, at the same time raised a campaign online to push Chinese government to add PM 2.5 index into National Ambient Air Quality. Pressure from the Chinese citizens finally drove Beijing EPB to post PM 2.5 index on their website. Again, not very long time, Chinese people found air pollution level reported by Beijing EPB was always lighter than U.S Embassy’s. Chinese people continually tend to doubt the Chinese official data. The relationship between the Chinese public and government was strained. Chinese government tried to convince Chinese people do not use U.S air quality standard to measure Chinese air quality, and do not believe U.S Embassy’s air quality report.

Soon this Chinese social crisis was raised to the international level. On June 5th, 2012, world Environment Day, Wu Xiaqing, The Spokesperson of China Deputy Minister of Environmental Protection, required foreign embassies to stop publishing the Chinese air quality information, and alluding to its violation of international law, interference in China ’s internal affairs. United States Department spokesman declined to suspend the data, he said the release of these data do not violate Chinese law or relevant international regulations.

Finally, in 2014 Beijing air pollution issue became a battle among Chinese government, the Chinese public and United States. In order to regain public trust, the Chinese government pushed the existing systems of data to disclose PM 2.5 inductor to measure the air quality. In the meantime, adding the action plan to the People’s Republic of China Environment Law to control the PM.2.5 was the priority of environmental protection. The statement requires that Beijing’s average PM 2.5 index has to drop from 98.5 micrograms per cubic meter to 60 micrograms per cubic meter by 2017.

**What is risk communication?**

As a case study of risk communication, I want to use the framework of risk communication from Cox (2015) to assess the communication of risk of Beijing air pollution issue. And the second part I will use Sandman’s risk formula “Risk=Hazard + Outrage” and Outrage management methods to analyze what is wrong with Chinese government in this risk communication, and what is role of U.S Embassy in this risk communication. Furthermore, I hope to understand the role of new media, how social media has helped lay people to engage to this risk communication.

Cox (2015) claims that risk is the sum of hazard and outrage. Sandman (1999), a United States risk communication expert, clarifies these two components of risk. One is “hazard” which is a
technical side of the risk, which focuses on the magnitude and probability of undesirable outcomes, such as “an increase in the cancer rate, a catastrophic accident, dead fish in the river, even a decline in property values” (Sandman, 1999, p.19). And the other component is “outrage”. Which is a non-technical side of the risk, “focuses on everything negative about the situation itself, and such as is it voluntary or coerced, familiar or exotic, dreaded or not dreaded? Are you trustworthy or untrustworthy, responsive or unresponsive” (Sandman, 1999, p. 19). What is risk assignment? In Cox (2015), the author identifies two model of risk assignment, one is the technical model, which is “defined as the translate of technical data about environmental or human health risk for public understanding” (p.152). The goal of technical risk assessment model is to “share quantitative risk assessments with a broader public to inform, to change public behavior and to assure the public” (p.152). The other model of risk assessment is cultural-experiential approach, which “involves the experiences of those who are affected by the risk” (p.157).

Whose Voices Speak of Risk?

Applying this risk communication framework to Beijing air pollution issue, firstly we need to identify whose voices speak of risk. In this story, there have been three main actors to speak of risk: Beijing Environmental Protection Bureau (EPB) represents the Chinese government, the Opinion leader: Shiyi Pan represents Chinese lay people, and U.S Embassy represents United States.

Risk Evaluation

In order to evaluate Beijing air pollution risk using Sandman’s risk formula, firstly we need understand the level of “hazard.” Beijing EPB and U.S Embassy mainly use technical models to assess the level of air pollution, but the result is the Chinese assessment of air pollution is always much lower than the U.S’s. The public uses cultural models to assess the air pollution in China, in addition to official government assessments. Because the Chinese official data is too rosy to public perception, this big gap pushes citizens to become scientists to create their own assessment tools of risk and to share them. For example, some photographers took the daily photos about the Beijing smog over one year period, put the photos together in a chronological sequence and shared them on the social media. From this perspective, it indicated that if people cannot get the information that they want, people would rely more on their own judgment than any numerical data to figure out the situation. During this process the Chinese government started becoming less trustworthy. The public tends to believe U.S Embassy’s data, which is closer to their perception. The public anxiety and anger became a big Chinese social crisis. The evaluation of this risk is High Hazard + High Outrage.

![Figure 1. The different measurement between China and international air quality assessment based on PM2.5 concentration.](image-url)
Chinese Government’s Response to the Risk

The public pressure was putting the Beijing EPB on the hotseat. And the Beijing EPB has really struggled to come up with a consistent communication strategy. Its primary spokesperson, Du Shaozhong had a few different types of responses from 2008 to 2012, as shown by quotes below, Figure 2(livefromBeijing.com, 2012, para. 8):

- **Our air quality is good; wearing a protective mask is such an international joke** (2008. Chinanews.com)  "I think it is really unnecessary to wear a mask during the Olympic Game. The only function of mask will be added more weight to your luggage. ”)
- **It’s not that bad.** (2011. October 12th in the Global Times -“It was only slight pollution, which was not bad enough for people to wear masks... Data released by the US Embassy is more like hype.”)
- **The US Embassy data might not be correct.** (2011. November 2nd in the Global Times– “I’m not clear about their way and methods of monitoring or how they ensure the accuracy.”)
- **OK, we admit that we don’t monitor correctly, but we’re working on it.** (2012. January. 3rd in the Global Times–“The Beijing bureau applies the current national standard, which is undergoing an amendment…Technically we are ready to adopt the PM2.5 standard.”)
- **Anyway, it’s inappropriate for China to be held to foreign standards.** (2012. April 1st in Caixin.com – “China’s air quality should not be judged from data released by foreign embassies in Beijing.”)
- **U.S is intending to interfere with Chinese internal affairs.** (2012. June 5th in Chiadialogue.net - Any foreign embassy or consulate in China that monitors air quality and shares the results online contravenes both diplomatic conventions and China’s own laws.”)

From these responses, it can be seen that the Chinese government knew the seriousness of the air pollution in China, but they tried their best to hide the information from the public.

Analysis Chinese Government’s Risk Communication

In this risk communication, the Chinese government continually losses its credibility in front of the public. But what is wrong with the Chinese government in this risk communication and what is the correct way to manage the outrage? Sandman (1999) gives three primary strategies to manage the outrage. (1.)Stay in the middle, not the extreme. In the article, Sandman explains that “in a fight between ‘terrible dangerous’ and ‘perfectly safe’, the winner will be ‘terribly dangerous’. But ‘modestly dangerous’, is a contender” (p.20). In the Beijing Smog case, the Chinese public tends to believe the U.S Embassy’s data because the level of U.S Embassy’s risk assessment is higher than the Chinese government’s. (2.) Acknowledge your prior misbehavior. Sandman explains, “The prerogative of deciding when you can put your mistakes behind you belongs to your stakeholders, not to you. The more often and apologetically you acknowledge the sins of the past, the more quickly others decide it’s time to move on” (p.20). Back to the Beijing Smog case, the Chinese...
government kept missing the best time to admit their misbehavior. Moreover, the Chinese government rejected to admit their measurement mistake, and then tried to transfer the public anger. The Chinese government figured the U.S Embassy’s data was illegal and the purpose was to interfere with Chinese internal affairs. This action of the Chinese government raised this risk level from internal to external. (3.) After the outrage becomes high level, you need to acknowledge the current problems and discuss your goals with the public to be accountable. In the Beijing Smog case, under the public pressure, the Chinese government did a cosmetic change instead of a foundational change of air quality monitor system and environmental law. This passive action made the public deeply disappointed and made them feel the government was treating them like fools.

An interesting question is what the role of the U.S Embassy is in this conversation battle? There is no denying that the U.S Embassy’s characters as an alterity. They brought the knowledge about air pollution to Chinese public to encounter and overcome their unknown. But why does the U.S government keep engaging in this international debate? To deeper understand this reason, we need to look back the story about 2008 Olympic Games. The “mask issue” the Chinese government tolerated U.S teams’ early overreaction and ridiculed their emotions made the American public angry. Figure 3 is the Google trends about interests on Beijing air pollution. The figure shows that the two major interest areas of Beijing air pollution issue are China and the United States and the peak time is 2008. It is easy to speculate that the “mask issue” made China and the United States relationship with Beijing smog issue become very sensitive. The “mask issue” attracted the United States attention and kept them involved in the Chinese environmental crisis. A further question is the United States Embassy a good communicator in this risk communication? I think the answer is yes. In Cox (2015), the author mentioned “an ideal risk communication tool would put a risk in context. Make comparisons with other risks, and encourage a dialogue between the sender and the receiver of the message” (p.162). According to this definition, certainly, the United States offers the evidence of Beijing air pollution and creates the dialogue between the Chinese government and Chinese people. Additionally, we need to highlight the role of social media in this risk communication. New media is good tool to share the public knowledge and emotion, it built the bridge to help lay people to engage in this risk communication, and made the public outrage become more and more dangerous to ignore.

In the summary, from Beijing Smog risk communication, we can learn that the appropriate strategies to manage the public outrage are: firstly, do not over-reassure the public and do not tolerate their early overreaction. Secondly, when the risk truly happened, acknowledge the risk to the public at first time, and keeping sharing information with them. The most important thing to remember is that please to treat the public like grownups not foolish children.

References
