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**The Dissertation Committee for Qian Wang Certifies that this is the approved  
version of the following dissertation:**

**Who sets the news agenda on “Chinese Twitter”?  
The relationships between the media and opinion leaders on Weibo**

**Committee:**

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Renita Coleman, Supervisor

---

George Sylvie

---

Mary Angela Bock

---

Gina Chen

---

Yuri Jang

**Who sets the news agenda on “Chinese Twitter”?**  
**The relationships between the media and opinion leaders on Weibo**

**by**

**Qian Wang, B.A.; M.A.**

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## **Dedication**

To my loving mother and father, for always supporting and encouraging me.

To my husband, Tuo, for your unconditional love and help.

To my daughter, Jiayu, for being the greatest joy in my life.

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**Who sets the news agenda on “Chinese Twitter”?**  
**The relationships between the media and opinion leaders on Weibo**

Qian Wang, Ph.D.

The University of Texas at Austin, 2016

Supervisor: Renita Coleman

Within the theoretical framework of agenda setting, this dissertation used granger causality analysis to examine the relationships between news agendas of the media outlets and opinion leaders on one Chinese social network platform—Weibo. It also utilized network analysis to compare agenda-setting effects between the media outlets and opinion leaders in crisis and non-crisis news. The study not only applied agenda setting to Chinese social media, but it also approached the agenda-setting effects of social media from a completely different perspective, recognizing and differentiating the segmented agendas on social media platforms. It examined more nuanced agenda-setting effects among the most influential groups on social media platforms, determining and comparing the news agendas of these groups. The results showed agenda-setting effects exist only between the opinion leaders and commercial media outlets rather than the official media in China. Although journalists and celebrities tended to be the most influential ones on Twitter, business elites were the most influential opinion leader on Weibo. Furthermore, the agenda-setting process among these opinion leaders changed in crisis and non-crisis news.

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## **Chapter One: Introduction**

The development of Internet communication technologies contributes to an abundance of online media channels and a blurring boundary between public and private domains. The ever-growing array of online news sources and their increasing popularity among the public have prompted communication scholars to reexamine the traditional media's agenda-setting roles. Much scholarly attention has been devoted to the agenda-setting effects between traditional media and social media, especially Twitter (Cho & Shin, 2014; Hu et al., 2012; Conway, Kenski, & Wang, 2015; Groshek & Groshek, 2013; Kongthon, Haruechaiyasak, Pailai, & Kongyoung, 2012; Kushin, 2010; Kwak, Park, & Moon, 2010; Skogerbø & Krumsvik, 2015). However, the majority of previous agenda-setting studies on social media focus on Twitter in the United States. Despite the popularity of social media around the globe, other kinds of social media and social media in countries besides the United States have received much less scholarly attention. As far as other countries are concerned, China provides a different and unique social media environment for scholarly studies. Although Twitter is blocked in China because of the country's Internet censorship (Bamman, Connor, and Smith, 2012), China creates its own social media system. Chinese social media made a strong showing in the GlobalWebIndex report in 2012, which claimed that except for Facebook, Google+, Twitter, and LinkedIn, the remaining social media on their top-ten list were all Chinese platforms (Ong, 2012).

Featuring almost the same layout and functions as Twitter, Weibo—the “Chinese Twitter”—has 198 million monthly active users in China alone (Bischoff, 2015), which is more than half of Twitter’s monthly active users around the globe (316 million) (Statista, 2015). Further, since Weibo started its operation in 2009, a new public sphere characterized by deliberative criticism for democracy has emerged in China (Reese & Dai, 2009). Weibo has become a highly interactive place where the media, various groups, and individuals can criticize, discuss, and report on the current political system, government policies, government officials’ scandals, and general social problems. It is one of the most vibrant social media platforms in China (Chao, 2010). Therefore, Weibo provides an ideal example of Chinese social media platforms. As a result, the purpose of this dissertation is to examine the agenda-setting effects on Weibo.

The first goal of this study is to determine and compare the news agendas of various opinion leaders on Weibo. The news agenda is a set of issues that are ranked in a hierarchy of importance at a given point in time, such as the economy, health care, education, or war (Dearing & Rogers, 1996). The issue agenda of the opinion leaders on Weibo indicates what issue the opinion leaders consider as most and least important. An increasing number of studies have shown that social media present a distinctive news agenda that is independent from the news agendas of traditional media (Frederick, Burch, & Blaszk, 2015; Groshek & Groshek, 2013; Jungherr, 2014; Neuman, Guggenheim, Jang, & Bae, 2014). The result indicates that social media are able to create a news agenda “without having to rely on traditional media to act as gatekeeper or fact-checker

or moderator” (Metzgar & Marrugi, 2009, p. 152). It also leads scholars to argue that social media have challenged traditional media’s dominant position in communication and made traditional media just one of many news sources on the Internet to set the public agenda (Kwak, Park, & Moon, 2010; Wu, Atkin, Lau, Lin, & Mou, 2013). Other influential news sources are considered opinion leaders on social media platforms; these sources include famous public figures, media-affiliated individuals, celebrities, political bloggers, think tanks, interest groups, and even ordinary people (Cho & Shin, 2014; Dubois & Gaffney, 2014; Leavitt, Burchard, Fisher, & Gilbert, 2009; Park, 2013; Parmelee, 2014). Therefore, the agenda-setting effects on social media platforms are no longer a linear process, either from traditional media to the public or the reverse. It has become a diversified and dynamic process through which traditional media and various opinion leaders on social media platforms compete to set the news agenda for the public. However, previous agenda-setting studies tend to treat the news agenda on social media platforms as monolithic and fail to distinguish the news agendas of various opinion leaders on social media platforms. This dissertation adds to previous studies by differentiating the news agendas of different opinion leaders on Weibo and comparing these agendas to find out the similarities and differences. Additionally, in order to verify the gender differences in opinion leadership and social media use, which were discovered in previous studies (Anderson, 2015; Fu & Chau, 2014; Katz, 1957), this dissertation also compares the news agendas of male and female opinion leaders on Weibo.

Moreover, the study further compares the news agendas of the opinion leaders with that of traditional Chinese media to find out who leads the discussion on Weibo and how. As opinions vary, no unanimous conclusion has been drawn upon who sets the news agenda on social media platforms. Some scholars argue that traditional media still set the news agenda because media organizations and media-affiliated individuals are major information disseminators on Internet-based media (Hu et al., 2012). For example, Kwak, Park, and Moon (2010) compared trending topics on Twitter with trends on Google and CNN headlines. They discovered that more than half of the trending topics were first reported by CNN, although there were cases where news broke from Twitter. Other scholars have argued that although traditional media outlets are good at breaking the news in the early stage, opinion leaders such as celebrities are critical for spreading the news to a wider audience later on (Leavitt, Burchard, Fisher, & Gilbert. 2009). Some studies about Twitter even determined that the news flow starts from a handful of elite users on the website, such as think tanks, interest groups, and celebrities (Cha, Haddadi, Benevenuto, & Gummadi, 2010; Cho & Shin, 2014; Park, 2013; Parmelee, 2014). Given the mixed results of previous studies, more studies need to be conducted to further verify the agenda-setting effects in the world of social media. Therefore, this dissertation tests the agenda-setting effects among different influential groups on Weibo, including the media outlets, media professionals, celebrities, scholars, and business elites.

Third, this dissertation compares the agenda-setting effects on Weibo in crisis and non-crisis news. Previous agenda-setting studies about social media mainly focus on one

specific issue at a time, most of which are crisis news. Their results indicate that social media tend to set the traditional media agenda in moments of crisis, such as political activism, natural disasters, and social emergencies (Bruns, Highfield, & Burgess, 2013; Cho & Shin, 2014; Kim & Lee, 2006; Kongthon et al., 2012). Twitter's agenda-setting function is quite frequent and evident in cases of natural disasters and social emergencies, such as the Sichuan earthquake in 2008, and the airplane crash in the Hudson River in 2009 (e.g. Cho & Shin, 2014; Kongthon et al., 2012). Another common theme of previous agenda-setting studies on Twitter is political issues (e.g. Colleoni, Rozza, & Arvidsson, 2014; Parmelee & Bichard, 2011; Vargo, Guo, McCombs, & Shaw, 2014). The reason that agenda-setting studies on Twitter concentrate on crisis news and political campaigns is self-evident; these issues easily capture public attention and generate fierce discussion in the world of social media. However, crisis news and political news are not the only matters that cause concern. Other kinds of issues, such as employment, race, gender, culture, and pollution, are among the trending topics on Twitter and Weibo (Twitter, 2015; Weibo, 2015). Unfortunately, these issues received much less scholarly attention. Therefore, this dissertation aims to broaden the subject areas of previous agenda-setting studies by comparing a crisis news—the case of Tianjin explosion—with a non-crisis news—the case of Tu Youyou winning the Nobel Prize in medicine.

In conclusion, the purpose of this dissertation includes differentiating the news agendas of traditional media and various opinion leaders on Weibo, examining the agenda-setting effects between traditional media outlets and these opinion leaders on

Weibo, and comparing the agenda-setting effects on Weibo in crisis and non-crisis news. Specifically, this dissertation includes two studies. The first study applied an intermedia agenda-setting approach to examine the agenda-setting effects between traditional media outlets and various opinion leaders on Weibo. This study utilized a Granger causality test, which is a type of time series analysis, to discover the directional correlations between the media agendas and the agendas of various opinion leaders on Weibo, which in turn reveals whether the media outlets or the opinion leaders set the news agenda on Weibo. The second study conducted a comparative agenda-setting study to examine the agenda-setting effects among the media outlets and opinion leaders in crisis and non-crisis news on Weibo. The comparative study selected two cases on Weibo, representing crisis news and non-crisis news respectively, and applied a network analysis to compare the attribute networks of the media outlets and the opinion leaders on Weibo for both cases.

### **SIGNIFICANCE OF RESEARCH**

First, this dissertation contributes to social media studies by examining Weibo, one of China's most popular social media platforms. Social media platforms have attracted much scholarly attention since the rise of Facebook and Twitter (e.g. Conway et al., 2015; Ellison, Vitak, Gray & Lampe, 2014; Fu & Chau, 2014; Groshek & Groshek, 2013; Kongthon et al., 2012; Neuman, Guggenheim, Mo Jang, & Bae, 2014; Russell, 2013; Skogerbø & Krumsvik, 2015; Wilson, Gosling, & Graham, 2012). While people are passionate about the use and the effects of Facebook and Twitter, it is important to



acknowledge that 1.3 billion Chinese people, who make up about 20% of the world's population, are officially blocked outside of this social media world. However, restrictions on foreign websites and social media in China have resulted in a flourishing home-grown, state-approved social media system, where Chinese netizens actively engage in the discussions of various political and social issues (Crampton, 2011). Chinese social media is different from Western social media in the way that it opens up a new public sphere characterized by civic participation and democratic discussion, which used to be impossible in an authoritarian country. The newly established public sphere in China not only allows Chinese netizens to express more-or-less freely in public discourse (Ji, 2016), but it also can foster social movement for democracy, which will ultimately result in political reforms (Tong & Lei, 2010). Unfortunately, Chinese social media as well as the changes in China's public sphere remain strange to people of other countries mainly because of the language barrier. Therefore, this dissertation adds to previous literature on social media studies, reveals the current status and dynamics of Chinese social media, and provides another source for people hailing other countries to learn about Chinese social media. This new research about Weibo also helps bring attention to lay opinions in China. It is an academic endeavor to test how Chinese social media challenge the government-controlled public sphere by allowing different and divergent voices, which will ultimately be able to affect change in the country.

Second, this dissertation provides theoretical contributions to agenda-setting theory by applying the theory to Chinese social media. Although agenda-setting theory is

supposed to work only in a free media system (McCombs, 2004), a number of studies have either utilized the theory to study public opinions in China or predicted that there is an agenda-setting effect in China, be it from the media to the public or the reverse (Liu & Ji, 2012; Luo, 2011; Luo, 2014; Wang, 2008; Wang, 2013). However, many of these studies examined the news agendas on online discussion boards or certain websites. A few studies focused on the news agenda on Weibo but they either failed to directly test the agenda-setting effects (Fu & Chau, 2014) or merely studied one specific topic at a time (Peng, 2014; Wu et al., 2013). This dissertation not only presents a general picture of various influential agendas on Weibo but also focuses on two different issues as well. It is the first study to systematically examine the news agendas of various opinion leaders and test the agenda-setting effects between the opinion leaders and the media outlets on Weibo.

Additionally, previous agenda-setting studies on social media usually compare the news agendas of traditional media outlets (e.g. newspapers, television) with the news agendas of social media platforms as a whole (e.g. Kushin, 2010; Moon, 2010). However, almost all major media organizations and individuals nowadays have one or more social media accounts. It is indisputable that the media industry is migrating to a digital world. The agendas of traditional media outlets to some degree are parts of the social media agenda at large. The trend has changed social media into a platform where traditional media outlets and other news sources publish news and interact with their audiences. A number of studies used advanced methods of big data analysis and found that the agenda-

setting process on Twitter involves the interaction of different influential groups and depends on issue topics (e.g. Cha et al, 2010; Hu et al., 2012). From this perspective, the complexity and dynamics of agenda-setting effects on social media platforms deserve further clarification. This dissertation approached the agenda-setting effects of social media from a completely different perspective, recognizing and differentiating the segmented agendas on social media platforms. It examined more nuanced agenda-setting effects among the most influential groups on social media platforms, determining and comparing the news agendas of these groups.

Besides the theoretical contribution to agenda-setting theory, the dissertation makes methodological contributions to agenda-setting studies as well. It tests both the traditional agenda-setting effect and the networked agenda-setting effect (NAS model) on Chinese social media, which verifies the validity and reliability of the newly developed NAS model and expands the methodological development of agenda-setting theory to a different cultural context. It provides groundwork for future research that is interested in either the NAS model or the agenda-setting effects within Chinese context.

## **Chapter Two: Agenda-Setting Theory**

Since the idea of “the world outside and the pictures in our head” was developed by Walter Lippmann in early 1920s, the study of journalism and mass communication has developed and evolved around the influence of the media on the public (Lippmann, 1922, p3). In line with this school of thought, a variety of theories have emerged in order to better understand how the media affect public opinion, among which is one of the most popular communication theories—agenda-setting theory (McCombs & Shaw, 1972). Agenda-setting theory is special because "it is an indigenous theory born from this field of research (mass communication), not from other disciplines such as sociology, psychology, or political science" (Takeshita, 2006, p.291). It also sets the theoretical framework for this dissertation. This chapter will briefly discuss the development of agenda-setting theory during the past decades, followed by the descriptions of the intermedia agenda-setting effect and the NAS model, which are used in this dissertation.

### **THE EVOLUTION OF AGENDA-SETTING THEORY**

The core concept of agenda-setting theory is the transfer of salience from the media agenda to the public agenda, including issue salience (first-level agenda setting) and attribute salience (second-level agenda setting). Since McCombs and Shaw proposed the theory in their 1968 Chapel Hill study (McCombs & Shaw, 1972), agenda setting has been frequently tested in a variety of disciplines (Coleman, McCombs, Shaw, & Weaver,

2009) and in different countries (McCombs, 2005). The theory has gone through four stages of evolution (McCombs & Bell, 1996).

The original Chapel Hill study and all the studies replicating it (e.g. Funkhouser, 1973; Iyengar & Kinder, 1987; Palmgreen & Clarke, 1977) belong to the first phase, which is characterized by studies on different kinds of salience transfer from the media agenda to the public agenda. The second phase integrates uses and gratifications theory, which argues that audiences are active participants during the communication process and they select the media content based on their needs (McCombs & Bell, 1996). Therefore, the agenda-setting effect is mediated by the need for orientation (Matthes, 2006; McCombs & Weaver, 1973; McCombs & Bell, 1996; McCombs, 2004; Valenzuela & McCombs, 2009). The third phase of agenda-setting research focuses on different kinds of news agendas. For example, McLeod, Becker, and Byrnes (1974) examined the agenda-setting effects of three different public agendas, including the intrapersonal public agenda (the issues a person is most concerned with), the interpersonal public agenda (the issues a person talks about with his/her families and friends), and the perceived community public agenda (the issues other people in one's community are most concerned about). The development of the Internet and new technologies results in the proliferation of media channels and the popularity of social media, which gives rise to the fourth phase of agenda-setting studies. The fourth phase mainly answers the question "who sets the news agenda?" instead of "who sets the public agenda?" Agenda-setting studies in this phase examine the intermedia agenda-setting effects, which refers to the

relationships among the news agendas of different media channels, including traditional media, blogs, online discussion boards, and social media (Boyle, 2001; Cho & Shin, 2014; Gold & Simmons, 1965; Kongthon et al., 2012; Kushin, 2010; Meraz, 2011; Reese & Danielian, 1989; Roberts & McCombs, 1994). The first study of this dissertation focuses on the fourth phase and will apply the intermedia agenda-setting approach to explore the agenda-setting effects on Weibo.

### **INTERMEDIA AGENDA SETTING**

Intermedia agenda-setting studies at the early stage compare the news agendas of different traditional media outlets. For example, Gold and Simmons (1965) concluded that local news agendas were strongly affected by wire service reports. Reese and Danielian (1989) found that *The New York Times* set the agenda for other newspapers in covering drug-related deaths. Roberts and McCombs (1994) investigated the agenda-setting effects during the 1990 Texas gubernatorial campaign and confirmed that political advertising exerted influence on the news agendas of newspapers and television programs. Boyle's (2001) study of the 1996 presidential campaign also found a significant impact of candidate television advertising on the network news and all three of the major newspapers analyzed. As the rise of the Internet and online media, scholarly attention has shifted to intermedia agenda-setting effects between traditional media and new media on the Internet. For example, Meraz (2011) compared the traditional media agendas and the blog agendas, finding that left-leaning blogs shared strongly correlated

attribute agendas with traditional media, while there were few significant correlations between the right-leaning blogs and traditional media. The study also found weak ties between the moderate blog agendas and the traditional media agendas, which suggests that the moderate blogs provide a platform for liberal and diverse political conversation (Meraz, 2011).

Thanks to the rapid development of Internet communication technologies, the advent of social media has brought about another hot bed for intermedia agenda-setting studies. The popularity of social media platforms, especially among young people, has made them an alternative to traditional news media organizations. The public can search, share, comment, and most importantly, produce news by themselves on social media platforms. Social media also keep increasing their emphasis on news, and the majority of Twitter and Facebook users now use them as a source for news (Johnson & Yang, 2009; Kushin, 2010; Pew, 2015). Communication scholars have considered Twitter a news source as well because its retweet function serves as a communication channel of information flow and retweets can quickly reach a larger audience (Kwak, Lee, Park, & Moon, 2010). However, social media are different from traditional news media in the way that they create a platform where various media outlets and other news sources (e.g. families, friends, and organizations) coexist and interact.

News dissemination on social media platforms is through both interpersonal communication and media-to-the public communication (Domingos & Richardson, 2001; Kossinets & Watts, 2006; Papacharissi, 2010; Park, 2013; Wu, Hofman, Mason, & Watts,

2011). Furthermore, social media allow the voices of both mainstream and marginalized groups in society to be heard while also generating discussions about issues that are neglected or covered less in mainstream media (Cross, 2011). This phenomenon has led to a more diverse and fragmented news agenda on social media platforms, which cannot be related to the traditional media agenda as a whole (Frederick, Burch, & Blaszk, 2015). As a result, social media users tend to get news from a broader mix of news sources, including ordinary individuals, news organizations, non-news organizations, journalists, and others (Pew, 2012). These news sources are opinion leaders on social media platforms, who are able to report news information and affect the public opinion in the same way as traditional media. Under this context, the news agenda on social media platforms is not monolithic and the agenda-setting effects on social media platforms involve the participation of both the media outlets and various opinion leaders. The past decade has witnessed a number of intermedia agenda-setting studies examining the agenda-setting effects between social media and traditional media (Cho & Shin, 2014; Conway et al., 2015; Frederick, Burch, & Blaszk, 2015; Groshek & Groshek, 2013; Kongthon et al., 2012; Kushin, 2010). However, very few studies differentiated the agendas of various opinion leaders on social media platforms. Therefore, the first study of this dissertation addresses this question by mapping out the news agendas of different opinion leaders on Weibo and comparing the agenda-setting effects between the media and these opinion leaders on Weibo.



## **Network Agenda Setting (NAS) Model**

As a news source, social media also complicate news dissemination patterns by allowing people to connect with each other to form their personal networks and share information freely with others. To put it another way, social media have visualized people's invisible personal and information networks in society, illustrating humans' complex cognitive representations of connecting and associating various elements together to learn (Kaplan, 1973; Anderson & Bower, 2014). However, traditional agenda-setting theory is based on the assumption that information transmission between the media and the public is both linear and discrete, without overlap or interaction (Vu, Guo, & McCombs, 2014). It cannot detect how the public associate issues or attributes, or whether that is influenced by media coverage or other factors. In response to the rise of social media, Guo and McCombs (2011) introduced network analysis into the realm of agenda-setting studies, leading to the birth of network agenda setting (NAS) model (Guo, 2013; Guo & McCombs, 2011a, 2011b; Vargo, Guo, McCombs, & Shaw, 2014; Vu, Guo, & McCombs, 2014).

The NAS model uses network analysis to map out the interrelations among various elements in the media agenda and the public agenda, and then compares the two network agendas (Guo, 2012). It argues that the salience of interrelationships among various issues and/or attributes can be transferred from the media to the public. Although the NAS model is relatively new, studies have shown that the salience of the networked relationships among objects and/or attributes can be transferred from the media to the

public (Guo & McCombs, 2011a, 2011b). For example, Guo and McCombs (2011) compared the media and public agenda networks of the political candidate attributes in the Texas gubernatorial and U.S. senatorial elections in 2002. The results found that the two networks were significantly correlated with each other, which supported the model. The NAS model is further supported in several intermedia agenda-setting studies, finding that the salience of networked news agendas can be transferred among different media outlets (Guo & Vargo, 2015; Guo et al., 2015; Vargo et al., 2014; Vu, Guo, & McCombs, 2014). The first intermedia agenda-setting study using the NAS model is a comparative international study, which compares the networked attribute agendas in news coverage of the Iraq War in six countries (Guo et al., 2015). The study found that the networked agendas of news coverage on the Iraq War were similar in countries with the same political stance on the war.

In general, the NAS model improves traditional agenda-setting theory by expanding the discrete issue/attribute agenda to a networked agenda, which mimics humans' cognitive representations of the world. It is especially efficient to test the agenda-setting effects in situations that involve various factors or attributes. It is because the NAS model can provide a comprehensive picture of an issue by presenting the interrelationships of its various attributes. As a result, the NAS model is a more optimal way to test the agenda-setting effects on social media, where the discussions of a trending topic always involve millions of posts emphasizing a wide spectrum of relative attributes of the topic. The second study of this dissertation aims to find out whether the agenda-

setting effects on Weibo differ in crisis and non-crisis news. Since the study examines two trending issues on Weibo that consist of various attributes respectively, it will use the NAS model to explore the networked attribute agendas of the media outlets and the opinion leaders for both cases as well as to find out their interrelationships.

### **Chapter Three: Chinese Social Media and Agenda Setting**

Chinese media at the outset are designed by political leaders as a government instrument for social and political control (Chan, 2007). Not only media organizations but also Chinese journalists were tightly controlled by the state. For decades, the meaning of being a journalist in China, especially in official media organizations such as Xinhua News agency, was different from that in the Western countries. Journalism was a political career and Chinese journalists were more like "publicists" who distributed information to mass audiences under the supervision of the state (Dong, Park, & Chang, 2013). The governing style of the media system was copied from the Soviet Union, where the media was controlled by the government and existed merely to fulfill the agenda of the single ruling party (Lynch, 1999). The propaganda role of Chinese media as serving the communist party and government policies remained the same until China's economic reform at the end of 1970s, which significantly changed the media landscape in China for the first time.

Since 1978, when China's marketization was set in motion, momentum toward less state control of the media has been building (Kalathil, 2002). The trends of globalization and marketization, coupled with the new media technology from live television as well as the Internet, have strongly challenged the media system in China. The opening-up process of the Chinese media reached a crescendo in 2003 when China was hit by severe acute respiratory syndrome (SARS) in 2003. The SARS epidemic was a rude awakening for the Chinese government, whose attempts to control media

information and cover up the news only backfired. Propelled by both domestic and international criticism, the Chinese government realized that information control was no longer feasible while information disclosure was clearly in order (Tai & Sun, 2007). In response, China established a press spokesperson system across central and local governments in order to communicate with the media (Wang, 2011). By 2011, every department at all levels of the government had spokesmen who represent and speak for the central and local governments, especially in times of crisis (Yoon Park, 2011). The move shook off the existing media system and gave birth to critical journalism, which enabled journalists to be separate from the political system and conduct investigative reports (Dong, Park, & Chang, 2013).

Driven by the free economic market, the Chinese media industry, which used to rely on government subsidy and support, started to earn revenues through advertisements in late 1980s (Ge, 2011). The majority of Chinese media outlets had become financially independent by 2003, with exception of a handful of official news organizations directly controlled by national and local governments, such as *People's Daily*, Xinhua News Agency, and CCTV (Shirk, 2010). Meanwhile, a group of semi-privatized commercial media, such as *Caijing*, *Phoenix* television, and other local satellite television stations, emerged through the process of marketization, expanding press freedom in China to a great extent and quickly gaining unprecedented public trust and popularity (Dong, Park, & Chang, 2013). Commercial media outlets have been cautiously testing the limits of media control and are willing to push the state on politically sensitive topics such as

government misconduct and free speech (Kalathil, 2002). They offer journalists opportunities to report of their own free will and support them when they get into trouble with the government. Throughout the trends of marketization and pluralism, Chinese journalists have evolved from state employees to investigative reporters who have gained sufficient autonomy while covering the news except in regard to coverage of politics, political figures, or anything related (Lee, 2005). Chinese journalists have also learned to use “tactics” such as puns and historical allusions to evade and resist government control of the media (Pan & Lu, 2003).

In addition to changes in the Chinese media system and journalism industry, the marketization trend has also led to changes in editorial and marketing strategies in Chinese news organizations. Rather than advocating government policies as before, both official and commercial news organizations began to tilt toward being audience oriented, with an emphasis on educating and entertaining the public, as well as promoting China’s economic development (Hong & Cuthbert, 1991; Zhao, 1998). Not only news content but also news genres and techniques changed to cater to the audience (Pan, 2000). For example, China Central Television (CCTV), one of the state-owned news organizations, established the News Commentary Department in 1994 and produced a number of programs in the form of a combination of in-depth journalistic report and commentaries. These programs, such as *Oriental Horizon (Dongfangshikong)* and *Focus (Jiaodianfangtan)*, were among the highest rated TV programs in China that had profound impact on Chinese society (Li, 2002). Chinese official newspapers, such as

*People's Daily*, also provided more user-friendly news than before (Kalathil, 2002). Although official news organizations have been adapting to the new climate slowly, they tread carefully and never break the rules. Differently, commercial media outlets in China carried out bold reforms and their journalists embarked on brave quests for professionalism. Shuli Hu, former editor-in-chief of *Caixin* magazine in China, weathered political pressure to investigate stock manipulation, corruption and collusion between corporations and official leaders in China. Her investigative reporting won her international acclaim and *Business Week* dubbed her “China’s most dangerous woman” in 2001. She resigned from *Caixin* magazine and started *Caixin Media* in 2009, one of the most influential commercial media organizations in China. Another example is Hunan Satellite Television, a local television station in China’s Hunan province. Hunan Satellite Television initiated the change in Chinese local stations in 1997, providing lively entertainment programs, nightly shows with investigative reporting, and human interest stories that have made it one of the most financially successful television stations in the country (Kalathil, 2002).

Overall, the trend of marketization and globalization in China transformed the Chinese media industry in many different ways. Mostly importantly, the trend gave birth to a number of commercial media organizations that are semi-privatized and driven by profits and journalistic professionalism. Compared to official media organizations, commercial media organizations in China provide more investigative reporting and

human interest stories, have the courage to challenge the system, and in turn are considered more credible by the public.

## **THE RISE OF SOCIAL MEDIA IN CHINA**

The government control of the media has been further challenged by the rise of the Internet in China. The Internet brought about the information revolution in China and offers a participatory forum where individuals gather to share information, build alliances, voice alternative perspectives, and ultimately become empowered (Canclini, 2001; Downing, 2003; Kellner, 2000). Many commercial web portals make news coverage from different news organizations available and encourage competition among news organizations. News often comes out on the Internet earlier than traditional media can publish it, which pressures traditional media to follow and helps push the boundaries of acceptable news (Kalathil, 2002). Even official media outlets such as *People's Daily* maintain a strong web presence that is more user-friendly than their official images. Their websites provide mixed news content ranging from politics to sports and entertainment, enhanced by a lively tone. Not only do official media outlets use the Internet to publish news content that is not acceptable on their official platforms, Chinese journalists also consider the Internet a pressure valve where they ventilate their story ideas and feelings suppressed by the system.

As of December 2014, China had 649 million Internet users and an Internet penetration of 47.9% (CNNIC, 2015). With the proliferation of social media since 2009,



the number of registered Chinese microblog users in 2015 reached 249 million, compared to 8 million users in 2009 (CNNIC, 2015; Esarey & Qiang, 2011; Jiang, 2013). As far as Weibo is concerned, it had 198 million monthly active users in China alone as of 2015, 96% of which were ordinary people. According to Weibo's user report in 2015, Weibo users were mainly highly educated young people ages 17 to 33. Although the users were evenly composed of men and women, there were more women than men in the 17 to 24 age group, while there were more men than women in the 24 to 33 age group. Moreover, men used Weibo as frequently as women (Weibo Report, 2015a).

Although the group of Internet users is fairly large in China, what really matters is the purpose of using the Internet. Before the arrival of social media, Chinese cyberspace was mainly a place for socializing and entertainment (Guo, 2007). People communicated and shared information online, which had little to do with politics and public affairs. Since the advent of social media in China, more than half of Chinese netizens have used the Internet to express opinions intended to "supervise" government activities (Esarey & Qiang, 2011). The Internet has greatly contributed to political engagement in China by making different voices heard, creating a public sphere for political discussion, and organizing online collective actions (Wu, 2007).

Despite the growing openness and diversity on the Internet, China remains one of the most sophisticated countries for Internet filtering and information control in the world (OpenNet Initiative, 2009). The Chinese government has implemented efficient ways to control the Internet to protect its domestic interests. It established the Great Firewall

(GFW), a technology that blocks access to foreign websites through IP and DNS filtering (Bamman, O'Connor, & Smith, 2012). Meanwhile, the government developed an advanced Internet filtering system through a method known as keyword-based filtering, which inspects the content of IP packets to determine if specific, sensitive keywords are present (OpenNet Initiative, 2009). These keywords mainly relate to banned historical events, groups, and content that potentially undermines the authority of the communist party as well as social stability (OpenNet Initiative, 2009). Websites and information that contain these keywords are blocked in China as well.

As a result, many websites, such as Twitter and Facebook, are inaccessible to the majority of Chinese people. Thanks to computer technologies, Chinese people launched their own social media that are compatible with government censorship. As one of the most popular social media platforms in China, Weibo possesses almost the same designs, layout and functions as Twitter. The major difference is that Weibo users are allowed to insert graphical emotions or attach multimedia content in every post (Deutsch, 2015).

One may question whether Weibo is free enough to allow deliberate discussion since it is completely confined within China's Internet filtering system. It does, in fact, offer a participatory platform where Chinese netizens voice alternative perspectives and become empowered. The fundamentally transformative effect of social media in China is that they break down the government monopoly of information and push for information transparency and accountability (Lynch, 2011). Although the government blocks many international websites, there are various technological ways to jump over the Great

Firewall and be exposed to whatever information is on the Internet. With the help of computer technologies, Chinese people are able to access the blocked information and share them on Chinese social media, where the information will go viral. Even if the information is banned for certain reasons, there will always be people who have it and will spread it. In addition, censorship and filtering mechanisms exist in every country as well as in social media organizations such as Facebook and Twitter (Bamman, O'Connor, & Smith, 2012; Pempel, 2015). The United States censors Internet display of “child pornography, libel, and media that infringe on copyright or other intellectual property rights” (Bamman, O'Connor, & Smith, 2012, p.2), while China extends this list to politically sensitive issues. Both Facebook and Twitter remove content that they considered improper from their platforms and are governed by the laws of the country where they operate (Bamman, O'Connor, & Smith, 2012; Pempel, 2015). In this sense, although Weibo is censored by the government, it is another social media platform just like Facebook and Twitter. Therefore, the content and communication process on Weibo can be studied the same way as that on Western social media platforms. Despite the similarities, Chinese social media has its own peculiarities, which are explained in the following section.

## **THE CHARACTERISTICS OF CHINESE SOCIAL MEDIA**

There are differences between social media in Western countries and in China. First, the results of a survey indicate that activists in both China and Latin America

consider social media as a more important tool to promote debate and discussion than activists in the United States, who think social media are more important for posting announcements and news from their groups or organizations (Harp, Bachmann, & Guo, 2012). In addition, Western scholars argue that online activism through social media only enhances public awareness of certain issues but will not lead to social or political reform (Diamond, 2010; Harp, Bachmann, & Guo, 2012; Morozov, 2011). Conversely, online sharing and discussion in China quite often culminates in massive group incidents, which refers to online or offline events where a large number of people autonomously join together to express their sentiment and opinion, fight for their own interests, and possibly influence policy making (Bondes & Schucher, 2014). In 2003, only two massive group incidents occurred. By 2009, however, the number of massive Internet incidents had risen to 12 (Tong & Lei, 2010). These massive group incidents on Weibo have led to substantial reform of government policies regarding migrant workers in metropolitan, urban development projects, and judicial decisions (Tong & Lei, 2010). For example, an environmental protest against a proposed waste water pipeline in the Chinese city of Qidong, Jiangsu province, was organized through Weibo by a group of young people in July 2012. Thousands of citizens joined the protest and took to the streets, demanding the cancellation of the project that would pollute the local environment. The protest ended up with a local government policy that banned the project permanently. Therefore, social media are bringing a revolution to China. Although the impact is not dramatic enough to

change the whole political system and correct all social injustice, it is a revolution experienced “in a thousand tiny, everyday ways” (Thompson, 2006, p.32).

Second, Chinese social media platforms are not merely another news source. They have greater impact on the journalism industry than social media in Western countries. Western scholars argue that traditional media still dominate the mass communication process, with social media playing a supplemental role (Bowman, 2008; Hermida & Thurman, 2008). Media outlets and journalists are the most active users on Twitter (Wu et al., 2011). Lots of information shared on Twitter is from traditional media, especially news events and political discussions (Hu et al., 2012). Bloggers are also among the most influential users on Twitter. However, many famous bloggers are actually former or current journalists (Meraz, 2009). Although Western media nowadays frequently cite social media as news sources, they underscore the credibility of social media sources (Livingston & Asmolov, 2010). On the contrary, social media have revolutionized the way traditional media and journalists do their work. PR Newswire Asia surveyed 2,503 Chinese journalists and revealed that more than 90 percent of the respondents consider news originating from social media valuable and almost half of them regularly use Weibo to obtain news (Dowell, 2010). Information reported by Chinese netizens on social media platforms serves as a news database from which traditional media and journalists select some stories for further investigation (Luo, 2011), and a great number of story ideas covered by traditional media are introduced through Weibo (Wang, 2013). Although traditional media in China are tightly controlled by the

government, ordinary people are able to utilize social media to break stories on sensitive issues that are usually banned in traditional media. The cumulative public expression on social media platforms, therefore, not only attracts media attention but also legitimizes traditional media's coverage on sensitive issues. It is because public opinion on social media platforms has become a barometer for the Chinese government to know public sentiments and implement policies (Luo, 2011; Tai, 2006). Both characteristics of Chinese social media discussed above indicate a different communication pattern on Chinese social media compared to Western social media, which makes it worthwhile to study the agenda-setting effect on Weibo.

Public opinion on social media platforms has become so powerful that it results in even harsher government censorship on the Internet (OpenNet Initiative, 2009). Chinese authorities proposed that social media users should register with their real names, which incurred violent opposition from Chinese netizens (Xinhua News, 2012). Not only the Chinese government but the governments in so-called liberal countries feel helpless in the face of the increasing power of social media. Even the U.S. government fears the potential power of social media and tries to extinguish activist efforts of citizen journalism through intimidation (Wall, 2009). In response to censorship on social media platforms, "Chinese social media users have grown savvy at expressing themselves through political satire, spoofing, and ironic uses of politically correct language" to avoid government punishment (Esarey & Xiao, 2008; Rosen, 2009).

## **OPINION LEADERS ON CHINESE SOCIAL MEDIA**

What is unique about social media such as Twitter and Weibo is that different news sources, either groups or individuals, interact with and adapt to each other in order to compete to lead the information flow on the Internet. News information on these social media platforms can reach a large number of people from all walks of life, which can be explained by Granovetter's (1973) theory of "the strength of weak ties." The theory defines weak ties in a relationship network as having less personal intimacy and emotional bonding than strong ties. It further argues that information always reaches a larger number of people and traverses greater social distance through weak ties rather than strong ties (Granovetter, 1973). The relationship on Facebook is a good example of strong ties because people tend to connect only with their friends or someone they know on this website. The connection between liked-minded people on Facebook in turn results in homogenous information on their social networks. Conversely, Twitter and Weibo users have "followers" rather than "friends" and the connections on these platforms are based on content rather than relationships (Virk, 2011). The weak ties on Twitter and Weibo as well as the retweet function greatly contribute to rapid information diffusion and fierce discussion among different groups and individuals on these platforms. It is the discussion, expression and exchange of ideas within such online public space that impact what the online participants perceive to be important (Lee, Lacendorder & Lee, 2005; Watts & Dodds, 2007). The phenomenon is termed by scholars as "collective intelligence," referring to the collective contributions of many dispersed individuals

creating a community of knowledge (Kwak, Park, and Moon, 2010; Tapscott & Williams, 2006).

The emergence of collective intelligence can be attributed to three major trends taking place in this digital world. First, the rise of new media and technologies gives birth to a great number of news sources on the Internet, which results in fragmented audiences and interactive two-way communication. The active Internet users do not need to stick to a specific news media outlet for information because of the wider range of online choices. Second, public trust in traditional news media and the journalism industry has declined dramatically so that traditional media are not gaining new audiences but rather losing them to new media (Cross, 2011). The managed communication routines that define contemporary elections and governance processes (Blumler & Gurevitch, 1995; Blumler & Kavanagh, 1999) can be easily made public on social media platforms. Younger people all over the world know too much about the manipulated political system and develop profound political and media cynicism (Cappella & Jamieson, 1997; Cook, 1998; Delli Carpini & Keeter, 1997; Ryfe, 2006). They are breaking away from consuming traditional news and leaning towards their peers, friends, and trusted experts for information (Bennett & Iyengar, 2008; Domingos & Richardson 2001; Hamilton, 2004). Finally, interpersonal communication has become increasingly amplified through social media. The most common way of disseminating information on social media platforms is through interpersonal communication, referring to people sharing and commenting to each other's posts. Because ordinary people share and comment about



what they perceive as important, they automatically get involved in the agenda-setting process on social media platforms (Kushin, 2010).

These trends together have given rise to the emergence of opinion leaders on social media platforms. The original concept of “opinion leaders” comes from the two-step flow model, which argues that news information stemming from the media reaches the mass population through opinion leaders (Lazarsfeld, Berelson, & Gaudet, 1944). Traditional opinion leaders are individuals who have higher levels of education, larger personal networks, and more frequent access to the media than ordinary people (Katz, 1957). Applying this concept to social media, communication scholars target opinion leaders on Twitter by measuring the influence of Twitter users. Some studies measured “influence” based on the number of followers (e.g. Weng, Lim, Jiang, & He, 2010). Others argued that the number of followers is not a meaningful measure of influence, instead defining it as the number of times an individual user is mentioned and/or retweeted (Cha & Gummadi, 2010; Sousa, 2010). Cha et al. (2013) differentiated and compared three measures of influence—the number of followers, retweets, and mentions. They argued that the number of followers indicates a user’s popularity but has no relationship with engaging audience and retweets, the number of retweets signify the content value of a user’s tweet, while the number of mentions represents the name value of a user (Cha et al., 2013). There are also scholars claiming that measuring influence based on only one factor is not as efficient as considering different aspects of influence at the same time (e.g. Lee, Kwak, Park, & Moon, 2010). Sysomos—a social media analytics

and monitoring tool—calculated the authority rankings of Twitter users based on several factors, including number of followers, frequency of updates, and retweets (Sysomos, 2015). This dissertation defines the influence of Weibo opinion leaders in a similar way that calculates their rankings based on a variety of influential factors.

Obviously, different definitions of influence result lead to different kinds of opinion leaders on Twitter. Cha et al. (2013) found that the most followed users are a wide variety of public figures and media outlets, the most tweeted users are content aggregation service, business men and news sites, and the most mentioned people are mainly celebrities. Other influential opinion leaders on Twitter include journalists, professors, celebrities, organizations, political bloggers, think tanks, and interest groups (Cho & Shin, 2014; Dubois & Gaffney, 2014; Leavitt et al., 2009; Park, 2013; Parmelee, 2014).

According to Lazarsfeld's concept of opinion leader, news information stems from the media and opinion leaders serve as an intermediary between the media and the public. However, news flow on Twitter does not necessarily start from the media because the opinion leaders are capable of posting news information on Twitter as fast as or even faster than the media (Cho & Shin, 2014; Leavitt et al., 2009; Park, 2013; Parmelee, 2014). Furthermore, different opinion leaders play distinctive roles in the information dissemination process on Twitter. For example, media professionals are successful at breaking out the news at early stages, while celebrities are critical to spread the news to the audience later on (Hu et al., 2012; Leavitt et al., 2009).

Opinion leaders on Chinese social media platforms have received much less scholarly attention compared to Twitter. The dissertation found only one academic study about Chinese opinion leaders on Weibo. In 2009, a public opinion research lab in Fudan University of China designed a study to find out the most influential Weibo users, which is the first and the only official ranking of opinion leaders on Weibo (Wang, 2013). The study used PALAS, well-known Internet information monitoring system, to track Weibo users' activities and compiled a list of top 100 opinion leaders on Weibo and specifically named the top ten male and female opinion leaders, top ten young opinion leaders, and top ten opinion leaders in different fields on Weibo. PALAS is similar to Sysomos in the United States and is commonly used by Chinese government and corporations to monitor public opinion on websites. The study concluded that a typical opinion leader in China was a middle-aged scholar or businessman and the most influential opinion leaders on Weibo included media professionals, scholars, and businessmen (Su, Zhang, & Zhang, 2009). One agenda-setting study on Chinese online discussion forums argued that online activists and journalists were the major opinion leaders in the agenda-setting process on the Internet (Luo, 2011). More recently, Fu and Chau (2014) studied a grassroots movement on Weibo, finding that media professionals and business elites were playing a critical role in online grassroots movements. However, celebrities were opinion leaders for a sensational incident on Weibo that was not followed and covered by any media outlet.

Based on the findings of previous studies, the opinion leaders on Weibo and Twitter share some similarities. Media professionals, celebrities, scholars, and public figures (e.g. business elites in China) are the most influential opinion leaders on both social media outlets. Much has been said about the opinion leaders on Twitter, but little is known about the opinion leaders on Weibo in regard to their news agendas. Therefore, this dissertation aims to map out the news agendas of different opinion leaders on Weibo, including media professionals, celebrities, scholars, and business elites. The following research questions were proposed:

RQ1: What are the issue agendas of the opinion leaders on Weibo, including a) media professionals, b) celebrities, c) scholars, and d) business elites?

RQ2: Are the issue agendas of these opinion leaders correlated with each other?

### **Gender differences of opinion leaders on Weibo**

While examining the agendas of opinion leaders on Weibo, it is also important to assess these stances based on gender. Gender differences exist in both news industry (e.g. Armstrong, 2004; Thiel-Stern, 2006) and society (e.g. Warner, 2014). And gender differences of opinion leaders are not news. The pioneer studies on opinion leaders already found gender differences in opinion leadership decades ago, stating that men were more likely than women to be opinion leaders in the realm of public affairs (Berelson, Lazarsfeld, & William, 1954; Katz, 1957). The finding is understandable

because men and women have different news interests and habits. Women are more interested than men in stories about weather, health and safety, natural disasters, and tabloid news. Men show more interest than women in stories about international affairs, political news, and sports (Pew, 2008). Similar results have been found on Twitter, where more women pay attention to posts about weather and traffic, entertainment, and crime, as well as health and medicine (Pew, 2015). In terms of social media use, women have been more avid users of social media than men in the United States, although men are catching up (Anderson, 2015). Specifically, women are more likely to use Facebook and Instagram, while men are more likely to use online discussion forums like Reddit and Digg. There are not significant gender differences on Twitter or LinkedIn (Anderson, 2015).

Regarding news content, women are misrepresented and less represented in traditional media because of the male dominance in both society and newsrooms (Armstrong, 2004; Brown et al., 1987; Cullity & Younger, 2009). Statistics show few women in the United States hold political office (Artwick, 2013), seats in the judiciary (Refki, Eshete, & Hajiani 2012), and the position of chief executive officers in big companies (Warner, 2014). In newsrooms, women were less likely than men to be appointed as chief editors of traditional media organizations and online publications (Thiel-Stern, 2006). Compared to women, men dominate news coverage both as sources and subjects (Armstrong, 2004; Zoch & Turk, 1998). Scholars explained the gender disparities in both society and traditional media based on hegemony theory, which posits

that “the culture’s most powerful groups obtain consent for their leadership through the use of ideological norms” (Hardin, Dodd, & Lauffer, 2006, p.431). Those ideological norms form social structures that privilege certain social groups while disadvantaging others, including women and racial minorities. As social media platforms such as Twitter gain popularity among media organizations and journalists, scholars argue that social media actually mirror rather than challenge the gender hierarchy and disparities in traditional media (Armstrong & Gao, 2011; Thiel-Stern, 2006). Not only are women less mentioned in Tweets than men but traditional media organizations and journalists also tend to practice existing ways of doing things on social media platforms (Armstrong & Gao, 2011; Deuze, 2008; Lasorsa, Lewis, & Holton, 2012).

As far as Chinese social media platforms are concerned, female users have been more actively engaged in online discussions of almost every trending topic on Weibo through 2015 (Weibo Report, 2015b). One study even found that female users from big cities in China were the major group that promoted a grassroots movement on Weibo (Fu & Chau, 2014). The results indicate the power of women being opinion leaders in Chinese social media. The fact that Chinese women show a strong presence on Weibo can be understood by the increasingly improving gender equality in China during the past six decades (Attané, 2012). Despite the extreme masculine sex ratio and traditional stereotypes of genders, gender equality and women’s development are among the most longstanding policies for promoting social and economic prosperity (China Daily, 2015). As early as the 1950s, constitutions and laws were issued in favor of women’s work

outside of the home and gender equality within household (Attané, 2012). China held the 4<sup>th</sup> World Conference on Women in 1995 and actively echoed the United Nations to promote the status of women in the country since then (UN Women, 1995).

By facilitating access to health, education, and the workforce, changes took place in the power relationship between men and women in China. The employment rate for women in China is among the highest in the world, much higher than Japan and South Korea (Attané, 2012). The number of middle-ranking and senior female professional and technical personnel in 2013 account for 44.1% of the total in this category (ACWF, 2015). One quarter of Chinese entrepreneurs are female and about 55% of new Internet businesses are being founded by women (ACWF, 2015). Women account for 52.1% of undergraduate students, 51.6% of postgraduate students, and 36.9% of doctoral students in China (ACWF, 2015). The highest number of self-made female billionaires on Forbes 2013 billionaires list came from China (Flannery, 2013). Overall, Chinese women have been more economically independent and have more autonomy nowadays although the discrepancies between urban and rural women are still vast (ACWF, 2015). The improved social status of women leads to enhanced social participation, which is evident in Chinese women's active engagement in Weibo discussions.

In the journalism industry, female journalists are now the majority of journalism workforce in China while the percentage of female journalists increased dramatically from 32.9% in 1997 to 52.9% in 2012 (Zhang & Su, 2012). The number of female business journalists is rising as well (Che, 2014). Most women worked at radio stations

(63.6%), magazines (62.7%), and TV stations (59.5%), while male journalists (52.8%) only slightly outnumbered female journalists in newspapers (Zhang & Su, 2012). Because little is known about gender disparities in news content of both Chinese traditional media and new media, this dissertation fills the gap by presenting the following research question:

RQ3: What are the issue agendas of a) male and b) female opinion leaders on Weibo?

Given the gender differences in news interests and opinion leadership, which was discussed earlier, this dissertation assumed that men and women pay attention to different issues on Weibo and therefore have distinctive issue agendas. Thus, the following hypothesis was proposed:

H1: The issue agenda of male opinion leaders does not correlate with the issue agenda of female opinion leaders on Weibo.

### **Traditional media and opinion leaders on Weibo**

Before the advent of social media, opinion leaders were supposed to pass information from traditional media to the public. This suggests that the media, opinion leaders, and the public all share the same news agenda. Because social media differ from



traditional media, their news agendas are different as well. Previous studies have found that there are more discussions of social issues, public order issues, and culture issues on Twitter than on traditional media (Groshek & Groshek, 2013; Neuman et al., 2014). Further, an increasing number of studies have shown that Twitter presents a distinctive news agenda that is independent from the traditional news agenda (Frederick, Burch, & Blaszk, 2015; Groshek & Groshek, 2013; Jungherr, 2014; Neuman et al., 2014). There is also evidence showing that Weibo has a different news agenda from Chinese traditional media (Liu & Ji, 2012; Liu & Zhang, 2013; Peng, 2014). Chinese traditional media cover more political and military issues while Weibo has more discussions about social events (Peng, 2014). The result indicates that social media are able to create a news agenda “without having to rely on traditional media to act as gatekeeper or fact-checker or moderator” (Metzgar & Marrugi, 2009, p. 152). Because opinion leaders are able to set the news agenda on social media platforms, the inconsistency between the traditional media and social media agendas possibly results from the different news agendas between the media and the opinion leaders on social media platforms.

In order to verify the above assumption, this dissertation compares the news agendas of Chinese traditional media with the news agendas of opinion leaders on Weibo. As discussed previously, there are two kinds of news media in China, including the official media that are directly controlled by national and local governments, and the commercial media that are financially independent and partially privatized (Stockmann, 2010). Media outlets such as the *People’s Daily*, *CCTV*, and *China Radio Station* are

examples of the official media, which are the mouthpiece of the government. Media outlets such as *Southern Weekly* and *Southern Metropolis Daily* are the commercial media, which are famous for their investigative reporting of sensitive issues in China. The two kinds of news media differ in news content, the level of public trust, and the degree of freedom. The official media have the lowest level of public trust and almost no freedom, while the situations for the commercial media are reversed. Therefore, this dissertation differentiates the news agendas of the two kinds of news media and compares them with the news agendas of the opinion leaders on Weibo. Thus, the following research question and hypothesis were proposed:

RQ4: What are the issue agendas of a) the official media and b) the commercial media on Weibo?

H2: The issue agenda of the official media does not correlate with the issue agenda of the commercial media on Weibo.

Because social media in China represent a free territory where different voices are presented, the official media which are tightly controlled by the government may have little impact on the news agendas of the opinion leaders on Weibo. In contrast, the commercial media enjoy much more autonomy than the official media and pay more attention to social issues of great relevance to the public (Luo, 2011), the news agenda of

the commercial media might share some similarities with the news agendas of the opinion leaders on Weibo. The dissertation thus proposes the following hypotheses:

H3: The issue agenda of the official media *is not* correlated with the issue agendas of a) media professionals, b) celebrities, c) scholars, and d) business elites.

H4: The issue agenda of the commercial media *is* correlated with the issue agendas of a) media professionals, b) celebrities, c) scholars, and d) business elites.

#### **INTERMEDIA AGENDA-SETTING ON CHINESE SOCIAL MEDIA**

Agenda-setting theory was quite influential when it was first introduced to China in the early 1980s (He, 2009) and has gained increasing scholarly attention in China during the past decades (Luo, 2013). This is possibly because the major role of Chinese media in guiding public opinion matches perfectly with the core concept of agenda-setting theory (Li, 2009). Therefore, scholars assumed that the news agenda of Chinese media is highly correlated with the public agenda since Chinese media are supposed to set the agenda for the public. However, agenda-setting studies at early stages failed to find significant correlations between the media agenda and the public agenda in China (Li & Zhang, 2002; Zhang, Li, & Li, 2001). Zhang (2006) concluded that the agenda-setting effects are complicated in China because the media agenda is highly manipulated and the public has no faith in Chinese media. The agenda-setting effects in China might be mediated by the public's behavioral variables, psychological variables, and selective

exposure (Li & Chen, 2005; Zhang & Li, 2004). Following this school of thought, Zhang et al. (2012) argued that what Chinese people consider important for themselves as individuals is different from what they deem important for Chinese society (Zhang et al., 2012). The study thus divided the public issue agenda into two types, including the personal issue agenda and the social issue agenda, and found that Chinese media only set the public's social issue agenda but not the personal issue agenda (Zhang et al., 2012). The study not only reveals the agenda-setting effects in China but it also suggests the public agenda in China is fragmented.

The rise of the Internet and social media gave birth to a number of intermedia agenda-setting studies that compared the news agendas of Chinese traditional media and Chinese social media (Li & Qin, 2001; Li, Qin, & Kluver, 2003; Liu & Ji, 2012; Liu & Zhang, 2013; Peng, 2014). The majority of these studies conclude that Chinese social media on the Internet are powerful enough to influence both the coverage of traditional media and public opinion online. There are many cases when a local issue breaks on the Internet, incurs fierce public discussion online, and finally attracts the attention of the media and national authorities (Bondes & Schucher, 2014; Fu & Chau, 2014; Tong & Zuo, 2014; Yang, 2009; Zhou & Moy, 2007). However, none of these studies fully considered the fragmented media and public agendas in China. For example, the official media and the commercial media may not have similar agendas because of the differences in their ownership and journalistic role. Various kinds of opinion leaders may

focus their attention on different issues based on their own interests. Ignoring these differences results in false prediction of who influences whom.

A more recent agenda-setting study of Chinese newspapers and online discussion boards differentiated the issue agendas of the official and the commercial media (Luo, 2011). Luo (2011) compared the media agendas of an official newspaper and two commercial newspapers with the public agendas on one official discussion board and one commercial-oriented discussion board in China, finding reciprocal intermedia agenda-setting effects between them. While issue salience can be transferred from the online public agenda to the media agenda, Chinese media do not passively follow online public opinion and can set the public agenda as well (Luo, 2011). Further, the study found that the official newspaper set the news agenda for the public on the official discussion board, while the commercial newspapers had agenda-setting effects related to public opinion on the commercial-oriented discussion board (Luo, 2011). Luo's study describes the diverse agenda-setting effects on Chinese online discussion boards resulting from the fragmented media and public agendas on the Internet. It calls for further clarification of the agenda-setting effects among various media and public agendas on other social media outlets in China. In response to that, this dissertation proposes the following research question:

RQ5: Among the different entities on Weibo, including a) official media, b) commercial media, c) media professionals, d) celebrities, e) scholars, and f) business elites, who leads the discussion on Weibo?

## **AGENDA SETTING IN CRISIS VS. NON-CRISIS NEWS ON WEIBO**

Previous studies have found that social media are more likely to set traditional media agendas in moments of crisis, such as political activism, political scandals, natural disasters, and social emergencies (Bruns, Highfield, & Burgess, 2013; Cho & Shin, 2014; Kongthon et al., 2012). Twitter has been frequently used to start, organize, and facilitate political protests in authoritarian countries, for example, the 2011 Egyptian revolution, the Arab Spring, and the Iranian election protests (Bruns, Highfield, & Burgess, 2013). It is also common to see Twitter around the world setting the traditional media's agendas, especially during the time of natural disaster, such as the 2008 Mumbai terrorist attack (Shactchman, 2008), the 2011 Japan earthquake (Lawson, 2011), and the 2011 Thai flood (Kongthon et al., 2012). Furthermore, Kim and Lee (2006) found that Korean social media tended to set the traditional media's agenda in either political scandals or urgent social problems, such as the mishandling of babies in an obstetrics ward and the poor quality of school lunches. The phenomenon of social media setting the traditional media's agenda is termed bottom-up agenda setting (Farrell & Drezner, 2008), reversed agenda-setting effect (Kim & Lee, 2006), or amplification process (Agre, 2002). It refers to a communication process through which grassroots voices and social activism empowered by the Internet-based media set the agenda for traditional media and facilitate existing forces to make political and social changes.

The phenomenon is prevalent in China as well. There has been a substantial amount of scholarly attention dedicated to natural disaster and civic activism on Weibo, most of which are case studies of specific incidents reported by Chinese netizens. Weibo is frequently used to organize protests, discuss sensitive issues, and report crisis news (Bondes & Schucher, 2014; Fu & Chau, 2014; Tong & Zuo, 2014). For example, Bondes and Schucher (2014) content analyzed more than 4,600 Weibo posts of the sensationalized 2011 crash of two high-speed trains in Wenzhou city. Their results confirmed that Weibo was powerful in organizing civic activism, promoting political engagement, amplifying the online public opinion, and pressuring government action (Bondes & Schucher, 2014). Tong and Zuo (2014) compared the discourse of Weibo discussions on two social protests. They found that although local elites started the protests on Weibo, the length and intensity of Weibo discussions depended on whether the cases found their way to media coverage or attracted the attention of famous elites (Tong & Zuo, 2014). The involvement of national media in the online discussions of certain issues can dramatically amplify the impact of the issues (Luo, 2011).

These studies have shown the ability of public opinion on Weibo in setting the news agenda for traditional media in moments of crisis. However, little is known about the agenda-setting effects during non-crisis news on Weibo. The term “crisis” is usually used in the fields of public relations and organizational communication. From an organizational perspective, crisis news is considered as “events of surprise, threat to organizational values, and limited time to make decisions” (Olsson, 2010, p.89).

Communication scholars define crisis news as events of “threat, urgency, and destruction, often on a monumental scale” (Iannarino, Veil, & Cotton, 2015, p.169; Seeger, Sellnow, & Ulmer, 2003, p.4). While the agenda-setting effects differ by news topics in traditional media and on Twitter (Groshek & Groshek, 2013; Neuman et al., 2014), this dissertation assumes that the agenda-setting effects are different in crisis and non-crisis news. Therefore, the dissertation first explores the agenda-setting effects among the official media, the commercial media and the four kinds of opinion leaders (outlined above) in both crisis and non-crisis news. It then compares the agenda-setting effects in crisis news with that in non-crisis news to find similarities and differences. The following research questions were proposed:

RQ6: What are the agendas of a) official media, b) commercial media, and c) the opinion leaders on Weibo in crisis news?

RQ7: Are the agendas of a) official media, b) commercial media, and c) the opinion leaders on Weibo correlated with each other in crisis news?

RQ8: What are the agendas of a) official media, b) commercial media, and c) the opinion leaders on Weibo in non-crisis news?

RQ9: Are the agendas of a) official media, b) commercial media, and c) the opinion leaders on Weibo correlated with each other in non-crisis news?



## Chapter Four: Methodology

Two studies were conducted for this dissertation, including an intermedia agenda-setting study and a comparative agenda-setting study. The intermedia agenda-setting study used a content analysis to map out the issue agendas of the media outlets and opinion leaders on Weibo. It further applied Granger causality tests to find the agenda-setting effects between the media outlets and opinion leaders on Weibo. Content analysis is widely used in agenda-setting studies to construct issue agendas for various entities. It is a systematic, objective and quantitative way to collect data for statistical tests (Wimmer & Dominik, 2003).

Although the original agenda-setting study and many following studies used cross-lagged correlation analysis to determine agenda-setting effects among various media outlets, they mainly examined the agenda-setting effects of traditional media. Agenda-setting effects on social media platforms, however, are more transient and dynamic because information spreads fast on the Internet. Therefore, more recent studies use Granger causality tests, a type of time-series analysis that can capture the dynamic correlations of longitudinal data, to test agenda-setting effects on social media platforms (e.g. Meraz, 2011; Peng, 2014; Neuman et al., 2014). Because this study examined Chinese social media, it is reasonable to use Granger causality test to determine the agenda-setting effects on Weibo.

The comparative agenda-setting study examined the agenda-setting effects between the media outlets and opinion leaders in crisis and non-crisis news on Weibo. An

easy way to define crisis and non-crisis situations is to use two different real cases to represent these circumstances. As Yin (1994) said, the case study method is commonly used to investigate a contemporary phenomenon within its real-life context. Therefore, this study selected two cases to represent crisis and non-crisis news and compared the agenda-setting effects. Although the results of case study cannot be generalized statistically, the results can inform the relationships among a particular set of concepts or sequence of events, which can be applied to other cases with similar concepts or sequences. Yin (2009) defined this process as analytical generalizations. Moreover, analytical generalizations are not conclusions but rather “working hypotheses” that can be verified as future case studies continue to provide findings of the same kind.

This study conducted a content analysis to map out the networked attribute agendas of the media outlets and opinion leaders on Weibo for the selected cases, including the Tianjin explosion as the crisis case, and the case of Tu Youyou winning the Nobel Prize, as the non-crisis case. It then applied network analysis to these agendas in order to find the interrelationships between the networked agendas of the media outlets and opinion leaders in both cases. This study used network analysis because it is especially efficient to test agenda-setting effects involving relationships of various attributes, as is the case for both selected events. Network analysis demonstrates the interrelationships of various issues or attributes on different agendas, which describes a more comprehensive picture of the agenda-setting effects taking place on different media platforms (Guo & McCombs, 2011). This new method analyzes the agenda-setting

effects from a different angle and complements the original method used in previous studies. This dissertation used both the original and new methods to maximize reliability and validity.

## **THE INTERMEDIA AGENDA-SETTING STUDY**

The intermedia agenda-setting study explores agenda-setting effects between the media outlets and opinion leaders on Weibo. This study focuses on two kinds of Chinese media outlets, including the official and commercial media outlets, as well as four kinds of opinion leaders, including media professionals, celebrities, scholars, and business elites. It also explores gender differences of opinion leaders on Weibo.

### **The media agendas**

The study selected ten media outlets on Weibo, including five official media outlets and five commercial media outlets. The selected media outlets are the top ten on the Weibo list of the most influential media outlets, which is the only official ranking of media influence on Weibo. The ranking is calculated by analytical hierarchy process and weight average method, considering a variety of factors. These factors include a user's total number of original daily posts, its total number of daily posts, its total number of posts within seven days, the total times a user's posts have been read by the audience within seven days, the average times a post of the user has been read within seven days, its total number of followers, its total number of retweets within seven days, its total

number of comments received within seven days, its total number of daily @, its total number of private letters received from the audience every day, and its total number of replies to the audience every day (more details can be found on Weibo.com). The calculation weighs almost all the possible influential factors of a user's activity on Weibo. Therefore, the Weibo ranking of the most influential media based on this calculation is an appropriate source for this study. The five official media outlets selected for this study include *People's Daily*, *The Global Times*, *China Daily*, *CCTV News*, and *Xinhua News*, while the five commercial media outlets selected for this study include *Southern Metropolis Daily*, *The Beijing News*, *China Newsweek*, *Phoenix Weekly*, and *Caixin News*. (See Appendix A for more details.)

### **The agendas of opinion leaders**

The dissertation also selected the top ten influential media professionals, celebrities, scholars, and business elites on Weibo. In order to explore gender differences of the opinion leaders on Weibo, the study selected the top ten influential male opinion leaders and the top ten influential female opinion leaders. The selection of these opinion leaders was mainly based on the official report of Weibo opinion leaders by the public opinion research lab at Fudan University, which has been discussed in the literature review. Because the list was compiled five years ago, the dissertation also used two other sources, which are the only other available rankings of Weibo opinion leaders, to verify the timeliness and validity of the list. The other sources include Weibo's official monthly

report of the most influential users and a monthly report of top 100 influential opinion leaders on Weibo, which is compiled jointly by the website of *Global Times* and a commercial big data platform in China ([www. gsdata.cn](http://www.gsdata.cn)). The dissertation relied on Fudan University's report of Weibo opinion leaders because the report is independent from either Weibo or the government. It is a result of academic research. However, Weibo's official report is a self-summary while *Global Times* is an official newspaper of the government. The comparison among the three sources indicates that the majority of the official report by the public opinion research lab at Fudan University is still valid by the time of data collection. There are four journalists on the list who had quit the service before the time of data collection, including Chengpeng Li, Chenggang Rui, Yi Ding, and Xijin Hu. Scholar Zhuzi Fang, businessman Jinyong Yu, and two female opinion leaders, including Xingyu Lu and Yu Liu, had also quit the service before the time of data collection. Therefore, these people were replaced by users of the same kind with similar rank orders on the other two lists. Weibo's official report was referred first while the monthly report by *Global Times* was used only when Weibo's official report did not have an appropriate substitute. The top ten influential celebrities were selected based on Weibo's official report of influential users because the other two sources don't have the ranking of celebrities. (See Appendix A for more details.)

## **Data collection**

The microblog posts employed in this study were collected through the open API (Application Program Inter-face) under Weibo's license. Because of the large amount of data on Weibo, this study only retrieved the original text microblogs posted by the selected media outlets and opinion leaders in only one month in 2015. Therefore, re-posted microblog posts and posts with only multimedia content were not included. March was selected for this study because the National People's Congress Conference (Mar 5, 2015 to Mar 15, 2015) and the Chinese People's Political Consultative Conference (Mar 3, 2015 to Mar 13, 2015) were held in this month. The two political conferences are called the "two sessions" (liang hui) in China. The National People's Congress Conference (NPC) provides an opportunity for the state officers to review past policies and present future development plans. The Chinese People's Political Consultative Conference (CPPCC) is where the representatives of various social groups voice their opinions on social and political issues. The "two-sessions" lasted half a month and covered a wide spectrum of social and political issues, which in turn generated diverse discussions of different issues on Weibo. The study therefore assumed that there were more discussions of social and political issues on Weibo in March than the other months in 2015. This should result in data collected in March 2015 having less irrelevant information, such as self-promotion posts and daily accounts of personal thoughts on social media platforms. Meanwhile, the data also included microblogs posted after the "two-sessions" (March 15-March 31), which rendered the data to be representative of

Weibo posts during and after the conferences. In total, 14,299 microblogs were collected for this study, among which 6,812 were from official media outlets, 3,530 from commercial media outlets, 1,141 from media professionals, 256 from celebrities, 876 from scholars, 529 from business elites, 601 from male opinion leaders, and 554 from female opinion leaders.

### **Content analysis**

The unit of analysis is each microblog post of the selected media outlets and opinion leaders. Each post was coded for source of the post, topic of the post, and publishing date of the post. Source of the post was coded as (1) official media, (2) commercial media, (3) media professionals, (4) celebrities, (5) scholars, and (6) business elites. Based on the issue categories used in previous agenda-setting studies in China (e.g. Zhang, Li, & Li, 2001; Luo, 2014; Peng, 2014), the author reviewed 10% of all the data collected and decided to code the data into the following categories: (1) politics, (2) military, (3) economics, (4) law/order, (5) environment, (6) society/income/housing, (7) education/job, (8) health/food safety, (9) culture/religion, (10) technology/Internet, (11) international affairs, and (0) others. The category “others” was excluded in the analysis. (See Appendix B for a comprehensive list of issue categories in the codebook.)

The coding process was conducted by two journalism majors who are fluent in both Chinese and English. The author decided to manually code all the data because semantic analysis of Chinese characters cannot be successfully conducted by the

computer. Although there are several software packages that can perform the analysis, their results are less satisfactory. In order to achieve higher intercoder reliability, the coders went through a training session before the coding process. First, the coders coded 20 samples of each group of the opinion leaders (160 posts in total) together to clarify and revise the definitions of the categories. Each coder was then given another 160 posts to code for pretesting. After the training sessions, the coders separated the work and coded the samples independently. To calculate the intercoder reliability, the author randomly selected 10% of the sample for each coder to analyze. Both coders used the same codebook and coded the samples individually. Scott's *pi* (Scott, 1995) was used to compute the intercoder reliability in this study. Scott's *pi* value can range from 0 (no agreement) to 1 (perfect agreement), with 0.75 or above indicating an acceptable intercoder reliability (Wimmer & Dominick, 2003). Among the three variables coded for this study, the coders achieved 100% agreement on source of the post and publishing date of the posts. The Scott's *pi* value for the topic of the posts is 0.89, which is above the minimum requirement.

Based on source of the post and the rank order of topic frequency, the study constructed the issue agendas of the media outlets and opinion leaders on Weibo to answer RQ1, RQ2, RQ3, and RQ4. The rank order of 11 issues on the codebook (excluding the "other" category) was compiled for both the media outlets and opinion leaders. Spearman's rank-order correlation, a statistical test to measure the strength of



association between two sets of rankings, was computed for the correlation analyses proposed in H1 and H2.

### **Granger causality analysis**

The core of this study is to test who leads the discussion on Weibo or whose agenda influences the others, which is described in RQ5. The study applied Granger causality tests in EViews—a statistical software used mainly in time-series analysis—to determine the directional correlations among the issue agendas of the media outlets and opinion leaders. The “VAR” function in EViews was employed to test the multivariate Granger causality among the agendas of the media outlets and opinion leaders. The results are presented as Chi-square values and  $p$  values. Granger causality tests are frequently used in economics to test whether the trend in one variable precedes the trends in others. A number of studies have used Granger causality tests to determine causal correlations in agenda-setting studies (Brosius & Kepplinger, 1990; Meraz, 2011; Peng, 2014; Neuman et al., 2014; Soroka, 2002; Walgrave, Soroka, & Nuytemans, 2008). Granger causality analysis provides more accurate results than cross-lagged analysis because it not only predicts the direction of the agenda-setting process but also calculates the time span needed to generate linkages among different agendas for a specific study (Meraz, 2011; Peng, 2014; Neuman et al., 2014).

Based on Granger’s (1969) notion, variable Y can “Granger cause” variable X if a study can predict X better with the past values of Y than when it is excluded (Granger,

1969; Freeman, 1983). For example, if the study assumes that the media coverage on environmental issues could “Granger cause” the scholars’ discussion about environmental issues on Weibo, it will first test how well the scholars’ discussion about environment issues on a certain day can be predicted by their discussion of the same issue in previous days. It will further test how well the scholars’ discussion about environmental issues on a certain day can be predicted by the media coverage on the same issue in previous days. If the latter is more significant than the former, the study is able to conclude that the media agenda of environmental issues Granger causes the scholars’ agenda of the same issue, which in turn indicates that the media set the agenda for the scholars on environmental issues. Before applying Granger causality tests, it’s important to make sure that the time series used in the study is stationary, or the means and variance of the data are all constant over time. The time series used in this study are percentages that range from 0 to 1, which indicates that its mean and variance stay about the same over the length of the series. Therefore, the data in this study is stationary and proper to be used in Granger causality tests.

Time span is important to determine the direction of the agenda-setting effect between two agendas. Compared to the public agenda decades ago, the current public agenda is more volatile because of the extensive influence of new media. It takes traditional media several weeks to months to set the public’s agenda (McCombs, 2004), while the agenda-setting effects on the Internet can take place as fast as in a week or less. Roberts, Wanta, and Dzwo (2002) found that the time lag between traditional news and

online discussion varied from one to seven days, with the seventh day producing the most effect. Neuman et al. (2014) used Granger causality analysis and found that the best time lag for their agenda-setting study about social media was seven days. Therefore, this study used Granger causality analysis to first determine the proper time lag for this study and then to explore agenda-setting effects between the media and opinion leaders on Weibo. The AIC and BIC values—criteria commonly applied for lag selection in Granger causality tests—indicated that three days is the best time lag for this study (Beckett, 2013).

#### **THE COMPARATIVE AGENDA-SETTING STUDY**

The comparative agenda-setting study explores whether the agenda-setting effects on Weibo differ in crisis and non-crisis news. This study selected two cases from the trending topics on Weibo in 2015 for further examination, including the 2015 Tianjin explosion and the news of Tu Youyou winning the Nobel Prize for medicine. The Tianjin Explosion represents crisis news and the case of Tu Youyou represents non-crisis news.

#### **The Tianjin explosion**

A chemical warehouse at the port of Tianjin, China, exploded 12 August, 2015. Three huge explosions coupled with a series of small ones killed more than a hundred and injured hundreds of others (Tatlow, 2015). The large casualty and huge economic loss that resulted from the explosion have made it China's worst industrial disaster for

years (The Guardian, 2015). News of the incident was first broken by Chinese netizens on Weibo and suddenly became a national sensation within two hours (Weibo Report, 2015b). More than a hundred trending topics regarding this incident emerged on Weibo and the most popular one is #Tianjin Tanggu Explosion#, which has been read by Chinese netizens over 7,500 million times (Weibo Report, 2015b). Shortly after the explosion happened, local media, national media, local governments, as well as various kinds of opinion leaders participated in the discussions of the incident on Weibo, focusing on different aspects of the issue and trying to help the city of Tianjin. Based on the above discussion, the Tianjin explosion provides an ideal example of crisis situation for this study.

### **Tu Youyou's case**

Tu Youyou, an 84-year-old scientist with little fame in China, won the Nobel Prize for medicine in October 2015. Tu won the award because she discovered the malaria drug artemisinin, which is “humankind's best defense against the mosquito-borne disease, which kills 450,000 people each year” (Hunt & Lu, 2015). Tu is the first Chinese Nobel laureate in medicine and the first Chinese citizen to receive the Nobel Prize in natural sciences. When receiving the award, she attributed her success to Chinese traditional medicine because she found the drug artemisinin from ancient Chinese medicine manuscripts. The news generated a heated debate on Weibo for mainly two reasons. First, Tu's role in discovering artemisinin has been ignored by the whole country

for more than 40 years since she started her research in this field in the 1970s. In the past few years, she applied several times for Academician of Chinese Academy of Sciences (CAS), the highest level of national honor for Chinese scientists, but was rejected. People questioned why Tu's efforts had not been honored by the government and whether the selection criteria for the members of CAS were fair. Second, this news escalated the already fierce debate about whether Chinese traditional medicine is better than Western medicine. Tu Youyou's case had nothing to do with any crisis, but was such a sensationalized event on Weibo that is worth analyzing. It provides a good example for this study to explore the agenda-setting effects in non-crisis circumstance.

### **Data Collection**

The Tianjin explosion generated tens of thousands of Weibo posts and various trending topics. To make the sample size manageable, this study only focused on the microblog posts under the most popular trending topic #Tianjin Tanggu Explosion#, as discussed previously. A preliminary review of these microblog posts revealed that a large number of the posts appeared on Weibo within two weeks after the explosion (August 12, 2015). Therefore, the study retrieved all the posts that included #Tianjin Tanggu Explosion# and were published between Aug 12, 2015 and Aug 31, 2015. Tu Youyou's case received much less media and public attention compared to the Tianjin explosion; and it resulted in fewer Weibo microblog posts. The discussion about Tu Youyou's case on Weibo lasted from October to December; the nomination came out on Oct 5, 2015

while the ceremony took place on Dec 10, 2015. As a result, this study retrieved all posts that included “Tu Youyou” and were published between Oct 5, 2015 and Dec 31, 2015.

Because the purpose of this study is to explore agenda-setting effects among the official media, the commercial media, and four kinds of opinion leaders on Weibo (media professionals, celebrities, scholars, and business elites), it only coded Weibo posts that were published originally by the media outlets and four kinds of opinion leaders for both cases. Re-posted microblog posts and posts with only multimedia content were not included. In general, 3,909 Weibo posts were manually coded for the Tianjin explosion, among which 753 were from the official media (19.3%), 1,405 from the commercial media (35.9%), 430 from media professionals (11%), 448 from celebrities (11.5%), 491 from scholars (12.6%), and 382 from business elites (9.8%). There were 972 Weibo posts for Tu Youyou’s case, among which 192 were from the official media (19.8%), 293 from the commercial media (30.1%), 133 from media professionals (13.7%), 71 from celebrities (7.3%), 167 from scholars (17.2%), and 116 from business elites (11.9%).

### **Content analysis**

The study used a content analysis to construct the agendas of the media and the opinion leaders on Weibo for both cases. The unit of analysis is each microblog post of the media outlets and opinion leaders. Each post was coded for source of the post, attribute of the case discussed in the post, and publishing date of the post. Source of the post was coded as (1) official media, (2) commercial media, (3) media professionals, (4)

celebrities, (5) scholars, and (6) business elites. While the discussions of both cases on Weibo mentioned different aspects of the issue, this study thus focused on the attribute agendas of the media outlets and opinion leaders on Weibo for both cases. Because the attributes of each case were unknown, the study applied an inductive approach. The same two coders in the previous study randomly selected 10% of the data for each case, analyzed the selected posts, and defined the attributes of the case in each post. Based on this preliminary examination, the frequently appearing categories were recorded and refined as the codebook for the content analysis of the entire data. As a result, the attributes of the Tianjin explosion include: (1) casualty, (2) economic loss, (3) pollution, (4) rescue, (5) damages, (6) accountability, (7) the cause, (8) firefighters, (9) social impact, (10) reconstruction, (11) the government, and (0) others. The attributes of Tu youyou's case include: (1) sense of honor, (2) research achievement, (3) criticism of the system, (4) scientists, (5) Chinese medicine, (6) female scientists, and (0) others. The category "others" was excluded for both cases in the analysis. (See Appendix C for a comprehensive list of issue categories in the codebook.)

As in the previous study, the coding process was conducted by two journalism majors, who are fluent in both Chinese and English. The coders went through a short training session before the coding process. To calculate the intercoder reliability, the author randomly selected 10% of the sample for each case. Both coders used the same codebook and coded the sub-sample individually. Among the three variables coded for this study, the coders achieved 100% agreement on source of the post and publishing date

of the posts. The Scott's *pi* value for the attributes of the Tianjin explosion is 0.83, and the Scott's *pi* value for the attributes of Tu youyou's case is 0.87. Both values are above the minimum requirement (0.75).

### **Network analysis**

The study utilized the NAS model to compare the networked attribute agendas of the media outlets and opinion leaders on Weibo for both cases. Traditional agenda-setting studies compare the salience of one attribute at a time through simply counting its frequency. Differently, the NAS model is able to compare all the involved attributes of an issue at once by measuring the degree centrality and the correlations of the attributes within the attribute network of the issue. The core of the NAS model is network analysis, which is able to associate various attributes of an issue to form a comprehensive picture of the issue.

To prepare the data for network analysis, the study first constructed the networked agenda for the official media, the commercial media, and four kinds of opinion leaders. The networked agendas illustrate how different entities link various attributes of an issue together. To operationalize the links of various attributes of each issue, attributes that were mentioned on the same day were considered implicitly linked. The decision was made because it is rare for a single post to mention two attributes because of its 140-character limit (Vargo et al., 2014). Therefore, the number of times any two attributes were mentioned by a given source on the same day was calculated to measure the pair of



issues' strength of association. The data was then converted to network matrices for each group involved.

The study used UCINET software to analyze the networked agendas of the media and opinion leaders. Degree centrality of each networked agenda was calculated by the function of centrality and the power. Quadratic assignment procedure (QAP) was used to test the correlations of these networked attribute agendas, which in turn reveals the differences and relationships among these networks, and therefore, answers RQ6, RQ7, RQ8, and RQ9. In network analysis, degree centrality refers to the number of ties that a node has in a network (Wasserman & Faust, 1994). Applying this concept to the current study, it means the number of connections an attribute has with other attributes in the network of an issue. The more connections an attribute has with other attributes, the more central it is in the network. The higher degree centrality of an attribute signifies the greater importance of the attribute in the network. Degree centrality in network analysis explains the similarities and differences between two networked agendas, while QAP correlations reveal the interrelationships among these agendas.

## **Chapter Five: Results of the Intermedia Agenda-Setting Study**

This chapter presents the results of the intermedia agenda-setting study in this dissertation. First, it displays the issue agendas of the selected media outlets and opinion leaders, describes the issues emphasized in each agenda, and compares the differences and similarities. Second, it shows the correlations among these agendas by using Spearman's rank-order correlation. It then reveals the causal relationships among these agendas by using Granger causality tests and finally draws a conclusion of the agenda-setting effects between the media outlets and opinion leaders on Weibo.

### **ISSUE AGENDAS OF OPINION LEADERS ON WEIBO**

RQ1 explores the issue agendas of the opinion leaders on Weibo, including media professionals, celebrities, scholars, and business elites. Table 1 shows the Weibo agendas of different opinion leaders, represented by the frequency and rank order of the issues. The top five issues on media professionals' agenda include politics, the environment, health/food safety, law/order, and the economy. About one-fifth of media professionals' posts discussed the issue of politics (19.9%). The environment and health/food received equal attention from media professionals and accounted for 13.6% of all the posts by media professionals. The other issues that media professionals discussed more frequently than others on Weibo included law/order (10.5%) and the economy (9.6%).

The top five issues on celebrities' agenda include the environment (11.3%), society/income/housing (7%), health/food safety (5.9%), politics (3.5%), and law/order

(3.5%). The issue agenda of celebrities on Weibo was different from all the studied agendas because the topic range on celebrities' agenda was not as wide as the other agendas. Celebrities devoted most attention to the environment (11.3%) while they ignored several issues including the economy, culture/religion, technology/Internet, and military. Social issues (7.0%) ranked second on the agenda of celebrities on Weibo, followed by health and food safety (5.9%). Celebrities posted political issues on Weibo (3.5%) the same frequency as the issues of law and order (3.5%), which were at the bottom of the top-five list of celebrities' issue agenda. Although celebrities discussed political issues on Weibo as well, they gave less attention to political issues compared to media professionals.

Table 1. Percentages and Rankings of the Issues of the Opinion Leaders

	Media Professionals (%/Rank)	Celebrities (%/Rank)	Scholars (%/Rank)	Business Elites (%/Rank)
Politics	19.9(1)	3.5 (4.5)	18.2 (1)	12.5(2)
Environment	13.6(2.5)	11.3 (1)	12.8 (3)	18.5 (1)
Health/Food Safety	13.6(2.5)	5.9(3)	7.8 (6)	2.1 (8)
Law/Order	10.5(4)	3.5 (4.5)	17.0 (2)	3.6 (7)
Economy	9.6(5)	0(8.25)	8.2 (4)	7.4 (4)
Society/Income/Housing	8.5(6)	7.0 (2)	8.1 (5)	10.6 (3)
Education/Jobs	6.0(7)	0.8 (7)	7.6 (7)	4.9 (6)
International Affairs	2.2(8)	2.7(6)	1.4 (9)	1.3(9)
Culture/Religion	1.4(9.5)	0 (8.25)	2.5 (8)	0.6 (10.5)
Military	1.4(9.5)	0 (8.25)	0.6 (11)	0.6 (10.5)
Technology/Internet	1.3(11)	0 (8.25)	0.9 (10)	5.7 (5)
<i>N(Posts)</i>	1141	256	876	529

On scholars' agenda, politics was the predominant issue, accounting for 18.2% of all the posts by scholars on Weibo. This is similar to media professionals who also posted more political issues than the others on Weibo. The second frequently discussed issue on scholars' agenda is law/order (17%), followed by the environment (12.8%), economy (8.2%), and society/income/housing (8.1%). The top five issues on business elites' agenda include the environment (18.5%), politics (12.5%), society/income/housing (10.6%), economy (7.4%), and technology/Internet (5.7%). Both celebrities and business elites were most concerned about environmental issues. Business elites differed from the other opinion leaders on Weibo because they posted more about technology and the Internet, a topic that other groups barely mentioned.

In sum, there are some notable similarities and differences among the issue agendas of these opinion leaders. Politics and the environment were the predominant issues that appeared on the agendas of all kinds of opinion leaders. Politics ranked first on both media professionals' and scholars' agendas on Weibo, while the environment ranked first on the agendas of celebrities and business elites. The economy was among the top issues on the agendas of all groups except for celebrities, who did not publish a single post about the economy during the time studied. Issues of law and order were among the top concerns on the agendas of all groups except for business elites, while social issues were among the top concerns on the agendas of all groups but media professionals. Although health and food safety were among the top five issues on the agendas of all groups but scholars, it ranked right behind the sixth on scholars' Weibo agenda.

The least important issues on the agendas of all groups included military, culture/religion, and international affairs. Business elites stood out as the one that paid significantly more attention to the issues of technology and the Internet, a topic that received little attention from the other groups. Finally, although celebrities shared four of the five top issues on the agendas of media professionals and scholars, they paid attention to fewer kinds of issues, without posting anything about military, the economy, culture/religion, and technology/Internet.

#### **CORRELATIONS OF THE OPINION LEADERS' AGENDAS ON WEIBO**

RQ2 investigated the interrelationships among the issue agendas of media professionals, celebrities, scholars, and business elites on Weibo. Table 2 shows the correlations among these agendas, with the significant correlations highlighted. There was a significantly high correlation between the agendas of media professionals and scholars ( $r=.89$ ,  $p<.01$ ), despite some differences discussed above. The issue agenda of media professionals was significantly correlated with that of celebrities as well ( $r=.76$ ,  $p<.01$ ). In addition, the correlation coefficient between the agendas of media professionals and scholars was much higher than that between the agendas of media professionals and celebrities, indicating that the agendas of media professionals and scholars had more in common than the other two agendas. Moreover, the issue agenda of scholars was also correlated with that of business elites, although at a lower significance level ( $r=.68$ ,  $p<.05$ ). The significance indicates that scholars and business elites have

similar issues on their Weibo agendas, while the lower significance level can be explained by the fact that business elites frequently discussed technology and the Internet in their Weibo posts, but scholars paid little attention to that topic. Finally, there was no significant correlation between the agendas of media professionals and business elites ( $r=.58, p=.06$ ). Although both the agendas of celebrities and scholars were correlated with that of media professionals, the issue agenda of celebrities was not significantly correlated with that of scholars ( $r=.59, p=.05$ ). The weakest correlation was shown between the agendas of celebrities and business elites ( $r=.49, p=.13$ ), indicating that the two agendas were divergent and had little in common.

Table 2. Spearman's *rho* Correlations for the Agendas of the Opinion Leaders

	Media Professionals	Celebrities	Scholars	Business Elites
Media Professionals		<b>.76**</b>	<b>.89**</b>	.58
Celebrities			.59	.49
Scholars				<b>.68*</b>
Business Elites				

Note: \* $p<.05$ ; \*\* $p<.01$ .

### **GENDER DIFFERENCES OF OPINION LEADERS ON WEIBO**

RQ3 explores the similarities and differences between the issue agendas of male and female opinion leaders on Weibo. Table 3 contains the frequency and rank order of the issues on both agendas. The table shows that the most predominant issue for male

opinion leaders was health/food safety, which accounted for more than one fifth of the posts from this group (20.8%). The issues of environment (15.6%) and politics (13.5%) followed as the second and the third most salient issues on the agenda of male opinion leaders on Weibo. Male opinion leaders were concerned about society/income/housing (8.5%) and law/order (7.8%) as well, which ranked fourth and fifth on their issue agenda on Weibo.

The top five issues on the agenda of female opinion leaders were the environment (15.5%), politics (13.4%), society/income/housing (6.7%), law/order (5.8%), and education/jobs (4.0%). Female opinion leaders on Weibo discussed environmental and political issues much more frequently than the others. They were concerned about social issues and law/order as well, which were also frequently discussed across all studied groups. Female opinion leaders stood out as the only ones that paid significant attention to education and jobs.

Overall, the issues agendas of male and female opinion leaders were quite similar in that they shared four of the five top issues, including the environment, politics, society/income/housing, and law/order. These issues were also among the most salient issues on the agendas of celebrities, scholars, and business elites. The differences between the two agendas were obvious as well. Male opinion leaders dedicated their attention to food safety issues while female opinion leaders discussed environmental issues most frequently on Weibo. In addition, female opinion leaders were more concerned about education and jobs than male opinion leaders.

Table 3. Percentages and Rankings of the Issues of Male/Female Opinion Leaders and the Media

	Male Opinion Leaders (%/Rank)	Female Opinion Leaders (%/Rank)	Official Media (%/Rank)	Commercial Media (%/Rank)
Health/Food Safety	20.8(1)	2.5 (9)	4.2 (8)	4.8(8)
Environment	15.6(2)	15.5 (1)	4.4 (7)	5.9 (6)
Politics	13.5(3)	13.4(2)	21.7 (1)	20.2 (1)
Society/Income/Housing	8.5(4)	6.7 (3)	6.4 (2)	12.3 (2)
Law/Order	7.8(5)	5.8(4)	5.5 (5)	7.7 (4)
Economy	5.3(6)	3.2 (6.5)	5.7 (4)	9.8 (3)
Education/Jobs	4.5(7)	4.0 (5)	4.6 (6)	5.0 (7)
Technology/Internet	2.2(8)	2.9(8)	3.5 (9)	3.9(9)
International Affairs	1.3(9)	3.2 (6.5)	6.0 (3)	6.9 (5)
Culture/Religion	0.5(10.5)	1.8 (10)	2.3 (10)	1.5 (11)
Military	0.5(10.5)	0.4(11)	2.1 (11)	1.8 (10)
<i>N(Posts)</i>	601	554	6812	3530

H1, which posited that the issue agendas of male and female opinion leaders on Weibo do not correlate with each other, was not supported; in fact, the issue agenda of male opinion leaders on Weibo was significantly correlated with that of female opinion leaders ( $r=.64, p<.05$ ) (See Table 4).



Table 4. Spearman's *rho* Correlations for the Issues of Male/Female Opinion Leaders and the Media

	Male Opinion Leaders	Female Opinion Leaders	Official Media	Commercial Media
Male Opinion Leaders		<b>.64*</b>	.43	.54
Female Opinion Leaders			<b>.72*</b>	<b>.77**</b>
Official Media				<b>.96**</b>
Commercial Media				

Note: \* $p < .05$ ; \*\* $p < .01$ .

### DIFFERENCES BETWEEN THE MEDIA AGENDAS ON WEIBO

RQ3 explores the similarities and differences between the issue agendas of official and commercial media outlets on Weibo. Table 3 shows that both types of media outlets had the same issues as the top five salient issues on their agendas, including politics, society/income/housing, the economy, law/order, and international affairs. The only difference was the rank order of these issues on both agendas. Political issues dominated the official media agenda (21.7%) and the commercial media agenda (20.2%), while social issues ranked second on both the official media agenda (6.4%) and the commercial media agenda (12.3%). Official media outlets paid more attention to international affairs (6.0%), which ranked third on the official media agenda and was followed by economic issues (5.7%) and law/order (5.5%). For the commercial media, the third most salient issue was economic issues (9.8%), followed by the issues of law/order (7.7%) and international affairs (6.9%). It's notable that health/ food safety,

one of the most popular issues on the agendas of the opinion leaders, was not among the most salient issues on both kinds of media agendas. However, the official and commercial media outlets paid much more attention to international affairs than all kinds of opinion leaders. Official media outlets focused excessively on political issues compared to the other issues, indicating their role as the government's mouthpiece to publicize government policies and report on government officials. Both kinds of media outlets paid more attention to international affairs than the opinion leaders, which can be understood by their journalistic role of informing the public.

H2, which posited that the official and commercial media agendas are not correlated, was not supported. The agendas of official and commercial media were highly and significantly correlated ( $r=.96, p<.01$ ) (See Table 4).

#### **CORRELATIONS BETWEEN ISSUE AGENDAS OF THE MEDIA AND OPINION LEADERS ON WEIBO**

H3, which posited that the official media agenda is not correlated with the issue agendas of the opinion leaders, including media professionals, celebrities, scholars, and business elites, was partially supported. As Table 5 shows, the official media agenda was not correlated with the issue agendas of all kinds of opinion leaders but scholars ( $r=.64, p<.05$ ), indicating that most opinion leaders on Weibo do not follow news of official media outlets on Weibo. H4, which posited that the commercial media agenda is correlated with the issue agendas of the opinion leaders, was partially supported as well. The commercial media agenda was correlated with the issue agendas of all kinds of

opinion leaders except for celebrities, suggesting that all kinds of opinion leaders but celebrities were concerned about similar issues as the commercial media on Weibo.

Table 5. Spearman's *rho* Correlations for the Agendas of the Media and Opinion Leaders

	Official Media	Commercial Media	Media Professional	Celebrities	Scholars	Business Elites
Official Media		<b>.96**</b>	.54	.40	<b>.64*</b>	.57
Commercial Media			<b>.64*</b>	.44	<b>.76**</b>	<b>.68*</b>
Media Professional				<b>.76**</b>	<b>.89**</b>	.58
Celebrities					.60	.48
Scholars						<b>.68*</b>
Business Elites						

Note: \* $p < .05$ ; \*\* $p < .01$ .

Specifically, the commercial media agenda was correlated with that of media professionals ( $r = .64, p < .05$ ). There was a slightly stronger correlation between the issue agendas of commercial media outlets and business elites ( $r = .68, p < .05$ ). The strongest correlation was found between the issue agendas of commercial media outlets and scholars ( $r = .76, p < .01$ ).

#### AGENDA SETTING BETWEEN THE MEDIA AND OPINION LEADERS ON WEIBO

RQ5 explored the agenda-setting effects between the issue agendas of the media outlets and opinion leaders on Weibo. Table 6 contains the Granger causality results for these agendas. The results show that agenda-setting effects between the media outlets and opinion leaders on Weibo appeared in six of the 11 topics studied, including politics,

law/order, the environment, social issues, education/jobs, and health/food safety. Specifically, official media outlets only set the agenda of commercial media outlets in politics ( $\chi^2=8.99$ ,  $p<.05$ ). They did not Granger cause any opinion leaders in the discussions of all the issues. Instead, the official media agenda was strongly influenced by celebrities on the issue of law and order ( $\chi^2=20.32$ ,  $p<.01$ ). Moreover, media professionals ( $\chi^2=23.10$ ,  $p<.01$ ), celebrities ( $\chi^2=18.96$ ,  $p<.01$ ), and business elites ( $\chi^2=18.52$ ,  $p<.01$ ) significantly Granger caused the official media agenda on the issue of environment. The results indicate that the official media's agenda-setting role barely exists in China.

Table 6. Granger Causality Results for the Media and Opinion Leaders

Issue Category	Causality Direction		$\chi^2$
	From	To	
Politics	Business Elites	Celebrities	16.25**
	Media Professionals	Celebrities	21.68**
	Business Elites	Commercial Media	8.29*
	Official Media	Commercial Media	8.99*
Law/Order	Celebrities	Official Media	20.32**
	Celebrities	Scholars	9.84*
	Commercial Media	Scholars	9.17*
	Commercial Media	Celebrities	3.55*
Environment	Scholars	Media Professionals	11.80**
	Scholars	Celebrities	8.89*
	Media Professionals	Celebrities	17.80**
	Media Professionals	Commercial Media	8.39*
	Media Professionals	Official media	23.10**
	Celebrities	Commercial Media	9.16*
	Celebrities	Official Media	18.96**
	Business Elites	Official Media	18.52**
Commercial Media	Official Media	19.11**	

Table 6 (continued)

Social Issues	Commercial Media	Scholars	10.99*
Education/Jobs	Business Elites	Media Professionals	8.70*
	Business Elites	Scholars	7.05*
Health/Food Safety	Business Elites	Media Professionals	21.83**
	Celebrities	Media Professionals	13.80**
	Commercial Media	Media Professionals	12.48**

Note: \* $p < .05$ ; \*\* $p < .01$ .

Commercial media outlets Granger caused the attentions of official media outlets and opinion leaders to four of the six issues. Specifically, the commercial media set the agenda of law and order for celebrities ( $\chi^2=3.55$ ,  $p < .05$ ), who in turn set the agenda for both the official media outlets ( $\chi^2=20.32$ ,  $p < .01$ ) and scholars ( $\chi^2=9.84$ ,  $p < .05$ ). Commercial media outlets also Granger caused the attention of official media outlets to environmental issues ( $\chi^2=19.11$ ,  $p < .01$ ), and scholars to social issues ( $\chi^2=10.99$ ,  $p < .05$ ). Additionally, commercial media outlets greatly influenced media professionals' agenda of health and food safety ( $\chi^2=12.48$ ,  $p < .01$ ). The results suggest the commercial media set the issue agenda of law and order for both the official media and other opinion leaders. Commercial media outlets also played a significant agenda-setting role on social issues as well as health and food safety. However, they had little impact on political issues.

Media professionals greatly influenced the agendas of the official media ( $\chi^2=23.10$ ,  $p < .01$ ) and the commercial media ( $\chi^2=8.39$ ,  $p < .05$ ) on environmental issues. Similarly, celebrities Granger caused the discussion of environmental issues by commercial media outlets ( $\chi^2=9.16$ ,  $p < .05$ ) and official media outlets ( $\chi^2=18.96$ ,  $p < .01$ ).

Celebrities also strongly influenced the official media agenda on law and order ( $\chi^2=20.32$ ,  $p<.01$ ). However, both media professionals and celebrities were more like the intermediaries in the communication process on Weibo. Their agendas were set by other opinion leaders overall. For example, scholars strongly Granger caused higher attention of media professionals and celebrities to environmental issues. Moreover, business elites ( $\chi^2=21.83$ ,  $p<.01$ ), celebrities ( $\chi^2=13.80$ ,  $p<.01$ ), and the commercial media ( $\chi^2=12.48$ ,  $p<.01$ ) altogether set the agenda of media professionals on health and food safety.

Scholars' agenda-setting role was only evident on the issue of environment. Scholars Granger caused higher attention of media professionals ( $\chi^2=11.80$ ,  $p<.01$ ) to environmental issues. Media professionals in turn Granger caused higher attention of celebrities ( $\chi^2=8.89$ ,  $p<.05$ ), and they both set the agenda of environmental issues for the official and commercial media. Therefore, scholars were the most influential opinion leader on environmental issues and they set the agenda of environmental issues for the media outlets and other opinion leaders.

Business elites influenced the agendas of the media and other opinion leaders on four of the six issues. Business elites set the agendas of celebrities ( $\chi^2=16.25$ ,  $p<.01$ ) and the commercial media ( $\chi^2=8.29$ ,  $p<.05$ ) on political issues. They also set the agenda of the official media on environmental issues ( $\chi^2=18.52$ ,  $p<.01$ ), and media professionals on the issue of health and food safety ( $\chi^2=21.83$ ,  $p<.01$ ). Business elites' agenda-setting role is quite evident on the issue of education and jobs. They Granger caused higher attention of both journalists ( $\chi^2=8.70$ ,  $p<.05$ ) and scholars ( $\chi^2=7.50$ ,  $p<.05$ ) to the issues of education

and jobs. Overall, business elites were the most influential opinion leader in this study. They set the agenda of the media outlets on political and environmental issues, and they led the discussions of other opinion leaders on the issues of education, employment, health, and food safety.

### **CONCLUSION OF THE INTERMEDIA AGENDA-SETTING STUDY**

The intermedia agenda-setting study in this dissertation displays the issue agendas of the media outlets and four different opinion leaders on Weibo, discovers the interrelationships of these agendas, and finally reveals the directional causal relationships or the agenda-setting effects among the agendas of the media outlets and opinion leaders on Weibo. The major findings of this study include:

First, the issue agendas of the media outlets differed from the issue agendas of the opinion leaders on Weibo. The most salient issues on the opinion leaders' Weibo agendas were political and environmental issues, while the most predominant issues on the agendas of the official and commercial media outlets were political and social issues. Although the media outlets and opinion leaders were both concerned more about politics than other issues, they focused on different aspects of the issue topic. Official media outlets mainly posted political information about government decisions and activities, policy reports, government documents, as well as appointment/dismissal of Party officials, which is consistent with their official role of publicizing news of the government to the Chinese people. Differently, the opinion leaders devoted their Weibo

posts to political information that evaluates government performance, reveals the misconduct of government officials, and criticizes the incompetence and corruption of the government. They kept a critical attitude in the discussion of politics rather than believing in the official reports. It is the different views of the opinion leaders on Weibo that contribute to a deliberative public sphere on Chinese social media platforms. Commercial media outlets stayed somewhere between the two extremes, leaning more toward the official media. This can be confirmed by one of the surprising findings of this study, which shows that the official and commercial media agendas were highly, significantly correlated with each other. The commercial media agenda shared more similarity with the official media agenda on politics possibly because they received most political news from the same source—the government. However, commercial media outlets are less controlled than official media outlets so that they were able to include some critical and investigative reporting of politics on their agenda.

Second, commercial media outlets and business elites influenced the agendas of other opinion leaders on a variety of social issues, while official media outlets failed to set the agendas of the opinion leaders on Weibo. It's not surprising that no agenda-setting effects were found between the official media and opinion leaders on Weibo. The result is consistent with the previous finding that people had little faith in highly manipulated media outlets in China (Zhang, 2006). Instead, agenda-setting effects between commercial media outlets and opinion leaders on Weibo signify the popularity and credibility of the commercial media in China. The result not only confirms that agenda



setting functions in a free media environment (McCombs, 2004), but it also reflects the changing media environment in China. Unlike the official media outlets that are fully controlled by the government, commercial media outlets establish a journalistic image as being independent and investigative. This image was approved by the opinion leaders in this study because they followed the commercial media agenda in various issues, including social disputes and legal issues, social security, income distribution, housing problems, health, and food safety. Although commercial media outlets were able to influence the opinion leaders on social issues, it is notable that official media outlets still set the commercial media agenda on political issues. The finding demonstrates that political issues are sensitive topics strictly controlled by the government. Commercial media outlets may have more autonomy in reporting a variety of issues. However, they lose the freedom and have to follow the official media when it comes to politics.

Business elites also strongly influenced other opinion leaders in the discussions of political, social, and educational issues on Weibo. Business elites even set the commercial media agenda on political and environmental issues. The results confirm the previous finding that business elites were the typical opinion leader in China (Su, Zhang, & Zhang, 2009). It is possibly because business elites have strong influence in the policy decision-making process in China (Zhu, 2012). Some of them were once government officials while others have gradually gained political influence through long-term business operations (Zhu, 2012). Therefore, business elites are able to influence government policy outcomes through their personal networks with politicians or through

their money. Zhu (2012) argued that the Chinese political decision-making process, once manipulated only by political elites, is gradually becoming a participatory one joined by business elites. In addition, the rapid economic development in China leads to a booming capital market and the fever in starting up businesses. Therefore, it is understandable that wealthy business elites are the toast of Chinese society, especially for people who intend to make a fortune in this business boom.

Third, the news agenda on Weibo was fragmented in that the opinion leaders emphasized different issues in their Weibo posts. Moreover, the relationships among the agendas of the studied groups were diverse and interactive overall, indicating a dynamic agenda-setting effect on social media platforms. Regarding the fragmented agenda on Weibo, media professionals discussed more about political issues but paid less attention to social issues in their Weibo posts. Celebrities discussed much fewer issues than the other opinion leaders and they did not post about the economy at all. Scholars devoted most of their Weibo posts to political and legal issues, and they did not pay enough attention to health and food safety. Business elites were the only ones who paid significant attention to the issues of technology and the Internet, which can be possibly understood as their professional need to keep abreast with the present state of science and technology.

As far as the diverse agenda-setting effect is concerned, scholars and journalists were the most influential opinion leaders in discussing environmental issues on Weibo, although commercial media outlets and business elites set the agendas of other issues. For

example, Jing Chai, an independent, investigative female journalist who used to work for CCTV, produced a self-financed documentary film—*Under the Dome*—and released it on the Internet in late February, 2015. The film presented her year-long investigation of air pollution in China and openly questioned state-owned energy companies, steel and coal factories, as well as the ability of the Ministry of Environmental Protection to act against the big polluters. The film quickly became popular on the Internet and evoked fierce discussion about environmental protection in China. Not unexpectedly, the film was banned and removed from the Internet within a week. However, the impact of the film on this society will last longer, which is manifested by the findings of this study that environmental issues were one of the most prominent issues for all kinds of opinion leaders throughout March 2015. The case presented a good example of journalists setting the agendas of air pollution on Weibo, forcing the media and others to pay attention to the issue in China.

In addition, interactive agenda-setting effects were found among these groups. For example, commercial media outlets set the agenda of scholars on social issues, while scholars set the commercial media agenda on environmental issues. Media professionals set the agenda of celebrities on political issues, while celebrities influenced the agenda of media professionals on the issues of food and safety. The results reflect that the news agenda on social media platforms is diverse and different individuals share what they perceive as important, leading to the collective intelligence in online public sphere (Kwak, Park, & Moon, 2010; Tapscott & Williams, 2006).

Finally, this study found strong correlations between the agendas of male and female opinion leaders on Weibo, indicating there are no significant gender differences of opinion leaders on Weibo. The finding is surprising because gender disparities are prevalent in both Western society and media industry (e.g. Armstrong & Gao, 2011; Cullity & Younger, 2009). A possible explanation might be that the gender gap in China has narrowed to a great extent as women's social status keeps improving. As discussed in the literature, women outnumber men in Chinese journalism industry and colleges. The number of Chinese female entrepreneurs grows fast as well. The increasing number of women in the journalism industry, academic world, and business field could probably contribute to fewer gender differences of the opinion leaders in corresponding fields. It is also notable that women who ascend to the level of opinion leaders are different from women in the average population. Hegemony theory suggests that society tends to reinforce the existing power structure as a means of ensuring continuation of the status quo—masculinity and patriarchy. As a result, women have to assimilate attributes of masculinity and act like a man in order to gain the power of opinion leadership. Therefore, the lack of gender differences in opinion leadership is possibly resulted from women opinion leaders gradually internalizing attributes that reinforce existing power structure, which obviously favors masculinity.

In sum, this study showed that agenda-setting effects exist only between the commercial media and opinion leaders on Weibo. The results verified the basic assumption of this dissertation that the agenda-setting effect on social media platforms is

a diversified and dynamic process where the media outlets and opinion leaders interact with each other and lead the discussion of the topic that they believe to be important. Therefore, it is important to consider the fragmented agenda and dynamic agenda-setting process on social media platforms when examining the agenda-setting theory in future.

## **Chapter Six: Results of the Comparative Agenda-Setting Study**

This chapter presents the results of the study which compared agenda-setting effects in crisis and non-crisis news. The Tianjin explosion and Tu Youyou's case were chosen as appropriated cases of crisis and non-crisis news. For each case, this chapter first displays the networked attribute agendas of the selected media outlets and opinion leaders, describes the attributes emphasized in each networked agenda, and compares the differences and similarities among these agendas. It then shows the correlations among these networked agendas by using QAP correlation analysis. The correlations among these networked agendas show agenda-setting effects between the media outlets and opinion leaders. Finally, it compares the interrelationships of the networked agendas in both cases and discovers patterns of the relationships between the media outlets and opinion leaders during these crisis and non-crisis news.

### **THE AGENDA-SETTING EFFECTS IN CRISIS NEWS**

RQ6 explores the networked attribute agendas of the media outlets and opinion leaders in crisis news. The study examined the case of Tianjin explosion to answer this research question. The Tianjin explosion was first posted by Chinese netizens on Weibo. Official media outlets did not report the news until they were able to send reporters to the field hours later. Their coverage of the incident relied heavily on official reports and failed to investigate the behind-the-scenes stories, which was possibly related to misconduct of the local government in Tianjin.

Table 7. Degree Centrality (DC) for the Networked Agendas of Official and Commercial Media in the Tianjin Explosion

	Official Media (DC/Rank)	Commercial Media (DC/Rank)
Casualty	104 (1)	131 (1)
Rescue	87 (2)	92 (9)
Pollution	86 (3)	115 (4)
Social Impact	81 (4.5)	130 (2)
Accountability	81 (4.5)	122 (3)
Reconstruction	78 (6)	109 (6)
Firefighters	70 (7)	112 (5)
The Cause	66 (8)	70 (11)
Damages	61 (9)	94 (8)
Economic Loss	55 (10)	102 (7)
The Government	53 (11)	71 (10)

Table 7 displays the degree centrality of each attribute on the networked attribute agendas of the official and commercial media outlets. Degree centrality refers to the number of links an attribute has with the other attributes in the network. The attribute that has higher degree centrality is more central and salient in the network than the others. The table shows that casualty of the explosion was the most central attribute of Tianjin explosion for both the official media ( $n=104$ ) and the commercial media ( $n=131$ ), indicating that both kinds of media outlets cared most about casualties in the explosion. Rescue operations ( $n=87$ ) and the pollution caused by the explosion ( $n=86$ ) ranked second and third on the networked agenda of the official media, while the second most

central attribute on the networked agenda of the commercial media was the explosion's social impact ( $n=130$ ), followed by accountability ( $n=122$ ), meaning who should be held accountable for the explosion. The differences indicate that official media outlets focused on the incident itself while commercial media outlets tended to investigate the stories behind the scenes.

Figure 1 and Figure 2 display the networked attribute agendas of the official and commercial media through visual graphics. The node size was adjusted to match the degree centrality of each attribute. The bigger a node, the greater degree centrality the node has. The visual display of each networked agenda clearly shows which attribute is located at the center of the network and which attribute is peripheral. The visualization software Netdraw was used to create these figures (Borgatii, 2002).



Figure 1. Official Media Network in the Tianjin Explosion

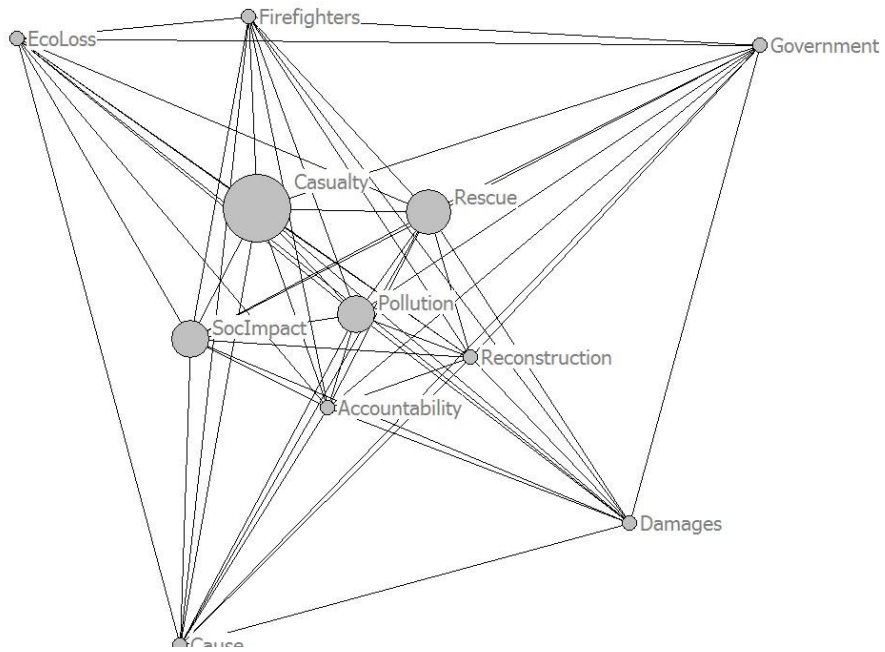


Figure 2. Commercial Media Network in the Tianjin Explosion

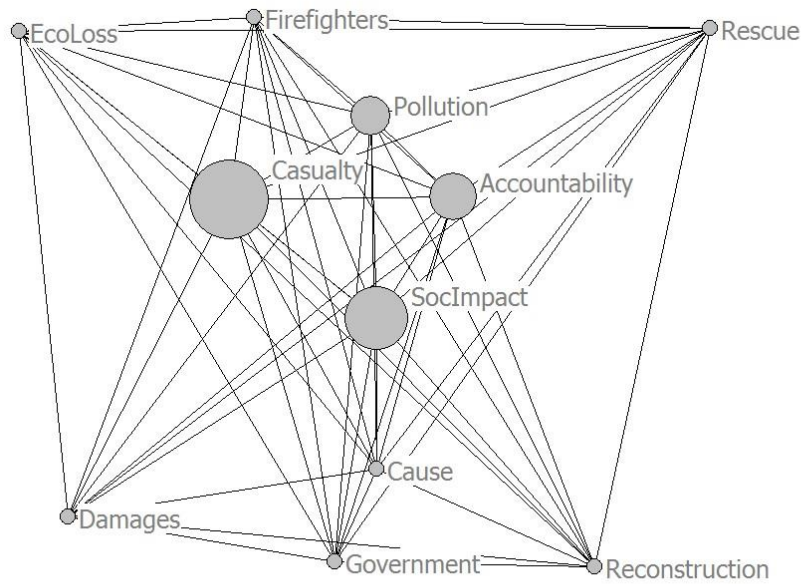


Table 8 displays the degree centrality of each attribute in the networked attribute agendas of different opinion leaders. The top three central attributes on the networked agenda of media professionals included the government ( $n=89$ ), accountability ( $n=77$ ), and casualty ( $n=75$ ). The attribute “the government” mainly refers to criticism toward both central and local governments in terms of controlling the media, withholding the truth, and acting irresponsibly in the crisis. The results indicate that media professionals not only made efforts to uncover the truth behind the explosion, but they were also angered by the corruption and incompetence of both central and local governments involved in this explosion. The networked agenda of business elites was similar to that of media professionals, with the government being the most central attribute on the network agenda ( $n=66$ ), followed by casualty ( $n=59$ ) and accountability ( $n=58$ ). The top two central attributes on the networked agenda of scholars were the government ( $n=94$ ) and accountability ( $n=89$ ), which is the same as media professionals. Scholars also devoted their Weibo posts to discussions about the firefighters in the explosion ( $n=83$ ), which was the third most central attribute on their networked agenda. Finally, celebrities cared most about who should be held accountable for this explosion. The attribute “accountability” ( $n=50$ ) was the most central attribute on celebrities’ networked agenda, followed by the firefighters ( $n=48$ ) and casualty ( $n=46$ ). Figures 3-6 display the networked attribute agendas of different opinion leaders through visual graphics.

Table 8. Degree Centrality (DC) for the Networked Agendas of Opinion Leaders in the Tianjin Explosion

	Media Professionals (DC/Rank)	Celebrities (DC/Rank)	Scholars (DC/Rank)	Business Elites (DC/Rank)
The Government	89(1)	46(4)	94(1)	66(1)
Accountability	77(2)	50(1)	89(2)	58(3)
Casualty	75(3.5)	46(3)	66(6)	59(2)
Social Impact	75(3.5)	32(5.5)	83(3.5)	53(5)
Pollution	68(5)	30(7)	79(5)	52(6)
Firefighters	67(6)	48(2)	83(3.5)	56(4)
The Cause	54(7)	20(8)	53(8)	41(7.5)
Rescue	51(8)	32(5.5)	47(9)	41(7.5)
Damages	38(9)	0(10.5)	58 (7)	28(10)
Reconstruction	35(10)	0(10.5)	26(10.5)	20(11)
Economic Loss	33(11)	14(9)	26(10.5)	30(9)

In sum, official media outlets merely reported facts and numbers of the explosion in their Weibo posts, including the death toll, number of injuries, rescue operations, the pollution caused by the explosion, and other social impact resulted from the disaster. In fact, information about the explosion reported by official media outlets was highly censored by the government. Although commercial media outlets paid much attention to these attributes as well, they differed from official media outlets by also tracing the accountability of the explosion and sometimes pressuring the government for the truth. The networked agendas of all kinds of opinion leaders presented a quite different picture from the agendas of the media outlets. The opinion leaders tended to discuss more about the slow reaction of the local government to the explosion, the corruption of both local

and central governments involved in this case, the mishandlings of the crisis by the local government, and the innocent firefighters who were sacrificed in the explosion.

Figure 3. Media Professionals' Network in the Tianjin Explosion

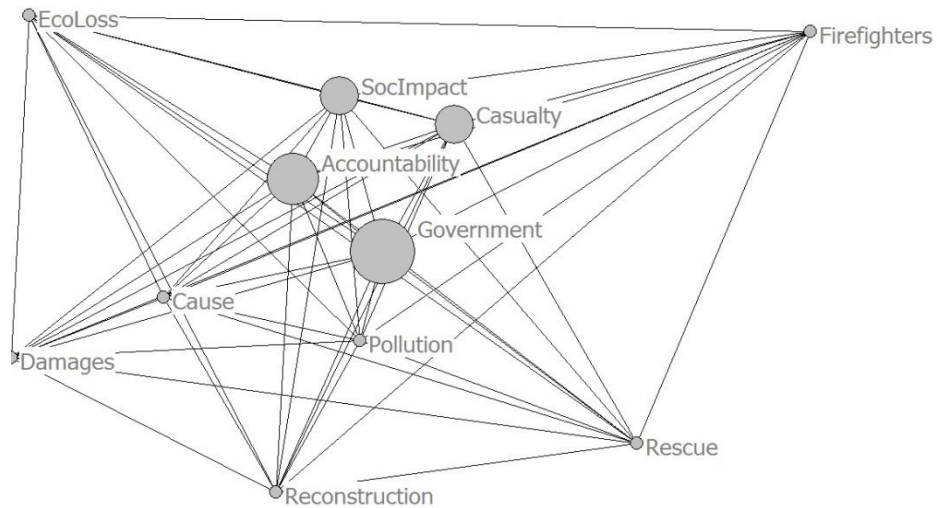
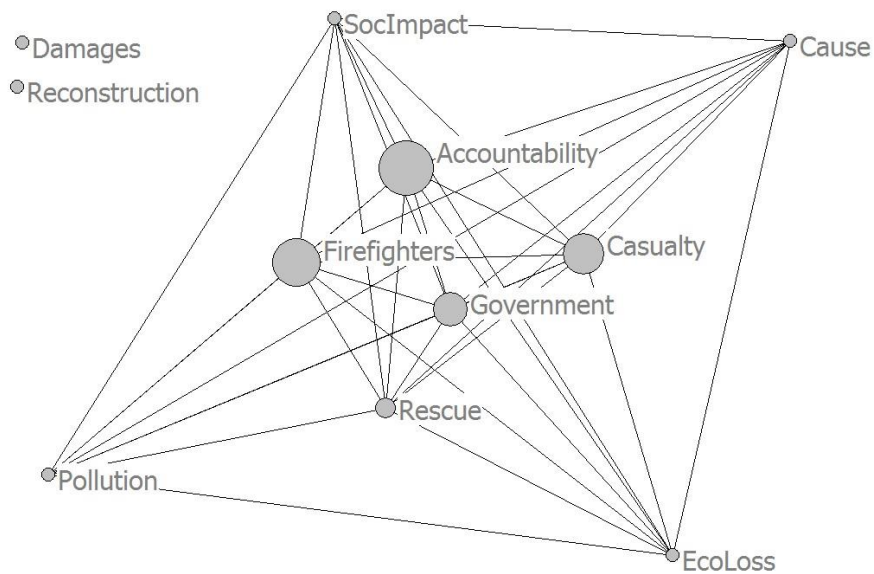


Figure 4. Celebrities' Network in the Tianjin Explosion



Looking back at the case of the Tianjin explosion, there are two things that made this explosion even more disastrous. First, the local government neither responded to the explosion immediately nor acted properly to the crisis. Before determining the nature of the explosives, local government officials sent groups of firefighters into the explosion without proper equipment and skills. The first group of firefighters was all killed by the subsequent explosions that occurred right after they entered the area. The following groups suffered heavy casualties because the firefighters were not trained or prepared for a large-scale chemical fire. They sprayed water into the fire, which actually caused several secondary explosions. Second, local government officials remained silent until they held the first press conference 17 hours after the explosion. Within the five days after the explosion, the local government held six press conferences with low-ranking, uninformed municipal officials who infuriated both the central government and the media outlets. It is because these officials did not know anything about the explosion and failed to provide valuable information. When no real information came from the press conferences, rumors circulated on the Internet, which incurred the central government's crackdown on the Internet two days after the explosion. Official media outlets were only reporting facts filtered by the government on Weibo. Conversely, the opinion leaders' criticism of the government and quest for the truth struck home with citizens.

Figure 5. Scholars' Network in the Tianjin Explosion

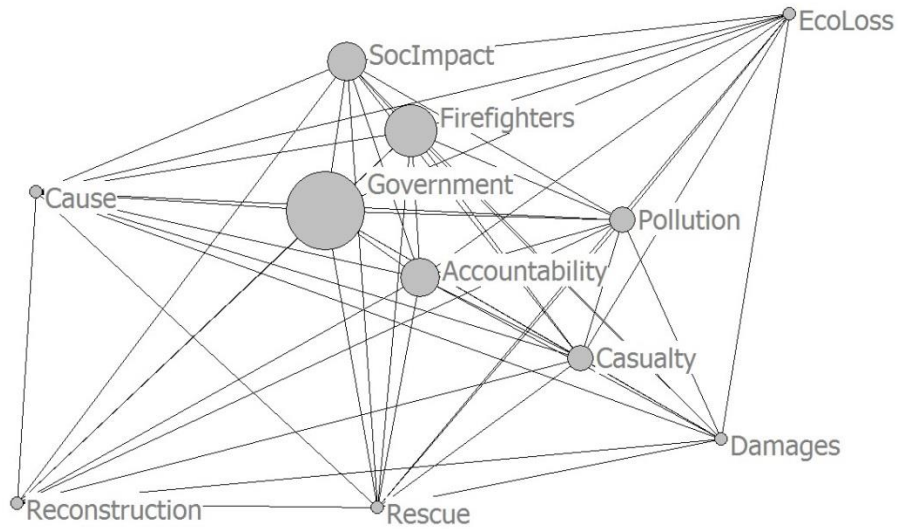
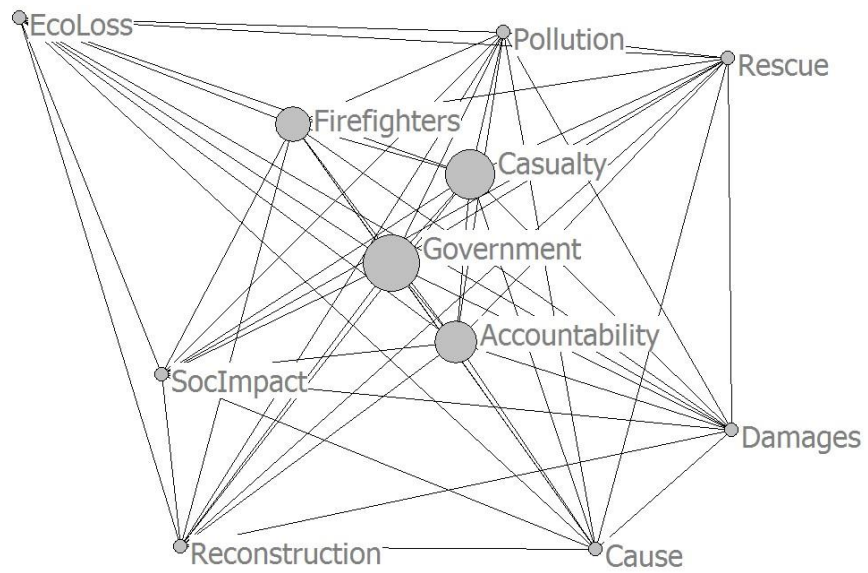


Figure 6. Business Elites' Network in the Tianjin Explosion



RQ7 investigates the correlations between the networked attribute agendas of the media outlets and opinion leaders in crisis news. As shown in Table 9, none of the networked agendas of the opinion leaders were correlated with the media agendas. The result confirms the previous finding that the networked agendas of the opinion leaders are different from the networked media agendas. The networked agenda of the commercial media was significantly correlated with that of the official media in the Tianjin explosion ( $r = +.64, p < .01$ ). Although government censorship kicked in almost immediately after the explosion, it faced strong challenge from both the media and the public. Even official media outlets questioned the misconduct of local officials several times. However, the findings of this study reveal that commercial media outlets tended to deviate from the official discourse but their attempts were ultimately fruitless in the face of the government's media blockage.

Table 9. QAP Correlations between the Networked Agendas of the Media and Opinion leaders in the Tianjin Explosion

	Official Media	Commercial Media	Media Professionals	Celebrities	Scholars	Business Elites
Official Media		<b>.64**</b>	.21	.26	.08	.21
Commercial Media			.18	.22	.14	.16
Media Professionals				<b>.81**</b>	<b>.87**</b>	<b>.89**</b>
Celebrities					.73**	.87**
Scholars						<b>.84*</b>
Business Elites						

Note: \* $p < .05$ ; \*\* $p < .01$ .

It is notable that the networked agenda of media professionals was highly, significantly correlated with that of celebrities ( $r = +.81, p < .01$ ), scholars ( $r = +.87, p < .01$ ), and business elites ( $r = +.89, p < .01$ ). Moreover, the networked agenda of business elites was highly, significantly correlated with that of celebrities ( $r = +.87, p < .01$ ) and scholars ( $r = +.84, p < .01$ ). Finally, the networked agenda of celebrities was also correlated with that of scholars ( $r = +.73, p < .01$ ). The results show that the networked agendas of all kinds of opinion leaders were highly inter-correlated among each other, indicating great similarities among these agendas. In addition, the highest correlation value appeared between the agendas of media professionals and business elites, which were highly correlated with the other agendas. Therefore, media professionals and business elites were the most influential opinion leaders in the news of this crisis.

#### **THE AGENDA-SETTING EFFECTS IN NON-CRISIS NEWS**

RQ8 explores the networked attribute agendas of the media outlets and opinion leaders in a non-crisis news situation. This study examined the case of Tu Youyou and found six major attributes of the case that appeared in the Weibo posts studied. The first attribute was “sense of honor,” which refers to the fact that Tu is the first Chinese citizen to receive the Nobel Prize in natural sciences and the award brought about strong national pride among the Chinese people. The second attribute was “research achievement,” referring to Weibo users’ positive attitude toward the achievement of Chinese scientific research. After Tu won the Nobel Prize, many people believed that Chinese scientific



research overall has made great progress and deserves public praise. “Criticism of the system” refers to Weibo users’ criticism of the bureaucracy within Chinese academic institutions. Since Tu Youyou’s application to the members of CAS was rejected several times, the public discussed on Weibo about whether the promotion mechanism in Chinese academic institutions was fair and impartial. “Scientists” refers to the discussions about the little public attention given to scientists compared to celebrities in China. The fifth attribute was “Chinese medicine,” referring to the discussions that involved the comparison between Chinese traditional medicine and Western medicine. As discussed before, Tu Youyou attributed her success to Chinese traditional medicine, which generated a heated debate about whether Chinese traditional medicine is better than Western medicine. The last attribute was “female scientists,” which refers to the discussions about the achievements and qualifications of Chinese female scientists. Because Tu Youyou is a female scientist, her achievement gave rise to more public attention to female scientists in China.

Table 10. Degree Centrality (DC) for the Networked Agendas of Official and Commercial Media in Tu Youyou’s Case

	Official Media (DC/Rank)	Commercial Media (DC/Rank)
Chinese Medicine	27(1)	49(1)
Sense of Honor	26(2)	43(2)
Scientists	20(3)	38(5.5)
Female Scientists	14(4)	41 (3.5)
Research Achievement	11(5)	38(5.5)
Criticism of the System	10(6)	41(3.5)

Table 10 displays the degree centrality of each attribute on the networked attribute agendas of the official and commercial media. As it shows, Chinese medicine was the most central attribute on the networked agendas of both the official media ( $n=27$ ) and commercial media ( $n=49$ ), indicating that both kinds of media outlets more often discussed the comparison between traditional Chinese medicine and Western medicine. Sense of honor ranked second on the networked agendas of both the official media ( $n=26$ ) and commercial media ( $n=43$ ). The top two central attributes on the networked agendas of the official and commercial media were the same, indicating that both kinds of media outlets paid more attention to the same attributes of Tu Youyou's case than the others. Scientists ( $n=20$ ) ranked third on the networked agenda of the official media. Differently, commercial media outlets paid more attention to criticism of the system ( $n=41$ ) and female scientists (41), which tied for the third place on the agenda of the commercial media. Despite the top two issues, the networked agenda of the official media in the case of Tu Youyou differs from that of the commercial media. Commercial media outlets dedicated more posts to criticizing the bureaucracy in Chinese academic institutions while official media outlets discussed more about public attitude toward scientists. Figures 7-8 display the networked attribute agendas of the media outlets through visual graphics.

Figure 7. Official Media Network in Tu Youyou's Case

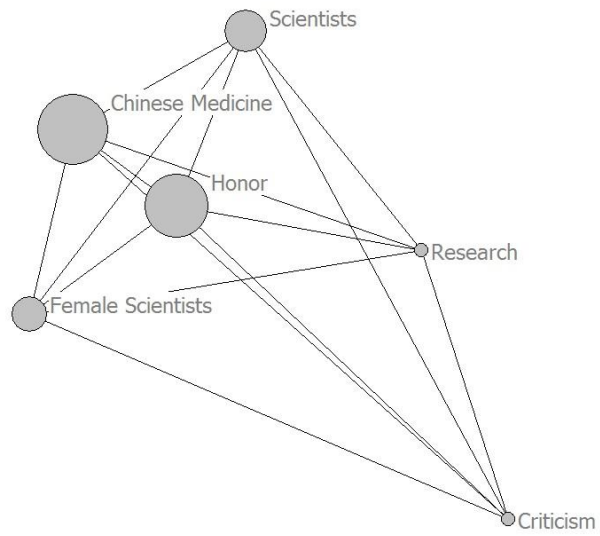


Figure 8. Commercial Media Network in Tu Youyou's Case

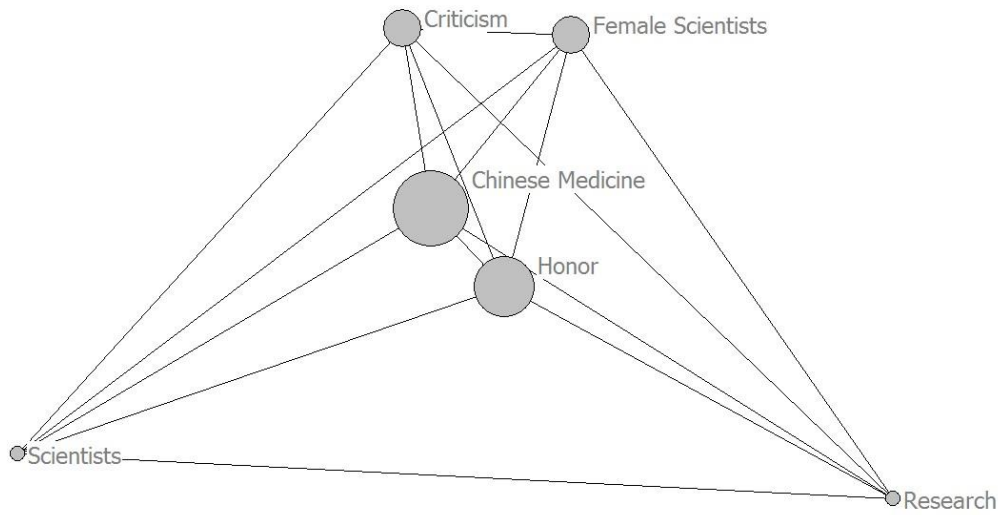


Table 11 displays the degree centrality of each attribute on the networked attribute agendas of the opinion leaders. It shows that media professionals ( $n=22$ ), scholars ( $n=25$ ), and business elites ( $n=18$ ) all paid more attention to the criticism of the system than the others, indicating that most of their Weibo posts were criticizing the unfair promotion system in Chinese academic institutions. The second most central attribute on the networked agenda of media professionals was female scientists ( $n=21$ ), followed by sense of honor ( $n=19$ ) and scientists ( $n=19$ ). Differently, the attributes of research achievement ( $n=5$ ) and Chinese medicine ( $n=5$ ) tied for the second place on the networked agenda of celebrities. The second most central attribute on the networked agenda of scholars was sense of honor ( $n=23$ ), followed by scientists ( $n=21$ ) and Chinese medicine ( $n=21$ ). The second most central attribute on the networked agenda of scholars was scientists ( $n=17$ ), followed by sense of honor ( $n=12$ ).

Table 11. Degree Centrality (DC) for the Attribute Agendas of Opinion Leaders in Tu Youyou's Case

	Media Professionals (DC/Rank)	Celebrities (DC/Rank)	Scholars (DC/Rank)	Business Elites (DC/Rank)
Criticism of the System	22(1)	7(4)	25(1)	18(1)
Female Scientists	21(2)	8(2.5)	17(5)	11(4)
Sense of Honor	19(3.5)	8(2.5)	23(2)	12(3)
Scientists	19(3.5)	9(1)	21(3.5)	17(2)
Research Achievement	15(5)	5(5.5)	9(6)	8(5.5)
Chinese Medicine	14(6)	5(5.5)	21(3.5)	8(5.5)

The results show that both the media outlets and opinion leaders expressed their sense of honor when discussing Tu Youyou's case on Weibo. Most of the Weibo posts mentioned that Tu is the first Chinese Nobel laureate in medicine, which is considered a point of national pride by the people. However, the media outlets discussed more about Chinese traditional medicine in their Weibo posts, while opinion leaders on Weibo devoted their posts to criticizing the bureaucracy in Chinese academic institutions. Figures 9-12 display the networked attribute agendas of different opinion leaders through visual graphics.

Figure 9. Media Professionals' Network in Tu Youyou's Case

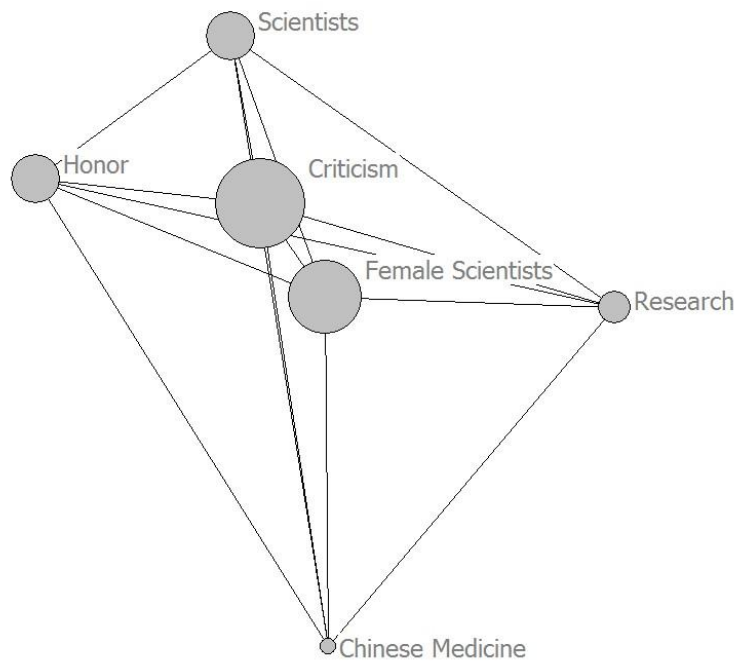


Figure 10. Celebrities' Network in Tu Youyou's Case

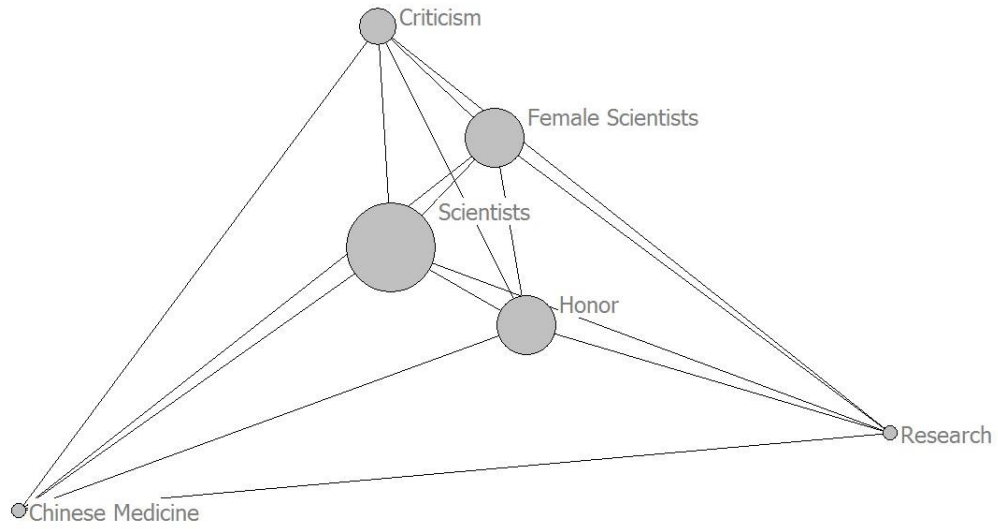


Figure 11. Scholars' Network in Tu Youyou's Case

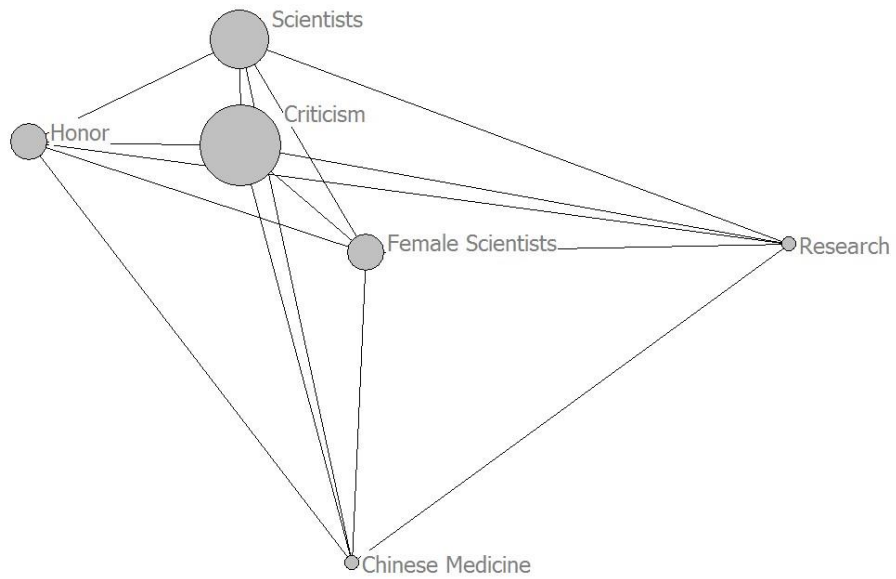
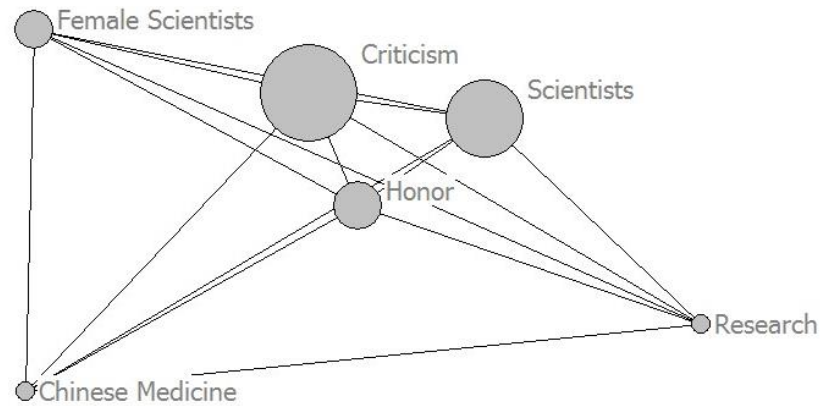


Figure 12. Business Elites' Network in Tu Youyou's Case



RQ9 investigated the correlations among the networked attribute agendas of the media outlets and opinion leaders in this non-crisis news event. Table 12 contains the QAP correlation matrix for Tu Youyou's case. As it shows, none of the networked agendas of the opinion leaders were correlated with the media agendas, indicating that the media outlets and opinion leaders on Weibo presented quite different networked attribute agendas in this non-crisis news event. The networked attribute agendas of the official and commercial media were not correlated in Tu Youyou's case, indicating that they had different attribute agendas. The significant correlations only appeared among the networked agendas of the opinion leaders. The networked attribute agenda of media professionals was significantly correlated with that of celebrities ( $r = +.70, p < .05$ ). Moreover, the networked attribute agenda of business elites was significantly correlated

with that of media professionals ( $r = +.59$ ,  $p < .05$ ), celebrities ( $r = +.64$ ,  $p < .05$ ), and scholars ( $r = +.59$ ,  $p < .05$ ). The results suggest that, in Tu Youyou's case, none of the opinion leaders followed the media coverage on Weibo. Instead, they discussed the case from different aspects and a critical approach. Additionally, media professionals, celebrities, and scholars presented different networked agendas in this case. However, their networked agendas all significantly correlated with that of business elites, suggesting that business elites are the most influential opinion leaders in Tu Youyou's case.

Table 12. QAP Correlations between the Networked Agendas of the Media and Opinion leaders in Tu Youyou's Case

	Official Media	Commercial Media	Media Professionals	Celebrities	Scholars	Business Elites
Official Media		.51	-.38	-.06	.32	-.33
Commercial Media			-.25	-.05	.32	-.18
Media Professionals				<b>.70*</b>	.36	<b>.59*</b>
Celebrities					.41	<b>.64*</b>
Scholars						<b>.59*</b>
Business Elites						

Note: \* $p < .05$ ; \*\* $p < .01$ .

## CONCLUSION OF THE COMPARATIVE AGENDA-SETTING STUDY

The comparative agenda-setting study in this dissertation examined the crisis news of the Tianjin explosion and the non-crisis news of Tu Youyou to explore the networked



attribute agendas of the media outlets and different opinion leaders on Weibo, investigate the correlations of these agendas, and compare the differences of agenda-setting effects between the media outlets and opinion leaders in both cases. Both the Tianjin explosion and Tu Youyou's case were an overnight sensation in China. Differently, media blockage played a role in the Tianjin explosion but not in Tu Youyou's case. Tianjin's explosion was caused by hazardous materials improperly or illegally stored in a warehouse that was covered up by the local government. The media's further investigation of the case would reveal a corrupt system and the misconduct of government officials, both of which are politically sensitive issues in China. Therefore, local government remained silent throughout the process and the state enforced a media blockage shortly after the explosion. However, Tu Youyou's Nobel Prize award is honorable and praiseworthy. Many posted on Weibo that the award was also a glorious international debut of Chinese traditional medicine, which generated national pride among the people. As a result, the public discourse for this case was free and autonomous. Comparing the two cases, the study discovered the following:

First, the media agendas and the agendas of the opinion leaders on Weibo differed significantly in both crisis and non-crisis news. In the Tianjin explosion, the media outlets on Weibo focused on the death toll and rescue operations. Moreover, official media outlets frequently shifted their attention from reporting the explosion to dispelling rumors. Because no real news came out from official channels, rumors about the death toll and the cause of the explosion circulated on the Internet. Official media outlets kept

squelching rumors and updating the official death toll, which was highly censored by the state. Their attempts made things even more chaotic since few people tended to believe in the official data.

Some of the commercial media outlets, such as Caixin News, made a foray into the investigation and spared no effort to uncover the background of the illegal warehouse. Most of the time commercial media outlets followed the news of official media outlets because of the government control. Independent investigation of the crisis on the Internet was banned and non-official information was removed immediately. The government's media control seems to have come up short in front of the opinion leaders. They mainly posted about who should be responsible for this explosion and why local government remained silent. Although it was common that accounts were closed and posts were removed, opinion leaders on Weibo made great efforts to evade media control and question the authenticity of the official information.

The discussion of Tu Youyou's case centered around two aspects, including the debate about Chinese traditional medicine and criticism of the Chinese academic system. Both official and commercial media outlets discussed more about the former while all kinds of opinion leaders but celebrities focused on the latter. Obviously, the media outlets tended to seek this opportunity to advocate traditional culture and boost national pride. Very few posts of official media outlets criticized the Chinese academic system, which was the most peripheral attribute on their networked agenda. Commercial media outlets differed from official media outlets by sometimes criticizing the Chinese academic

system. Conversely, all kinds of opinion leaders except celebrities focused their attention on the bureaucracy within the Chinese academic system. They paid more attention to the social status of scientists in China as well and barely discussed Chinese traditional medicine.

In sum, the official media's role as the mouthpiece of the government is evident in both the crisis and non-crisis news events. Official media outlets strictly followed the party script and dedicated their efforts to maintaining social stability in time of crisis. When non-crisis news happened, they tended to promote national pride and traditional culture. It is not difficult to see the commercial media's effort to diverge from the discourse of the official media in both cases. Commercial media outlets endeavored to disclose the truth in time of crisis, although under the pressure of government control. They included voices of both praise and criticism in their coverage of this non-crisis news event. However, their effort was pointless because of the media blockage in the crisis event, which was confirmed by the finding that the networked agendas of the official and commercial media outlets were significantly correlated in the Tianjin explosion. The commercial media presented a different agenda from the official media without government control, just as it did in the case of Tu Youyou. The agendas of the opinion leaders changed in crisis and non-crisis news as well. On one hand, the agendas of the opinion leaders tended to be similar to each other when there was strong media control in the Tianjin explosion. On the other, their agendas were diverse and less correlated in non-crisis news, when the public discourse was liberal and free in Tu Youyou's case.

Moreover, no agenda-setting effects were found between the media outlets and opinion leaders on Weibo in both cases because they were not correlated at all. The result suggests that neither the official media nor the commercial media are able to set the agendas on Weibo when big news happens. It is easy to understand that none of the opinion leaders on Weibo followed the news of official media outlets in both cases. It is interesting that the networked agendas of the opinion leaders in both cases differed from the commercial media agenda. Although commercial media outlets have brought energy and vitality to journalism in China, it's still difficult for them to reshape the stereotypical image of Chinese media that is deeply rooted in people's mind. Additionally, commercial media outlets quickly lose their autonomy when crisis news happens and the media blockage kicks in. Therefore, they are unable to set the agendas for the opinion leaders on Weibo when big news happens.

Finally, business elites were the most influential opinion leaders in both these crisis and non-crisis news situations on Weibo. Some scholars argue that media organizations and media-affiliated individuals are major information disseminators on Western social media platforms (e.g. Hu et al., 2012). However, the findings of this study show that business elites were the most influential Weibo users because almost all the other news agendas in both the crisis and non-crisis news events correlated with the agenda of business elites.

## Chapter Seven: Conclusion

Although traditional media (e.g. newspapers, radio stations, broadcast television, cables, etc.) are not dying as predicted by many, one cannot deny the fact that the rise of Internet-based social media shakes the journalism and communication field in an unprecedented way, changing journalism routines and news consumption habit, eroding traditional media's market share, and most importantly, creating a globalized public sphere that is interactive and de-territorialized. The explosive growth of social media platforms has spurred heated discussion about the impact of social media use on traditional media industry (Pew, 2012), politics (Colleoni, Rozza, & Arvidsson, 2014; Parmelee & Bichard, 2011), popular culture (Cross, 2011), as well as social movement and activism (Gleason, 2013) in the Western world. In authoritarian countries such as China, the discussions about social media use center around its impact on the country's progress toward democracy, especially on freedom of the media and speech. Some argued that social media in China have created a new public sphere characterized by deliberative criticism for democracy (Reese & Dai, 2009). Others claimed that although progress has been made, there is still a political boundary around Chinese cyberspace and the democratic impact of social media on Chinese society still requires further observation (Jiang, 2014). By systematically examining agenda-setting effects between the media outlets and opinion leaders on Chinese Weibo, this dissertation opens up a window for the Western world to know about Chinese social media. Moreover, it verifies whether agenda setting exists between the media outlets and opinion leaders on Chinese

social media platforms and under what circumstances. Most importantly, this dissertation examined the agenda-setting effect from a different approach. As discussed in the literature, previous studies of the agenda-setting effect on social media platforms treated the social media agenda as a whole and compared it with traditional media agendas. This dissertation acknowledged the fragmented agendas within the social media world and examined the more nuanced agenda-setting effects among different influential groups on social media platforms. It is the first study that tested the agenda-setting effect from this approach and examined the opinion leaders and agenda setting in Chinese social media.

#### **SUMMARY OF MAJOR FINDINGS**

This dissertation used both the traditional agenda-setting method and the networked analysis model to examine agenda-setting effects among different influential groups on Chinese Weibo. The results of the dissertation show that agenda-setting effects conditionally exist between the commercial media and opinion leaders on Weibo. The agenda-setting patterns among the opinion leaders were diversified and dynamic. The findings of this dissertation also reveal that business elites were the most influential Weibo users among all the studied opinion leaders.

The first important finding is that commercial media outlets only set the agendas of opinion leaders on social and legal issues, including social security, housing, income disparities, food safety, as well as law and order. Conversely, the official media agenda was set by the opinion leaders on Weibo on various issues. Because agenda setting is

supposed to exist in a free media environment, the result suggests that Chinese commercial media presented a more liberal media discourse than the official media. Recent agenda-setting studies concluded that Chinese social media greatly influenced or set the agenda of the traditional media (e.g. (Bondes & Schucher, 2014; Fu & Chau, 2014; Tong & Zuo, 2014). However, previous studies did not consider the differences between the official and commercial media outlets. By differentiating traditional media agenda into the official and commercial agendas, this dissertation is able to locate where exactly the agenda-setting effect exists on Chinese social media platforms. The finding indicates the popularity of commercial media outlets in China as well. As discussed in the literature, commercial media outlets are widely recognized by Chinese people as being credible and professional. Therefore, it is not difficult to understand their agenda-setting role in daily discussions of social issues on Weibo. Further, unlike the official media who serve as political tools to advocate party ideologies and government policies, this dissertation found the commercial media paid more attention to social issues of concern to the people, possibly to attract more audiences and maximize profits.

However, the agenda-setting role of the commercial media is weak and vulnerable. The results of the comparative agenda-setting study show that the commercial media lost their agenda-setting role in both the crisis and non-crisis events. It is possibly because the public's distrust of the media outlets in China is so ingrained in people's mind that they do not follow both the official and commercial media outlets when big news happens. Moreover, the media blockage is another reason why the commercial

media failed to set the agendas of the Tianjin explosion. Commercial media outlets presented a quite similar news agenda as the official media in the face of the media blockage because they both had to obey the government rules about what is acceptable to cover. However, the opinion leaders were able to post critical information of the crisis, which makes their agendas significantly different from the media agendas. It is notable that commercial media outlets questioned more about the accountability of the crisis than official media outlets, who merely reported facts and numbers. For example, Caixin News—one of the studied commercial media outlets—devoted the majority of its posts to the investigations of the illegal warehouse. The finding indicates that commercial media outlets endeavored to test the boundary of government control and provide independent and investigative reporting in the crisis. However, their efforts can be easily crushed by the government's media blockage.

The second major finding is that, compared to media professionals, celebrities, and scholars, business elites were the most influential Weibo opinion leader on a variety of issues, including political, social, and educational issues. Additionally, all the other opinion leaders' agendas were significantly correlated with the agenda of business elites in both the Tianjin explosion and Tu Youyou's case. Business elites also influenced both the official and commercial media agendas on environmental issues. They even set the commercial media agenda on politics. Business elites' significant influence on Weibo can be explained by their networks with the government and the power of money over politics.



The finding of this dissertation showed a different opinion leadership on Chinese Weibo than Twitter. When reviewing the Western literature, the most frequently mentioned opinion leaders on Twitter include journalists and celebrities (e.g. Cha et al., 2010; Dubois & Gaffney, 2014; Hu et al., 2012). However, journalists and celebrities are more like intermediaries in the communication process on Weibo. Although they were able to influence the agendas of other opinion leaders on certain issues, their agendas were set by others most of the time. Journalists failed to lead the discussion on Weibo possibly because of the government censorship, which results in their posts being frequently removed, or accounts closed. Some famous investigative journalists, such as Pengcheng Li, already quit the service in protest.

As predicted, the results of this dissertation demonstrate that Weibo offers a critical viewpoint that the state-controlled media lack. The diversified public discourse on Weibo actually fosters democratic consciousness among the people, promotes cultural change from the bottom-up, and creates hope for more profound social and political reforms in China.

Finally, the opinion leaders had diverse issue agendas, and the agenda-setting effects among these opinion leaders on Weibo were dynamic and complicated. Differences are obvious among the agendas of the opinion leaders. For example, celebrities did not post anything about the economy, military, and culture. Their agenda had less in common with the agendas of both the media outlets and other opinion leaders. Media professionals discussed more about political issues, scholars paid more attention to

political and legal issues, and business elites were more concerned about environmental issues. Further, business elites paid more attention to the issues of technology and the Internet than all the other groups. The results show that the news agenda on Weibo is fragmented, which is consistent with the argument that social media allow different voices, leading to the emergence of collective intelligence on social media platforms (Kwak et al., 2010; Tapscott & Williams, 2006).

Agenda-setting effects among these opinion leaders are multidimensional and interactive. For example, business elites set the agendas of media professionals and scholars on educational issues, while media professionals and scholars set the agenda of business elites on environmental issues. Similarly, celebrities set the agenda of media professionals on health and food safety, while media professionals set celebrities' agenda on environmental issues. Furthermore, the agenda-setting process among these opinion leaders changed in different circumstances. The agendas of these opinion leaders were highly correlated with each other in the Tianjin explosion, while they were much less correlated in Tu Youyou's case. The findings demonstrate that the agenda-setting effect on social media platforms is not a linear process directly from one direction to another. It is a diversified and dynamic process where different parties interact and influence each other, and each party has the potential to set other agendas in certain issue topics. Therefore, future studies should be aware of the dynamic communication process and differentiate the fragmented agenda on social media platforms in order to get a clearer picture of the agenda-setting effect in the new media world.

## LIMITATIONS AND SUGGESTIONS

In order to map out the segmented agendas and the dynamic agenda-setting process on social media platforms, this dissertation included two types of media outlets and four kinds of opinion leaders discovered from previous studies. Additionally, the study conducted two studies using both the traditional agenda-setting method and the newly developed NAS model to test agenda-setting effects among these groups from an overall perspective and in specific cases. However, it's not without limitations.

The major drawback of this dissertation comes from its data source. Because of the government control in China, Weibo's content is monitored and filtered all the time. Internet censorship is extremely harsh in times of crisis. For example, during the case of the Tianjin explosion, over 1,000 "rumor mongering" Weibo accounts were shut down for their reporting and commentaries of the case (Yu, 2015). Therefore, the data collected for the Tianjin explosion in this study are filtered and incomplete. However, this is an inevitable problem if future research studies Chinese social media.

The first study of this dissertation only examined ten media outlets and ten opinion leaders of each kind. Future studies should include a larger sample of each source so that the results would reflect a more realistic agenda-setting process on Weibo. Also, the second study only examined two events representing crisis and non-crisis news. Future studies should include more cases and on different topics in order to rule out idiosyncratic issue characteristics.

Although Western scholars have found that gender disparities exist on social media platforms (e.g. Armstrong & Gao, 2011), this dissertation found no gender difference in opinion leadership on Weibo. Because this dissertation only studied opinion leaders on Weibo, the findings do not extrapolate to gender differences of ordinary Weibo users. Future studies should compare Weibo posts of ordinary men and women to explore the differences and the agenda-setting effects between them. It would also be worthwhile to compare gender differences on Western and Chinese social media platforms. Furthermore, this dissertation only compared some selected male and female opinion leaders to find gender differences. Future research may get more accurate results by coding all sampled users based on their genders and compare the differences between the male and female groups.

This dissertation found that business elites were the most influential opinion leader on Weibo, while studies of Western media found that journalists and celebrities tended to be the most influential ones on Twitter. The findings of this dissertation show the difference of opinion leadership on Weibo and Twitter. Actually, it was already discussed in the literature that Weibo and Twitter differ in several ways, although they share similar interface and functions. However, it was not the focus of this dissertation to compare Weibo and Twitter. A comparative study of either the agenda-setting process or other communication patterns between Weibo and Twitter may result in valuable findings.

## Appendix A: List of Selected Weibo Users

**1. Official media:** (1) People's Daily, (2) The Global Times, (3) China Daily (4) CCTV News, (5) Xinhua News

**2. Commercial media:** (1) Southern Metropolis Daily, (2) The Beijing News, (3) News China, (4) Phoenix Weekly, (5) Caixin News

**3. Top 10 media professionals:** (1) Keqin Wang, (2) Jing Chai, (3) Wuyuesanren, (4) Guoping Lu, (5) Rose Lv, (6) Shusi Shi, (7) Fei Deng, (8) Jinling Yang, (9) Yongyuan Cui, (10) Shengjun Liu

**4. Top 10 celebrities:** (1) Long Cheng, (2) Ge Hu, (3) Bingbing Fan, (4) Na Xie, (5) Kai Wang, (6) Chen Yao, (7) Wei Zhao, (8) Kun Chen, (9) Dongsheng Er, (10) Li Yuan

**5. Top 10 scholars:** (1) Xianping Lang, (2) Jianrong Yu, (3) Bin He, (4) Daokui Li, (5) Qingdong Kong, (6) Ming Zhang, (7) Yushi Mao, (8) Nan Si-Ma, (9) Tan Ye, (10) Weifang He

**6. Top 10 business elites:** (1) Shiyi Pan, (2) Jack Ma, (3) Zhiqiang Ren, (4) Kaifu Li, (5) Guangbiao Chen, (6) Lifen Wang, (7) Yonghao Luo, (8) Xiaoping Xu, (9) Huang Hong, (10) Shisan Ji

**7. Top 10 male opinion leaders:** (1) Shiyi Pan, (2) Jack Ma, (3) Zhiqiang Ren, (4) Kaifu Li, (5) Xianping Lang, (6) Keqin Wang, (7) Xiaoping Xu, (8) Jianrong Yu, (9) Yongyuan Cui, (10) Daokui Li

**8. Top 10 female opinion leaders:** (1) Huang Hong, (2) Rose Lv, (3) Liuliu, (4) Yinhe Li, (5) Xin Zhang, (6) Hong Xu, (7) Jing Chai, (8) Lifen Wang, (9) Lan Yang, (10) Yihe Zhang

## INTRODUCTION TO OFFICIAL MEDIA OUTLETS

*People's Daily* started its publication in 1948 and is the official newspaper of the Chinese Communist Party. It is among the most influential and authoritative newspapers in China, published worldwide with a circulation of three million, according to its official website ([www.en.people.cn](http://www.en.people.cn)).

*The Global Times* started its publication in 1993 and is a daily Chinese newspaper under the auspices of the *People's Daily* newspaper. It is a national newspaper with a circulation of two million, according to its official website ([www.globaltimes.cn](http://www.globaltimes.cn)). The newspaper not only competes with international media in the coverage of Chinese issues but also focuses on international issues at a Chinese perspective.

*China Daily* is the leading English-language newspaper in China since its founding in 1981, with a total circulation of 900,000, according to its official website ([www.chinadaily.com.cn](http://www.chinadaily.com.cn)). It encompasses in-depth reports to analyze affairs both in China and abroad.

CCTV News is a 24-hour news channel of China Central Television (CCTV). CCTV news started its news broadcast in 2003. Its programs include newscasts, in-depth reports, and commentary programs, as well as feature presentations. CCTV—one of the

most important authoritative media in China—has about 340 million viewers in 171 countries, according to its official website ([www.english.cntv.cn](http://www.english.cntv.cn)).

Xinhua News is one of the most influential and authoritative news websites in China ([www.xinhuanet.com/english/](http://www.xinhuanet.com/english/)). It is sponsored by Xinhua News Agency, the national news agency in China. Xinhua News provides news services for netizens in more than 200 countries, with a page view of more than 120 million.

## **INTRODUCTION TO COMMERCIAL MEDIA OUTLETS**

*Southern Metropolis Daily* started its publication in 1995 and is part of the giant Southern Media Group in China. The daily newspaper, headquartered in Guangzhou, is known for its investigative reporting and provocative commentary, which often gets it into trouble with the Beijing authorities. It has a circulation around 1.6 million, according to its official website ([www.nfmedia.com](http://www.nfmedia.com)).

*The Beijing News* is a mainstream daily newspaper based in Beijing. It is co-founded by *Guangming Daily* and Nanfang Daily Group, with a daily circulation of 776,000. The newspaper started its publication in 2003 and is the first Chinese newspaper co-founded by media groups from different regions in China. It is also China's first mainstream newspaper that adapts shareholding management system, according to its official website ([www.bjnews.com.cn](http://www.bjnews.com.cn)).

*Caixin News* is the official news website of the Caixin Media Company, a Chinese media group that is dedicated to providing financial and business news and other

information through online content, periodicals, mobile apps, conferences, books and TV/video programs. The editorial staff at Caixin Media is well-known for independent thinking and professional practices. They are insiders with a profound understanding of China's economic and social transition, and they are highly valued by both journalists and the public for providing high-quality, credible news content ([www.caixin.com](http://www.caixin.com)).

*China Newsweek* (*News China* in English) is one of the most influential news magazines in China. The weekly magazine, launched in 2000, is the product of China's reform and opening up and is known for its investigative reporting and unique perspective. Based on market-oriented operation and management, the magazine is more liberal than many other media outlets in China and has a circulation of 100,000. It is the only Chinese magazine that is subscribed by the embassies of various countries in China ([www.newschinamag.com](http://www.newschinamag.com)).

*Phoenix Weekly* is a weekly magazine launched by Phoenix Hong Kong Channel in 2000. Its content focuses on current events, politics, civil issues, and culture with international perspective and professional standard. It bridges the communication between mainland China and Hong Kong, Macau, as well as Taiwan. It is free of any political party, owned by independent shareholders, and striving for democracy, objectivity and fairness ([www.ifengweekly.com](http://www.ifengweekly.com)).



## Appendix B: Coding Instruction for the First Study

### 1. Source of the Post

(1) Official Media (2) Commercial Media (3) Media Professionals (4) Celebrities (5) Scholars (6) Business Elites (7) Male Opinion Leaders (8) Female Opinion Leaders

### 2. Publishing Date

Example: 03/01/2015

### 3. Topic of the Post

(1) **Politics/Policy**: government conferences, policy report/document, political system construction, government performance, appointment or dismissal of Party officials, officials' performance, officials' misconduct, anti-corruption actions, election law, human rights, etc.

(2) **Military**: national defense, military development, military conflicts with other countries, veterans, etc.

(3) **Economics**: development in various industry sectors, financial policies, economic system reform, economic development plan, stock market, finance and investment, taxes, pension, aids for the elderly, retirement plan, interest rates,

state-owned enterprise reform, consumer spending, currency value and inflation, etc.

(4) ***Law /Order***: laws, regulations, legal cases, legal system, judicial decisions, crime, social dispute, etc.

(5) ***Environment***: pollution, deforestation, energy conservation, climate change, air condition, environment protection, wildlife conservation, ecological construction, etc.

(6) ***Society/Income distribution/Housing***: mass disturbance/unrest, protests, stability maintenance, social problems, income and wealth gap, salary reform, national income distribution, housing price, real estate market, public housing, rental housing, forced demolition, demolition compensation, land expropriation, land dispute, residence relocation, etc.

(7) ***Education/Job***: education plan, education spending, education system, education policy, education reform, education quality and equality, job market, employment/unemployment etc.

(8) ***Health/Food Safety***: healthcare reform, medical disputes, corruption of medical system, drug administration, food safety, food administration, genetically modified food, etc.

(9) ***Culture/Religion***: cultural programs/exhibitions, cultural exchange, traditional culture/festivals, religion, minority issues, etc.

(10) ***Technology/Internet***: scientific development/innovation, science and technology talents, Internet development and regulation, E-commerce on the Internet, etc.

(11) ***International Affairs***: any information on foreign countries

(0) ***Others***

## Appendix C: Coding Instruction for the Second Study

### 1. Source of the Post

(1) *Official Media*: state-owned newspapers, television stations, magazines, radio stations, websites, etc.

(2) *Commercial Media*: semi-privatized newspapers, local television stations, commercial magazines, commercial websites, etc.

(3) *Media Professionals*: journalists, hosts, anchors, officials and founders of media companies, media specialists and experts, etc.

(4) *Celebrities*: famous individuals in entertainment, fashion, sports, and other cultural fields.

(5) *Scholars*: experts in a specific field, professors in colleges and universities, etc.

(6) *Business elites*: high-level officials (manager or above) in corporations and companies, business founders, etc.

### 2. Publishing Date

Example: 03/01/2015

### 3. Attributes of Tianjin Explosion

(1) *Casualty*: the death toll, injuries or any information related, stories about injured people, etc.

- (2) **Economic loss**: the value of the damaged properties, personal economic loss, national economic loss, etc.
- (3) **Pollution**: any kind of pollution caused by the explosion and its social impact.
- (4) **The Rescue**: rescue operations by the government, NGOs, organizations, and individuals; skills, tips, and any other information related to the rescue operation.
- (5) **Damages**: damage compensation to the affected people by insurance companies, real estate companies, and the government; legal disputes involved in this process, etc.
- (6) **Accountability**: discussions about the individuals, companies, and government officials who were accountable for this explosion; investigations of the involved companies and individuals; etc.
- (7) **The Cause**: the cause of the explosion, the materials stored in the warehouse, the inspection of the materials, reports on the warehouse, etc.
- (8) **Social Impact**: aftermath of the explosion, donations, rumors on the Internet, Internet fraud, impacts on other cities in China, social activities regarding the explosion, etc.
- (9) **Reconstruction**: clearance of site, recovery actions, accommodation of the affected people, etc.
- (10) **The Government**: criticism of the local and central governments for withholding the truth, acting irresponsibly to the disaster, and controlling the media.

(0) *Others*

#### 4. Attributes of Tu Youyou's Case

(1) *Sense of Honor*: the honor of the award, national pride, people's exciting feeling of the award, etc.

(2) *Research Achievement*: development of Chinese scientific research; achievements of Chinese scientific research; positive attitudes toward Chinese scientific research, etc.

(3) *Criticism of the System*: questions about why Tu Youyou' was not elected as members of CAS; criticism of the promotion mechanism within Chinese academic institutions; criticism of the bureaucracy in Chinese academic institutions, etc.

(4) *Scientists*: public attitudes toward scientists; social status of scientists; the comparison of social status between celebrities and scientists, etc.

(5) *Chinese Medicine*: the comparison between traditional Chinese medicine and Western medicine; the debate about whether Chinese medicine is better than Western medicine or vice versa.

(6) *Female Scientists*: social status of female scientists; achievements and qualifications of female scientists; social status of women, etc.

(0) *Others*

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