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# Interstices news on mobile media: A comparison between the United States and China

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**Interstices news on mobile media:  
A comparison between the United States and China**

by

**Sha Meng**

A thesis submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of  
**MASTER OF SCIENCE**

Major: Journalism and Mass Communication

Program of Study Committee:  
Raluca Cozma, Major Professor  
Su Jung Kim  
Huaiqing Wu

The student author and the program of study committee are solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after the degree is conferred.

Iowa State University

Ames, Iowa

2017

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## ABSTRACT

This study investigates how news agencies in different cultures (United States and China) use push notifications or “interstices news” on different platforms (social media and official news app). By doing a content analysis of 3,838 pieces of interstices news collected from the social media accounts and official news apps of the Associated Press (hereafter AP) and Xinhua News Agency (hereafter Xinhua) for a month, this study examines the timing, platform differences, as well as the content features of their interstices news. The findings indicate that the two news agencies have different preference in push notification timing, as AP was more active during school or work hours, while Xinhua pushed more notifications before and after school or work hours. The analysis reveals that the social media accounts of the news agencies are preferred for interstices news over the official news apps, and the interstices news pushed by their social media accounts has a more comprehensive and diversified structure than official news apps. Differences in news values between the two countries are also discussed.

**Keywords:** Push Notifications, Interstices News, Mobile Apps, Content Analysis, Twitter, Weibo, The Associated Press, Xinhua News Agency, News Values



## CHAPTER I

### INTRODUCTION

Technology is everywhere. It has permeated into our lives with an increasing number of more convenient ways to make human life much easier and more efficient than before. mobile phones, especially smartphones, have been used as primary devices to access various apps for many different purposes. People use those apps for mobile payments, weather forecasts, and social networking, as well as for news consumption. A shared requirement of these applications as Warren (2014) notes, is to give mobile users timely updates in those areas. Functions like reporting suspect credit-card payments, extreme weather alerts, and messages sent by friends, as well as breaking news, are not only desirable but also necessary to have the information delivered to the users in a timely way. Technologies like push notifications, therefore, are a trend and tool that meet this requirement, and they are the object of this study in a news-alert context.

#### **Mobile Media and News Reporting**

##### **Mobile media history**

Looking back to the nineteen eighties, the portability function of communication by mobile phones using the features of voice and text grabbed public attention, and since then it has permeated into people's daily life. With this function, the activity flow of the media industry has also been influenced, especially for traditional media institutions, who were facing complex situations with deadline pressures and competition. In the meantime, the appearance of digital media platforms gave the audience a chance to take part in news

reporting and share things with others, which increased the pressure on traditional media institutions. Researchers maintained that, it is not only “the freedom to choose what they want to read, view, and listen to” but also a chance to have “the tools to produce, post, and share content” (Sundet, 2007).

In the nineties, the blooming of the Internet moved mobile use into a more diversified era, with a complimentary function of multimedia (Westlund, 2008). The new features of multimedia along with financial pressures therefore forced media institutions to find possibilities of the mobile services in the 2000s (Sundet, 2007).

Generally speaking, there are two options related to media mobile services. One is the preassembled mobile browser, which is a mobile version of the Internet browser; another is the mobile app for certain media institutions or companies offering specific services. With the continuing development and updating of mobile phones, mobile apps have become more widely used and accepted, as well as more diversified among all mobile operating systems like Android and IOS.

### **Social media use in news reporting**

Researchers (Wei, 2013; Chan, Rim & Zerba, 2013) and news institutions (Murray, 2015) keep studying the adoption of mobile phones. With the increasing use and prevalence of social media, news agencies are forced to find and integrate more advanced technologies into their news gathering and dissemination efforts so that they can provide a more convenient service and a more direct way to interact with their audience.

Twitter and Weibo, two of the largest social media platforms in the U.S. and China, provide free and open access to news institutions and news agencies to create an account and

get it verified by the network. They have become platforms for most of the news media institutions and news agencies of the two countries. The creation of the mobile apps of Twitter and Weibo fulfilled the needs of the newsmakers by providing a more convenient option to exchange information with their readers, with less financial pressure. Recently, many news agencies also have developed their own mobile apps to offer more personalized functions to their subscribers and audience, and to have more interactions directly with them.

This has proved to be an efficient way of news reporting that has been gradually accepted by the public. Data from the updated Pew Research report shows that, compared with 2012, a large increase from 49% to 62% of U.S. adults get news from social media in 2016, and among these people, 18% of them use social media as a news reader tool frequently (Gottfried & Shearer, 2016). Besides, according to Gottfried and Shearer (2016), the way that different social media users get news is also different from each other, as most Facebook users tend to get news “on the site,” while most Twitter users prefer to get news on Twitter.

The news function of social media also plays an important role in China. Tencent, one of the most famous internet companies that has two of the most prevalent social networks in China, QQ, and WeChat, reported from its research in 2016 that social media has cultivated a public with a preference of getting news from it, and in 2015, more than 70% of people in China tended to use social media to get news (Tencent, 2016).

Research from Tencent (2016) also pointed out that there is a difference by age when it comes to preference for the way consumers want to receive their news reports. Comparing text news with video news and photographic news, 40.9% of all respondents preferred all three format types of news, while the traditional style of news reports in a simple text format

was preferred by 14.6% of senior citizens. News reports with photos were preferred by 30.4% of the sample, with a higher percentage among young people (age 10 to 29) preferring that type of news, and news reports with videos preferred by 11.6% of all respondents, when presented the choice of the three categories of news.

Now that more social media companies have realized the significant role of news reporting combined into their platforms, more efforts have been put into exploiting this function. In 2014, Facebook announced its new project “FB Newswire” which aimed to improve its news service and for newsmakers to “become an integral part of Facebook” (Mitchell, 2014). Twitter has also been categorized into the “News” section in addition to its social media role in Apple's App Store (Peterson, 2016). Social media now plays an integral role for social networking and news producing and news reporting, as well as news reading, rather than being a simple social interaction tool as before. With continuous development and discovery in the digital media era, especially the increased portability of mobile phones and news media, as well as social media, more possibilities in journalistic usage are arising. Thus, one objective of this study is to examine how news agencies in two countries (China and the United States) use social media platforms like Weibo and Twitter mobile apps for their news output.

### **Why the United States and China?**

Partner or rival? The Pew Research Center conducted a survey among Americans about their attitudes toward the two countries' relations after the U.S.-China Strategic & Economic Dialogue in 2013, resulting in a “complex feeling” as the answer (Desilver, 2013). In the same year, the study “U.S.-China Security Perceptions Survey: Findings and

Implications” was co-published by the China Strategy Culture Promotion Association (CSCPA) and the Carnegie Endowment for International Peace, in both Beijing and Washington. The study demonstrated the mutual mixed attitudes between the two countries and emphasized a cooperative relationship rather than a competitive one (Swaine, Odell, Luo, & Liu, 2013). As the largest two economic powers in the world (Statistics Times, 2016), the relations between the U.S. and China grab the world’s attention in many areas, including both politics (Friedberg, 2005; Ross, 2003) and economics (Evenett, 2010; Tung, 1982). Because of the distinct political and economic systems of the two countries, their media systems also differ significantly (Bie & Billings, 2015), as media in China are generally centrally controlled or supervised by the government, while media in the U.S. are more “market-oriented” and owned by the private sector (Bie & Billings, 2015).

Stemming from distinct media systems, news stories usually are framed differently due to the different sources being used (Yang, 2003), especially when it comes to international news (Yang, 2003; Bie & Billings, 2015). Thus, a comparison of their news reports between the two countries is of great importance in journalistic studies. And by comparing the interstices news (i.e., news pushed by their main news agencies on different but primary platforms in the two countries - and discussed in the next section), it is helpful to get a comprehensive understanding of the use of push notifications (also discussed in the next section) in interstices news and to explore a possibly novel and effective way of news reporting.

## **Push Notifications and Interstices News**

### **Push notifications**

Push notification has experienced a long period of development in the United States, compared with China. The early forms of push notification include both emails sent by news organizations to deliver news and windows that “popped up” with simple news information on computers. With no smartphones two decades ago, push notification used in the news was essentially confined to desktop alerts. Nowadays, we use push notification in many ways, including for payment alerts, extreme weather forecasts, and events reminders, as well as for breaking news reports.

Noticing the convenience and efficiency that push notification has brought to people’s lives, researchers did tests on the use of push notification, with a focus on personalization of information delivery (Walsh et al., 2008), so people could decide what and to whom to send the information. A later study (Kim, 2014) also found out that push notification did have an effect on people’s media use behavior, especially on the frequency of media visits. However, the content features specifically with news reporting use have not been studied yet. Thus, another objective of this study is to analyze the content features of push notification with the function of news reporting use.

### **Interstices news**

In this study, news reports pushed by social media accounts and news reader apps are called interstices news. “Interstices” is a concept borrowed from John Dimmick’s (2010) research on media ecology, which emphasized the order and niche of the news media. In his study, Dimmick defines “interstices” as the gaps between the audience’s daily use of media

with specific time and space. As traditional media have achieved their niches and social identity, mobile platforms have, however, occupied their niche with a new function, that is “access in the interstices” (Dimmick, Feaster, & Feaster, 2010).

A psychological effect called “primacy effect” emphasizes the importance of the first impression in cognitive processes (Anderson, 1965). Though the first impression is not always right, it will influence the cognition of latter information. As a faster and more convenient way of news reporting, this study argues that an analysis of the content of interstices news is important and necessary, not only as a new and efficient tool that news institutions and agencies could use in reporting, but also with a high potential to influence users’ intentions to further follow up on the story and their news choices. Moreover, previous research found that users who allow the apps to push news tend to be more loyal users of news media (“Push Notification Explained,” n.d.). Thus, with a better use of interstices news, news institutions and agencies can also build a stable user group and a credible image. Drawn by the potential advantages mentioned above, this study will focus on the content of interstices news and make comparisons between different social media platforms in two countries, to develop a better understanding of this emerging type of news.

## CHAPTER II

### LITERATURE REVIEW

#### Interstices News and Time of News Reporting

##### Interstices news and the theory of niche

Push notifications, which have been called “pushy cousins of SMS messages” (Heussner, 2012), are a “direct-to consumer communication channel” (Salz, 2014) that have filled a gap left open by social media since it is impossible for people to stay on the social media platforms to get every single update. Thus, by giving the information directly to the consumer on their mobile screen promptly, with generally no more than two sentences to read, and letting audiences get the message without unlocking their phone and opening the apps, push notification became a powerful tool for organizations and companies who use it to transfer information to their audiences through mobile apps.

**Theory of the niche.** Previous research studies have focused on mobile devices’ function as a multimedia tool and their adoption by the public through the last decade. Interstices, a concept coined by John Dimmick and his team from the media ecological perspective with the theory of niches, a “bio-ecological theory of competition and coexistence” (Dimmick, Feaster, & Hoplamazian, 2010), refers to the gaps between audience’s daily use of media with specific time and space (Dimmick, Feaster, & Hoplamazian, 2010).

Competition usually occurs when ecological similarity exists and resources are limited (Dimmick, 2003). The niche of mobile technologies with the function of multimedia,



per Dimmick, fit with a need “during the workday while on the move” (Dimmick, Feaster, & Hoplamazian, 2010, p. 33).

According to their research (Dimmick, Feaster, & Hoplamazian, 2010), traditional media have achieved their certain niches to some degree, where users have developed consumption habits. Mobile platforms, however, occupied their own new niche with a new function, that is “access in the interstices,” when users don’t typically spend time consuming legacy media content.

The concept of interstices from the media ecological view emphasized the order and niches of the news media. Through their portable and timely updating functions, mobile news has solved, with little problem of time and space, the limitations of television, newspaper, and desktop Internet, that once were thought of as the most efficient way for readers to get news. The emergence of push notification proves that there is still room for a more efficient use of mobile phones and mobile apps.

**Interstices news.** Through the last two decades, push notification has been used in diverse ways. Research about push notifications has focused on the business usage and consumer-carrier relationship aspects (Bernoff, 2014; Williams & Kennedy, 2014; Tehrani, 2014), mobile application usage and habits aspects (Kim, 2014), and the mechanical role in mobile devices usage (Warren et al., 2014). News institutions and agencies were also aware of the use of push notifications and have applied them as a tool into their mobile apps for years, with a purpose of offering a better service to their subscribers and audience. With its unique way of delivering short news bits and summaries directly to the mobile phone locked screen, users can get important notifications without having to unlock their phone and open the apps.

This use of push notification in news reports has filled the gap of other types of news reports, transcending time and space limitations that characterize most traditional media. And this filling the gap conforms to the definition of “interstice” in media ecology, as mentioned before. If this use could be seen as a promising type of news, that means the newsmakers will have one more option to improve their news reporting routines, which might help them have a more direct and better communication with their audience. In this vein, this study defines the news notification made and pushed by news institutions and news agencies from either their official news reader apps or their social media account on social media apps, as interstices news.

Bernoff (2104) has identified two types of moments in mobile use time: mobile moments and micro moments. He defines mobile moments as the moments in which people take out their mobile phone and get the information they want from the content promptly, while the micro moments involve users just taking “a glance” at their mobile messages, whereby they can either get the point of it or further act in reaction to it if needed. If the mobile moments concept refers to more detailed information, which requires more time to read and consume on mobile phones, then the push notification or the interstices news that will be discussed in this study fits well in the micro moments concept, which refers to a more expedited and condensed type of information, requiring just seconds for users to get the point without unlocking the phone.

### **Time of news reporting**

Timeliness is one of the factors that have been emphasized the most in news reporting. An exact description of it that has been accepted by journalistic researchers around

the world is “the hourglass” (Reich & Godler, 2014), as it mirrors the significance to reporters of timely news reporting , especially breaking news.

Since social media engaged in news reporting, studies about how to make good use of social media with this function (Kwak et al., 2010; Subasic & Berendt, 2011; Vis, 2013) started to emerge and become diversified. In order to have better use of social media with the function of news reporting, researchers have done work on the role of social media on news reporting (Subasic & Berendt, 2011), on the relationship with the public on social media (Papacharissi & De Fatima Oliveira, 2012), as well as the time of day of news reporting on social media (KissMetrics, n.d; Fontein, 2016; Pollard, 2015).

For the best time to post on social media, KissMetrics suggested that users post after 5 p.m. on midweek and weekends, as the highest percentage of retweeting action usually happens around 5 p.m. with a best frequency of “1-4 tweets per hour,” while the highest click-and-read usually happens at noon and around 6 p.m. (KissMetrics, n.d.). Fontein (2016, November 21) suggested a timeslot from 12 p.m. to 3 p.m. on weekdays to post, and especially at 3 p.m. based on the highest click and retweeting rate. While Pollard (2015) suggested the use of office hours and school time, as this period seems to be the most efficient one, when Twitter users tended to be more active. These results show both similarities and discrepancies with the best posting time on social media or Twitter, as these researchers also suggested that the timing could be changed based on different platforms and locations, etc. (Kiss Metrics, n.d; Fontein, 2016; Pollard, 2015). Dimmick et al. (2010) also conducted research with specific time-of-day segments and found that the mobile phone has “competitive superiority” over other news media throughout the day. Inspired by these

results, this study analyzes whether interstices news also has its best time slot for reporting and whether there are any differences in social media from different cultures.

Based on the literature above, the following research questions are raised:

**RQ1:** *What are the most frequent day parts that news agencies usually push news on mobile phones?*

### **Interstices News with Platforms of News Reporting**

With the development of diversification in the digital era, choosing a proper platform for news reports becomes significantly important to newsmakers. Social media have been perceived as the timeliest and most efficient platforms for audiences to get information, since organizations and companies can provide the most updated information to their audience by posting it on the social media platforms. This allows audiences to have a direct and open conversation with them and other users, by further sharing social-media posts with a comment or just commenting under the original post.

Social media provide a platform for users to search, produce, and share messages and information, as well as communicate with others (Kim, Jeong, & Lee, 2010). Individuals who share similar opinions, values, and interests tend to get together and establish a relationship with each other easier on social media (Cho, Chen, & Chung, 2010). Based on the different national, economic, political positions, and interests, organizations and news media usually have their own certain focuses, tones, and attitudes toward certain issues. Since Twitter's creation in 2006, the news media industry has increasingly used that social networking platform (Johnson, 2009; Kwak et al., 2010; Schultz & Scheffer, 2010; Ferguson & Greer,

2011) and most news organizations regard activity on Twitter as official news output that needs to follow newly-created editorial guidelines and policies (Cozma & Chen, 2012).

News agencies have experienced a lengthy adoption time from being very skeptical in the beginning to getting used to social media use since the 1990s (Palmer & Nicey, 2012). Now, the news function of social media is “on the rise” (Westerman et al., 2012) and has become diversified (i.e., hashtag topics, photo and video news, links, etc.). This news function has been considered an important tool for news institutions and agencies to distribute news. And social media could also help news agencies do “crowdsourcing” (Estelles & Gonzalez, 2012), as crowdsourcing “creates both angst and opportunities for professional news journalists” (Palmer & Nicey, 2012).

Research about the news source function has also been done in the news industry, with a major focus on the changes in media ecology and the effects on the public (Ksiazek et al., 2010; Gil de Zuniga et al., 2012), since social media always play a role as a platform which provides both “web-based” and mobile technologies for content distribution (Kietzmann et al., 2011). Similarly, recent research studies also show a focus on the power of news in diversifying social media communication (Barnidge, 2015).

### **The adoption of Twitter by the U.S. news media**

Social media is more than a tool for interpersonal communication. Research studies have shown that social media are predominantly used to share news in social media and that this has “become a phenomenon of growing social, economic, and political importance” (Lee & Ma, 2012). The continuous saturation of social media use into modern society forces a more advanced and convenient technology to be applied as a new communication tool for the

general public. With the widespread prevalence of Internet use since the last century, the emergence of Twitter and Weibo, now the two of the largest social media and microblogging networks in the U.S. and China, has increased the power of audiences to choose information, entertainment, and products (MacEvoy, 1997).

While Facebook is the most used social networking site in the world, and according to Pew Research data (Gottfried & Shearer, 2016) about 72% of adults in the US use it, Twitter is the most popular microblogging platform (Gu et al., 2016). Research has shown that Twitter now is an important news media source rather than just a famous social network (Kwak et al., 2010). Additionally, as 62% of adults get news from social media in 2016, which is a large increase from 49% in 2012 (Gottfried & Shearer, 2016), the use of news on social media appears to be a popular trend. Based on Gottfried and Shearer's study (2016), although Facebook "leads the pack" of social media news use, Twitter has the majority of users who are getting news from news websites/apps, with a leading percentage of 53%. And a study has shown that distributing news and information is a "main intention" of Twitter usage (Java et al., 2007).

These could be reasons that news agencies and institutions choose social media like Facebook and Twitter as another approach to report news. But why is Twitter important in this current study? According to research comparing the role of Facebook and Twitter in news use (Barthel et al., 2015), firstly, Twitter is much more powerful in real-time news providing, as its users (59%) "follow breaking news on Twitter," compared with Facebook users (31%); Secondly, for news about government and politics, Twitter users tend to "follow news organizations" to get the timely reports, while Facebook users tend to post about their

thoughts. Therefore, with the quality of timeliness and the attention from the users, Twitter provides a bidirectional benefit for news agencies with their audience.

Research about the news function of Twitter from a content aspect has been done. Some have shown that the category of news tweets has formed a “substantial part” among all the tweets on Twitter (Kwak et al., 2010). Others have shown that the news values impacts both reporters and audience within the process of making decisions about their news consumption (Eilders & Wirth, 1999). They also confirmed the “stable effect” (Rudat & Buden, 2015) of retweeting, which has been thought as a prominent feature of Twitter that allows fast news dissemination. Researchers also made some content-related analysis of Twitter news output by news media (Malik & Pfeffer, 2013). In order to identify the content, Malik and Pfeffer defined the content with hashtag use, as it was a “machine-readable way.” And the result shows that conflicts and politics, as well as breaking news, are the top three news media-related news on Twitter, which matched primarily Twitter’s annual report about the most influential tweets (Twitter, 2015). For further relationships with the audience, researchers also examined the participation rate of Twitter users within the trending topics (Kwak et al., 2010) and found that there is a certain group of people who keeps participating in a certain topic for a long time, and they are the main force of the topic’s ranking in trending topics.

These content-based research studies, however, are about the posts or tweets on the website of Twitter. The notifications pushed by news accounts on social media, or in this study on Twitter, however, haven’t been investigated yet. How do they differ from the typical Twitter feed? What if the notifications could bring more convenience for the public to get the updated news they want to know with no need to unlock the phone and open the app?

Therefore, this study will focus on the notifications pushed by the news institutions' and agencies' Twitter accounts as the content that will be analyzed.

The majority of the news institutions and agencies have official accounts on Twitter (i.e., Associated Press, CNN, BBC, Reuters, etc.) and some of them even have several different accounts for different purposes and usages. For example, the Associated Press, one of the 'Big Four' international news agencies in the Western world (Camaj, 2010), has its Twitter accounts depending on different purposes and usages like, its general news account The Associated Press (@AP), its business news account AP Business News (@APBusiness), and its news accounts based on region, such as A P Los Angeles (@APLADesk) and AP West Region (@APWestRegion). The diversity and refinement of these news accounts fulfill the needs of users and audience with their different purposes and requirements. This study will focus on the Associated Press' major news account, 'The Associated Press' (@AP).

### **The adoption of Weibo by the Chinese news media**

Sina Weibo, also called Weibo (which means "microblog" in Chinese), holds the majority of microblogging users and market in China, after Twitter was blocked in 2009. With similar functions to Twitter, users can follow other users, view their weibos (as tweets in Twitter), and participate by sharing weibos, making comments under weibos, and pressing the "thumb up" button to like a weibo.

Among other features, users can also use "@" mentions to reply people or to invite other people to see their weibo and participate in the discussion. Users can also use two hashtags "#" with certain words or topics between them, just like tweets with one hashtag "#" in front to stand for a topic. When users participate in a topic discussion by posting the weibo



with the hashtags “#,” then the number of weibos will be calculated into the number of discussion under that topic. The more discussions within a topic, the higher the topic will be ranked in the list of “Hot Topics.”

Just like people all over the world, Chinese people use social media platforms like Weibo not only for social contact with friends. With more news institutions and agencies opting to open Weibo accounts, Chinese people can also get news from the posts of news institutions and agencies’ accounts on Weibo (Chen, Zhang, & Wilson, 2013). Based on different purposes and usages of the news institutions and agencies, just as on Twitter most of them have more than one account focused on different aspects. For example, one of the main news agencies in China, the Xinhua News Agency, not only has its main official account @Xinhuanet (in Chinese) to provide general news, but also has accounts such as, @XinhuaInternationalNews (in Chinese), @XinhuaEnglish (in Chinese) and @XinhuaShanghai (in Chinese), as well as @XinhuaSports (in Chinese), etc. Besides Chinese domestic news institutions and agencies, foreign news organizations like Agence France Presse has its verified account @FaXinShe (in Chinese) to provide news in English, and the Wall Street Journal has its verified Chinese account @WallStreetJournalChinese (in Chinese) to provide news in Chinese. News institutions and agencies have combined the use of news reports and interaction with their subscribers on social media platforms.

Recently, the China Internet Network Information Center (CNNIC) released its 2015 Chinese Social Networking Apps and User Behavior Report (in Chinese). According to the report (CNNIC, April 2016), 82.7% of the population use the Internet and 61.7% of the population use mobile internet. The main purposes of using social networking apps are: 1) interaction with friends (72.2%), 2) news reading (64.3%), 3) reading interesting things

(59%), 4) getting knowledge and help (58.3%), as well as 5) sharing knowledge (54.8%). The research focused on three main apps, Weibo, Wechat and Momo. Based on the report, Wechat is mainly used for communication with friends, Momo is used for young people to meet new people, while Weibo is used for getting and sharing information, and it has become the first choice for users to get and discuss news.

The report also analyzed the reason that people choose Weibo to get news. According to the report (CNNIC, April 2016), the main reason is the fast updates (62.8% of respondents) and the second reason, with a 54.4% agreement rate, is that it could expose the user to diverse groups of people.

Based on the usage of Weibo, 79% of the users use Weibo to get news and 61.6% of the users use it to read weibos in the Hot Topics section (a real-time topic rank section like “Trends” in Twitter), 59.6% of Weibo users use it to follow the updates they are interested in (like celebrities, news reporters, etc.), and 57.9% of the users watch videos and listen to music on Weibo, as well as 52.8% of the users share or spread information on Weibo.

As a rising media source, Weibo has been used in many ways other than social networking. Government agencies open their accounts and gather opinions from the public and make reports in crisis communication to the public, and try to build or restore their image with the public. For example, during the 2015 Tianjin explosions, the public received rescue reports and the post-disaster accountability progress reports from the government account on Weibo directly. Celebrities open their accounts to share positive and interesting things to communicate with their fans and get more support. For instance, Stephen Hawking opened his Weibo account to share his daily life and also his recent works like “Breakthrough Starshot” with his Chinese fans. News organizations and agencies open their accounts to

share news in short form and enlarge their popularity, as the Xinhua News Agency that was mentioned above. People use social media platforms like Weibo to get news because these platforms have satisfied their requirement of exposing them to the news in many ways. The CNNIC report also shows that 63.5% of the people like to read the news that everyone paid attention to and within their groups or circles where everyone shares a similar interest, they could get the news they might find interesting much faster. Also, 48.9% of people tend to read short news pieces, so for this aspect, Weibo properly satisfied their need with its short form of posts. The report also said that 43% of people tend to read news shared by others, 21% of people like to make comments after reading the news, and 28.1% of people like to share the news to the social networking apps after they read the news. Therefore, the social networking apps meet several needs and interests of users.

The increasing number of social media users these days has prompted a lot of research on both the users' microblogging behavior (Gao et al., 2012; Guan et al., 2014) and the multimedia impact, together with "textual information" and "social link information" (Zhao et al., 2013). Research about news reports on Weibo has also focused on users' microblogging behaviors with certain topics like an earthquake (Qu et al., 2011). On March 16<sup>th</sup>, 2012, Sina, Sohu, Wangyi, and Tencent announced they would start real-name registration on their platforms. After that, research about Weibo focused on a new topic: censorship (Bamman, O'Connor, & Smith, 2012; Fu, Chan, & Chau, 2013).

Because of its similar functions with Twitter, there is also research about usage differences between Weibo and Twitter (Gao et al., 2012; Chen et al., 2011). However, just like Twitter, studies on its push notification services have not been done yet. This study sets out to examine if there are any differences in notification pushing (or specifically in

interstices news reporting), between the news app and Weibo's mobile app. Are there differences in the interstices news from Weibo and Twitter? Besides the differences of news output between the social media accounts and the official mobile news reader apps of news agencies, this study also chooses Weibo's mobile app to make comparisons with Twitter's mobile app to see if there are any differences in news output between them.

Based on the literature above, the hypothesis raised is shown below:

**H1:** *News agencies tend to use social media more frequently than news reader apps to report news.*

### **Interstices news differences between China and the U.S.**

Cultural differences affect many aspects that set different countries apart. They also affect news. Sociologists have divided culture into two distinctive dimensions: Material culture and non-material culture, and they concluded there are seven functions of culture: communication, perception, identity, value system, motivation, stratification, and production consumption (Chris & Tony, 2005). On media professionalism, many researchers shared a common view raised by Shoemaker (1991), which emphasized the importance of societal, rather than individual or organizational, elements when studying a society. And this kind of study, according to McLeod and Blumler (1987), needs to be done in comparison with another one, because cultural factors are included.

Previous studies on Chinese news media held the opinion that news institutions and agencies functioned as "a mouthpiece of central government and an ideological apparatus of the state" (Luther & Zhou, 2005). With the stimulus of economic reforms in the late 1970s, marketing intensified the pressure on Chinese news media with the growing number of news

outlets surviving from commercial pressure (Lee, 1990). News institutions and agencies like Xinhua News Agency (hereafter Xinhua) also started to try business practices (Cai, 1999) while retaining the “ideological control” by CCP (Chinese Communist Party) (Zhao, 2000), with reductions of subsidies and the implementation of tax free policies (Zhuang, 2001) from government in the 1980s. Since then, economic interests started to become one of Xinhua’s considerations, in addition to its political influence (Xin, 2006). In the 2000s, Xinhua started customer-oriented services to meet market demand and compete with metropolitan networks emerging during that time (L. Xia, personal communication, 16 January 2004).

With the continuous evolution of China’s media system over decades, some researchers believe that news reporting from Chinese news media have employed some Western-style factors in news reporting (Huang, 2003; Pan & Chan, 2003), with similar news values and norms (Pan & Chan, 2003), as well as in audience appeal (Xu, Chu, & Guo, 2002). Valkenburg, Semetko, & De Vreese (1999) added some of the news values into news frames (i.e. conflict, human interest, economic consequences, etc.) and believed that these frames could be found in both Chinese news and Western news, since they share similar news values (Luther & Zhou, 2005).

Merely relying on news values, however, one could lose sight of the complications during the process of news production (Luther & Zhou, 2005). Thus, societal elements like politics and ideology have been considered as necessary conditions when talking about news making (Berry, 1990).

Push notification started to show its power in communication from 2011 (Heussner, 2012) and has been used widely in many areas, including the news industry, as almost every news media has developed their own news reader apps (i.e. The New York Times, Reuters,

People's Daily, etc.), and some of them personalized the push notification function for users based on their preference (i.e., Associated Press, BBC News, etc.). Some of them also provided language options to meet the needs of their subscribers and users in a global environment (i.e., Yonhap News). For news reports, especially breaking news, push notification might have the most potential for better efficiency and significance either before a story becomes a big story or to make a follow-up story after what happened. Cory Bergman, the NBC News app's co-founder, described it as "really the fastest way to reach people" (Lichterman, 2015). Some scholars have considered notification in news "annoying," and cite a decreasing number of users allowing notifications (Owen, 2015). To counter this, Urban Airship has provided push strategies and underlined the necessity of showing value to users, saying "if they don't, push notifications will be ignored or turned off" (Urban Airship, n.d.).

Push notification for news has a long history in the United States. Before mobile push notifications, this technology was used basically on the desktop. As the earliest type of push technology, push notification appeared in 1989 as a window with simple news information on it that would "pop up" and "interrupt" what you were doing. Some years later, news institutions used email to deliver news and then used their websites to report "original news" instead of "recycling yesterday's news." In 1996, push technology for news use changed into a "subscription-based customized news service" with a software called "Point Cast" used as a screensaver to "broadcast" news on a computer, and news institutions and organizations like The New York Times, CNN, and others started to use it as a news reporting tool (Lasica, 1997).

Lasica (1997) pointed out that push notification was a “new delivery system” in the desktop era that was a dependent tool, for “it borrows from all of its media predecessors” like print, web, television, and radio. A decade later, came push notification in the mobile era, with more flexibility and convenience. This is particularly obvious in breaking news reports.

Different from the U.S. news media, which is relatively mature with a steady development of the news industry over centuries, the Chinese news media faces complicated political and ideological situations along with its fast development. At the end of 2009, traditional news media started to test mobile news reader apps and in 2010, the first mobile news reader app in China appeared (Qi, 2015). The People’s Daily research (2016) studied three types of mobile news reader apps in China, the first type is state-owned news organization: the People’s Daily its own app; the second type is commercial-web’s news reader app, which mainly includes: Sohu, Tencent, and NetEase; the third type is a special one, called Toutiao news (headline news, in Chinese) reader app. As it keeps its state-owned news organization role, the People’s Daily’s news app covers news topics from political, international, economical, technological news, to historical, sports news, etc. with an authoritarian view, with multiple language versions based on the multiracial cultural background of its audience. Sohu’s news reader app focuses on “subscription + real-time news,” being the first personalized news reader app in China. Based on Sino Market Research Report in 2013, 68.5% of smart phone users in China get news from news reader apps, and Sohu has the largest market share, followed by Tencent and NetEase. Tencent launched its news reader app on October 2010, and because of the large number of QQ and WeChat social media users, the number of its news reader app users in 2013 was about 140 million. NetEase focuses on “critical app” development. Toutiao is unique not only because it

creates the content, but it also personalizes the push notification for each user. It pushes news to every subscriber based on their reading habits and it will build a subscription system for its users based on the social media users linked with its news app. Though it launched in 2012, Toutiao news has become the most popular news source not only for the news reader app, but also with its account on Weibo (People's Daily, 2016).

Research on news reader apps in both countries has been done to some degree, with a focus on the personalization of push notifications. However, content of the push notification, or the interstices news in this study, remains a large blank in research. This study sets out to examine differences in push notifications from two major news agencies originating in countries with distinct media systems.

### **News in different media systems**

News agencies convey most of the news in the world with their unique credibility, as most news media rely on them for content. They are not only the most significant source for other news media for both domestic and foreign news (Rampal, 1995), but also a significant source of international information to their audience all over the world.

Though every country has its main news agency, the way and the main goals of their new reporting are usually different from each other. These differences are the result of the different media systems within different political systems. Based on Siebert et al.'s four theories of the press (1956), China has been considered as falling under the Authoritarian-Communist model (Liu, 2010), while the U.S. has been considered to operate under the Libertarian-Social Responsibility model. The authoritarian model emphasized the power of central government and the press under this model should support the government in all



aspects with no criticism and must be licensed. The Libertarian-Social Responsibility model underlines press freedom, and media under this model with private ownership is responsible for its media use and the government will be involved when it's needed (Liu, 2010).

China was under the tradition of Confucianism for a long time before Communism was introduced and the fundamental points of Confucianism and Communism are similar in emphasizing order in society. Media in Communist countries are mostly state-owned, and even though there are some media are under private ownership, the bottom line is that the press should not challenge the Party's rule. In China, though the most influential media are state-owned and these media hold the views and values of the Party in their news reports, the awareness of free speech and discussion about government-related issues has appeared in non-state-owned media. And influenced by the development of social media and the digital era, government-related coverage has been allowed to some degree with domestic media, and these domestic media now, could have their role as policing the government. For example, after the Tianjin explosion, news media focused on post-disaster reports and accountability on social media like Weibo. This topic was ranked in the Hot Topic section on Weibo for months, with more than 100 million discussions, and some political analysts thought this could be considered as part of the reason for President Xi Jin Ping's work to combat corruption (Phoenix Television, 2015).

Different from China, freedom of the press was written in the First Amendment of the Constitution, with centuries of actual practice in the United States. Also, media in the U.S. are mostly owned by private companies or individuals. Being considered as the "most market-driven" media system in the world (Liu, 2010), the U.S. media has paid increasing attention to their commercial aspects as a revenue requirement (Curran et al., 2009).

## **Interstices News with News Content**

### **News content**

News content is an important factor in many research areas like news coverage comparisons between different cultures, psychological research about media violence, etc. With the diversification of the digital era and the constantly changing needs for news consumption, news content, as an important message carrier, has evolved into various forms that aim at providing diversified and interesting ways for audiences to get the news. As Tencent (2016) noted, a news report these days is no longer in a simple textual form, but also contains other forms like video, photos, and sometimes there's a combination of the three forms, as a mixture of news forms in traditional news media.

Within different media systems and influenced by a different sociocultural environment, researchers (Shoemaker & Cohen, 2006) have shown that, news content in the U.S. and Chinese traditional media have different focuses, as U.S. traditional media focus more on news about internal order and politics, while Chinese traditional media focus more on politics, business, and economy.

Although traditional news media like print newspapers and television have been considered as the main and “most helpful” source and “have a core audience and subscriber base” (Mitchell & Holcomb, 2016), with the increasing financial pressure and continuous audience decrease (Horrigan & Duggan, 2015), the news industry began to shift into digital publishing. In 2016, The New York Times Company reported its continuous revenue decrease in print and increase in digital subscriptions, and announced it will “focus largely on The Times’ digital success” (Ember, 2016). In the same year, The Wall Street Journal announced layoffs “to rebalance revenue streams amid print ad decline” (Alpert, 2016).

Despite the uncertain factors that new media could have, the promising possibilities of new media as a way of news reporting has been noticed by the industry. Thus, studies of news content on new media like social media are worthwhile and meaningful.

As social media becomes an emerging major news source for both news organizations and audiences (Weeks & Holbert, 2013), studies about news content on social media started to gain scholars' attention. Research about news content on social media has focused on many areas; researchers have examined user's participation preferences in news sharing on social media (Lee & Ma, 2012) and found that users tend to share the news with those have similar interests. Researchers also used social media to test online traffic by different media institutions (Hong, 2012) and found that online traffic is "more concentrated than direct traffic" and messages from it would be easily influenced by other message flows. However, study about the content structure has not been published yet. Therefore, another objective of this study is to figure out the basic structure or the content feature of interstices news itself.

As such, two research questions about news content of interstices news have been raised below:

**RQ2A:** What are the most outstanding features of AP's interstices news content?

**RQ2B:** What are the most outstanding features of Xinhua's interstices news content?

### **News values**

As an important part of research about the process of news selection, news values studies started with Galtung and Ruge (1965), who provided a rough classification of 12 factors that "attempt to provide a systematic definition of newsworthiness": frequency,

threshold, unambiguity, meaningfulness, consonance, unexpectedness, continuity, composition, reference to elite nations, reference to elite people, reference to persons, reference to something negative (Harcup & O’Neill, 2001). Starting from this point, news values research became a progressively more important topic through the decades. Controversial discussions about the effectiveness of these 12 factors that Galtung and Ruge proposed also have continued through the decades. Some researchers accepted its landmark role in the news values area (Bell, 1991; Palmer, 1998), while some scholars pointed out that there are also considerable limitations with these criteria such as, they are limited in the quality of prediction (Tumber, 1999, p. 4); they are used rather than “anything new about such news values themselves” (Tumber, 1999; Harcup & O’Neill, 2001); they focused mainly on international events rather than domestic events (Tunstall, 1971); they defined the first eight factors as “culture-free” while ignoring this is actually questionable for the factors of meaningfulness, consonance, and unexpectedness if the two or more groups who perceived the message are from different backgrounds or cultures (Guo, 2012); as well as a significant difficulty is that their study assumed “a given reality is out there which the news gatherers will either admit or exclude” (McQuail, 1994, p. 270; Harcup & O’Neill, 2001). Overall, however, the 12-factor typology is seen as “an ideal starting point” for news values studies (Brighton & Foy, 2007).

Inspired by Galtung and Ruge’s study, some academics have extended their own research in news values and detailed their own lists regarding the criteria of news selection from different perspectives (Brighton & Foy, 2007). As ideological difference exists in news values research among different countries, researchers also have conducted news values research under cultural differences (e.g., China & U.S.) and have found significant

differences “in practices of news selection and construction” (Guo, 2012). Based on his study about international news comparison between U.S. media and Chinese media, Guo found that, war, conflict, and terrorism, as well as disasters, are the dominant news frames in U.S. media because of “economic profit” and a great preference for freedom in Western democracies, while Chinese media tend to focus on events that consider the environment and resources, science and technology, sports and culture, which are three dominant frames in Chinese media but comparably less in U.S. media. Guo (2012) also found another interesting difference in valuation between Chinese and U.S. media, that U.S. media “tend to give negative valuation” while Chinese media “give mostly neutral valuation.” Thus, it is also part of the research goal of this study to see if there is any difference in the news valuation of interstices news in these two countries.

Other researchers, on the other hand, tend to “simplify the conceptualization of the complicated subject of news value” only emphasizing the key points of the event (Guo, 2012). Understanding interstices news, therefore, with the most ideal form of this conceptualization, is the objective of this study.

### **News values in interstices news**

With the rapid development of this digital era and influenced by the process of globalization, a deeper and broader study about the process of news selection becomes increasingly important for journalists, especially for those who would like to take better advantage of advanced technologies to disseminate news and reports to their audience in a timely way. Many news agencies and organizations (i.e., Associated Press, New York Times, Reuters, BBC, etc.) have already launched their service on both social media and their own

news apps. Most of them also started with news dissemination through push notifications on mobile apps directly to their audience, which in this study has been called as interstices news.

Taxonomies of news values have been studied by many researchers, resulting in various types of categories based on different perspectives. Schulz (1982) worked on Galtung and Ruge's 12 factors and came up with 19-news-factor criteria in six dimensions (status, valence, relevance, identification, consonance, and dynamics).

In addition, researchers worked on the universality of news values when they were trying to make out their own list. Schlesinger (1987) advocated that broadcast news have their "own set of news values" and considered that "audience interest, professional duty and actuality" are the main force "behind news values." While Golding and Elliott (1979) argued in their research that news values are "derived essentially from occupational pragmatism and implicit assumptions" (O'Neill & Harcup, 2009), "audience, accessibility, and fit." are the main force or focus of what Golding and Elliott (1979) think news values should be. Also Golding and Elliott proposed their own criteria of news selection (drama/conflict, visual attractiveness, entertainment, importance, size, proximity, negativity, brevity, recentness, elites, and personalities).

Based on continuous examining of national newspapers, Harcup and O'Neill (2001, p. 279) came up with a new list of criteria of news values, which has a wider applicability.

These criteria are:

*The Power Elite*: stories about powerful individuals, organizations or institutions

*Celebrity*: stories about people who are already famous

*Entertainment*: stories about sex, show business, human interest, animals, an unfolding drama, or offering opportunities for humorous treatment, entertaining photographs, or witty headlines

*Surprise*: stories that have an element of surprise and/or contrast

*Bad News*: stories with particularly negative overtones, such as conflict or tragedy

*Good News*: stories with particularly positive overtones such as rescues and cures

*Magnitude*: stories that are perceived as sufficiently significant either in the numbers of people involved or in the potential impact

*Relevance*: stories about issues, groups and nations perceived to be relevant to the audience

*Follow-up*: stories about subjects already in the news

*Newspaper Agenda*: stories that set or fit the news organization's own agenda

Based on the literature above, a research question and a hypothesis about interstice news values are proposed below:

**RQ3:** *What are the most frequent news values in interstices news?*

**H2:** *Xinhua and AP have different focus in the top news values of their interstices news.*

### News Topics

With one of the most diversified cultural backgrounds, the United States has put more emphasis on free speech than most other countries. Most of the media in the U.S. are owned by individual and private companies with little government regulation. The continuous

growth of media outlets and “the fragmentation of readership and viewing audiences” has driven this system, with more competition for audience and advertisements (Shoemaker & Cohen, 2006, p. 310). These conditions have set the stage for a relatively mature and well developed media system in the U.S., with various topics and discussions achieved via media platforms.

With the wide coverage of news and news media in the United States, “Americans value their media and value the news in their lives” and have considerable ways to save the information “that is important to them” (Shoemaker & Cohen, 2006). Based on a study about news topics in different news media in New York, data shows that sports and internal politics both have high coverage on newspaper, television, and radio. The dominant topic in newspapers is business/commerce/industry. Television also has another topic which has high coverage, internal order, while radio has a totally different topic, the weather. (Skewe & Black, 2006)

China is under a totally different media system compared with the U.S. Most of the Chinese media are owned by the state and have been endowed with more social responsibilities, especially for national media like, Xinhua News Agency, the People’s Daily, etc. (He, Xu et al., 2009). Also the five-element theory and the three-element theory serve as two main news values theories in China (Dong, 2008). The five elements in the five-element theory are newness, importance, proximity, significance, and being interesting. The three-element theory emphasizes the element of importance as the key point of news values, while proximity and significance are “supplementary to the element of importance” (Guo, 2012).

A research study (Shoemaker & Cohen, 2006) about the general topics of news items in Beijing, China shows that topics about internal politics, business/commerce/industry, and



international politics are the top three topics that has the highest coverage in Chinese media. Among these, topics about business/commerce/industry plays the dominant role in newspapers, while topics about internal politics plays the dominant role on both television and radio.

Since most of the previous literature tends to focus on the news output of traditional news outlets in the two countries, this study aims to examine whether there's any difference about news topics of interstices news in the two countries.

Based on the literature above, the research question and hypothesis about news topics of interstices news are as below:

**RQ4:** *What are the most frequently mentioned news topics in interstices news?*

**H3:** *Xinhua and AP have a significant different focus in their top mentioned news topics in interstices news.*

## CHAPTER III

### METHODS

#### Population and Sample

In order to answer the research questions about interstices news on mobile apps, the U.S. news agency, Associated Press on Twitter mobile app (Figure 1), and China's news agency, Xinhua News Agency on Weibo mobile app (Figure 2) were chosen. The first reason that Twitter and Weibo were chosen as the main platforms of the news media is that both of them appeal to a majority of media users in the two countries. Another reason is that, although some differences exist between these two platforms, they have the most similar systems and forms among the social media platforms in the two countries, which allows us to have a more proper and appropriate way to make the comparison and do the analysis of the interstices news content. And the interstices news will be chosen from the main news agencies of the two countries, Associated Press and Xinhua News Agency, since the news reports from these news agencies are supposed to be leading sources for other news outlets in the two countries.

This study will also make a comparison about the interstices news between news agencies' social media accounts and their own news reader apps (Figure 3: official news app of AP; Figure 4: official news app of Xinhua), to see if there's any difference in interstices news pushing on different platforms. Therefore, the interstices news pushed by news agencies' news reader apps will also be collected at the same time.

The unit of analysis will be each piece of the notification or interstices news pushed by the platforms from June 27 to July 27, 2016.

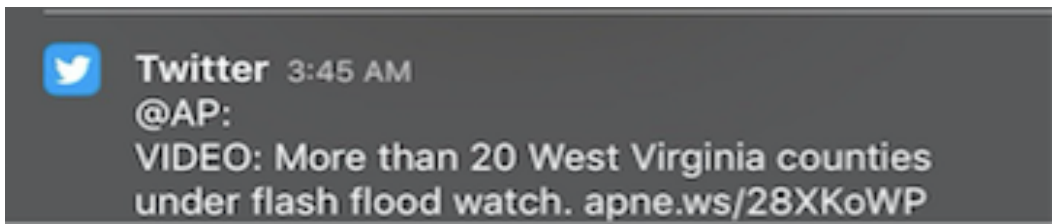


Figure 1. Screen shot of typical Twitter push notification from the Associated Press

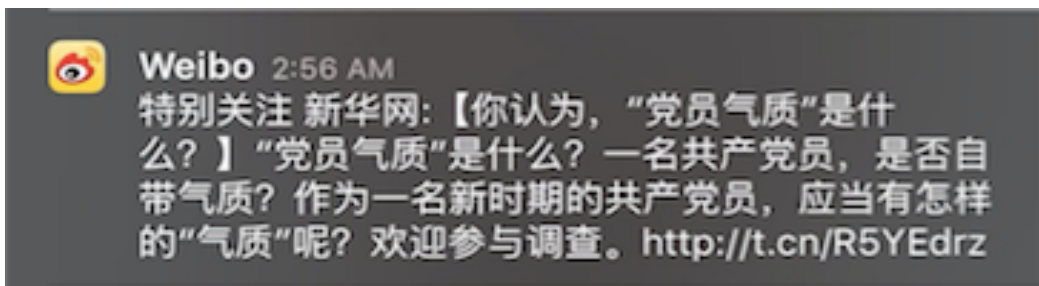


Figure 2. Screen shot of typical Weibo push notification from Xinhua

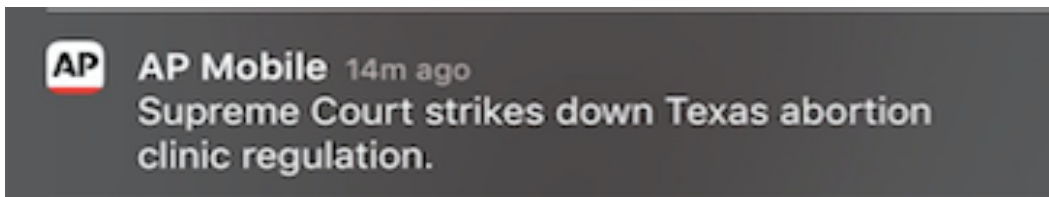


Figure 3. Screen shot of typical news app push notification from the Associated Press

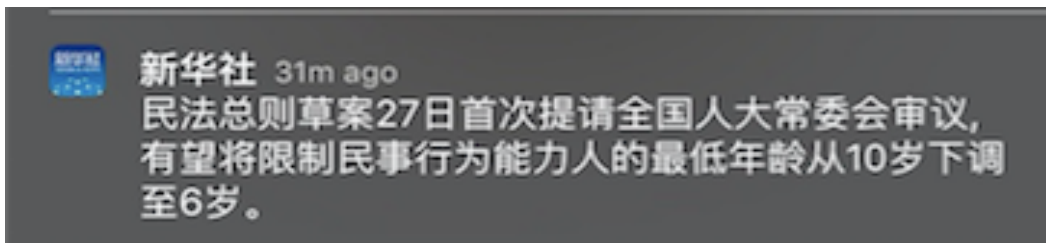


Figure 4. Screen shot of typical news app push notification from Xinhua

### Operationalization of Variables

In this study, the main dependent variables under investigation are news values and news topics. Every interstices news item pushed by mobile apps will be examined following the code book and as described below. The main independent variables are the major news agencies in the two countries, the Associated Press in the United States and Xinhua in China, and the type of interstices news (social-media versus agency app notification).

## News values

The news values criteria will be coded from the push notifications of both Associated Press and Xinhua News Agency. This list of news values is adapted from research by both O'Neill and Harcup (2001) and Golding and Elliott (1979). The original definitions of the categories provided by researchers are kept in this study with a few of supplements based on the results of a pilot study. The final news values categories were:

*The Power Elite*: stories about powerful individuals, organizations, or institutions, who have a great control or influence over politics, society, global affairs, wealth, etc.

*Celebrity*: stories about people who are already famous, especially in entertainment, sports, or fashion, etc.

*Entertainment*: stories about sex, show business, human interest, animals, an unfolding drama, or offering opportunities for humorous treatment, entertaining photographs, or witty headlines; stories contains elements of amusing or entertaining people, with light comedy; elements like celebrity stories, quizzes, festivals, or customs might also be included.

*Surprise*: stories that have an element of surprise and/or contrast; are unusual or bizarre.

*Bad News*: stories with particularly negative overtones, with elements like conflict, tragedy, warning, worry, etc. might be involved; stories about unfortunate, regrettable events like, terrorist attacks, disasters, violence, damage, bankruptcy, etc.

*Good News*: stories with particularly positive overtones such as rescues and cures; stories containing elements of inspiration, optimism, humor, etc.; stories containing elements that could result in positive influences or good ends.

*Magnitude*: stories that are perceived as sufficiently significant either in the numbers of people involved or in the potential impact.

*Relevance/Proximity*: stories about issues, groups, and nations perceived to be relevant to the audience, culturally or geographically.

*Conflict/Drama*: stories about strong disagreement among people, groups, or countries, etc.

Among the coding schemes above, when talking about possible overlap between “Celebrity” and “Entertainment,” in this study the value of “Celebrity” focuses on the person in the news that is famous, while the value of “Entertainment” focuses on happenings that are considered entertaining rather than the person him/herself; And about the possible overlap between “Bad News” and “Conflict/Drama,” the value of “Bad News” in this study mainly focuses on whether the tone of the news is negative, while “Conflict/Drama” emphasizes disagreement with a high level rather than the news tone, and the tone in the news which has the value of “Conflict/Drama” could be both negative and neutral. And because it is possible that one piece of news has several values at the same time, the news values been coded in this study are not mutually exclusive. Thus, as an important part of news values in journalism, it is possible that one piece of interstices news could have the values of “Celebrity” and “Entertainment,” or the values of “Bad News” and “Conflict/Drama” at the same time.

The coding process was done at the notification level. An option of the category named “other” is added in case some notifications fail to fall into any of the news values categories in this study. These notifications will fall into the *other* category automatically.

### **News topics**

When coding the news topics of interstices news, the 17 categories used in this study are based on a study by Shoemaker and Cohen (2006) about news in China and the U.S. They are: Business/Commerce/Industry, Internal Politics, International Politics, Cultural Events,

Sports, Health/Welfare/Social Services, Environment, Economics, Internal Order, Science/Technology, Education, Military and Defense, Weather, Housing, Disasters/Accidents/Epidemics, Entertainment and Fashion, Transportation. For those topics that do not fit in any of these categories, they will fall into the *other* category automatically.

### **Content factors**

Based on a two-day-collection test, interstices news usually contains following factors: textual content, hashtag content, links, and quotations. Interstices news pushed by one news agency sometimes contains hashtag content or a link, but sometimes not. Therefore, the code book provided also helped find out whether there is any emphasis on any of these factors in interstices news pushing:

*Textual content* will be measured based on:

The length of the sentence;

Whether there is “Breaking news” mentioned at the beginning of the sentence(s);

Whether there is a starting word before the sentence(s) working as a special category of the news; it could be “Video,” “Photos/ Pictures/ Gallery”, etc.

*Hashtag content* will be measured based on:

Whether an interstices news item contains any hashtag content.

*Link* will be measured based on:

Whether an interstices news item contains any links.

*Quotation* will be measured based on:

Whether an interstices news report uses any quotation in it.

### **Day part**

In order to figure out whether there is any pushing time preference by news agencies, this study creates eight equalized distinct day parts in the 24-hour day for coding, with approximately three hours for each. The day parts are: 0:00-3:00, 3:01-6:00, 6:01-9:00, 9:01-12:00, 12:01-15:00, 15:01-18:00, 18:01-21:00, and 21:01-23:59. These may be collapsed into fewer categories depending on findings.

The samples in this study were collected in the Central Standard Time zone. And due to time zone differences, the time of interstices news pushed by Xinhua news app and social media account was converted to and recorded in Beijing Time, so that it is possible to make a more accurate comparison with interstices news pushed by AP.

### **Data Collection**

The data collected in this study is from mobile phone screenshots of interstice news reports or news notifications, pushed by the mobile apps of social media (Twitter and Weibo) and the official news reader apps of the two news agencies, Associated Press from the U.S. and Xinhua Press from China. The collection took place from June 27 to July 27, 2016, with a total number of 3,838 pieces of interstices news. The interstices news collected are arranged in 42 folders by date and each piece of news is named after a unique number with the time it was pushed on screenshot.

### **Inter-coder Reliability Results**

The coding process was done by two graduate students majoring in Journalism and Communication at Iowa State University. The inter-coder reliability was measured using

Krippendorff's Alpha. Two rounds of trials were conducted, since in the first round of trials, understandings of "internal order" and "international politics" under news topic and of "conflict/drama" "surprise" under news values showed a great difference. After modifying the codebook and retraining the coder, on the second trial the KALPHA scores, as shown below (Table 1), reached around 0.90 for each category. The mean of KALPHA for News Topics is 0.927, while the mean of KALPHA for News Values reached 0.881. Categories under other measurements like "Content Factors" and "Daypart" both reached a KALPHA score of 1.00.

**Table 1**

*Krippendorff's Alpha (Calculation for Intercoder Reliability)*

<b>Variable</b>	<b>Category</b>	<b>KALPHA</b>	<b>Percent Agreement</b>
<b>News Topic</b>	Business	0.872	98.2%
	Cultural Event	0.947	99.5%
	Disaster/Accident/Epidemics	0.965	98.7%
	Economics	0.864	97.7%
	Education	0.968	99.7%
	Entertainment	0.948	99%
	Environment	0.951	99.7%
	Health	0.895	98.7%
	Housing	0.856	99.7%
	Internal Order	0.949	98.7%
	Internal Politics	0.985	99.5%
	International Politics	0.947	97.4%
	Military/Defense	0.939	99.2%
	Science/Technology	0.877	98.7%
	Sports	0.972	99.7%
	Transportation	0.904	99%
Weather	0.922	99.7%	
<b>News Value</b>	Bad News	0.857	93.8%
	Celebrity	0.928	99%
	Conflict/Drama	0.899	95.6%
	Entertainment	0.8	95.3%
	Good News	0.947	99.2%
	Magnitude	0.877	95.6%
	Relevance/Proximity	0.885	96.1%
	Surprise	0.858	94.3%
	The Power Elite	0.881	94%



## CHAPTER IV

### RESULTS

The total interstices news dataset ( $N=3,838$ ) in this study was composed of 2,058 pieces pushed by the social media account (Twitter) of the U.S. news agency, Associated Press, with 224 pieces pushed by its official news reader app and 1,448 pieces pushed by the social media account (Weibo) of the Chinese news agency, Xinhua News Agency, with 108 pieces pushed by its official news reader app.

**RQ1:** *What are the most frequent day parts that news agencies usually push news on mobile phones?*

As indicated below in Table 2, overall, 16.86% ( $n=647$ ) of the total interstices news were pushed during the morning segment of “06:01-09:00” and 16.83% ( $n=646$ ) were pushed during the morning segment of “09:01-12:00.” With a tiny difference in quantity, these two time-slots were the most frequent day parts that news agencies tend to push interstices news in general.

Specific to the platform, or the type of push notification, 1). the interstices news pushed by AP on both Twitter (17.40%,  $n=358$ ) and its app (21.43%,  $n=48$ ) were mostly during the morning segment of “09:01-12:00”; 2). While Xinhua on Weibo reached its peak during “18:01-21:00” (21.55%,  $n=312$ ) in the afternoon, with slightly fewer but still a major time-slot during the early morning segment “06:01-09:00” (19.48%,  $n=282$ ); 3). Xinhua’s news reader app shared the same time slots with AP during the morning segments of “06:01-09:00” (31.48%,  $n=34$ ) and “09:01-12:00” (19.44%,  $n=21$ ).

**Table 2.**  
*Descriptive Statistics of Type of Push Notification with Day Part*

Day part	Type of Push Notification				Total
	AP Social	AP App	Xinhua Social	Xinhua App	
0:00-03:00	209 (10.16%)	11 (4.91%)	6 (0.41%)	0 (0.00%)	226 (5.89%)
03:01-06:00	292 (14.19%)	30 (13.39%)	8 (0.55%)	2 (1.85%)	332 (8.65%)
06:01-09:00	309 (15.01%)	22 (9.82%)	282 (19.48%)	34 (31.48%)	647 (16.86%)
09:01-12:00	358 (17.40%)	48 (21.43%)	219 (15.12%)	21 (19.44%)	646 (16.83%)
12:01-15:00	293 (14.24%)	35 (15.63%)	248 (17.13%)	9 (8.33%)	585 (15.24%)
15:01-18:00	258 (12.54%)	33 (14.73%)	263 (18.16%)	20 (18.52%)	574 (14.96%)
18:01-21:00	171 (8.31%)	22 (9.82%)	312 (21.55%)	17 (15.74%)	522 (13.60%)
21:01-23:59	168 (8.16%)	23 (10.27%)	110 (7.60%)	5 (4.63%)	306 (7.97%)
Total	2,058 (53.62%)	224 (5.84%)	1,448 (37.73%)	108 (2.81%)	3,838 (100.00%)

In short, the results show that, the most frequent day parts that news agencies usually push interstices news through mobile phones are “06:01-09:00” and “09:01-12:00” in the morning, while platform differences might exist due to various conditions like culture, media system, etc.

**H1:** *News agencies tend to use social media more frequently than news reader apps to report news.*

This hypothesis predicted that, to report interstices news, news agencies tend to use social media more frequently than its official news apps. The inference for this hypothesis could be obtained directly from the results shown in Table 2.

Based on the data from Table 2, the total number of interstices news pushed by AP's social media account (Twitter) reached 53.62% (n=2,058), the largest percentage of the whole dataset, while its news reader app only got 5.84% (n=224) in total; Xinhua also got the similar results, as its social media account (Weibo) has reached 37.73% (1,448) of the whole dataset, while its news reader app only got 2.81% (108) of the whole dataset. Thus, compared to the news app, both AP and Xinhua tend to report interstices news by using their social media account.

In addition, it can be seen that during every segment of the day parts, both the social media accounts of AP and Xinhua achieved the dominant percentages of interstices news pushing, compared with their news reader apps.

Therefore, whether in a general look at the news pushing by news agencies, or seeing them by every day part segments of the news pushing, news agencies tend to report interstices news more on their social media accounts rather than on their official news apps.

**RQ2A:** *What are the most outstanding features of AP's interstices news content?*

Starting from features of content length, as indicated in Table 3 below, 85.03% (n=1,750) of the interstices news pushed by AP's social media account and 58.48% (n=131) of the interstices news pushed by AP's news app were three lines in length; And 14.43% (n=297) of interstices news pushed by Twitter and 39.73% (n=89) of interstices news pushed

by AP's news app were two lines. In sum, both the social media account and news app of AP pushed the interstices news mostly in three lines or two lines.

When it comes to the number of sentences, one can see that AP tends to push its interstices news in one sentence, both on its social media account (98.40%, n=2,025) and its news app (99.11%, n=222).

And the results in Table 3 also show that both the social media account and news app of AP reported Breaking News in its interstices news a small amount of the time, as in the social media account, 19% (n=391) of the news are breaking news and in news app, 10.27% (n=23).

Compared with its social media account, AP's news app didn't use many starting words in its interstices news reports. While in its social media account, "video" is the most used starting word (5.20%, n=107), words like "photos/pictures/gallery" and "Ad" are also used in a small amount. Although AP didn't use a lot of starting words in its interstices news report, one can say that AP has begun to use more diversified ways to report news.

For use of hashtags, 3.8% (n=79) of interstices news pushed by AP on Twitter had hashtag content in it. The news app of AP, however, didn't have hashtag content in its interstices news. For its quotation use, its social media account used quotes in 10.88% (n=224) of notifications, while its news app used 17.41% (n=39).

However, the social media account and news app of AP had a crosscurrent in its link use, as 79.69% (n=1,640) of the news from the social media account have a link, while only 1.34% (n=3) from its news app include a link.

In sum, the social media account of AP (Twitter) had a more comprehensive structure of content than its news app. Both the social media account and news app of AP preferred to

push AP interstices news within one sentence in three or two lines. Though not a lot, they both report breaking news and use hashtags and quotations in their news reports. Besides, the interstices news pushed by the social media account tended to provide more links than the news app in news reporting. And unlike the news app, AP's social media account chose to use diversified starting words to gain audience attention while reporting interstices news.

**Table 3.**  
*Descriptive Statistics of Content Factors and AP*

Content Factors		AP Social	AP App
Content Length	one line	3 (0.15%)	0 (0.00%)
	two lines	297 (14.43%)	89 (39.73%)
	three lines	1,750 (85.03%)	131 (58.48%)
	four lines	8 (0.39%)	4 (1.79%)
No. of Sentences	one sentence	2,025 (98.40%)	222 (99.11%)
	two sentences	26 (1.26%)	0 (0.00%)
	three sentences	7 (0.34%)	1 (0.45%)
	four sentences	0 (0.00%)	1 (0.45%)
Breaking News	no	1,667 (81.00%)	201 (89.73%)
	yes	391 (19.00%)	23 (10.27%)
Starting Words	no	1,993 (93.93%)	224 (100.00%)
	video	107 (5.20%)	0 (0.00%)
	photos/pictures/gallery	16 (0.78%)	0 (0.00%)
	Ad	2 (0.10%)	0 (0.00%)
Hashtag	no	1,979 (96.16%)	224 (100.00%)
	yes	79 (3.84%)	0 (0.00%)
Link	no	418 (20.31%)	221 (98.66%)
	yes	1,640 (79.69%)	3 (1.34%)
Quotation	no	1,834 (89.12%)	185 (82.59%)
	yes	224 (10.88%)	39 (17.41%)
Total		2,058 (100.00%)	224 (100.00%)

**RQ2B:** *What are the most outstanding features of Xinhua's interstices news content?*

Seeing the content length and number of sentences together in Table 4 below, the social media account of Xinhua tended to report its interstices news with three (37.15%,

n=538) or two (35.29%, n=511) sentences in four lines (80.80%, n=1,170), while its news app tended to use one sentence (83.33%, n=90) in three lines (69.44%, n=75).

Xinhua used the words “breaking news” in both its social media account and news app interstices news reports, though in a small amount on each, as on Weibo there were only 5.94% (n=86) notifications that reported breaking news, and in the news app, only 3.70% (n=4) notifications reported it.

Different from AP, Xinhua used neither starting words nor hashtag content in its news app. Although these were used in Xinhua’s social media account, the rates of each element are relatively low, as “photos/pictures/gallery” was used with 0.55% (n=8), “video” was used with 0.48% (n=7), and the hashtag content only had a rate of 7.94% (n=115) in its interstices news reporting.

Links appeared in 22.03% (n=319) of interstices news on Xinhua’s social media account and in only 0.93% (n=1) of the notifications in the news app.

Xinhua also used quotations with its interstices news reports in both its social media account and news app. On its social media account, Xinhua had 28.94% (n=419) of interstices news reported with a quotation and 17.59% (n=19) in its news app.

In sum, similar to AP, the social media account of Xinhua (Weibo) generally had a more comprehensive and different content structure than its news reader app. For Xinhua’s social media account, it kept the content length of interstices news mainly to four lines in three or two sentences, while the news app kept it mainly to three lines in one sentence. In addition, the social media account of Xinhua had a somewhat more frequent use of “Breaking News,” “Link,” and “Quotation” than the news app; what’s more, the social media account of Xinhua tended to use hashtag content and starting words about “Video” or

“Photo/Picture/Gallery,” while its news reader app barely used these features in interstices news reports.

**Table 4**  
*Descriptive Statistics of Content Factors and Xinhua*

Content Factors		Xinhua Social	Xinhua App
Content Length	one line	3 (0.21%)	1 (0.93%)
	two lines	85 (5.87%)	28 (25.93%)
	three lines	190 (13.12%)	75 (69.44%)
	four lines	1,170 (80.80%)	4 (3.70%)
No. of Sentences	one sentence	271 (18.72%)	90 (83.33%)
	two sentences	511 (35.29%)	17 (15.74%)
	three sentences	538 (37.15%)	0 (0.00%)
	four sentences	109 (7.53%)	1 (0.93%)
	five sentences	18 (1.24%)	0 (0.00%)
	six sentences	1 (0.07%)	0 (0.00%)
Breaking News	no	1,362 (94.06%)	104 (96.30%)
	yes	86 (5.94%)	4 (3.70%)
Starting Words	no	1,433 (98.96%)	108 (100.00%)
	video	7 (0.48%)	0 (0.00%)
	photos/pictures/gallery	8 (0.55%)	0 (0.00%)
	Ad	0 (0.00%)	0 (0.00%)
Hashtag	no	1,333 (92.06%)	108 (100.00%)
	yes	115 (7.94%)	0 (0.00%)
Link	no	1,129 (77.97%)	107 (99.07%)
	yes	319 (22.03%)	1 (0.93%)
Quotation	no	1,029 (71.06%)	89 (82.41%)
	yes	419 (28.94%)	19 (17.59%)
Total		1,448 (100.00%)	108 (100.00%)

**RQ3:** *What are the most frequent news values in interstices news?*

Based on the results in Table 5 shown below, the top four news values for both AP and Xinhua are “Power Elite,” “Entertainment,” “Surprise,” and “Bad News.” To be specific, the value of “Entertainment” is the top value in the social media account of both AP (63.04%, n=1,296) and Xinhua (60.50%, n=876); While for the news app, the value of “Power Elite” is

the top value of AP (77.23%, n=173) and the value of “Bad News” is the top value of Xinhua (62.96%, n=68).

**Table 5**

*Descriptive Statistics of Type of Push Notification and News Value*

News Value		AP Social	AP App	Xinhua Social	Xinhua App
Power Elite	no	969 (47.11%)	51 (22.77%)	729 (50.35%)	41 (37.96%)
	yes	1,088 (52.89%)	173 (77.23%)	719 (49.65%)	67 (62.04%)
Celebrity	no	1,901 (92.42%)	212 (94.64%)	1,416 (97.79%)	108 (100%)
	yes	156 (7.58%)	12 (5.36%)	32 (2.21%)	0 (0.00%)
Entertainment	no	760 (36.96%)	117 (52.23%)	572 (39.50%)	50 (46.30%)
	yes	1,296 (63.04%)	107 (47.77%)	876 (60.50%)	58 (53.70%)
Surprise	no	840 (40.84%)	88 (39.29%)	812 (56.08%)	45 (41.67%)
	yes	1,217 (59.16%)	136 (60.71%)	636 (43.92%)	63 (58.33%)
Bad News	no	864 (42.00%)	87 (38.84%)	901 (62.22%)	40 (37.04%)
	yes	1,193 (58.00%)	137 (61.16%)	547 (37.78%)	68 (62.96%)
Good News	no	1,696 (82.45%)	181 (80.80%)	959 (66.23%)	85 (78.70%)
	yes	361 (17.55%)	43 (19.20%)	489 (33.77%)	23 (21.30%)
Magnitude	no	1,879 (91.35%)	199 (88.84%)	1,267 (87.50%)	87 (80.56%)
	yes	178 (8.65%)	25 (11.16%)	181 (12.50%)	21 (19.44%)
Relevance/ Proximity	no	1,828 (88.87%)	200 (89.29%)	919 (63.47%)	65 (60.19%)
	yes	229 (11.13%)	24 (10.71%)	529 (36.53%)	43 (39.81%)
Conflict	no	1,699 (82.60%)	173 (77.23%)	1,277 (88.19%)	95 (87.96%)
	yes	358 (17.40%)	51 (22.77%)	171 (11.81%)	13 (12.04%)

**H2:** *Xinhua and AP have different focuses in their top news values of their interstices news.*

This hypothesis predicted that the two news agencies, Xinhua and AP, have different focuses about the top news values that were found from last research questions.

With the value of “Entertainment,” as indicated in Table 6 below, 61.5% (n=1,403) of interstices news pushed by AP reported the value of “Entertainment” in their news, while 60% (n=934) of interstices news pushed by Xinhua reported the value of “Entertainment” in their news. A Chi-Square test was calculated comparing the frequency of the value of “Entertainment” in AP and Xinhua’s interstices news report. And the results show no



statistically significant difference in the focus of “Entertainment” between AP and Xinhua, and it suggests that, the focus on the value of “Entertainment” is similar between AP and Xinhua.

**Table 6**

*Results of Chi-Square Test and Descriptive Statistics for Entertainment by News Agency*

News Value	News Agency		Total	X <sup>2</sup>	P
	AP	Xinhua			
Entertainment	1,403 (61.50%)	934 (60%)	2,337 (60.90%)	0.885 <sup>a</sup>	0.347

Note. df = 1. Numbers in parentheses indicate column percentages.

As Table 7 shows, for the value of “Surprise,” 59.3% (n=1,353) of interstices news pushed by AP reported the value of “Surprise” in their interstices news, while Xinhua pushed 44.9% (n=699) of its interstices news with the value of “Surprise” in their news; The Chi-Square results show a statistically significant difference in the focus on the value of “Surprise” between AP and Xinhua. AP is more likely to focus on the value of “Surprise” than Xinhua, with a slightly difference.

**Table 7**

*Chi-Square Test for Differences in Top News Values by News Agency*

News Value	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Surprise	1,353 (59.3%)	699 (44.9%)	2,052 (53.5%)	77.024 <sup>*</sup>	.000

Note. df = 1. The percentage values indicate column percentages.

\*p < .001

For the value of “Bad News,” as indicated in Table 8 below, AP had 58.3% (n=1,330) of interstices news that contains the value of “Bad News,” while 39.5% (n=615) of interstices news pushed by Xinhua reported the value of “Bad News” in their news; A Chi-Square test was performed comparing the frequency of the value of “Bad News” in AP and Xinhua’s

interstices news report. The result show a statistically difference in the two agencies' focus on the value of "Bad News." And it shows that, AP tended to focus more on this value than Xinhua.

**Table 8**

*Results of Chi-Square Test and Descriptive Statistics for Bad News by News Agencies*

News Value	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Bad News	1,330 (58.3%)	615 (39.5%)	1,945 (50.7%)	130.566 <sup>a</sup>	.000

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .001

When it comes to the value of "Power Elite," the results shown in Table 9 indicate that AP had 55.3% (n=1,261) of the interstices news it pushed with the value of "Power Elite" in it, while 50.5% (n=786) of interstices news pushed by Xinhua reported that value in their news. The Chi-Square test below shows a statistically significant different focus on the value of "Power Elite" between the two agencies. The results suggest that the focus of AP on the value of "Power Elite" is slightly more than Xinhua on this value.

**Table 9**

*Results of Chi-Square Test and Descriptive Statistics for Power Elite by News Agency*

News Value	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Power Elite	1,261 (55.3%)	786 (50.5%)	2,047 (53.3%)	8.452 <sup>a</sup>	.004

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .05

In sum, Xinhua and AP had significantly different focus on the news values of "Surprise," "Bad News," and "Power Elite." Among these three values, AP paid more

attention than Xinhua did. Since there was no significantly different focus on the value of “Entertainment,” both AP and Xinhua seemed have a similar focus on these two values.

**RQ4:** *What are the most frequently mentioned news topics in interstices news?*

As indicated in Table 10 and Figure 5 below, in general, the top five news topics for both AP and Xinhua are “International Politics” (39.5%, n=1,516), “Disaster/Accident/Epidemics” (38.2%, n=1,468), “Entertainment/Fashion” (35.2%, n=1,351), “Internal Politics” (33.7%, n=1,294), and “Internal Order” (33.4%, n=1,282). To be specific, for the news app of Xinhua, the topic of “Environment” (26.9%, n=29) was slightly higher than the topic of “Entertainment/Fashion” (25.9%, n=28).

**Table 10**  
*News Topics Frequencies on Different News Platforms*

News Topics	Platforms				Total
	AP Social	AP App	Xinhua Social	Xinhua App	
Business	98 (4.8%)	5 (2.2%)	89 (6.1%)	9 (8.3%)	201 (5.2%)
Internal Politics	730 (35.5%)	89 (39.7%)	421 (29.1%)	54 (50%)	1,294 (33.7%)
InterntnlPolitics	771 (37.5%)	107 (47.8%)	605 (41.8%)	33 (30.6%)	1,516 (39.5%)
Cultural Event	98 (4.8%)	10 (4.5%)	107 (7.4%)	6 (5.6%)	221 (5.8%)
Sports	79 (3.8%)	15 (6.7%)	39 (2.7%)	6 (5.6%)	139 (3.6%)
Health	165 (8%)	15 (6.7%)	137 (9.5%)	10 (9.3%)	327 (8.5%)
Environment	107 (5.2%)	5 (2.2%)	233 (6.1%)	29 (26.9%)	374 (9.7%)
Economics	109 (5.3%)	6 (2.7%)	139 (9.6%)	15 (13.9%)	269 (7%)
Internal Order	858 (41.7%)	106 (47.3%)	280 (19.3%)	38 (35.2%)	1,282 (33.4%)
Science/Tech	93 (4.5%)	3 (1.3%)	119 (8.2%)	2 (1.9%)	217 (5.7%)
Education	33 (1.6%)	2 (0.9%)	47 (3.2%)	1 (0.9%)	83 (2.2%)
MilitaryDefense	155 (7.5%)	24 (10.7%)	110 (7.6%)	11 (10.2%)	300 (7.8%)
Weather	19 (0.9%)	1 (0.4%)	125 (8.6%)	26 (24.1%)	171 (4.5%)
Housing	15 (0.7%)	1 (0.4%)	17 (1.2%)	2 (1.9%)	35 (0.9%)
Disaster	949 (46.1%)	115 (51.3%)	353 (24.4%)	51 (47.2%)	1,468 (38.2%)
Entertainment	696 (33.8%)	43 (19.2%)	584 (40.3%)	28 (25.9%)	1,351 (35.2%)
Transportation	114 (5.5%)	12 (5.4%)	116 (8%)	16 (14.8%)	258 (6.7%)

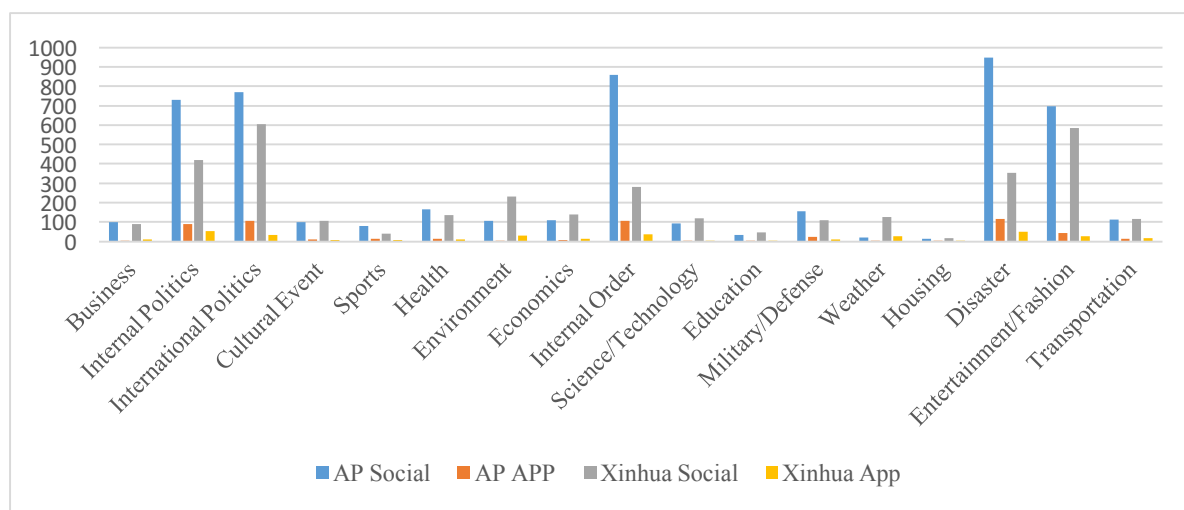


Figure 5. News Topic Frequencies on Different News Platforms

**H3:** Xinhua and AP have significantly different focuses in their top mentioned news topics in interstices news.

This hypothesis predicted that the two news agencies, Xinhua and AP, will focus on different news topics.

Starting from the results of the topic of “International Politics” shown in Table 11, 38.5% (n=878) of interstices news pushed by AP reported with the topic in their news, while 41% (n=638) of interstices news pushed by Xinhua reported with a topic of “International Politics” in their news. The Chi-Square test results indicated that there was no statistically significant difference between AP and Xinhua related to their focus on the topic of “International Politics.” These results suggest that, the focus on the topic of “International Politics” is similar for AP and Xinhua.

**Table 11.***Results of Chi-Square and Descriptive Statistics for International Politics by News Agencies*

News Topic	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
International Politics	878 (38.5%)	638 (41%)	1,516 (39.5%)	2.44 <sup>a</sup>	.118

Note. df = 1. Numbers in parentheses indicate column percentages.

For the topic of “Disaster/Accident/Epidemics,” as indicated in Table 12 below, AP had 46.6% (n=1,064) of interstices news pushed with a topic of “Disaster/Accident/Epidemics” in it, while 26% (n=404) of interstices news pushed by Xinhua with the topic in it. The Chi-Square test result shows that, there was a statistically significant difference about the focus on the topic of “Disaster/Accident/Epidemics” between AP and Xinhua. Based on the results below, it was suggested that, AP focused more on the topic of “Disaster/Accident/Epidemics,” compared with Xinhua.

**Table 12.***Results of Chi-Square and Descriptive Statistics for Disaster/Accident/Epidemics by News Agencies*

News Topic	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Disaster/Accident /Epidemics	1,064 (46.6%)	404 (26%)	1,468 (38.2%)	167.221 <sup>a</sup>	.000

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .001

When it comes to the topic of “Entertainment/Fashion,” based on the results shown in Table 13, AP had 32.4% (n=739) of interstices news with the topic in it, while 39.3% (n=612) of interstices news pushed by Xinhua had the topic in their news. The results of the Chi-Square test indicated that there was a statistically significant difference on the focus of

“Entertainment/Fashion” between AP and Xinhua. These results also suggest that Xinhua focused slightly more on the topic of “Entertainment/Fashion,” compared with AP.

**Table 13.**

*Results of Chi-Square and Descriptive Statistics for Entertainment/Fashion by News Agencies*

News Topic	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Entertainment/Fashion	739 (32.4%)	612 (39.3%)	1,351 (35.2%)	19.579 <sup>a</sup>	.000

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .001

As the results indicated in Table 14 about the topic of “Internal Politics,” 35.9% (n=819) of the interstices news pushed by AP were with a topic of “Internal Politics” in their news, while 30.5% (n=475) of interstices news pushed by Xinhua were with the topic in their news. The Chi-Square test results shows a statistically significant difference about the focus on the topic of “Internal Politics” between AP and Xinhua. These results also show that AP focused on Internal Politics more than Xinhua focused on it.

**Table 14.**

*Results of Chi-Square and Descriptive Statistics for Internal Politics by News Agencies*

News Topic	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Internal Politics	819 (35.9%)	475 (30.5%)	1,294 (33.7%)	12.038 <sup>a</sup>	.001

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .05

About the topic of “Internal Order,” as indicated in Table 15, 42.3% (n=964) of interstices news pushed by AP were with a topic of “Internal Order,” 20.4% (n=318) of interstices news pushed by Xinhua were with a topic of “Internal Order.” The results of the

Chi-Square test turn out to have a statistically significant difference on the topic focus of “Internal Order” between AP and Xinhua. And these results suggest that AP focused on the topics of “Internal Order” with its interstices news more than Xinhua did.

**Table 15.**

*Results of Chi-Square and Descriptive Statistics for Internal Order by News Agencies*

News Topic	News Agency		Total	X <sup>2</sup>	p
	AP	Xinhua			
Internal Order	964 (42.3%)	318 (20.4%)	1,282 (33.4%)	198.044 <sup>a</sup>	.000

Note. df = 1. Numbers in parentheses indicate column percentages.

\*p < .001

In sum, for the top four topics, Xinhua focused more on the topic of “Entertainment/Fashion,” while AP focused more on the topics of “Disaster/Accident/Epidemics,” “Internal Politics,” and “Internal Order.” While the two news agencies are likely to have similar focus on the topic of “International Politics.”

## CHAPTER V

### CONCLUSIONS AND LIMITATIONS

#### Conclusions

The purpose of this study was to comprehend a current popular function of mobile push notifications of news reports used by news agencies on different platforms from different cultures. Inspired by John Dimmick, who introduced the theory of niche and defined “interstices” into media ecology, this study defined the push notification used by news agencies as a way of news reporting through mobile phone as “interstices news.”

By doing a content analysis of the interstices news collected from June 27 to July 27, 2016, with a total number of 3,838, the study examined the structure of interstices news and its pushing day parts, as well as whether there’s any difference between the two news agencies, Associated Press and Xinhua News Agency, on different platforms (social media and official news app) in terms of news values and news topics used in push notifications. The findings indicate that use of interstices news by the two news agencies shared multiple similarities in both the content structure and the difference across disparate platforms.

By analyzing the timing (day parts) of interstices news of AP and Xinhua on both Twitter and Weibo, similar time slots when both AP and Xinhua reported the most of the interstice news everyday have been found. These time slots can be called the “prime time” of push notifications and in general, for both AP and Xinhua interstices news are from 6 am to 12 pm, or in other words, in the morning. This result, however, does mean that, interstices news reporting is not in line with former research, as “12:01-15:00” was still a time slot with a high frequency for AP. Viewed separately, AP tends to report more interstices news on both



its social media during “9:01-12:00,” as part of what Pollard (2015); called “school or work hours.” Xinhua, on the contrary, reports more interstices news during “18:01-21:00” on social media, while reporting more interstices news during “6:01-9:00” on its news app. These two time-slots are both out of the “school or work hours” as researchers found before (Pollard, 2015). However, as Xinhua has its highest reporting frequency during “18:01-21:00” on social media, which matched the CTR time and “after 5 p.m.” as KissMetrics noted before (KissMetrics, n.d.). That is to say, with its social media use, Xinhua tends to choose the time of reporting when the public or audience have the highest frequency and opportunity to read and share the news. While on its news app, Xinhua tends to report more news before the workday. Also the news during this period could be real-time international news. However, this is not a part of the analysis in this study, and thus would need further research to be verified. In sum, though both U.S. and Chinese news agencies tend to report news in the morning, to be specific, the U.S. news agency tends to report interstices news more during school or work time, which matched the definition and purpose of “interstices news”; while the Chinese news agency also reported some serious news during school or work time, but it tended to report more out of this period. This could be partly because of cultural reasons, with Confucianism with its emphasis on order and society, but this could also be partly because of a time lag, especially for international news. This also needs to be verified with further studies as it was not analyzed in detail in this study.

By analyzing the content structure of interstices news of both AP and Xinhua, a difference between different platforms was found. According to the final data, the interstices news pushed by social media accounts has a more comprehensive structure than that pushed by the official news reader apps. For interstices news pushed by social media, hashtag

content and starting words like “Video” or “Photo/Picture/Gallery” are usually included, while official news reader apps simply report the news itself without any other cues. In addition, both news agencies tend to rely more heavily on social media rather than their official news reader app to report interstices news. Since the social media platform currently becomes a significant news media rather than a social network (Kwak et al., 2010) and more people tend to get news from social media now (Gottfried & Shearer, 2016), these diversified features in interstices news pushed by social media accounts has clearly proved its indispensable role in new features and forms of news reporting.

By examining the news values of interstices news, in general, both AP and Xinhua focus on the values of “Power Elite,” “Entertainment,” “Surprise,” and “Bad News,” with the value of “Entertainment” having the highest focus of all. Comparing the focus of value by platforms based on the data, 1) on the social media of both AP and Xinhua, the value of “Entertainment” was the main focus, while on Twitter followed by the value of “Surprise” and on Weibo followed by the value of “Power Elite;” 2) on the official news app, both AP and Xinhua had a main focus on the value of “Power Elite,” though on Weibo the value of “Bad News” was slightly higher (1%) than the value of “Power Elite.” It is understandable that different platforms rely on different news values. Since the main function of social media is social networking before news reporting, compared with the news app, it is not surprising that “Entertainment” on social media has a relatively higher presence. Without the function of social networking, on news apps the focus of news values tended to be more serious and used as a tool of news reporting, since both AP and Xinhua have the main focus on the value of “Power Elite” or “Bad News” on their news apps. Comparing between countries, though the value of “Entertainment” ranks the highest in both U.S. and China, the results show that

there was not a significant difference between agencies and the frequency of the value of “Entertainment,” while a significant difference did exist between the frequencies of other values and news agencies. As the U.S. news agency focused more on the value of “Surprise,” while the Chinese news agency focused more on the value of “Power Elite.” This is understandable, as U.S. media needs to consider “economic profit” and cares about “what is important to them” while Chinese media needs to represent the party and government and cares more about social responsibility (Guo, 2012). These results show the similarity and also discrepancies of news values in interstices news reports from the news agencies of the two countries. These results can be explained by Guo’s (2012) research about news values in the two countries, which found considerable differences, since “theoretical similarities do not translate automatically into practice” and are usually “subjected to interpretations of the practitioners.”

In terms of topics of interstices news, in general, both AP and Xinhua focus the most on the topics of “Internal Politics,” “International Politics,” “Internal Order/Crime,” “Disaster/Accidents/Epidemics,” and “Entertainment and Fashion.” Viewed separately, the highest focus of AP on both social media and its official news app is on the topic of “Disaster/Accidents/Epidemics.” This makes sense, given that push notifications are used as an awareness system that alerts users about threats that might affect their lives. On the other hand, the highest focus of Xinhua on social media was on the topic of “International Politics,” which perhaps reflects the public diplomacy role of the news organization, and the most covered topic on the official news app was “Internal Politics.” In other words, Xinhua focuses most heavily on politics, much like a classic news platform. These results can be also explained by the differences in the media systems that the two news agencies are from, as

mentioned before. “Americans value their media and value the news in their lives” and have got considerable ways to save the information “that is important to them” (Shoemaker & Cohen, 2006), while Chinese news media are owned by the state and have been endowed with more social and political responsibilities.

By conducting this study, the similarities and differences of interstices news reports from two news agencies from the U.S. and China were calculated as other ways of reporting news. Despite differences in cultural settings and media systems, new technologies in China and the United States seem to challenge the way news organizations operate. In addition, a clearer structure about “interstices news” started to emerge. With a better use of this type of news report, there may be more possibilities for journalism in the future.

### **Contributions and Limitations**

This study was inspired by a recent work of John Dimmick et al. (2010) with limited previous research to refer to. Previously, researchers spent time and effort on news content and news platforms, as well as on cross-national comparison respectively or in pairs. And the bulk of these efforts are dedicated to traditional media. This study tried to apply this research design to an emerging form of mobile media, which has not been given enough attention yet, so that a more comprehensive and deeper understanding about news reporting on new media could be achieved. The comparative study also sheds light on differences in push notification patterns between leading news organizations in two countries with different cultures and media systems, adding to our understanding of how gatekeeping processes even on new platforms and in a more globalized world take on the coloration of the social and political contexts within which they take place.

Because of the limited previous research about the topic, this content analysis study might contain incomplete features that future studies could further check. For this tweet/weibo style of news, when analyzing content characteristics, this study counted the length of push notifications by number of sentences and lines to make the comparison. In future studies, count by word could be another possible choice. Also, as the results show, the values and topics of interstices news of this study are mainly about serious or negative issues like bad news, disasters, and politics. The samples collected might be influenced by the time during which the data collection took place, since several terrorist attacks, disasters, and important political events occurred when the sample of this study was being collected. Future studies could take a longitudinal approach to account for periods when dramatic events might be happening at a higher rate around the world.

## REFERENCES

- Alpert, Lukas I. (2016, October 19). Dow Jones plans to review operations at The Wall Street Journal. *The Wall Street Journal*. Retrieved from: <http://www.wsj.com/articles/dow-jones-plans-to-review-operations-at-the-wall-street-journal-1476904344>
- Anderson, N. H. (1965). Primacy effects in personality impression formation using a generalized order effect paradigm. *Journal of Personality and Social Psychology*, 2(1), 1.
- Barnidge, M. (2015). The role of news in promoting political disagreement on social media. *Computers in Human Behavior*, 52, 211-218.
- Bamman, D., O'Connor, B., & Smith, N. (2012). Censorship and deletion practices in Chinese social media. *First Monday*, 17(3).
- Barthel, M., Shearer, E., Gottfried, J., & Mitchell, A. (2015, July 14). The evolving role of news on Twitter and Facebook. Retrieved from Pew Research Center. <http://www.journalism.org/2015/07/14/the-evolving-role-of-news-on-twitter-and-facebook/>
- Bell, Allan. (1991) *The language of news media*. Oxford: Blackwell
- Bernoff, Josh. (2014, October). Your mobile moments are shrinking. *Marketing News*, 48(10), 22-23.
- Berry, N. O. (1990). *Foreign policy and the press: An analysis of the New York Times' coverage of US foreign policy (Vol. 20)*. New York: Praeger.
- Bie, B., & Billings, A. C. (2015). "Too good to be true?" US and Chinese media coverage of Chinese swimmer Ye Shiwen in the 2012 Olympic Games. *International Review for the Sociology of Sport*, 50(7), 785-803.
- Brighton, P., & Foy, D. (2007). *News values*. London: Sage.
- Cai, M. Z. (1999). Cai's speech on 31 March 1999, pp. 86-9 in Xinhua News Agency Yearbook 1999. Beijing: Xinhua (in Chinese).
- Camaj, L. (2010). Media framing through stages of a political discourse: international news agencies' coverage of Kosovo's status negotiations. *International Communication Gazette*, 72(7), 635-653.
- Chan-Olmsted, S., Rim, H., & Zerba, A. (2013). Mobile news adoption among young adults examining the roles of perceptions, news consumption, and media usage. *Journalism & Mass Communication Quarterly*, 90(1), 126-147.

- Chen, L., Zhang, C., & Wilson, C. (2013, October). Tweeting under pressure: Analyzing trending topics and evolving word choice on Sina Weibo. In *Proceedings of the first ACM conference on online social networks* (pp. 89-100). retrieved from <http://dl.acm.org/citation.cfm?id=2512938&prelayout=flat>
- China Internet Network Information Center (CNNIC). (2016, April). 2015 Chinese social networking apps and user behavior report (Chinese): [http://www.cnnic.cn/hlwfzyj/hlwzxbg/sqbg/201604/t20160408\\_53518.htm](http://www.cnnic.cn/hlwfzyj/hlwzxbg/sqbg/201604/t20160408_53518.htm)
- Cho, H., Chen, M., & Chung, S. (2010). Testing an integrative theoretical model of knowledge-sharing behavior in the context of Wikipedia. *Journal of the American Society for Information Science and Technology*, 61(6), 1198-1212.
- Chris, L., & Tony, L. (2005). *AS Sociology for AQA*. United Kingdom: Sociology Central.
- Cozma, R., & Chen, K. J. (2013). What's in a tweet? Foreign correspondents' use of social media. *Journalism Practice*, 7(1), 33-46.
- Curran, J., Iyengar, S., Lund, A. B., & Salovaara-Moring, I. (2009). Media system, public knowledge and democracy a comparative study. *European Journal of Communication*, 24(1), 5-26.
- Desilver, D. (2013, July 10th). Partner? Rival? For many in U.S., China is both. Pew Research Center. Retrieved from <http://www.pewresearch.org/fact-tank/2013/07/10/partner-rival-for-many-in-u-s-china-is-both/#>
- Dimmick, J., Feaster, J. C., & Hoplamazian, G. J. (2010). News in the interstices: The niches of mobile media in space and time. *New Media & Society*, 13( 1).
- Dimmick, J. (2003). *Media competition and coexistence: The theory of the niche*. Mahwah, NJ: Erlbaum.
- Dong, T. (2008). Changes of value orientation of online news and their influence. *Journal of Hunan Mass Media Vocational Technical College*, 1. doi: cnki:ISSN:1671-5454.0.2005-01-000
- Eilders, C., & Wirth, W. (1999). Die Nachrichtenwertforschung auf dem Weg zum Publikum: eine experimentelle Überprüfung des Einflusses von Nachrichtenfaktoren bei der Rezeption. *Publizistik*, 44(1), 35-57.
- Ember, S. (2016, November 2). New York Times Co. Reports an Advertising Drop, Though Digital Results Grew. *The New York Times*. Retrieved from [https://www.nytimes.com/2016/11/03/business/media/new-york-times-co-reports-an-advertising-drop-though-digital-results-grew.html?\\_r=0](https://www.nytimes.com/2016/11/03/business/media/new-york-times-co-reports-an-advertising-drop-though-digital-results-grew.html?_r=0)
- Estellés-Arolas, E., & González-Ladrón-De-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2), 189-200.

- Evenett, S. J. (Ed.). (2010). *The US-Sino currency dispute: New insights from economics, politics and law*. Centre for Economic Policy Research. <http://voxeu.org/epubs/cepr-reports/us-sino-currency-dispute-new-insights-economics-politics-and-law>
- Ferguson, Douglas A., & Greer, Clark F. 2011. Local radio and Microblogging: how radio stations in the U.S. are using Twitter. *Journal of Radio & Audio Media*, 18(1): 33–46. doi:10.1080/19376529.2011.558867
- Fontein, Dara. (2016, November 21). The best time to post on Facebook, Twitter, and Instagram. *Hootsuite*. Retrieved from <https://blog.hootsuite.com/best-time-to-post-on-facebook-twitter-instagram/>
- Friedberg, A. L. (2005). The future of US-China relations: Is conflict inevitable? *International Security*, 30(2), 7-45.
- Fu, K. W., Chan, C. H., & Chau, M. (2013). Assessing censorship on microblogs in China: Discriminatory keyword analysis and the real-name registration policy. *Internet Computing, IEEE*, 17(3), 42-50.
- Galtung, J., & Ruge, M. H. (1965). The structure of foreign news: The presentation of the Congo, Cuba and Cyprus crises in four Norwegian newspapers. *Journal of Peace Research*, 2(1), 64-90.
- Gao, Q., Abel, F., Houben, G. J., & Yu, Y. (2012). A comparative study of users' microblogging behavior on Sina Weibo and Twitter. In *User modeling, adaptation, and personalization* (pp. 88-101). Berlin, Heidelberg: Springer.
- Golding, P., & Elliott, P. R. C. (1979). *Making the news*. Longman Publishing Group.
- Gottfried J., & Shearer, E. (May 26, 2016). *News use across social media platforms* (Pew Research Center), 2016. Retrieved from <http://www.journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/>
- Gu, L. L., Skierkowski, D., Florin, P., Friend, K., & Yi, Y. (2016). Facebook, Twitter, & QR codes: An exploratory trial examining the feasibility of social media mechanisms for sample recruitment. *Computers in Human Behavior*, 60, 86-96.
- Guan, W., Gao, H., Yang, M., Li, Y., Ma, H., Qian, W., ... & Yang, X. (2014). Analyzing user behavior of the micro-blogging website Sina Weibo during hot social events. *Physica A: Statistical Mechanics and its Applications*, 395, 340-351.
- Guo, Q. (2012). Perceptions of news value: A comparative research between China and the United States. *China Media Research*, 8(2), 26-35.
- Harcup, T., & O'Neill, D. (2001). What is news? Galtung and Ruge revisited. *Journalism Studies*, 2(2), 261-280.



- He, Z., Xu X., et al., (Eds.) (2009). *Journalism theory*. CHN (Beijing): Higher Education Press.
- Heussner, K. M. (2012, April). Push notifications: Not so annoying anymore. *Adweek*, 53, 21.
- Hong, S. (2012). Online news on Twitter: Newspapers' social media adoption and their online readership. *Information Economics and Policy*, 24(1), 69-74.
- Horrigan, J. B., & Duggan, M. (2015). Home broadband 2015. *Pew Research Center*, 21.
- Huang, C. (2003). Transitional media vs. normative theories: Schramm, Altschull, and China. *Journal of Communication*, 53(3), 444-459.
- Java, A., Song, X., Finin, T., & Tseng, B. (2007, August). Why we twitter: understanding microblogging usage and communities. In *Proceedings of the 9th WebKDD and 1st SNA-KDD 2007 workshop on Web mining and social network analysis* (pp. 56-65). ACM.
- Johnson, Steven. 2009. "How Twitter will change the way we live," *Time*, 5 June <http://content.time.com/time/magazine/article/0,9171,1902818,00.html>
- Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251.
- Kim, W., Jeong, O. R., & Lee, S. W. (2010). On social web sites. *Information Systems*, 35(2), 215-236.
- Kim, M. (2014). The effects of external cues on media habit and use: Push notification alerts and mobile application usage habits (Doctoral dissertation) retrieved from <http://gradworks.umi.com/36/34/3634009.html> (Order No. 3634009).
- Kiss Metrics. An In-Depth Look at the Science of Twitter Timing. Retrieved from <https://blog.kissmetrics.com/the-science-of-twitter-timing/>
- Ksiazek, T. B., Malthouse, E. C., & Webster, J. G. (2010). News-seekers and avoiders: Exploring patterns of total news consumption across media and the relationship to civic participation. *Journal of Broadcasting & Electronic Media*, 54(4), 551-568. Dissertations & Theses Global. (1612601926).
- Kwak, H., Lee, C., Park, H., & Moon, S. (2010, April). *What is Twitter, a social network or a news media?* In *Proceedings of the 19th international conference on world wide web* (pp. 591-600). ACM.
- Lasica, J. D. (1997). When push comes to news. *American Journalism Review*, 19(4), 32-40.

- Lee, C. C. (Ed.). (1990). Mass media: of China, about China. In *Voices of China: The Interplay of Politics and Journalism* (pp. 3-29). New York: Guildford Press.
- Lee, C. S., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior*, 28(2), 331-339.
- Lichterman, J. (2015). Push it: How Breaking News notifies users of news stories before they become big. Retrieved from <http://www.niemanlab.org/2015/08/push-it-how-breaking-news-notifies-users-of-news-stories-before-they-become-big/>
- Liu, D. (2010). *A comparative look at the coverage of the Sichuan earthquake in Chinese and American newspapers*. Graduate Theses and Dissertations. Paper 11803.
- Luther, C. A., & Zhou, X. (2005). Within the boundaries of politics: News framing of SARS in China and the United States. *Journalism & Mass Communication Quarterly*, 82(4), 857-872.
- MacEvoy, B. (1997). Change leaders and new media. In L. Kahle & L. Chiagouris (Eds.), *Values, lifestyles and psychographics* (pp. 283-198). Mahwah, NJ: Lawrence Erlbaum.
- Malik, M. M., & Pfeffer, J. (2016). A macroscopic analysis of news content in Twitter. *Digital Journalism*, 1-25.
- McLeod, J., & Blumler, J. (1987). The macrosocial level of communication science. In C. Berger & S. Chaffee (Eds.), *Handbook of communication science* (pp. 271-322). Newbury Park, CA: Sage.
- McQuail, D. (1994) *Mass communication theory*. London: Sage.
- Mitchell, A., & Holcomb, J. (2016). State of the news media 2016. Pew Research Center. Retrieved from <http://www.journalism.org/2016/06/15/state-of-the-news-media-2016/>
- Murray, J. (November 19, 2015). Improving digital subscription adoption: A look at two newspaper approaches. Retrieved from Newspaper Association of America <http://www.naa.org/Topics-and-Tools/Digital-Media/Paid-Content/2015/Improving-Digital-Subscription.aspx>
- O'Neill, D., & Harcup, T. (2009). News values and selectivity. In Wahl-Jorgensen K. & Hanitzsch T. (Eds.), *The handbook of journalism studies* (pp. 161-174). New York: Routledge.
- Owen, L. H. (2015). Notifications are annoying. Is there a good way to make them better? Retrieved from <http://www.niemanlab.org/2015/06/notifications-are-annoying-is-there-a-good-way-to-make-them-better/>

- Palmer, J. (1998). News production, news values. In A. Briggs & P. Cobley (eds.). *The media: An introduction* (pp. 377-391). Harlow, UK: Longman
- Palmer, M., & Nicey, J. (2012). Social media and the freedom of the press: A long-term perspective from within International News Agencies (AFP, Reuters). *ESSACHESS Journal for Communication Studies*, 5(1).
- Pan, Z., & Chan, J. M. (2003). Shifting Journalistic Paradigms How China's Journalists Assess "Media Exemplars." *Communication Research*, 30(6), 649-682.
- Papacharissi, Z., & de Fatima Oliveira, M. (2012). Affective news and networked publics: The rhythms of news storytelling on #Egypt. *Journal of Communication*, 62(2), 266-282.
- People's Daily. (2016, March). 2015 Chinese Media Communication Index Report (in Chinese). Retrieved from <http://media.people.com.cn/n1/2016/0324/c14677-28222730.html>
- Peterson, Tim. (April 28, 2016). Twitter recategorized itself from "social networking" to "news" in Apple's App Store. *Marketing Land*. Retrieved from <http://marketingland.com/twitter-recategorized-app-social-networking-news-apples-app-store-175070>
- Phoenix Television, (2015, August). Xi Jin Ping stressed 12 words on Tianjin Explosion accountability. Retrieved from [http://news.ifeng.com/a/20150818/44455017\\_0.shtml](http://news.ifeng.com/a/20150818/44455017_0.shtml)
- Pollard, Catriona, (2015, April 6). The best times to post on social media. *Huffington Post*. Retrieved from [http://www.huffingtonpost.com/catriona-pollard/the-best-times-to-post-on\\_b\\_6990376.html](http://www.huffingtonpost.com/catriona-pollard/the-best-times-to-post-on_b_6990376.html)
- Urban Airship. (n.d.) "Push Notifications Explained." Retrieved from <https://www.urbanairship.com/push-notifications-explained>
- Qi, Le. (2015, March). Strategic analysis about the development of news reader apps based on People's Daily news reader app (in Chinese): <http://media.people.com.cn/n/2015/0317/c150616-26704699.html>
- Qu, Y., Huang, C., Zhang, P., & Zhang, J. (2011, March). Microblogging after a major disaster in China: A case study of the 2010 Yushu earthquake. In *Proceedings of the ACM 2011 Conference on computer supported cooperative work* (pp. 25-34). doi>[10.1145/1958824.1958830](https://doi.org/10.1145/1958824.1958830)
- Rampal, K. R. (1995). The collection and flow of world news. In J. Merrill (ed.) *Global journalism: Survey of international communication, 3rd Ed.* (pp. 35-52). White Plains, NY: Longman.

- Reich, Z., & Godler, Y. (2014). A Time of Uncertainty: The effects of reporters' time schedule on their work. *Journalism Studies*, 15(5), 607-618.
- Ross, R. S. (2003). The US-China peace: Great power politics, spheres of influence, and the peace of East Asia. *Journal of East Asian Studies*, 3(3), 351-375.
- Rudat, A., & Buder, J. (2015). Making retweeting social: The influence of content and context information on sharing news in Twitter. *Computers in Human Behavior*, 46, 75-84.
- Salz, P. A. (2014). The importance of 'push' in the app age. *Econtent*, 37(7), 32.
- Schlesinger, P. (1987) *Putting reality together*. London: Methuen.
- Schultz, B. and Sheffer, M.L.. (2010). An Exploratory Study of How Twitter Is Impacting Sports Journalism. *International Journal of Sports Communication*, 3(2): 226–39.
- Schulz, W. F. (1982). News structure and people's awareness of political events. *Gazette (Leiden, Netherlands)*, 30(3), 139-153.
- Shoemaker, P. J. (1991). *Communication concepts 3: Gatekeeping*. Newbury Park, CA: Sage.
- Shoemaker, P. J., & Cohen, A. A. (2006). News around the world: Content, practitioners, and the public. New York: Routledge.
- Siebert, F. S., Peterson, T., & Schramm, W. (1956). *Four theories of the press: The authoritarian, libertarian, social responsibility, and Soviet communist concepts of what the press should be and do*. Urbana: University of Illinois Press.
- Skewes, E. A., & Black, H. (2006). What's news in the United States. In Pamela J. Shoemaker and Akiba A. Cohen (Eds.), *News around the world: Content, practitioners, and the public* (pp. 309-32). New York: Routledge
- Statistics Times (2016, October 21st). List of Countries by Projected GDP. Retrieved from <http://statisticstimes.com/economy/countries-by-projected-gdp.php>
- Subašić, I., & Berendt, B. (2011, April). Peddling or creating? investigating the role of twitter in news reporting. In *European Conference on Information Retrieval* (pp. 207-213). Berlin: Springer.
- Sundet, V. S. (2007). The dream of mobile media. In *Ambivalence towards convergence: digitalization and media change*. Göteborg: Nordicom.
- Swaine, M., Odell, R. E., Luo, Y., & Liu, X. (2013, December). U.S.-China Security Perceptions Survey: Findings and implications. Carnegie Endowment For International Peace. Retrieved from <http://carnegieendowment.org/2013/12/12/u.s.-china-security-perceptions-survey-findings-and-implications-pub-53820>

- Tehrani, R. (2014). Openwave uses push to boost consumer relationships with carriers. *Customer*, 32(3), 3.
- Tencent. (2016). “谁更频繁用社交应用看新闻？中年人胜过年轻人” (Who uses social applications more frequently to read news? Middle-aged people are better than young people). Retrieved from <http://tech.qq.com/a/20160126/009483.htm>
- Tumber, H. (1999). *News: A reader*. Oxford: Oxford University Press
- Tung, R. L. (1982). US-China trade negotiations: Practices, procedures and outcomes. *Journal of International Business Studies*, 13(2), 25-37.
- Tunstall, Jeremy. (1970) *Media sociology: A reader*. London: Constable.
- Twitter (2015). *Most Influential*, 2015. Retrieved from Twitter: <https://2015.twitter.com/most-influential>
- Valkenburg, P. M., Semetko, H. A., & de Vreese, C. H. (1999). The effects of news frames on readers' thoughts and recall. *Communication Research*, 26(5), 550-569.
- Vis, F. (2013). Twitter as a reporting tool for breaking news: Journalists tweeting the 2011 UK riots. *Digital Journalism*, 1(1), 27-47.
- Walsh, S. P., White, K. M., Hyde, M. K., & Watson, B. (2008). Dialing and driving: Factors influencing intentions to use a mobile phone while driving. *Accident Analysis & Prevention*, 40(6), 1893-1900. doi: 10.1016/j.aap.2008.07.005
- Warren, I., Meads, A., Srirama, S., Weerasinghe, T., & Paniagua, C. (2014). Push notification mechanisms for pervasive smartphone applications. *Pervasive Computing, IEEE*, 13(2), 61-71.
- Weeks, B. E., & Holbert, R. L. (2013). Predicting dissemination of news content in social media a focus on reception, friending, and partisanship. *Journalism & Mass Communication Quarterly*, 90(2), 212-232.
- Wei, R. (2013). Mobile media: Coming of age with a big splash. *Mobile Media & Communication*, 1(1), 50-56.
- Westerman, D., Spence, P. R., & Van Der Heide, B. (2012). A social network as information: The effect of system generated reports of connectedness on credibility on Twitter. *Computers in Human Behavior*, 28(1), 199-206.
- Westlund, Oscar. (2008). From mobile phone to mobile device: news consumption on the go. *Canadian Journal of Communication* 33(3), 443-463
- Williams, E., & Kennedy, C. (2014). 840: optimizing clinical decision support using push notification of shock index in a PICU. *Critical Care Medicine*, 42(12), A1562.

- Yang, J. (2003). Framing the NATO air strikes on Kosovo across countries comparison of Chinese and US newspaper coverage. *Gazette*, 65(3), 231-249.
- Xia, L. (Deputy Chief Editor, Xinhua) (2004) Interview with the author, Beijing, 16 January.
- Xu, Y., Chu, L. L., & Guo, Z.S. (2002). Reform and challenge an analysis of China's journalism education under social transition. *International Communication Gazette*, 64(1), 63-77.
- Zhao, Y. (2000). From commercialization to conglomeration: The transformation of the Chinese press within the orbit of the party state. *Journal of Communication*, 50(2), 3-26.
- Zhao, X., Zhu, F., Qian, W., & Zhou, A. (2013). Impact of multimedia in Sina Weibo: Popularity and life span. In *Semantic web and web science* (pp. 55-65). New York: Springer.
- Zhuang, K. X. (2001). Restarting to charge fees for subscribing Xinhua news wires. in D. J. He (ed.) *Historical trace: Selections from the memories on the 70<sup>th</sup> anniversary of the foundation of Xinhua News Agency, 1931-2001* (pp. 689-98). Beijing: Xinhua (in Chinese).

## APPENDIX

### CODEBOOK

**Include Media:** News agencies in the US and China

**Time Periods:** June 27<sup>th</sup> to July 27<sup>th</sup>, 2016

**Selection Criteria:** Interstices news pushed by the news agency's official news apps and social media accounts

**Unit of Analysis:** A piece of interstices news

#### Section A: Background Information

**1. Unique ID number (4-digit code):** Each piece of interstices news has its own unique number

**2. Name of Coder:**

1= Sha Meng

2= Tianxin Wen

**3. Name of Media:**

AP= Associated Press

XH= Xinhua News Agency

**4. Date:** Each coder should type the date of pushing as mmddyy with no spaces or punctuation, like, 51016 means May 10, 2016.

**5. Type of Push Notification:** refers to whether the news is from the social media account or the official news app of the news agencies.

1=Twitter= Associated Press Social Media;

2=AP Reader App= Associated Press News Reader App;

3=Weibo=Xinhua Social Media;

4=XH Reader App= Xinhua News Reader App

#### Section B: News Content

##### 6. News Values

a. The Power Elite: stories about powerful individuals, organizations or institutions, who have a great control or influence over politics, society, global affairs, wealth, etc.

1= yes, 0= no

b. Celebrity: stories about people who are already famous, especially in entertainment or sports, fashion, etc.

1= yes, 0= no

c. Entertainment: stories about sex, show business, human interest, animals, an unfolding drama, or offering opportunities for humorous treatment, entertaining photographs or witty headlines; stories contains elements of amusing or entertaining people, with light comic; elements like celebrity stories, quiz, festival or custom events might also be included.

1= yes, 0= no

d. Surprise: stories that have an element of surprise and/or contrast; unusual, bizarre.

1= yes, 0= no

e. Bad News: stories with particularly negative overtones, elements like, tragedy, warn, worry, etc. might be involved; stories about unfortunate, regrettable event like, terrorist attack, disaster, violence, damage, bankruptcy, etc.

1= yes, 0= no



f. Good News: stories with particularly positive overtones such as rescues and cures; stories contain elements of inspiration, optimism, funny, etc.; stories contain elements that could result in positive influences or good ends.

1= yes, 0= no

g. Magnitude: stories that are perceived as sufficiently significant either in the numbers of people involved or in the potential impact; stories contain a degree of extreme behavior or occurrence

1= yes, 0= no

h. Relevance/Proximity: stories about issues, groups and nations perceived to be relevant to the audience, culturally or geographically

1= yes, 0= no

i. Conflict/Drama: stories about strong disagreement among people, groups or countries, etc.

1= yes, 0= no

## 7. News Topics

a. Business/Commerce/Industry: refers to whether the piece of news related with the activities or process of exchange, buying or selling goods on a large scale; elements like contracts, trade, investment, etc. might be involved.

1= yes, 0= no

b. Internal Politics: refers to whether the piece of news related to its domestic political or governmental events or activities, etc., which is usually related with like, policy making, regulations, etc.

1= yes, 0= no

c. International Politics: refers to whether the piece of news talks about events or activities that independent states interact with each other; foreign affairs or relation. Elements like, intergovernmental cooperation, negotiations, terrorism, etc. might be involved.

1= yes, 0= no

d. Cultural Events: refers to whether the piece of news talks about things related with customs and manners, or any historical activities or events in a certain nation; or any global event that has been hold for years and has its special reputation around the world.

1= yes, 0= no

e. Sports: refers to whether the piece of news talks about sports activities, scores or prize, etc. Report about other things of athletes, which is unrelated with the games or scores, like personal life, endorsement, should belongs to entertainment section.

1= yes, 0= no

f. Health/Welfare/Social Services: refers to whether the piece of news talks about things related with both physical and mental health, or talks about social welfare like helping and supporting the poor, the disabled, etc., or public services provided by the government or certain company or organization

1= yes, 0= no

g. Environment: refers to whether the piece of news talks about nature, like, animals, plants, insects etc., any natural situations, or topics related with environmental issues. Natural disasters and environmental pollutions are also related with the category of environment.

1= yes, 0= no

h. Economics: refers to whether the piece of news related with a country's or the global finance like, stocks, currency, etc. Elements like, money, price, exchange rate, etc. might be involved.

1= yes, 0= no



- i. Internal Order/Crime: refers to whether the piece of news talks about social activities which is illegal, or been punished; or criticizes unfair situation or shortage of the society. Activities or events that are against those illegal behaviors, for example, award citizen who stopped a robbery, are also belong to this category.  
1= yes, 0= no
- j. Science/Technology: refers to whether the piece of news related with studies of natural facts based on experiments or observations; whether it is related with scientific studies like, physics, biology, chemistry, etc.; whether it is related with things that has been created with scientific usage to solve problems or improve efficiency, like chemotherapy instrument, laptop, smartphone, etc.  
1= yes, 0= no
- k. Education: refers to whether the piece of news related with schools, students, campus, or process of gaining knowledge, or things have educational significance; or governmental or organizational activities and events that aim at improving or enhancing education system, etc. like, financial support.  
1= yes, 0= no
- l. Military and Defense: refers to whether the piece of news contains any elements about soldiers, troops, or talks about activities by army forces that protect national security or against terrorism.  
1= yes, 0= no
- m. Weather: refers to whether the piece of news related with the temperature, or any natural outside conditions like wind, rain or lightning, etc. Topics with the influence or impact of the weather also belongs to this category.  
1= yes, 0= no
- n. Housing: refers to whether the piece of news talks about housing issues  
1= yes, 0= no
- o. Disasters/Accidents/Epidemics: refers to whether the piece of news talks about, or related with either natural or artificial catastrophes, tragedies, or unexpected bad things, as well as terrorism. The follow-up works of the disasters, accidents or epidemics are also belongs to this category.  
1= yes, 0= no
- p. Entertainment and Fashion: refers to whether the piece of news talks about things with a purpose of relaxation, or contains information about human interest, etc., or about the trend of clothes, shoes, bags, etc. Elements like, quiz, music, film, score, celebrity stories, show, etc. might be involved.  
1= yes, 0= no
- q. Transportation: refers to whether the piece of news talks about the way, or the system of moving people or things to a different place; topics related with transport machines are also belongs to this category.  
1= yes, 0= no
- r. Others: refers to topics that haven't been concluded in this coding book  
1= yes, 0= no

### Section C: Day Parts

- 1. Day part:** Coders should type in the day part number each piece of interstices news belongs to. And the pushing time of each interstices news are shown in their names.  
1= 00:00 a.m. - 03:00 a.m.

- 2= 03:01 a.m. - 06:00 a.m.  
 3= 06:01 a.m. - 09:00 a.m.  
 4= 09:01 a.m. - 12:00 p.m.  
 5= 12:01 p.m. - 15:00 p.m.  
 6= 15:01 p.m. - 18:00 p.m.  
 7= 18:01 p.m. - 21:00 p.m.  
 8= 21:01 p.m. - 23:59 a.m.

### Section D: Content Factors

**1. Content Length:** The length of the sentence, calculated by lines

- 1= one line  
 2= two lines  
 3= three lines  
 4= four lines  
 5= five lines

**2. The number of the sentences:** refers to how many sentences does each piece of the interstices news have

- 1= one sentence  
 2= two sentences  
 3= three sentences  
 4= four sentences  
 5= five sentences  
 6= six sentences

**3. Breaking news mentioned before the sentence (s):** refers to whether “Breaking (news)” has been mentioned at the beginning of each piece of interstices news

- 1= yes  
 0= no

**4. Starting words mentioned before the sentences as special categories:** refers to whether there’s a starting word before the sentence(s) working as a role of special category of the news

- 1= Video  
 2= Photos/ Pictures/Gallery  
 3= Story  
 4=Ad  
 5= more than one  
 0= no

**5. Hashtag Content:** refers to whether there’s any hashtag content in each piece of interstices news

- 1= yes, 0= no

**6. Link:** refers to whether there are any links in each piece of interstices news

- 1= yes, 0= no

**7. Quotation:** refers to whether there’s any quotation in each piece of interstice news

- 1= yes, 0= no