What's on the other side of the great firewall? Chinese Web users' motivations for bypassing the Internet censorship

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A B S T R A C T

Firewall bypassing is referred to as the behaviors of Internet users who resort to any software or proxy to get access to the websites or online resources that are blocked by the Great Firewall (GFW). Under the uses and gratification framework, a web-based survey ($N = 319$) was conducted to explore Chinese Internet users' motivations of bypassing firewall in and outside Mainland China. The findings showed that Chinese Web users bypassed the firewall in China mainly for information and socializing, and bypassed outside China primarily for entertainment. Comparison between the motivations for bypassing GFW in and outside China was conducted among the participants who had experience in both cases. Theoretical and practical implications were discussed.

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1. Introduction

The past decade witnessed an exponential growth of worldwide Internet use. Statistics by Internet and Telecommunication Union or ITU (2011) showed that the number of Internet users has doubled between 2005 and 2010, the number in which year surpassed the two billion mark and reached 2.4 billion globally in 2012, accounting for 34.3% of the world population (Internet World Stats., 2012). Internet, particularly with the proliferation of social media, enables users to overcome the geographic limitation, and be connected with other users from all over the world. Consequently, united Internet users become an influential emerging power, and play an critical role in shaping the landscape of online participatory collaboration, online freedom of expression popular culture, social movements, etc. (Kahn & Kellner, 2004; MacKinnon, 2009, 2012; Shirky, 2011).

Among many functions that Internet empowers users to perform, a unique one is online content sharing (Kaplan & Haenlein, 2010), which has attracted a large number of Web users from all over the world who use Internet as a platform to share content. During this process, video-sharing based social media, such as YouTube, have played an essential role in setting trends of popular culture online, creating celebrities, and providing a globally networked stage for individuals and organizations. Due to its globally available platform and the features of visual language, video messages from non-English speaking countries also enjoy the

opportunity to attract the worldwide attention. For example, the music video Gangnam Style, from a South Korean signer PSY, has been viewed more than 1.48 billion times as of March 2012 (see Gangnam Style's YouTube page, 2012) and become the most viewed video online. For another example, one Taiwanese pop song, Bobee, also got wider global reach due to its popularity on YouTube (CNN, 2011). Overcoming the language barriers and geographic limitation, these pop songs come to be a global cultural phenomenon. Not only the pop culture products, the regional user-generated content also received international interests. For example, the Bus Uncle, a six-minute Cantonese video clip of a heated quarrel between two men aboard a bus, was the most viewed video in May 2006 and caused a cultural sensation in East Asia (Guardian., 2006). However, none of these viral videos that later became the global web or cultural phenomena was from Mainland China, where reside 538 million Internet users (Internet World Stats, 2012).

Why is that? One possible reason would be the fact that such worldwide popular video-sharing based social media, like YouTube, and other social networking sites (SNSs), such as Facebook and Twitter, are not available to Chinese users, due to the Internet censorship, which blocked more than 18,000 websites in Mainland China (Zittrain & Edelman, 2003). Much research have devoted to Internet censorship as a global issue as well as Internet censorship in China (Bamman, O'Connor, & Smith, 2012; MacKinnon, 2009, 2012). Bamman, O'Connor, and Smith (2012) noticed that previous work suggested four dimensions of Internet censorship in China: network filtering, search filtering, chat censorship, and blog censorship. Among these four dimensions, network filtering based

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on IP and DNS filtering are usually referred to as the Great Firewall (GFW) that prevents Internet users in Mainland China from connecting to certain websites. Therefore, even though one Chinese TV singing competition show could easily receive more than 5 million views within one day online (see I Am a Singer's Youku page, 2013), due to inaccessibility of YouTube, video clips from China usually do not reach out globally, let alone receive international attention.

Internet censorship, particularly the GFW, has long been a controversial issue in the application of Information and Communication Technology (ICT). Individuals upholding the policy maintain that it helps to unify ideology and stabilize the society (Krochmal, 1998), while users against it assert that censorship deprives them of the freedom of expression and the right to acquire online information (Zhou, 2008). To cope with the Internet block and obtain the online resources needed, there are a great number of Web users who resort to various types of software and applications to bypass China's GFW (Interactive Intelligence., 2008; Mathieson, 2006; Shi, 2010) so as to be exposed again to a great deal of knowledge and information from the blocked foreign websites, and benefit from the latest ICT.

Stimulated by the significance of ICT development in the digital age, Internet censorship and the GFW scaling in China have received a lot of research interests. Prior studies have paid attention to how network filtering prevents access to online information in China (MacKinnon, 2012), how censorship is conducted on blogging platform (MacKinnon, 2009), and how deletion based on key terms filtering is practiced on Chinese social media (Bamman, O'Connor, & Smith, 2012). With previous research mainly focusing on how Chinese Web users' online behaviors were passively affected by the Internet censorship from the censorship mechanism perspective, how Chinese Web users actively manage to bypass the restriction on their Internet access has been insufficiently studied. Given the importance of Internet censorship, some important questions arise: who are they? Why do they bypass the GFW? Do they bypass the GFW for the sake of Internet freedom or some other concerns? And what are their motivations for bypassing the Internet censorship? On the other side, due to copyrights and licensing concerns, most of the movies, TV shows, and video clips involving possible copyrights and license issues on Chinese content-sharing social media are also blocked to international IP addresses. It seemed that the GFW not only prevents Chinese Web users from having free access to online information in China, but also stops Internet users who reside outside China from enjoying an open cyberspace. To copy with such a situation, some Chinese Web users who travel or reside outside China utilize various types of software and online applications to circumvent the network filtering to enjoy the needed resources again as they were in China. The interesting phenomenon leads to some more questions: Why do this group of Chinese Web users put extra efforts to get access to the information and content that are only provided within China? What are their motivations for bypassing the GFW outside China? This study thus aims to advance the existing knowledge on Internet censorship by investigating Chinese Web users' active online behavior of bypassing the GFW on an individual level, as well as underlying motivations driving their online media consumption as it relates to bypassing the censorship.

2. Literature review

2.1. Internet censorship and the great firewall

GFW, technically speaking, operates in part through "inspecting TCP [Transmission Control Protocol] packets for keywords that are to be blocked" (Clayton, Murdoch, & Watson, 2006, p. 20). It is a massive, sophistically national censorship system using a number of techniques—including Internet address and DNS (domain name system) tampering, IP address blocking, Web site blocking, keyword filtering, network sniffer, and encryption forbidding—which automatically control and block the stream of online communication both entering and leaving China (Congressional-Executive Commission on China, 2002; Eko, Kumar, & Yao, 2011). Because of the GFW, a wide range of world-renowned websites that are under the government's restrictions and are not available to Internet users in Mainland China, including YouTube, Facebook, Twitter, Flickr, Blogspot, etc., which the public regard as harmless to government and sources for information (Eko et al., 2011; French, 2008).

Iran, Cuba, and China received the lowest scores on Internet freedom in the analysis by Freedom House (2012). China, home to the world's largest population of Internet users, has the most advanced system of controls, which has become even increasingly restrictive (French, 2008; Li, 2012). Email and Website requests are monitored; any piece with offending words such as "Taiwan independence" and "democracy" could be pulled aside and trashed (Einhorn & Elgin, 2006). According to the OpenNet Initiative (2009), a wide range of web sites containing some political or social sensitive content – such as Tibet, Taiwan independence, and pieces criticizing the authority – are blocked. Topics concerning "freedom" are barred from being posted as well (Einhorn & Elgin, 2006).

2.2. Anti-censorship and firewall bypassing

Chinese online surfers who are in need of the information (Shi, 2010), social network and entertainment, which are blocked by the GFW, gained mounting resentment and initiated an anti-censorship, also referred to as anti-blocking or anti-jamming, in several forms. A primary one is the increasingly user-friendly GFW-scaling tools, which enable millions of Chinese Internet users, who do not need to be technically savvy, to "bypass the firewall" using virtual private network (VPN) which redirects the traffic through an external server. Only in this way can these users get access to the blocked websites and restricted resources (French, 2008; Interactive Intelligence, 2008). The number of firewall-scaling Web users is four times as many as that in last year, with the average daily hits to the anti-censorship system being 194.4 million (Zhou, 2008).

Not only Chinese Internet users, but also foreign Internet users have been bypassing the GFW, especially during the Beijing Olympic Games, when international journalists were annoyed by the restriction on Internet access despite the earlier promises by Chinese officials (Interactive Intelligence, 2008). Such GFW scaling behaviors were justified by Deibert (2010), who maintained that a worldwide movement of citizens and policy-makes is needed to "protect the Internet as an open global source of information" (n.p.).

Since a large proportion of Chinese and foreign Internet users have been scaling the GFW by using various tools and applications, the government fought back by further beefing up its cyberwall and tightening the Internet controls (Freedom House, 2012; French, 2008; Li, 2012). In addition, China's tightening censorship fostered a backlash, since many Internet users who are previously not interested in politics have become more active in resisting the controls and choosing to protest (French, 2008). Therefore, the censorship and anti-censorship became an "arms race" in their tug-of-war for the reason that whenever the one party wants to censor, another party would resort to technology to get around it, then the censoring party would find a more sophisticated GFW to block the technological device, which triggers another bout.