

Development of a University of Virginia Library Accessibility Chrome Extension

(Technical Paper)

Social Media as a tool of Resistance and Control in the People's Republic of China

(STS Paper)

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On my honor as a University Student, I have neither given nor received
unauthorized aid on this assignment as defined by the Honor Guidelines
for Thesis-Related Assignments

Introduction

In the last decade, few technical achievements have eclipsed the development of social media and E-commerce. Every day, consumers search for products on Amazon, with over 100 million prime members in the U.S. alone, or communicate with friends over Facebook Messenger in ways that did not exist only twenty years ago (Reisinger, 2019). These revolutionary technologies have altered the way that consumers interact with each other, the products that we buy, the content that we consume, the manner in which we engage in political discourse, and our access to information.

Academic researchers, students, and the general public once solely acquired credible content from books and videos kept in the public library. However, as our access to digital content has rapidly increased, our ability to access reliable information from physical libraries has, to some extent, been outpaced by the convenience of online access from sites like amazon.com or barnesandnoble.com. The convenience of online shopping has resulted in students and researchers paying for content from websites when they already have free access to the same content through their university system as can be seen in falling rates of digital reference questions at University Library Systems (University of Virginia Library, 2017). To rectify this issue, our capstone team is developing a Google Chrome Browser plugin which will recommend the access of digitally available free content from the UVA Library system in place of purchase from online retailers. The development of the plugin will allow customers to perform research and access public content from the convenience of their digital devices or through the physical library without having to spend money.

Similarly, access to digital content in the People's Republic of China has been used by both the government and resistance groups as a way to consolidate and disseminate their own

power. Access to the internet and Social Media through government influenced services like WeChat, Weibo, and Baidu has given the people of China access to communication over the internet but also a tool for the government to censor and control the flow of information. However, political, religious, and ethnic groups like the residents of Hong Kong, Uyghurs, the Hui, and Tibetans have all used these same services as a form of resistance against the central government (Friedrichs, 2017). Social Media is an incredibly powerful tool for both the government and for minority groups resisting the government.

Technical Topic

At the University of Virginia, a wide range of resources are available to both members of the library system and guests, yet knowledge of these resources is still limited for many. The UVA library system accesses a multitude of physical and online resources including books, movies, and other databases. However, researchers and casual users alike often seek out some of these same resources through more convenient online methods of access through sites like Amazon, Google Scholar, or Netflix. The convenience of online shopping may be one of the reasons that library usage is down as is seen in a University of Virginia Library Statistics Report published in 2017, where the total number of people using the library has reduced from 104,280 in 2010 to 72,938 in 2017 (University of Virginia Library, 2017). Consumers looking to find the same library content online may often pay a fee for the convenience that is provided to them by accessing material that they already have access to for free from the library. To solve this problem, our team is developing a Google Chrome browser plugin which recommends items from the UVA library system whenever an item is searched that the UVA library may have access to in its system. This plugin, developed largely in client-side JavaScript, will be fully available on the Chrome Web Store for use by researchers and the greater public.

There are many benefits to the development of our application in regards to the solution of this problem and in the case of future development. The development of a plugin for the most popular web browser on the internet that will auto appear on search will make access to UVA library resources highly convenient (“Browser Market Share”, 2019, “Browser Market Share Worldwide”, 2019). In addition, providing the ability to login and access digital resources directly from the plugin will make the plugin even more convenient. By providing access to free resources through member accounts, and some free resources for the public, it would save many users the potential cost of paying for a product on a site like Amazon. Through ease of access and free content, our plugin would both save users time and the costs of accessing these resources through other methods.

In addition to casual users, academic researchers will benefit greatly from the institution of such a proposed tool. For Example, Students and Researchers at the University of Virginia would sometimes go to the library just to discover that either the material was either not at the library or not in the library system. Students and Researchers would then have to wait for it to become available, request an inter-library loan (ILL), or submit a purchase request for access to the materials that they would like for their research. With the addition of a Google Chrome plugin, a researcher will be able to see the availability of an item at the library through their web browser and potentially request an ILL or purchase request. The Google Chrome plugin will save researchers time because they will not have to go to the library to check availability and request ILL.

STS Topic

Social Media usage in the People’s Republic of China is an important tool with which the government wishes to use to censor and control its population, including resistance groups who

use social media to spread information about their causes and instill change. The ability of the Party to control information through the internet has taken form through censorship, propaganda, and indirect support for grassroots nationalism (Chen, 2019). However, micro-bloggers in 2010 began to use the Chinese site, Weibo, to release stories and images of resistance against the government as was shown in the Yihuang Incident where three villagers set themselves on fire in protest to the destruction of their family home by the government (Lam, 2018). The government struggled to control these micro-blogs and social media continues to act as a tool of protest by minority groups within the Chinese state. By performing research into how effective Social Media is as a tool of resistance and control, researchers can gain further knowledge as citizens of any government as to how to best conduct political discourse without the undue intervention of the state.

Social Media has become the lifeline of opposition groups due to the physical power of the Chinese government and their ability to control official information (Clothey & Koku, 2017). Informed citizens rely on Social Media for information published by citizens but the vice grip of the government has begun to close around older forms of social media like the aforementioned micro-blogging. The Chinese government recognizes the importance of maintaining Social Media along party lines and have rapidly increased their presence on sites like Weibo since 2010 (Kent, 2018). These sites provide evidence of the ways that these two forces have clashed and by analyzing the competition that has occurred over the past two decades, researchers can gain a better idea of what have and have not been effective tactics by both sides in maintaining control of cyber space. Aside from resistance on Chinese sites, digital protest on the internet from outside of China can also be analyzed as a form of resistance (Vergani & Zuev, 2011).

The STS theory best used to examine this particular topic is Co-Production. Co-production is the means with which both society and technology influence and reconfigure each other in rapid succession to advance each other in novel ways (Jasanoff, 2010). Co-production is a particularly useful framework in this case because it matches perfectly with the way in which the three main actors have evolved Chinese society itself. The Government, Minority Groups, and Social Media as a technology have all shaped the way in which they interact with each other with each body acting and then reacting to policy decisions. Although some scientists have argued that the theory of co-production is not applicable to certain disciplines, the analysis of digital technology and its participation in information spread and politics fits with better than with some of the other physical sciences (Hackett, 2008). The criticisms of co-production are essentially void for the case studied here because the speed at which technology and society in China are developing together makes the application of other similar STS theories far less useful than co-production. By using co-production, the analysis of digital culture as a political tool can be furthered.

Research Question and Methods

How effective is Social Media usage among persecuted groups in Modern China, and how effective is the Government at controlling the propagation of anti-state material through these digital platforms? To address this topic, I will be using documentary research methods, discourse analysis, and policy analysis. By using documentary research methods, I will be able to discuss the academic literature in regards to these groups particularly in the case of some sociological studies which have been conducted and would be outside of the scope of this product. For example, by looking at studies on how social media influences democratic participation and mental health in Hong Kong will allow the STS research in this paper to be

more grounded in the way that we affect social media and the way that it affects us (Chen et. al., 2016, Lau et. al., 2016). Given that this research will be looking at the intricacies of social media, the analysis of public discourse will be extremely important. In the case of the Uyghurs, and Hong Kong, social media in the form of microblogging, Weibo posts, WeChat messaging, LIHKG posts, internal internet sites, YouTube videos, and Reddit posts have been incredibly powerful tools among the government and these cultural groups (Culpepper, 2012, Chan, 2018). The final research tool to be considered will be a policy analysis of the way that the Communist Party of China manages policy in regards to social media usage. By looking at the influence of PRC technology surveillance techniques as well as official communiques and speeches, a better idea of how the government operates in regards to minority groups over social media can be developed (Qing et. al. 2017, Lam, 2018).

Conclusion

The ability to access information is of critical importance to societies in both the United States, and China. In the United States, large corporations provide paid content through digital streaming and access although content is often inconveniently but freely located at public libraries. In China, the government prevents the circulation and access of political protest and those that use social media to spread this information have difficulty in finding effective strategies. By constructing a Chrome Browser Plugin, members of the public and those associated with the University of Virginia will have much more convenient access to free information and materials. By analyzing Social Media and interactions with Social Media in the People's Republic of China, strategies for more effective Social Media usage could be developed by oppressed groups. These outcomes will add to the ability for the individual to have greater

access to educational content and free themselves from the digital oppression brought on them by tyrannical governments and expensive corporate entities.

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