Evaluating Journalistic Practices on Twitter Using Network Analysis

SCS Senior Honors Thesis Proposal
Joyce Wang (xinyiw), advised by Professor Kathleen M. Carley

Abstract

Social media platforms such as Twitter have transformed journalism by providing an enormous and dynamic new ground for distributing information. Emerging mechanisms for social interactions motivate organizations and individual journalists to update their practices, causing fundamental shifts in the way the general public access new information and form opinions. With the goal of providing a new scientific perspective to answer the question, *"What is good journalism?"*, this work will explore the use of network analysis techniques to characterize the strategies and readership of news accounts on Twitter. This work will also apply the techniques on a few examples of state media accounts on Twitter, to learn whether these techniques offer us new insights on patterns in their journalistic practices.

Research Problem

Journalism has gone through paradigm shifts since the birth of social media. Digital platforms such as Twitter enlarge the influence of individual voices and motivate traditional press to constantly update their strategies and business models. It has been a growing topic of concern in recent years that we as a global community are yet to fully understand the new social order under social media-based journalism. To ensure a healthy landscape of information exchange, it is crucial for journalists, news organizations, and the general public to develop an accurate and comprehensive awareness of the social impact that different journalistic practices bring about. Such an awareness would allow journalists and news organizations to make more informed decisions and be truly accounatble for their online activities. It would also help readers be more attentive and critical when choosing their sources of information and engage more effectively in public discourse.

In this research project, I intend to explore new techniques from a network perspective to evaluate journalistic practices and their impact on social media communities. Drawing from social science theories, existing research on social media, network analysis techniques, and computational tools, I plan to develop a profiling scheme to describe and categorize journalism accounts on Twitter. The focus on network analysis is motivated by the intuition that readership is a unique yet elusive aspect of social media-based journalism, and readership can be reflected by the community network around the account in question. The product of research—a new profiling scheme—would highlight relationships between journalistic practices and readership, and provide useful insights to people in and outside of the field of journalism who use social media as a platform for news.

Using the to-be-developed profiling scheme, I plan to conduct case studies to test its value and to hopefully unravel new insights into the journalistic practices of state media. *People's Daily*, China's state-owned media, was a prime source of inspiration of this research project. It has 4.35M followers and the content it posts ranges from breaking news to cooking videos. I was intrigued by the fact that China's state media has a Twitter account at all, considering none of the Chinese citizens supposedly have access to the social media website. During the course of this research, I am curious to see whether we are able to develop a framework that can characterize online strategies of People's Daily, explain its sphere of influence on Twitter, and compare these evaluations against other news accounts.

With this research project, I intend to contribute new scientific methods to understand and cultivate a more sustainable landscape for digital journalism. A new framework for understanding journalistic practices would help promote media literacy—the skillset that allows "critical engagement with messages produced by the media" [13]. It would also provide a scientific perspective for debates on ethical and policy issues related to social media. The growing influence of social media-based journalism has engendered various sociopolitical issues, which demands attention from citizens and lawmakers. Helping journalists produce more responsible and critical work, and enpowering our community to be conscientious participants of public discourse, are the ultimate missions of this work.

Research Plan

Background readings
This work is inherently interdisciplinary, continuing lines of inquiry across computer science and the social sciences. The background readings are divided into four categories with overlaps in between. The first category is **studies on Twitter**, from which I hope to learn about Twitter as a distinct program of study with its own set of frameworks and methods. It will also help me find existing datasets or collect/annotate new datasets. The second category is **network analysis**, from which I would learn about the existing techniques for understanding online communities. The third and four categories are **media literacy** and **journalism and social media**, which would help me gain background knowledge and intuitions for experimentations.

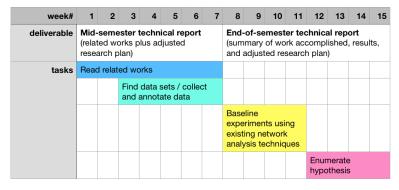Here are a few *example* sources under each categories.
I.   **Studies on Twitter**: Tolmie et al. [15] examines Twitter as a social phenomenon and establishes a framework treating Twitter-based studies as an independent program, distinct from conversation analysis. This work also offers a comprehensive overview of existing literature on Twitter, which would serve as an initial pointer for further readings.
II. **Network analysis**: Social Network Change Detection (2008), Mining Online Communities to Inform Strategic Messaging: Practical Methods to Identify Community Level Insights (2018), Twitter Usage in Indonesia (2015), Topic Modeling in Large Scale Social Network Data (2015), etc.
III. **Media literacy**: The Promises, Challenges, and Futures of Media Literacy (2018), Searching for Alternative Facts: Analyzing Scriptural Inference in Conservative News Practices (2018), Presenting diverse political opinions: How and how much (2010), The promise and peril of real-time corrections to political misperceptions (2013), The Fox News Effect: Media Bias and Voting (2006), etc.
IV. **Journalism and social media**: *Young people and the future of news: social media and the rise of connective journalism* (2017), Social media, journalism and the public (2013), *Journalism and media convergence* (2013), Internet Politics and State Media Control: Candidate Weblogs in Malaysia. *Sociological Perspectives* (2011), *After the propaganda state: media, politics, and "thought work" in reformed China* (1999), etc.

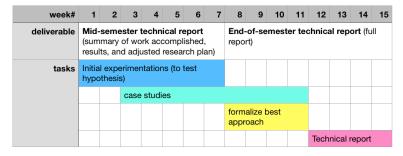**Contribution and expected results**
This work will contribute a technical report that details the process of my experimentations. It will include a description of the data-collection and annotation process in preparation for the experimentations. It will also describe the product of experimentations: a flexible framework of network analysis that characterizes Twitter accounts which serve journalistic functions. In addition, this work will contribute the results of case studies, where the newly developed framework is applied on sample Twitter accounts (e.g., state media accounts, news accounts in democratic nations, and individual journalist accounts). There will be an evaluation of the results and a discussion for future experimentations.

The expected result of the experiments would be that the profiling scheme is able to generate *distinct* profiles when comparing state media accounts against news accounts in democratic nations.

Timeline (see next page)

Fall 2018

week#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
deliverable	**Mid-semester technical report** (related works plus adjusted research plan)							**End-of-semester technical report** (summary of work accomplished, results, and adjusted research plan)							
tasks	Read related works														
			Find data sets / collect and annotate data												
								Baseline experiments using existing network analysis techniques							
												Enumerate hypothesis			

Spring 2019

week#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
deliverable	**Mid-semester technical report** (summary of work accomplished, results, and adjusted research plan)							**End-of-semester technical report** (full report)							
tasks	Initial experimentations (to test hypothesis)														
			case studies												
								formalize best approach							
												Technical report			

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15. Peter Tolmie, Rob Procter, Mark Rouncefield, Maria Liakata, Arkaitz Zubiaga. 2018. Microblog Analysis as a Program of Work. *ACM Transactions on Social Computing*.