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METHODOLOGICAL CONSIDERATIONS IN TRACING USER KNOWLEDGE OF INFORMATION FLOWS ON SOCIAL MEDIA SITES

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Introduction

Following a number of recent examples of where social media users have been confronted by information flows that did not match their understandings and expectations—such as in the wake of the “Facebook contagion” study (Kramer, Guillory, & Hancock, 2014) [original study], (Chambers, 2014) [explanation of the controversy]—there is a pressing need to better articulate the public’s beliefs about these systems, how these beliefs line up against the extant flows of these systems, and to better understand the factors that may be influencing the construction of those beliefs. One way of doing this is by tracing gaps in users’ understandings of information flows against the “reality” of information flows, and to contextualize this comparison with analysis of how the organizations purveying these technologies present, describe, and selectively position information flows to users. Such triangulation can make visible the antecedent factors that impact the construction of beliefs about these systems that ultimately inform decision making. The need for this kind of critical inquiry is pressing because, as social media sites become further entrenched as dominant vehicles for communication, knowledge and beliefs regarding these technologies will play an ever increasing role in users’ abilities to understand information filtering bias on social media, gauge the risks for information disclosure, make meaningful decisions about use and how to protect their privacy, participate in conversations around how information flows in these spaces should be governed, and ultimately, these beliefs and sets of knowledge help shape users’ power relative to these systems.

In the hopes of filling such a need, my dissertation project “Informational Power on Twitter: A Mixed- Methods Exploration of User Knowledge and Technological Discourse about Information Flows,” investigates user knowledge about Twitter, Twitter’s own organizational discourse, and theorizes how gaps between construed understandings and extant information flows can impact individual power. This mixed-methods project relies on the quantitative analysis of data gathered from a web-based survey designed to probe user knowledge of different aspects of information flows on Twitter, on a discourse analysis of Twitter’s messaging to users, and on a technical review of the

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structures that constitute information flows on the platform. Though the analysis is still ongoing, early results suggest that while hashtags, @replies, following, and some of Twitter's revenue generation models such as promoted tweets and trends are well understood by users, facets of information flows such as the fact that not all users see the same trending topics, the fact that Twitter sells access to the "firehose" of real-time tweets, the fact that certain kinds of profile information about users with "protected" accounts is still publicly accessible, and the fact that all public tweets are given by Twitter to the Library of Congress are poorly understood. These findings may come as less than surprising, however, when considering Twitter's overall messaging to users. This messaging consistently focuses on the value for users of engaging in conversation, in the value of experiencing and engaging the current, and how the features and affordances of Twitter further such ends. What happens to tweets beyond the immediate moment and how tweets are leveraged to generate revenue is not as frequently a mainstay of Twitter's own discourse.

Opportunities and Challenges

The point of this position paper is not to discuss the results of this research, but rather to discuss the opportunities and challenges inherent in such a mixed-method approach to understanding and contextualizing user-knowledge, with an eye towards implications for the study of implications for users. First, I am not arguing for mixed-methods approaches to the exclusion of purely qualitative and quantitative work. Instead, a mixed-methods approach is an attractive accompaniment to these more traditional approaches in that it can offer a pragmatic way of linking findings from the two to create a richer end-product (Johnson & Onwuegbuzie, 2004). Unfortunately though, the practical implementation of a mixed-method approach for tracing user knowledge about information flows on social media, the discourse about information flows that social media purveyors generate, and the extant information flows on social media is fraught with a number of hurdles.

First, "information flows on social media" are complex phenomena involving the intermingling of social and technical elements. Researchers need an analytical model/method that can facilitate the deconstruction of information flows on a given platform and that can operate at different levels of abstraction. Further, researchers must be able to address how such a model inherently draws boundaries that constitute an inside and outside to the system; boundaries which may be arbitrary or artificial constructions. In my own experience, the analytical framework found in van Dijck's (2013) critical history of social media, *The Culture of Connectivity* has been a useful tool for deconstructing information flows on Twitter. While this framework does not provide an account of every single piece of the sociotechnical system that makes up a social media site, it does serve as a practical toolkit for identifying and breaking apart some of the salient, yet interconnected components of social media platforms such as data and metadata structures, algorithms, protocols, defaults, informational content, users, business models, platform ownership, and governance practices. This framework facilitates articulating how information flows are constituted through technical architecture, while at the same time helping to unpack the more social and political-economic bases of information flows. Here, however, there is also another challenge: much of the inner-workings of social media platforms may be less than transparent

(particularly aspects such as third-party data-sharing agreements). As a result, creating a picture of information flows on a given platform requires not just exploring user-interfaces, but also examining application programming interfaces, documentation for developers and business partners, financial filings, and industry analysis, among other sources. In addition, when giving a descriptive account of these elements, it is also important to identify the relative transparency of each component of the information flows relative to users, particularly for those elements that may be murky and opaque as a function of design.

Second, while attention has (justly) been given to users' understandings and (frequently, lack of) reading of terms of service and privacy policies (Fuchs, 2009; Reidenberg et al., 2014), relatively less attention has been given to what might be called more casual organizational language use. The businesses that operate social media sites often deploy a variety of persuasive arguments on subjects such as how information flows through a platform, the value generated for users by certain information flows, and the kinds of informational experiences that can be gained through use. This language is important because, like all technological discourse, it can be a significant part of how a tool becomes part of our "systems of goals, values, and meaning, part of our articulated interests, struggles, and activities" (Bazerman, 1998, p. 386). Further, as policy documents are often written in legal language that necessitates a higher level of education to comprehend, this more casual language may potentially have a stronger shaping influence as it is more immediately digestible. While this language can take on easily identifiable forms such as instructive messaging to users on websites or tutorials for new users, it can also take on forms such as media interviews with organizational founders and leaders, keynotes by notable employees at highly visible conferences, commercials, and op-eds in the press. Tracing these multiple kinds of expression can help uncover how organizational rhetoric and discourse operates through multiple communication genres, influencing the mental models and expectations of current users and the audience who has not yet made the decision to adopt a given technology. In looking across these forms, researchers can probe how perceptions of information flows are shaped inside and outside of the .com.

Third, researchers interested in users' beliefs about social media must give careful attention to how they assess user knowledge of information flows. While scholars such as Fuchs (2009) have deployed surveys that ask respondents to identify whether particular statements about surveillance practices on social media site are correct or incorrect, some nuance is lost when respondents are left to make guesses when they are uncertain. Instead, I suggest that uncertainty and ambiguity in user knowledge is a valuable area to probe when it comes to understandings of social media, particularly in light of the fact that many of the components that constitute information flows on social media are less than transparent. Tracing the relationship and overlap between ambiguity or uncertainty in knowledge, "murkiness" in the technical transparency of information flow, and absence in organizational discourse can provide a powerful means for exploring the constitution of vague understanding.

Fourth and finally, one of the significant challenges of a mixed-method approach can be in project timing. Although it may seem administrative to close on such a note, one of the potential challenges of studying social media systems is that design elements,

protocols, algorithms, data structures, ownership, etc. can change quickly. As a result, a snapshot of the information flows of a social media system may be valid for a particular window of time, and aligning the “windows” associated with a reading of information flows, discourse, and user-knowledge can be tricky. One way of potentially combating this issue is through careful project planning, collaboration among multiple researchers, and in directly acknowledging the temporally bounded nature of the work. Conversely, one benefit of this kind of approach is that it does offer the opportunity for more longitudinally oriented projects.

Conclusion

While all of these elements pose potential challenges, the reward for such an endeavor is a more nuanced picture of what the understandings and beliefs about these systems are and the factors that can influence their construction. Such an articulation may be of importance for social media researchers seeking to understand how behaviors and expectations develop. Particularly for more critically focused work, this kind of approach can be complementary to much existing work.

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