Chapter 15

Visualizing Social Network Influence: Measurement and Case Studies

Jeremy Harris Lipschultz
University of Nebraska at Omaha, USA

ABSTRACT

Billions of social media users communicate via Web and mobile platforms. A variety of measurement tools may be used to advance research methodologies in the study of computer-mediated communication (CMC). Social networking sites (SNS), such as Twitter, allow researchers to conduct exploratory data scraping and create visual mapping of possible relationships between social network accounts. The nature of the visualization depends upon the number of accounts within the social network, the amount of communication activity, the direction of specific communication, the amplification of messages across the network and other factors. A major challenge of this research method is disclosure and verification of individuals operating online identities. Additionally, most free research tools fail to disclose algorithms for generating scores and ranks. The purpose of this chapter is to explain how individual position, or centrality, is one reflection among many in the measurement of social network influence.

INTRODUCTION

The study of personal influence has played a central role in development of communication theory, methodology, and research. Katz (1971), for example, explored a two-step flow that tracked diffusion of messages across time, communication channels, and social structure. In a traditional agricultural community, for example, word-of-mouth (WOM) was more influential in learning about new ideas and practices than use of the mail or media, yet colleagues were “increasingly important as later sources which come to add information and to exert influence” (p. 783). Proximity, therefore, may be an important communication variable then and now. In a social media context, this process may reveal important aspects about online influence.

Global SNS platforms are rapidly growing in terms of numbers of users and accounts, even though data suggest large numbers of accounts exist but are not used. Still, the billions of users imply importance
of communication across these channels. From Facebook, Twitter, LinkedIn, and Pinterest to mobile apps, such as Instagram, Snapchat and Vine, these networks exist within the larger context of social media communication (Lipschultz, 2015). “Social media interfaces engage us through interactivity and the appearance of co-presence, community, and, in the end, the appearance of social connection” (Hunsinger & Senft, 2014, p. 9). Our online interactivity, then, involves hardware and software connections that may blur human cognition about reality.

**Social Media in Business**

Baer (2013) focuses on three facets of SNS use for social business: self-serve information, radical transparency, and real-time relevancy:

*With marketing of this type, your success is scenario-specific, which is why it’s so critical to be truly, inherently useful. If you are, your audience will keep your marketing close... You don’t have to be “found” – at least not after initial discovery – because your customers and prospects already know where you are and what you offer. When they need you, they’ll engage* (pp. 92-93).

Vaynerchuk (2013) similarly emphasizes the need to be native to a particular social media platform:

*Twitter speaks to an iconic, urban audience that loves hashtags. An earnest post like “We love our customers!” would probably be soundly ignored. It sounds funny here, and yet posts like these are everywhere, proving that most brands are ignorant about what is native to a platform* (p. 17).

From a social marketing perspective, consumer data tracking may be incomplete, yet valuable in targeting consumer demand (Kaye, 2014). Albarran (2013), addressing social media influence on business, admits there are many questions: “We have a far from complete understanding of the social media industries, no doubt due in part to the nascent stage of development” (p. 232). Given the rate of change, it should not be shocking to find social and legal conflict. Stewart (2013) identified social media cases covering free speech, defamation, privacy, intellectual property, commercial speech, information and leaks, student speech, obscenity, use in courtrooms, journalist policies, and advertising and public relations. Global social media may create legal risks, as well as the potential blurring of private and public life (Mcnamara, 2014).

For journalists, broadcasters, public relations practitioners, advertisers and marketers social networks offer new tools for reaching audience members. At the same time, social networks have activated some audience members to interact with each other, traditional media and organizational representatives. This chapter will explain the growing interest in social network visualization and the movement toward real-time data analysis to inform social media engagement, influence and trust.

**General Issues of Social Media Measurement**

Measurement of social media rests upon general principles of social research methodologies, search engine optimization (SEO), and new tools to explore user behavior within social networks. From the early years of the Internet, social researchers explored credibility of authorship, sponsorship, point of view, references, verifiability, and currency (McBurney, 2001, pp. 36-37). Fundamental research principles