



# **Is that all there is? A literature review and potential approach to measuring influence in social media**

---

Sean Williams  
Kent State University  
Swill106@kent.edu  
Communication AMMO, Inc.  
216-333-1615  
[Sean@CommunicationAMMO.com](mailto:Sean@CommunicationAMMO.com)

The Institute of Public Relations awarded this paper a “Top 3 Competition Paper of Practical Significance” at the 16<sup>th</sup> International PR Research Conference (2013).

## **Abstract:**

This research-in-progress seeks to uncover a deeper understanding of how influence works online, and how we might measure influence beyond the outputs and outtakes. In this literature review, several salient themes emerge:

- Influence explained via social impact and opinion leadership
- Mixed results on both accounts
- Influence applied by a group on its individual members
- By and large, literature supports this principle
- Social identification with the group leads to being influenced by its members
- Influence as a consequence of position in a social network
- Two researchers did the same experiment and got different results. One study finds that influence rises according to position, but influence wanes as the scale of the network increases

## Introduction

If the corporate communication and marketing industry has a *bête noire*, it surely is how to measure influence, particularly in the online world. The use of social media in public relations, and in marketing, depends on figuring out who influences whom. Blogger and public relations practitioner Justin Goldsborough and his commenters consider the issue potentially unresolvable (Goldsborough 2011). Trade press and self-described experts offer facile, conflicting, and self-promoting methods of influence measurement that lack a serious research base. For example, witness the success of companies like Vitruve and Altimeter (Williams 2010), and Klout, which styles itself as the standard on influence despite significant criticism from practitioners (Paine 2012, Gilliat 2012). Vitruve assigned the value of a Facebook fan (now called a “like”) based on a series of arbitrary figures. Altimeter sought to prove a correlation between revenue or stock price and social media activity, never considering that successful organizations might invest more in social media than their less successful counterparts.

Reaching back to the mid-twentieth century, we have tried to understand the process and power of influence in context of communication effectiveness. Lasswell even has a maxim that should be familiar to anyone in the business of communication: “who says what to whom in what channel with what effect?” (Lasswell, 1948). In the first 50 years of mass communication scholarship, practitioners struggled to understand this basic mechanism of influence, person-to-person and many-to-few.

I have been thinking about online influence for some time (Williams 2011, Williams 2010) and am becoming convinced that the path to effectively measuring influence lies in two parts: first, better understanding the nature of how influence works interpersonally and in groups, and second, approaching measurement from a qualitative rather than quantitative angle. In this paper, I review a selection of current literature, then propose a possible approach to developing a qualitative process of measuring online influence.

## Literature Review

This section is organized according to these principles:

1. Influence concerning social impact and opinion leadership.
2. Influence applied by a group on its individual members, to include the impact of homophily.
3. Influence as a consequence of position within a social network.

### *Social impact and opinion leadership*

From the literature, it is clear that influence can emerge as a consequence of scale, proximity, or importance to the receiver, what Latané calls social impact; or by virtue of the authority expressed by the sender.

Latané (1981) defined a theory of social impact based on the product of social forces, which he defines thus:

- strength, “the salience, power, importance, or intensity of a given source to the target;”
- immediacy, “closeness in space or time and absence of intervening barriers or filters,” and
- number of sources, “how many people there are.” (p. 344)

The interaction of these forces brings about impact, for which Latané offers an equation that in essence says that the amount of impact someone experiences will depend on some power,  $t$ , of the number of sources  $N$ . However, he adds a counterproposition—that in certain circumstances, such as when the number of receivers is too large, this scale works against the sender, diminishing his or her influence on the receivers (Latané, 1981).

Latané points to years of experiment showing that we are influenced by others, and says that increases in “strength, immediacy, and number of people who are the source of influence should lead to increases in their effect on an individual.” (p. 345) He cites an experiment from Asch (1951), who had students answer a question alone or after a series of researchers had offered incorrect answers to the question. Confronted by a consensus at odds with their own judgment, a significant number join the consensus rather than continue to defect from it. This conformity only lasts until there are three people in the consensus, at which point the influence begins to wane. These data would indicate that scale in social media as a function of influence is overrated, however accurate the model might be in describing the process of influence.

Miller and Brunner (2008) apply Latané directly to online influence, including strength and immediacy as variables and excluding number owing to the environment of their experiment. In the experiment, they create a sterile online environment where visual and auditory cues are blocked as sources of influence, and have 60 students work together on a decision-making situation. They spent a half day or so interacting, with only a numerical identifier as avatar, and were instructed to avoid posting identifying text in the discourse.

Miller and Brunner (2008) used the Wonderlic comprehensive personality profile materials to define strength as consisting of four personality traits: emotional intensity, sensitivity, assertiveness, and exaggeration, then coded these traits from transcripts of the online discourse. The number of contributions from each participant and the total number of words of those contributions became the measures of immediacy. Finally, the researchers polled participants as to who was directive, or influential (either negatively or positively), in their group tasks.

The primary findings were a mixed bag. Two of the strength factors demonstrated impact on influence: assertiveness and exaggeration. Two strength factors failed to do so: sensitivity and emotional intensity. For immediacy, the more contributions and the more total words in those contributions, the better. In both these dimensions, however, the data show a plateau in influence. Influence wanes as strength and immediacy increase, which echoes Latané (1981) and Asch (1951).

Katz and Lazarsfeld (1955) posited the “two-step flow” model of mass communication, where “opinion leaders” receive information from organizations through the news media, and send them on to less informed people with a supposed imprint of authority based on the relationship between opinion leader and end recipient. In a time when just about anyone can be perceived as an expert and have the platform to publish their opinions, whither two-step flow?

If we consider why someone might be an opinion leader, Latané’s factors make sense. Supervisors, parents, professors, and clergy hold power of different stripes over us, and few would declare otherwise. People with similar jobs or academic majors as ours, or colleagues bearing information we desire have great salience to us. A panic-stricken person imploring us to get out of a burning building does so with great intensity, as might a public speaker moving us with eloquence or fiery prose. In social media, the search for influencers and opinion leaders goes on unabated, even to the door of Google.

PageRank, which is central to Google’s search algorithm, calculates value of a page based on several factors, but mainly frequency of being linked to. PageRank is a means of establishing opinion leadership in this context, as the action of linking to a page can be construed as an endorsement of its content, and as Google is the authority for internet content, it facilitates the opinion leadership transference.

Baldwin (2009) ran down a number of possible means of measuring influence in the online Bible of social media, Mashable, articulating a mathematical model claiming that influence was a function of personal brand, times knowledge times trust squared, and extolling the virtues of Google PageRank as a marker of trusted content. Rubel (2008) said “PageRank is the ultimate way to measure online influence.” (p. 42) The reliance on the linked-to metric, however, has left PageRank open to charges of being manipulated through “Google Bombs”, which occur when someone adds words or phrases to a website to artificially inflate its ranking. (Karch, n.d., “Are there flaws in PageRank?” para. 10), and “Google Bombs” para. 1).

Trusov, Bodapati and Bucklin, (2010), tracked daily log-in data for a major social networking site, inferring that increases in daily logins indicated greater appreciation for content from across one’s site network. They examined the relationships among network members who were at the top-level, those who were connected by direct invitation and at other levels, those who were “friends of friends.” They evaluated whether content from within members of this top level caused changes to login frequency and length of stay on the site, positing that such changes are evidence of influence of the top level on the rest of the members. Further, the researchers examined whether second-tier members showed similar impact of influence on other member levels.

The results supported their belief, showing that users did influence one another both directly and indirectly, that is, the influencers’ affected duration and frequency of logging in into second and even third tiers by working through the lower tiers’ primary influencers: Allison influences Charles and also Dawn, though Allison and Dawn aren’t connected, because Dawn is connected to Charles. This supports the concept of two-step flow. If we want to reach Dawn and Charles, we target Allison as opinion leader.

But how would we measure the efficacy of that? It's a bit of a leap of faith that frequency and duration of being logged in to a social networking site would actually be a function of influence. What if it's something else, for example, shared interest, or enthusiasm for a particular piece of content?

Shinton (2012), a chemist and communication consultant to researchers and scientists, sees influence as a function of connection and relationships, offering her opinion that her Twitter feed "gives me a wide range of insights that are invaluable for my work with researchers and gives me a mechanism for sharing these...the greatest benefit has been in the development of a wider, more diverse network" (p. 1989). She claims to be influenced by her network, as well as being an influencer as an opinion leader. This would seem to support Trusov, et. al. (2010), however anecdotal the remark, and Katz and Lazarsfeld's (1955) two-step flow.

The two-step flow is not without detractors. Consultant and blogger Greg Satell in "Exploding the 'influentials' myth", (2011), writes that recent scholarship has debunked the concept of a star chamber of connected people who influence a much larger set. Satell cites the work of Yahoo!'s Duncan Watts, who famously declared that the concept of marketing to influentials was nonsense (Thompson 2008). Bakshy, Hofman, Mason and Watts (2011) conducted research on 1.6 million users of micro-blogging site Twitter encompassing 74 million tweets (the colloquial name for a posting on the web site). On Twitter, to form a network, users "follow" other users they find interesting, and get followed themselves. Posts from these followers can be forwarded on, or "retweeted" to share content with the network. The frequency of this retweeting and the number of followers a user has, creates an extended network. Bakshy, et. al. (2011) found that the most influential users were those with a large number of followers, and who were retweeted frequently in the past. This finding would seem to support two-step flow, but they note that using follower size (popularity) and frequency of being retweeted as metrics for influence might lead to incorrect targeting and less effective results. The cost of using the "most influential" users in a communication campaign is greater than the likelihood of success, suggesting instead that a wider net of less influential users would bring about a more cost-effective result.

#### *Groups, homophily, and common interest*

What role do groups play in terms of influence? Liao (2005) says that the rate of adoption of innovation is fastest when powerful individuals in the social system enact it, and slowest when it relies on collective decisions. Does this argue for groups being sources of resistance? Flanagin (2000, as cited in Liao 2005) found that social pressure was a factor in successful innovation adoption. Liao (2005) also cites Burt (1987), who found that a doctor's adoption of a new drug was predicted by whether his peers supported the same drug. The perception that your group is supportive—the extent to which your social identity is tied to the group—seems to be a marker for influence.

Drawing upon work by Dholakia, Bagozzi and Pearo (2004) on how membership in a group exerts a collective influence on the member, Okazaki (2009) fits social identity into a triad of influence producers, somewhere between desire, and social intention to perform an act, then adds other theoretical nails into his model's structure. "Social identity represents the core aspects of the individual's identification with the group. The model is completed with three

additional dimensions: (1) uses and gratifications, (2) opinion leadership and (3) inherent novelty seeking.” (Okazaki 2009, p. 445)

Okazaki also mentions Hennig-Thurau and Walsh (2004), who declared that social orientation through information and community membership were motivators for people to read material online. This links to Shinton (2012) and her use of social media to both gather information and disseminate it within her network.

The concept of joint decisions made possible by overall social identity and influenced by group dynamics is also present in Bagozzi, Dholakia and Mookerjee (2006): “Tajfel (1978) suggested that a person achieves social identity with a group through the development of awareness of one’s membership in the group together with the emotional and evaluative significance of this membership” (p. 102). If this is so, measuring the strength of identification with a group should offer insight into how the group is driving influence on its members. This is fertile ground for future research.

Interestingly, van Dijck (2012) sees online networks in thrall to commercial interests manipulating the process of forming connections, with potentially serious consequences. “The novelty of social media platforms is not that they allow for making connections, but lead to engineering connections” (p. 168). He also points out that the digital footprint, the trail of information left behind in online behavior, might be used to influence behavior online and off. We see this in fact, with websites like Facebook and LinkedIn suggesting connections based on the second tier of users – your digital friends – and context advertising based on searches. This commercial focus, van Dijck (2012) argues, replaces real influence with “attention, popularity and connectivity. In the ‘attention economy,’ attention means eyeballs and (unconscious) exposure” (p. 170) to advertising. Popularity emerges from the activities the platform seeks to prompt, rather than objective norms. The impact on influence is obvious. Practitioners currently use popularity, such as on Facebook and Twitter, as at least a partial proxy for influence, as per Klout, for example. (<http://klout.com/corp/kscore>) Are social media groups, given van Dijck’s perspective, natural outgrowths, or mere tools for commercial exploitation?

Bisgin, Agarwal and Xu (2012) undertook a study of the impact on social media of homophily, the tendency of individuals to associate and bond with similar others, using three social networks, Blog Catalog, Live Journal, and Last.fm. They were looking for evidence that similar interests would be a causal factor for the creation of online relationships. Bisgin, et.al., analyzed the user-generated tags and categories and compared across the populations on each site. They found that the creation of ties online is more random than we think. “For both the data sets, over 40% of the friendship ties were only 1% similar in their content, and over 95% of the friendship ties were less than 50% similar...Content similarity does not breed connections” (Bisgin, et.al., 2012, pp. 229-230). This supports Bagozzi (2006), Okazaki (2009), and Dholakia (2004) regarding the ways that groups do exert influence on members.

#### *Position in Social Networks*

Krebs (n.d.) explains that social network analysis categorizes participants (nodes) in a network according to their position within it. More than its individual properties, these nodes exist in terms of connections to other nodes, but moreover, in terms of the distance they would have to travel to

get to all other nodes. Kitsak, et.al. (2010) provided a more detailed (and more mathematical) explanation of this concept, using epidemiology and extrapolating to information diffusion. They found that the most efficient spreaders of the virus aren't those with the most connections, they are the ones with the most connections nearest to the core of the network. Those at the core are closer to everyone else and can reach them in fewer steps.

Add the ability to control the flow (of viruses, or information) and we discover the node capable of the greatest influence. Think of a gatekeeper—perhaps the CEO's secretary—who is one step removed from the most powerful individual in a firm. The secretary also is one step removed from the CEO's direct reports. The capacity for influence that reaches far and wide is very strong in the secretary as she is a broker between nodes and groups of nodes. Here we see the prospect for two-step flow – the secretary as main influencer and target for dissemination of information.

Borge-Holthoefer and Moreno (2011) conducted virtually the same experiment as Kitsak, et. al. (2010), using rumor spreading, with diametrically opposed results. Borge-Holthoefer and Moreno (2011) found that nodes at the core of a network were more likely to be information sinks, what they termed “firewall nodes,” (p. 1) interrupting the flow of the rumor across the network. It doesn't matter, they claim, where rumor dissemination begins, as the spreading capacity did not differ according to position in the network. Their research shows, paradoxically, that the firewall nodes invariably are at the core of the network. A strategy designed to follow Kitsak, et.al. (2010) and the two-step flow, namely, targeting the nodes at the center, would have the opposite of the intended effect (Borge-Holthoefer & Moreno 2011).

Katona, Z., Zubcsek, P., & Sarvary, M. (2011), would offer a different perspective on the example of our secretary. In their experiments on diffusion of information, they find that the potential influence of nodes grows according to the prestige of being an information broker, but decreases as more and more nodes come onto the network. The more that nodes cluster together, the more powerful the influence effect on adopting innovation, up to a certain limit. They conclude that scale is not the path to building adoption. Rather, building a very strong, interconnected network is an important path. The strongest interconnected nodes operate best at the center of the network—just as noted by Krebs (n.d.) and Kitsak, et.al. (2010), and a node's influence – whether for good or ill, plateaus at some point, as Miller and Brunner (2010) found. This finding is crucial for practitioners using social media for corporate communication purposes. As Bakshy, et. al. (2011) found, determining individual influence is unreliable, and those seemingly most influential might not offer the best chance for success.

In summary, according to the literature, opinion leadership as a marker of influence is highly variable, and group influence is inconclusive, as is the role of position in a social network, to codifying influence.

## Research Questions

Measuring influence accurately will require investigating each of the preceding three focus areas further, but especially teasing out more from the social impact theory (Latané 1981), which I believe holds much promise for the field. The demand for quantitative, predictive metrics has led

to less than optimal findings, as Miller and Brunner (2008) and several others demonstrate. A qualitative assessment would improve understanding of the fit of the social impact theory, because we need to move beyond mere observation and discover what people are thinking when it comes to influence. Therefore, I would seek to answer these questions, offered together with a hypothesis for each drawn from my understanding of the literature:

- What are appropriate online indicators of strength? Strength emerges from trust, which follows from credibility.
- What are appropriate online indicators of immediacy, and what thresholds exist that affect the perception of immediacy? Immediacy is strongly related to proximity, i.e., a friend is more immediate than the friend of a friend, and the scale of the friend network will govern the perception of immediacy.
- What are perceptions of appropriate scale in social networks? Driving for ever-larger social networks diminishes the perception of influence, while fostering stronger connections in a smaller network increases them.
- To what extent does online influence differ from offline? The result of influence differs online versus offline.

## Methodology

According to Zaltman (2003), we must better understand how customers think in order to design appropriate strategies to market to them. Moving away from the obvious and uncovering tacit knowledge through use of projective techniques is the only practical method of doing so. To that end, I would design a series of projectives for use in interviews, ethnographies and focus groups to reach behind the veil of the obvious. In the interviews and ethnographies, I would follow an outline similar to this:

- Who has influenced you the most in your life? Tell me a story about a time when you learned a lot from that person. (Seeking a lexicon of influence, possible keywords.)
- What are some of the most important things to you when deciding whether to read a book, an article online, or to seek a new job? (Seeking to get context of how the subject processes information and data.)
- When you think about the internet, what are some of the most important tasks you do there? What do you wish the internet had more of? Less of? (Seeking to understand how the subject thinks about the internet, potential angles toward influence.)
- Think about the people in your social network. What do you think motivates them? Tell me a story about them as though they are an animal... Or, here are some magazines. Make a collage that describes how that person behaves online...)

I would recruit research subjects in two ways. First, to test assumptions, I would conduct a series of pilot interviews from among my personal network. Second, I would recruit for interviews from

social networks Twitter and Facebook, aiming for a mix of practitioners, students, and academics. For ethnographies, I would recruit via my personal network, adding a snowball sampling technique to reach beyond my first level network. The method in the ethnographies would be to observe subjects as they worked online, noting their behavior and asking questions throughout. The use of projectives will be critical here to drill down on motivations and perception of impact. Focus groups fill out the menu of methods, with participants recruited in similar fashion.

## **Discussion**

Academic literature is relatively scant on the subject of online influence. It is a challenge to understand what is in someone's mind; objectively, I might have a hard time explaining why someone or some idea influences me. Why risk sinking time and effort into the topic?

I believe that the future of public relations (or, more broadly, organizational communication) depends on solving the mystery of social media influence from a much broader perspective than the current marketing focus. Much work has been done to tease out the threads of a buying decision, of which public relations certainly plays a part, but whither reputation? In marketing terms, whither brand? Even those who ascribe to the concept of integrated marketing communications (which I typically shorten by removing the word, "marketing") admit that intangibles play a significant role that is poorly understood. It is my hope that this research may in some way illuminate these issues and help build a foundation for future research.

## References

Asch, S. E. Effects of group pressure upon the modification and distortion of judgments. In H. Guetzkow (Ed.), *Groups, leadership, and men*. Pittsburgh, Pa.: Carnegie Press, 1951.

Bakshy, E., Hofman, J., Mason, W., Watts, D. (2011) Proceedings of the fourth ACM international conference on Web search and data mining. (65-74). Retrieved Nov. 2, 2012, from <http://research.yahoo.com/pub/3369>.

Bagozzi, R., Dholakia, U., & Mookerjee, A. (2006). Individual and group bases of social influence in online environments. *Media Psychology*, 8(2), 95-126. doi:10.1207/S1532785XMEP0802\_3

Baldwin, M., (2009, March 2). How to: Measure online influence [Web log post]. Retrieved April 6, 2012, from <http://mashable.com/2009/03/02/measuring-online-influence/>

Bisgin, H., Argarwal, N., & Xu, X. (2012). A study of homophily on social media. *World Wide Web*, 15(2), 213-232. DOI 10.1007/s11280-011-0143-3

Borge-Holthoefer, J., & Moreno, Y. (2011). Absence of influential spreaders in rumor dynamics. Retrieved April 6, 2012, from <http://arxiv.org/abs/1112.2239>

Dholakia, U., Bagozzi, R., & Pearo, L. (2004). A social influence model of consumer participation in network- and small-group-based virtual communities. *International Journal of Research in Marketing*, 21, pp. 241–263.

Gilliat, N. (2012, January 10). Why you can't measure influence [Web log posting]. Retrieved April 8, 2012, from <http://net-savvy.com/executive/measurement/why-you-cant-measure-influence.html>

Goldsborough, J. (2011, February 17). 8 questions to help explain influence. [Web log posting] Retrieved April 8, 2012, from <http://justincaseyouwerewondering.com/2011/02/17/8-questions-to-help-explain-influence/>

Hennig-Thurau, T., (2004). Electronic word-of-mouth: Motives for and consequences of reading customer articulations on the internet. *International Journal of Electronic Commerce* 8(2), pp. 51–74. Retrieved April 8, 2012, from <http://www.mendeley.com/download/public/2545/237670442/c8d5a2ac71a9b40df63fb9759d90c9a5476310e2/dl.pdf>

Karch, M. (n.d.). What is PageRank and how do I use it? Retrieved April 8, 2012, from <http://google.about.com/od/searchengineoptimization/a/pagerankexplain.htm>

Karch, M. (n.d.). Google Bomb. Retrieved Nov. 1, 2012, from <http://google.about.com/od/g/g/googlebombdef.htm>

Katona, Z., Zubcsek, P., & Sarvary, M. (2011). Network effects and personal influences: The diffusion of an online social network. *Journal of Marketing Research*, 48(3), 425-443. doi:10.1509/jmkr.48.3.425

Katz, E., & Lazarsfeld, P. (1955). *Personal Influence: the part played by people in the flow of mass communications*. Free Press, Glencoe, Ill. ISBN: 1412805074, 9781412805070

Kitsak, M., Gallos, L., Havlin, S., Litjeros, F., Muchnik, L., Stanley, H., & Makse, H. (2010, November ). Identifying spreaders in complex networks. *Nature Physics*, 6. DOI:

10.1038/NPHYS1746 . Retrieved April 8, 2012, from  
[http://arxiv.org/PS\\_cache/arxiv/pdf/1001/1001.5285v2.pdf](http://arxiv.org/PS_cache/arxiv/pdf/1001/1001.5285v2.pdf)

Krebs, V. (n.d.). Social network analysis, a brief introduction [Web log posting]. Retrieved April 8, 2012, from <http://www.orgnet.com/sna.html>

Laswell, Harold D. (1948). The Structure and Function of Communication in Society, in Bryson, L. (ed.) The communication of ideas. (pp. 37-51). New York: Harper.

Latané, B. (1981). The psychology of social impact. *American Psychologist*, 36(4), 343-356.  
doi:10.1037/0003-066X.36.4.343

Liao, H. (2005). Communication technology, student learning, and diffusion of innovation. *College Quarterly*, 8(2), Retrieved April 6, 2012, from <http://www.senecac.on.ca/quarterly/2005-vol08-num02-spring/liao.html>

Miller, M. and Brunner, C. (2008). Social impact in technologically-mediated communication: An examination of online influence. *Computers in Human Behavior*, 24(6), 2972-2991.  
doi:10.1016/j.chb.2008.05.004.

Okazaki, S. (2009). Social influence model and electronic word of mouth. *International Journal of Advertising*, 28(3), 439-472.

Paine, K. (2012, January 11). Klout's future gives me the creeps [Web log posting]. Retrieved April 8, 2012, from [http://kdpaine.blogs.com/kdpaines\\_pr\\_m/2012/01/klouts-future-gives-me-the-creeps-.html](http://kdpaine.blogs.com/kdpaines_pr_m/2012/01/klouts-future-gives-me-the-creeps-.html)

Rubel, Steve. (2008, November 17). Google's PageRank is best way to rate online influence. *Advertising Age*, 79(43) p. 42.

Satell, G. (2011, November 6). Exploding the influentials myth [Web log post]. Retrieved April 6, 2012 from <http://www.digitaltonto.com/2011/the-tyranny-of-influentials/>

Shinton, S. (2012). #betterconnected-a perspective on social media. *Analytical & Bioanalytical Chemistry*, 402(6), pp. 1987-1989. DOI 10.1007/s00216-011-5633-8.

Thompson, C. (2008, February). Is *The Tipping Point* toast? *Fast Company*, 122. Retrieved from <http://www.fastcompany.com/magazine/122/is-the-tipping-point-toast.html>

Trusov, M., Bodapati, A., & Bucklin, R. (2010). Determining influential users in internet social networks. *Journal of Marketing Research*, 47(4), 643-658. doi:10.1509/jmkr.47.4.643.

van Dijck, J. (2012). Facebook as a tool for producing sociality and connectivity. *Television & New Media*, 13(2), 160-176. DOI: 10.1177/1527476411415291.

Williams, S. (2010, May 11). Theater of the absurd in social media metrics [Web log posting]. Retrieved Nov. 2, 2012, from <http://blog.communicationammo.com/meas/theater-of-the-absurd-in-social-media-metrics/>

Williams, S. (2011, February 2). Measuring influence: 4 learnings [Web log posting]. Retrieved Nov. 2, 2012, from <http://blog.communicationammo.com/strat/research/measuring-influence-4-learnings/>

Wu, S., Mason, W., Hofman, J., & Watts, D. (2011). "Who says what to whom on Twitter," *20th Annual World Wide Web Conference, Association for Computing Machinery*, Hyderabad, India.

ACM 978-1-4503-0637-9/11/03. Retrieved April 6, 2012, from <http://research.yahoo.com/pub/3386>

Zaltman, G. (2003). *How customers think: essential insights into the mind of the market*. Boston. Harvard Business School Press.

### **Acknowledgements**

The author owes a debt of gratitude to Dr. Danielle Coombs, as this effort arises from the skills and methods I learned in her class. Also, to Dr. Julie O'Neil, for her advice and encouragement, and Dr. Bob Batchelor for helping me further refine my thinking and ideas herein. It is to these three scholars that I dedicate this paper.