“Needle in a Haystack”: Examining Networked Influence on Twitter During the Pyeongchang Winter Olympic Games

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Social media has become a necessary digital communication and marketing tool for companies (Wenner, 2015). These digital platforms provide opportunities to interact directly with consumers and increase brand recognition. However, the capacity of mass participation provided by these platforms results in an unprecedented level of content production. A majority (54%) of U.S. brand marketers identify clutter as a significant challenge in the digital marketing space ("Marketers Find", 2016). In today’s attention economy, organizations must compete for the scarce attention of online users (Webster, 2014).

Notably, the patterns of prestige and influence accrued by different stakeholders, including ordinary citizens and business enterprises, are associated with digital networks’ asymmetrical structure – as well as the resources and power balances generated in this environment (Coddington & Holton, 2014). The mass global appeal of mega-sporting events provides favorable opportunities for organizations to participate in conversations with consumers on social media platforms (Sopko, 2018). Yet, the factors that predict prominence on these platforms during sporting events have not been explored. Therefore, to better understand social media influence within the context of sporting events, the current study used a two-stage methodology combining Social Network Analysis and econometrics to analyze tweets from the 2018 Winter Olympic Games.

Data were collected daily from Twitter throughout the 2018 Pyeongchang Olympic Games. Specifically, 469,000 tweets that used the official #PyeongChang2018 hashtag were scraped using the NodeXL software. The Fruchterman-Reingold algorithm was employed to graph daily networks of all observed tweets, as well as calculate the eigenvector and betweenness centrality for each account. Tweets were coded based on various characteristics including the type of account and language, and merged to form a panel data set. Finally, using the measures of network centrality as dependent variables, regressions were estimated to determine which factors were most important in determining influence in these networks.

Network analysis revealed accounts belonging to the Olympics, Olympians, and entertainers were the most prominent in the formation of networks during the Olympic Games. The event itself and prominent individuals both directly and indirectly related to the event were the most important and influential players in the network. Brands played a less prominent role, indicating a need for events or influential individuals to act as a conduit for organizations attempting to reach consumers through these networks.

Subsequent regression analyses confirmed this hierarchical structure. When controlling for timing and other factors, the Olympics, Olympians, entertainers, and the media bridged more conversations and had greater prominence than other accounts, including those associated with brands. Furthermore, the findings suggested accounts with more followers and activity (e.g. number of tweets, favorites, follows) had greater influence on Twitter during the Olympics. Activity and engagement enhanced network impact.

The current study provides a foundational model for understanding the determinants of social media influence and offers a road map for organizations looking to gain prominence in networks during mega-sporting events. The results highlight the factors that are central in holding the attention of consumers, and thus provides strategic value to those trying to maintain significance on digital platforms.