A Predictive Analytic Approach to Measure Sport Marketing Efforts on Social Media

Heather Kennedy, Temple University
Thilo Kunkel (Advisor), Temple University
Daniel Funk (Advisor), Temple University

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Social media (SM) can increase organizational success, impact purchase behaviour, improve brand value, and foster relationships with consumers. These benefits coupled with its ever-growing popularity, results in sport brands investing significant resources into developing SM presences and integrating SM into marketing strategies (Filo et al., 2015). This significant investment necessitates the measurement of SM advertising. However, measuring SM marketing effectiveness is challenging (Achen, 2017) and often done in retrospect, with limited existing comprehensive tools, precedents, and/or metrics.

SM’s digital environment allows it to facilitate and capture the interactions occurring between consumers and brands. Its collaborative nature differentiates SM from other marketing channels and is the foundation for consumer engagement and relationship building. To examine the effectiveness of SM posts, benchmarks are necessary to determine if posts exceed, meet, or lag expected levels, especially when marketing goals are associated with awareness (Fisher, 2009) and engagement. Thus, the current research introduces a predictive analytic approach that overcomes shortcomings of existing techniques and improves the measurement of SM marketing. In particular, we use a predictive modeling technique to forecast Facebook post engagement as a benchmark to compare against actual post interaction metrics during a field study.

A predictive model was developed using 1,181 past Facebook posts occurring on a Division 1 Football team’s page from August 2016 to April 2018. Specifically, support vector machines, a regression-based machine learning technique, developed a predictive model with 11 input features based on account information (e.g., Page Likes), post information (e.g., date and type), sport information (e.g., on/off-season), and content information (e.g., brand attributes). The latter input feature leveraged existing SM content analyses (e.g., Watkins & Lewis, 2014) to improve predictive power with respect to engagement metrics. Overall, 12 models were developed and their relative absolute errors were compared to select the most accurate. The best model predicted a post’s number of Likes with an accuracy greater than 60%. Subsequently, the model’s predictive validity was demonstrated using a field study.

In May 2018, the football team embarked on an international trip with select players and staff. Increasing awareness and engagement of the program during the off-season, a time when developing relevant, novel content is difficult, was a goal of the trip. While the trip was helpful in generating more content compared to the same time period in the previous year, results of the developed model indicated actual and forecasted number of Likes a post received deviated a median of 2.6 Likes over the month of May, -4.3 Likes over the trip’s 8-day duration, and -2.2 Likes on posts containing trip content. These results show the trip was largely unable to generate posts that were equal or more engaging than forecasted.

Overall, this research extends existing SM research. While insights from content analyses were used to enhance the predictive power of the model, findings demonstrate the ability of predictive models to compare expected versus actual engagement. Consequently, organizations can assess return of marketing investment more accurately, particularly with a focus on the engagement component of SM marketing.