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MEASURING THE EFFECTIVENESS OF TWEETED CONTENTS FOR LOCAL PROFESSIONAL SPORTS FRANCHISES

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Abstract

Social media has become an effective marketing communication tool in business (Dodds, P. S., Harris, K. D., K. I. M., Bliss, C. A., & Danforth, C. M., 2011). Social media marketing provides information on how to use social media tools and platforms to create and foster communities and relationships. Understanding what tools are available and how to use them effectively is key to success in social media marketing. Businesses also need to understand how they can reach out to their customers and, more importantly, why they need to reach out to their customers. The main purpose of this current study is two fold: 1) To develop a formula to measure the effectiveness of tweeted contents for local professional sports franchises, and 2) To develop a new instrumental scale to measure the perceived satisfaction of tweeted contents. College students in a sport management class at a college in the Northwestern United States were recruited to participate in this study. During a class session focused on Technology in Sport students were informed about the general purpose of the study and asked to complete the Perceived Satisfaction of Twitter Contents (PSTC) and demographics questionnaires. Analysis of Variance (ANOVA) was utilized to test if PSTC level differed by 3 Spokane-based sports franchises. The results found a significant difference on PSTC level by teams, $F(2, 55) = 3.88, p=.027$. In order to find out where the difference occurred, a Post-Hoc test (Tukey) was conducted. It found that PSTC level for Spokane Chiefs ($M = 17.95, SD = 2.06$) was significantly higher than that of Spokane Indians ($M = 16.10, SD = 2.20$) with $p = .02$. No other differences were found.

PROJECT

Social media has become an effective marketing communication tool in business (Dodds, P. S., Harris, K. D., K. I. M., Bliss, C. A., & Danforth, C. M., 2011). Social media marketing provides information on how to use social media tools and platforms to create and foster communities and relationships. Understanding what tools are available and how to use them effectively is key to

success in social media marketing. Businesses also need to understand how they can reach out to their customers and, more importantly, why they need to reach out to their customers.

Samsung Economic Research Institute (2010, July 22nd) reported that 79% of Fortune 100 enterprises use social media [Twitter (65%), Facebook (54%), YouTube (50%), and Blogs (33%)], 68% upload an average of 10 promotional videos on YouTube, 59% post an average of 3.8 postings per week, and in addition, tweet 25-30 times per week. CNBC (2010, April 12th) announced that the top 10 companies on Twitter marketing were Home Depot, Kodak, Starbucks, Southwest Airlines, New York Times, Comcast, JetBlue, Zappos, Whole Foods Market, and Dell.

A set of clearly defined major functions have been identified, including conversation and dialogue, collaboration and exchange, self-expression and self communication, status updating and checking, information and news sharing, and marketing and advertising (Dijck, 2011). According to Samsung Economic Research Institute (2010, July 22nd), there are differences between mass media (media 1.0) and social media (media 2.0). More specifically, mass media has a couple of characteristics in common such as (1) it has only small number of media producers (i.e., newspapers, broadcasters, and Internet portal service providers), (2) it targets unclear mass markets, and (3) it utilizes one way and indirect delivery mechanisms. On the other hand, social media has quite different characteristics such as (1) it has multi-way media producers (it is fully open to public) which is called “publizen (publicity + citizen)”, (2) its participation, sharing, and openness are based on the concept of Web 2.0, and (3) its relationship is based on two-way communication (pyramid type).

According to Pedersen, Parks, Quarterman, and Thibault (2010), several forms of social media are currently being utilized by sport organizations. The author's explained that Facebook has been used to provide information, post pictures and videos, and promote upcoming events. YouTube has been used to share videos with fans about the team or organization. Compared to these options, Twitter is a quick source of information that does not require much effort from an individual. Furthermore, Witkemper, Lim, and Waldburger (2012) described that many business organizations have been adopting Twitter accounts within their marketing strategies. There are 4 conceived values of Twitter (Kwak, H. et al., 2010; Newman, 2003). First of all, it has “speed and durability.” Twitter has a 35% rate of retweeting within 10 minutes, 55% rate of retweeting within an hour, and a long lasting exposure effect. The second believed value of Twitter is “majority and diversity.” Twitter is a small-world network. 40,000 people rule in Twitter and it is truly World of

Mouth (transformed from Word of Mouth). “Economic efficiency” (cheaper if not free) and “familiarity and reliability” are the third and fourth believed values of Twitter.

While social media has caught significant attention from scholars and practitioners in the realm of sport business (Wertheim, July 4, 2011), Witkemper et al. (2012) stressed that most research has been done on the major professional leagues in the United States (NFL, NBA, WNBA, MLS, NHL, WPS). More importantly, few studies have been done to discuss how to measure the impact and/or effectiveness of social media marketing. Thus, the main purpose of this study is two fold: 1) To develop a formula to measure the effectiveness of tweeted contents for local professional sports franchises and, 2) To develop a new scale to measure the perceived satisfaction of tweeted contents. This study is unique because it measures the effectiveness of tweeted contents of 3 local sports franchises (Spokane Indians: Class A short season affiliate of Texas Rangers, Spokane Chiefs: Western Hockey League franchise, & Spokane Shock: Arena Football League Franchise).

MEANS

College students in a sport management class at a college in the Northwestern United States were recruited to participate in this study. During a class session focused on Technology in Sport students were informed about the general purpose of the study and asked to complete the Perceived Satisfaction of Twitter Contents (PSTC) and demographics questionnaires. Twenty college students (75% male and 25% female) completed the questionnaires. The participants' educational levels varied from freshmen (5%), sophomores (35%), juniors (45%), and senior (15%).

Study participants were asked to sign up for twitter accounts unless they already had accounts. Participants were asked to follow the Spokane Chiefs, Spokane Shock, and Spokane Indians and read the created tweets. Then, they were asked to spend at least 20 minutes per each franchise by reading the tweeted contents. After fully exposed to the tweeted contents of these 3 teams, they were asked to fill out the survey questions. A 5-item scale (see Table 1) was developed to measure the PSTC of Spokane Chiefs, Spokane Shock, and Spokane Indians. The 5-item instrument was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Exploratory Factor Analysis (EFA) with Varimax rotation was run and the items were loaded onto only one dimension of which reliability was .73. A demographic questionnaire was developed for this pilot study to obtain information concerning gender, educational level, and major.

Table 1. The 5-item instrument to measure the Perceived Satisfaction of Tweeted Contents (PSTC)

No.	Perceived Satisfaction of Tweeted Contents	Strongly Disagree		Neutral	Strongly Agree	
1	It is fun to follow.	1	2	3	4	5
2	It is informative.	1	2	3	4	5
3	It provides me with helpful information	1	2	3	4	5
4	It provides the feeling of being "connected."	1	2	3	4	5
5	I think it is worthless to follow.	1	2	3	4	5

Secondly, the authors of this study were provided the necessary and internal twitter information that was utilized to develop the formula to measure the effectiveness of tweeted contents. Unfortunately, the internal twitter data for Spokane Indians was not obtained. The following formula has been developed and used for this study:

$$F(x) = (\# \text{ of indegree influence} - \# \text{ of following influence}) + (\# \text{ of indegree influence}) * 0.1 + \# \text{ of produced tweets} * 0.1 + \# \text{ of retweet influence} * 0.1 + \# \text{ of mention influence} * 0.2 + (\# \text{ of reply influence}) * 0.1,$$

Indegree influence is defined as, "the number of followers of a user and directly indicates the size of the audience for that user" (Cha, et al., 2010, p. 12), *Retweet influence* measures the number of retweets containing one's name and indicates the ability of that user to generate content with pass-along value (Cha, et al., 2010, p. 12), *Mention influence*, measures the number of mentions containing one's name and indicates the ability of that user to engage others in a conversation (Cha, et al., 2010, p. 12), *Following influence* measures the number of followers by user, and *Reply influence*, measures the number of tweets followers respond to.

REFLECTION

Analysis of Variance (ANOVA) was utilized to test if PSTC level differed by three Spokane-based sports franchises. The results found that there existed a significant difference on PSTC level by teams, $F(2, 55) = 3.88$ with $p=.027$. In order to find out where the difference occurred, Post-Hoc test (Tukey) was conducted. It found that PSTC level for Spokane Chiefs ($M = 17.95$, $SD = 2.06$) was significantly higher than that of Spokane Indians ($M = 16.10$, $SD = 2.20$) with $p = .02$. No other differences were found.

The aforementioned formula was used to answer the first research question. For the Spokane Chiefs, the twitter index was increased from 9.1334 on March 27, 2012 to 18.7334 on April 1, 2012. For Spokane Shock, the twitter index was increased from 95.939 on February 20, 2012 to 116.132 on April 2, 2012. The twitter index was quite steady during the week of March 12, 2012 to March 19, 2012. A possible reason for this is that the Shock lost their season-opening game on March 12 and it might have negatively affected the overall team value and reputation for the first week. Moreover, it was assumed that the team was hesitant to post comments for the first week as they have done otherwise.

Spokane Chiefs

$$F(x) = (3,394-6) + 3,394*0.1 + 8*0.1 + 3*0.1 + 51*0.2 + 1*0.1 = \mathbf{9.1334} \text{ (March 27, 2012)}$$

$$F(x) = (3,394-6) + 3,394*0.1 + 10*0.1 + 4*0.1 + 49*0.2 + 4*0.1 = \mathbf{9.3334} \text{ (March 28, 2012)}$$

$$F(x) = (3,394-6) + 3,394*0.1 + 8*0.1 + 3*0.1 + 98*0.2 + 3*0.1 = \mathbf{18.7334} \text{ (April 1, 2012)}$$

Spokane Shock

$$F(x) = (1,639-71) + 1,940*0.1 + 14*0.1 = \mathbf{95.939} \text{ (2_20_2012)}$$

$$F(x) = \mathbf{98.767} \text{ (2_27_2012)}$$

$$F(x) = \mathbf{104.304} \text{ (3_5)}$$

$$F(x) = \mathbf{107.529} \text{ (3_12)_Opening Loss}$$

$$F(x) = \mathbf{107.965} \text{ (3_19)_March 17 - Win}$$

$$F(x) = \mathbf{112.091} \text{ (3_26)_March 30_Loss}$$

$$F(x) = \mathbf{116.132} \text{ (4_02)_}$$

RELEVANCE OF STUDY

Prior to this study, no survey instrument was available to measure the Perceived Satisfaction of Tweeted Contents (PSTC) for the sports franchises. Therefore, developing a new instrument specialized in sports franchises was meaningful and beneficial to sport practitioners. Secondly, a Twitter Index did not exist in sport business. Even though there is a long way to improve and edit the proposed formula (Twitter Index) based on the different purposes, provision of the preliminary formula for sport practitioners is important for further exploration of this topic.

This study has two limitations. Tabachnick and Fidel (2001) argue that studies need a minimum of 100 participants in each major subgroup and 20 to 50 in each minor subgroup by

team. Because this study did not, generalizability of findings is difficult. Secondly, this study adopted a convenient sampling method due to the difficulty in the experimental research setting. As a result, caution should be taken when generalizing the results of this study.

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