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**Examining the Influence of
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Examining the Influence of Facebook Fans, Content, and Engagement on Business Outcomes in the National Basketball Association

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ABSTRACT

This study examined the effects of engagement with NBA teams' Facebook pages on home game attendance, away game attendance, operating income, and number of Facebook fans. Total number of posts, likes, comments, and shares were calculated for each content category including cross promotion, fan interactivity, organizational promotion, player and personnel promotion, and team information. Regression equations were run to analyze how the number of Facebook fans and engagement with each content area affected operating income as well as home and away attendance. Results indicated the number of Facebook fans teams had significantly predicted their home and away game attendance and operating incomes, controlling for market size and winning percentage. The more often Facebook fans shared team information, the more Facebook fans teams had. NBA teams could increase their number of Facebook fans by posting relevant information about the team and encouraging their fans to share it with their social networks.

KEYWORDS

social media, Facebook, relationship marketing, professional sport, business outcomes

INTRODUCTION

Social media are changing interpersonal and business communications by giving consumers greater access to information and opportunities to connect with anyone, anywhere, at any time. Specifically, social media are altering marketing communications as consumers become active producers of content instead of only passive receivers of marketing messages (Gurau, 2008; Malthouse, Haenlein, Skiera, Wege, & Zhang, 2013). For organizations, social media provide opportunities to actively engage consumers and build relationships making them important relationship marketing tools (Abeza, O'Reilly, & Reid, 2013; Williams & Chinn, 2010).

Social networking sites, one type of social media, allow organizations to connect with customers through sharing content, facilitating interaction, and building community (Smith, 2013). Facebook, used by 71% of online adults and visited at least once a day by 63% of its users in the United States, is the most commonly utilized social networking platform (Duggan & Smith, 2014). Facebook allows organizations to create fan pages where they can share information and interact with consumers who have chosen to become Facebook fans by liking the pages. Sports organizations can use these platforms to enhance commitment and engagement of fans (Meng, Stavros, & Westberg, 2015).

Building relationships with fans through social media is important for sports teams for two primary reasons. First, sports teams operating in a competitive environment need devoted fan bases to ensure future success because loyal fans are more tolerant of teams' failures and more likely to purchase additional team-related products (Bauer, Stokburger-Sauer, & Exler, 2008). Second, teams gain a competitive advantage by adopting a relationship marketing strategy to cultivate these devoted fans because relationship marketing focuses on building and maintaining customer relationships (Buhler & Nufer, 2010; Lachowetz, McDonald, Sutton, & Clark, 2001; Shani, 1997). Designing social media strategy to build and enhance customer relationships helps capitalize on the competitive advantage offered by relationship marketing. Abeza et al. (2013) specifically suggested sports teams should commit resources to building their social media presence, interacting online with fans, and enhancing customer relationships. However, while literature has examined content posted by sports teams on social media, research attempting to connect the use of social media to measurable outcomes in sport is in its infancy. In general, the way customers engage online and impacts of social media engagement on business outcomes are not well understood (Gummerus, Liljander, Weman, & Pihlstrom, 2012). Constantinides and Fountain (2008) and Pentina, Gammoh, Zhang, and Mallin (2013) implored researchers to examine the impacts of social media on customer behavior and how social media can be used as marketing tools.

In the National Basketball Association (NBA), it is important to attempt new marketing tactics because of their potential to increase ticket sales, which leads to larger crowds and more concession sales and merchandise purchases (Dick &

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Turner, 2007). Social media marketing, as a way to build relationships, could be an effective marketing strategy in the NBA, especially because during the 2011-2012 NBA lockout, team marketers emphasized the importance of long-term relationships with fans (Ianello & Cloud, 2012). Additionally, the NBA uses social media extensively with a large following on multiple networks including 17 million Facebook fans on the league page (Jessop, 2013), making it an ideal league to study the use of social media as marketing tools to build relationships. Meng et al. (2015) stated the NBA is highly active in its use of social media, which supported their choice in conducting a content analysis of Facebook and Twitter content posted by NBA teams.

The purpose of this study was to examine how the level of engagement with NBA teams' Facebook pages affects the number of Facebook fans, home and away game attendance, and operating income. First, the relationships between likes, comments, and shares as predictors of number of Facebook fans, operating income, home game attendance, and away game attendance in the NBA, while controlling for market size and win-loss record, are explored. Second, the specific content of the posts is examined to determine if different types of content have different impacts on business outcomes and number of Facebook fans.

LITERATURE REVIEW

The use of social media by organizations can be viewed through a relationship marketing framework because, according to Grönroos (2004), relationship marketing includes interactions, communications, and the creation of value as relationships with customers are built and maintained. At the core of this process is the management of interactions, which create a dialogue between the customer and organization and are supported by communications (Grönroos, 2004). Specifically, two-way communications are fundamental to building and enhancing customer relationships (Berry, 1995; Grönroos, 2004). The result of managing interactions and communications is a high level of perceived value for the customer (Grönroos, 2004).

Relationship marketing strategy is successful because the goal of customer retention is less expensive and more important than customer acquisition (Buhler & Nufer, 2010; Egan, 2004). There are many additional benefits to relationship marketing including improved financial performance, increased revenue, improved retention rates, reduced costs, and increased brand loyalty (Buhler & Nufer, 2010; Gummesson, 1999; Williams & Chinn, 2010). In sport, loyalty and customer retention are vital to the long-term success of franchises (Buhler & Nufer, 2010), because loyal customers are less price sensitive and have a higher tolerance for a team's mistakes, such as occasional poor service while attending a game or consistent team losses (Egan, 2004; Gummesson, 1999).

Social media have been identified as relationship marketing tactics that build, enhance, and maintain customer relationships (Abeza et al., 2013; Kim, Trail, Woo, & Zhang, 2011; Williams & Chinn, 2010). Specifically, social media allow organizations to use two-way communications to build social bonds through interaction and information sharing (Abeza et al., 2013; Buhler & Nufer, 2010), while also enhancing engagement and strengthening the connection between consumers and organizations (Pentina, Gammoh, Zhang, & Mallin, 2013).

Social media also provide benefits different from traditional communication strategies. First, social media offer organizations the ability to consistently communicate with customers without time or geographical limits (Egan, 2004; Jahn & Kunz, 2012; Pöyry, Parvinen, & Malmivaara, 2013). Second, social media afford organizations chances to connect with customers outside of traditional business interactions, such as at a sporting event. Finally, opening a two-way dialogue allows for the inclusion of fans in the creation of value, such as asking for their thoughts on event design, suggestions for giveaway items, or ideas for in-game promotions.

It has been established that teams actively participate online because many sports fans want to communicate directly through Facebook (Mahan, 2011; Pronschinske, Groza, & Walker, 2012). Also, evidence shows sports teams are using Facebook to connect with fans and are embracing social media as ways to build and strengthen relationships (Meng et al., 2015; Ozsoy, 2011; Pronschinske et al., 2012; Williams & Chinn, 2010). Kim et al. (2011) found all professional teams in the NBA, National Football League (NFL) and National Hockey League, and Major League Baseball communicate with fans on Facebook or Twitter. Unfortunately, an understanding of exactly how companies are using social media to communicate or interact with consumers is incomplete (Parsons, 2013). This knowledge deficit essentially hinders the potential value of social media for organizations and consumers.

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The overall strategy on social media and the specific content posted by an organization must involve more than simply sending marketing messages out to customers (Nair, 2011; Pronschinske et al., 2012; Rishika, Kumar, Janakiraman, & Bezawada, 2013). Kaplan and Haenlein (2010) concluded, "Social media are all about sharing and interaction, so ensure that your content is always fresh and that you engage in discussions with your customers" (p. 66). Content should spark conversations, encourage participation, entertain consumers, build discussion, and encourage socialization (Gummerus et al., 2012; Heinonen, 2011; Sterne, 2010; Thackeray, Neiger, & Keller, 2012; Walsh, Clavio, Lovell, & Blaszkka, 2013; Williams & Chinn, 2010). Organizations using social media as just another way to mass market are wasting their potential as tools to interact with customers and build loyalty.

While Twitter has received ample attention in the sports literature, studies on Facebook, the focus of this study, are less common. Primarily, researchers have begun to explore how sports organizations are using Facebook using content analysis. After examining NCAA organizational and Big XII Facebook pages, Wallace, Wilson, and Miloch (2011) determined communication tools available on Facebook were underutilized. Also, they found the pages were being used to promote or describe events or organizations as opposed to engaging fans in social relationships. Waters, Burke, Jackson, and Buning (2011) coded content on NFL teams' Facebook pages into four categories including reciprocity, responsibility, reporting, and relationship nurturing. They found NFL teams used reciprocity, content related to cross-promotion of sponsors or fan appreciation days, and relationship nurturing, content designed to promote interactivity with fans, most often to build relationships.

After conducting a content analysis of the top ten global football (soccer) brands' Facebook and Twitter accounts, Clavio and Metz (2014) determined teams used Facebook pages for five distinct functions including external commerce, fan interactivity, organizational promotion, player and personnel promotion, and team information. They suggested using this coding scheme to examine the content of social media accounts for other sports organizations. Meng et al. (2015) used content analysis to examine off-season posts on Facebook and Twitter by all 30 NBA teams. They determined teams used four types of communication to engage fans including informing, marketing, personalizing, and activating. Informing included organizational news, activity outside of the sport, and diverting fans to other content. Posts in the marketing category included promotional posts or posts attempting to directly garner sales. These content types were considered one-way communications. The additional categories, personalizing and activating, were considered two-way communications. Personalizing included posts that initiated contact or direct responses to fans and activating included group involvement posts or posts directed at gathering feedback from fans.

The content of a page influences the number of Facebook fans and number of individuals who are exposed to content through their friends' social networks. Pronschinske et al. (2012) measured the impact of the content of the page on the number of Facebook fans a professional sports team had. Their results indicated having an official page operated by the team (as opposed to a page owned and operated by a fan) increased the number of Facebook fans a team had. Additionally, the authors suggested professional sports teams post content to foster fan engagement to increase and retain the number of Facebook fans. Engagement exists on two levels, which include passively consuming content or simple interaction, such as liking a post and actively participating in various forms of content creation (Malthouse et al., 2013). When Facebook users actively engage by commenting on or sharing a post, the post is circulated via their Facebook news feed and effectively shared with their entire network.

National sports organizations' use of Facebook also has been examined using relationship marketing theory. Abeza and O'Reilly (2014) found that Canadian national sports organizations used Facebook and Twitter more for communication dissemination than a way to build two-way dialogue with customers. Also, they found consumers were simply liking content instead of engaging in a discussion through commenting on posts or providing user-generated content. Eagleman (2013) determined that United States national governing bodies used social media more for information sharing but were still successfully engaging customers in interaction. Finally, Thompson, Martin, Gee, & Eagleman (2014) studied national sports organizations in New Zealand, finding content that posed questions received the most interaction and that content requesting likes to be entered into contests was effective at increasing the number of Facebook fans.

Research has attempted to measure the impacts of organizations' use of social media. According to Jahn and Kunz (2012), social media could have significant impacts on brand relationships because they increase brand equity and impact brand image positively (Bauer et al., 2008; Smith, 2013). In fact, Gummerus et al. (2012) suggested Facebook page use

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and engagement could increase customer loyalty, even if a baseline of loyalty already exists. In sports, proper use of social media leads to increased attendance, merchandise sales, television audience, and ticket sales (Hopkins, 2013). Finally, social media use can result in increased purchases, lower communication costs, increased referrals, and immediate feedback from customers (Mangold & Faulds, 2009; Ramsaran-Fowdar & Fowdar, 2013).

Marketers can capitalize on the value of social media by actively engaging fans and followers (Goh, Heng, & Lin, 2013). Engaged online customers aid in increasing reach and lead to more frequent visits and purchases (Goh et al., 2013; Peters, Chen, Kaplan, Ognibeni, & Pauwels, 2013; Rishika et al., 2013). In fact, higher levels of activity and behavioral engagement have a greater positive impact on customer relationships (Gummerus et al., 2012; Rishika et al., 2013). Additionally, Meng et al. (2015) suggested team identification could be enhanced by multiple types of communication on Facebook and Twitter, which was often personalized for individual fans. However, after conducting a content analysis of NBA teams' posts on Facebook and Twitter, they determined teams were not adequately engaging fans in ways that would enhance team identification.

It is necessary to evaluate the success of marketing strategy, including social media marketing, to determine its impact on specific business outcomes (Rishika et al., 2013). In sports, social networks should be examined to explicate their effect on communication and sports fan relationships (Hambrick, Simmons, Greenhalgh, & Greenwell, 2010). Social media can be measured by examining page traffic, frequency of visits, reach, number of followers, messages, time spent on the page, likes, posts, reads, page visits, comments, and sharing content (Jahn & Kunz, 2012; Lipsman, Mud, Rich, & Bruich, 2012; Sterne, 2010; Thackeray et al., 2012). Shares may be more important because they indicate a Facebook fan is willing to showcase the brand on his or her own page (Malhotra, Malhotra, & See, 2013). While measuring social media impacts could be challenging (Pöyry et al., 2013; Rishika et al., 2013), a way to measure the return of social media investments is needed (Ramsaran-Fowdar & Fowdar, 2013).

Studying consumer behavior on Facebook reveals which behaviors positively influence business outcomes so an organization can encourage those behaviors (Pöyry et al., 2013). Hambrick et al. (2010) suggested that for a sports team to successfully use social networking sites the team needed to determine the best ways to use these networks and what potential outcomes could be expected. Pronschinske et al. (2012) also recommended researchers continue to study how social media influence organizational outcomes. Finally, the impact of the specific types of content also should be examined to see if different types of messages prompt different responses from customers (Rishika et al., 2013).

This study endeavored to answer multiple questions about the use of Facebook in the NBA, consumer response to content, and the effect on business outcomes. While Meng et al. (2015) also examined the use of Facebook and Twitter in the NBA over the same time period, this study adds to the literature by building on content analysis and attempting to measure the impacts of social media marketing on quantifiable business outcomes. First, while Meng et al. focused on a content analysis of off-season content, this study analyzed in-season content and focused on how the level of engagement impacts business outcomes including attendance and operating income. Additionally, instead of focusing on how content on social media can impact team identification, this study utilizes relationship marketing to frame the investigation of content and engagement on business outcomes. This study contributes to the literature by expanding research on social media and moving forward from analyzing what is to exploring how it impacts sports organizations' bottom lines. Additionally, this research goes beyond categorizing content and examines the effects of engagement (likes, comments, and shares). The following specific research questions were explored.

RQ 1: Does the number of Facebook fans or the level of engagement with different types of posted content affect home game attendance?

RQ2: Does the number of Facebook fans or the level of engagement with different types of posted content affect away game attendance?

RQ 3: Does the number of Facebook fans or the level of engagement with different types of posted content affect operating income?

RQ 4: Does market size, winning percentage or the level of engagement with different types of posted content influence the number of Facebook fans teams have?

METHOD

Data were collected on each NBA team for the 2012-2013 season. At the time of this study, only 28 of the teams in the NBA had a Facebook page with a complete history of postings for the two time periods collected. A total of 5,786 posts were collected during two one-month spans including August 2012 and January 2013. August 2012 was chosen because it was after the draft but still during the off-season. Collecting data out-of-season was important because part of the value in social media is that they enable companies to communicate with customers without geographical boundaries or time limits (Jahn & Kunz, 2012; Pöyry, Parvinen, & Malmivaara, 2013), which extends sports organizations' ability to cultivate relationships to times when the team is not playing. January 2013 was chosen because it was before the All-Star break (the approximate midpoint in the NBA season where regular season play is suspended) but far enough into the season for clear win-loss patterns to have emerged.

Variables

Pronschinske et al. (2012) advocated researchers control for market size and team win-loss record when studying professional sports teams' Facebook pages. For all regression models, winning percentage and market size were included as covariates. Winning percentage for the 2012-2013 regular season was collected from ESPN.com at the end of the season. Market size was defined as the projected size of the metropolitan area population in 2012 as reported by the United States Census Bureau. For the one NBA team in Canada, this information was gathered from the government-operated Statistics Canada website.

The number of Facebook fans was used as both a predictor and outcome variable. To reduce the chances of variability in the number of Facebook fans related to time of collection, each team page was visited consecutively on the same day and the number of Facebook page likes was recorded.

Past research has used content analysis to examine Facebook and its impacts on consumer behavior suggesting it was a valid approach for this research (Parsons, 2013; Shen & Bissell, 2013; Wallace et al., 2011). As such, Facebook post content was categorized based on the five categories identified by Clavio and Metz (2014), which included external commerce, fan interactivity, organizational promotion, player and personnel promotion, and team information. These categories were operationalized using both Clavio and Metz's definitions and results from a coded sample of NBA pages. Only one individual completed the coding, which is a limitation in this study. However, to improve the coder's consistency and coding manual, a sample was coded prior to collecting data and the sample was then re-coded utilizing the coding definitions detailed in Table 1.

The additional three outcome variables were gathered from online sources. Home game attendance was defined as average percentage of arena filled. Away game attendance was represented by the average away game attendance. Both of these values were collected from ESPN.com, where NBA attendance figures were reported for each team for each season. Operating income, defined as earnings before interest, taxes, depreciation, and amortization, was gathered from Forbes.com, which reported valuations of NBA teams at the end of each season.

Procedure

Prior to full content analysis, a coding sheet with operational descriptions was created and used for full content analysis. Each NBA team's Facebook page was examined for August 2012 and January 2013 and each Facebook post was coded into one of the five categories and the number of likes, comments, and shares also were recorded. Next, information on number of Facebook fans, market size, winning percentage, operating income, and game attendance were collected.

Descriptive statistics were calculated using SPSS Version 20. Then, regression was run using the `lm` function in R, a free, open-source statistical software program. Table 2 lists the centrality and variability statistics for all variables used in the linear regression analysis.

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Table 1. Category Definitions and Examples for Content Analysis

Category	Definition	Examples
External commerce	Information on business partners or cross-promotion of sponsors	<p>“Make Monday Magical! This Monday, January 28th, McDonald's is having a special 25¢ Cavaliers ticket offer for any home game in February. Get a second Cavs game ticket for just a quarter! “</p> <p>“Congratulations to the Falcons on beating the Seahawks! Rise Up!”</p>
Fan interactivity	Contests, giveaways, fan participation, any post requesting a share, like, or comment or asking fans to complete a survey, fill-in-the-blank, or respond to a question	<p>“Are you playing myClipper NATION trivia? Play to win the monthly Clippers prize pack!”</p> <p>“Congratulations to our Social Fan of the Week, Kimberly Washington! Click the link to submit your name to be next week's winner:”</p>
Organizational promotion	Any promotion of games, products, mascots, cheerleaders, and arenas	<p>“Come support your Thunder Girls as they have their final auditions tomorrow...”</p> <p>“Don't miss Iman Shumpert and the Knicks taking on the Bucks tomorrow night! Tickets still available. Get yours now.”</p>
Player and personnel promotion	Behind-the-scenes information, player promotion, and personnel promotion	<p>“Get To Know Brandon Roy: Throughout August, Timberwolves.com will profile each of the new members of the Wolves' roster. Part 6 takes a look at three-time All-Star Brandon Roy, who returned from a year off to sign with the Timberwolves on July 31.”</p> <p>“Happy 50th Birthday Patrick Ewing! Check out iconic images of Patrick Ewing during his time with the Knicks.”</p>
Team information	Game results or recaps, player injury or movement, and scheduling	<p>“Grizzlies acquire Jon Leuer from Cavaliers and generates trade exception for three players and a protected future 1st round pick.”</p> <p>“The Warriors rode the hot hand of Klay Thompson to a 108-95 road win over the Cavaliers tonight in Cleveland. Thompson caught fire over the second and third quarters and finished the night with career-highs of 32 points and six three-pointers. Jarrett Jack and David Lee also had big games as the Warriors won on a night in which they were without Stephen Curry, Andrew Bogut, Harrison Barnes and Carl Landry. Game Recap:”</p>

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Table 2. Descriptive Statistics

	<i>Mean</i>	<i>S.D.</i>
Facebook Fans	3,093,418	4,353,690
Posts EC	4.46	6.51
Likes EC	3,670.00	5,861.41
Comments EC	95.86	137.17
Shares EC	156.32	372.25
Posts FI	39.00	28.33
Likes FI	91,638.93	200,142.58
Comments FI	6,297.71	8803.25
Shares FI	4710.71	10,800.45
Posts OP	50.64	45.45
Likes OP	76,050.93	151,370.87
Comments OP	2,859.07	5,770.28
Shares OP	3,922.96	10,736.00
Posts PP	46.61	29.84
Likes PP	205,135.29	453,007.41
Comments PP	6,293.39	13,477.50
Shares PP	11,544.18	30,097.14
Posts TI	65.96	38.89
Likes TI	188,595.50	276,568.50
Comments TI	10,855.18	18,978.31
Shares TI	9,368.82	15,213.90
Winning Percentage	.50	.16
Market Size	5,701,059	5,069,546
Operating Income (in millions)	24.60	25.00
Percentage of Arena Filled	.91	.10
Average Away Attendance	17,360	713

Note: EC = external commerce, FI = fan interactivity, OP = organizational promotion, PP = personnel/player promotion, TI = team information

RESULTS

Prediction and Causality

The research questions were examined using multiple linear regressions to determine if the independent variables explained the dependent variables. The statements made throughout the results and discussion about causality were early and necessary simplifications so that specific relationships between variables could be examined and discussed in a potentially meaningful way to stimulate further empirical analysis. However, in reality these relationships are most likely circular, have additional influencing factors, and are mediated by additional variables. This is supported in many cases by the residual plots that were examined for each regression, which showed signs of heteroscedasticity in some cases indicating variables are missing that could improve the model. This study was designed to provide a starting point for future research to further examine the nature of these relationships and statements about causality should be taken as such.

Additionally, the algorithm for what is presented in a Facebook user's News Feed has changed since the time this data was collected. The algorithm could have impacted the level of engagement (e.g., number of likes, comments, and shares) a post received based on whether the post was visible in Facebook users' News Feeds. The ever-changing Facebook algorithm should be accounted for when considering the context of these findings.

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RQ 1: Does the number of Facebook fans or the level of engagement with different types of posted content affect home game attendance?

The model including the covariates winning percentage and market size accounted for a significant amount of variance in home game attendance, $R^2 = .44$, adjusted $R^2 = .40$, $F(2, 25) = 9.88$, $p < .001$. To examine the impact of the number of Facebook fans, this variable was added to the model and then compared to the first model. The second model accounted for a significant amount of variance, $R^2 = .54$, adjusted $R^2 = .48$, $F(3,24) = 9.29$, $p < .001$. Examination of the residual plots, which did not show a clear pattern, supported the model fit. The additional variance explained by adding the number of fans into the model was significant, R^2 change = .10, $F(1, 24) = 4.97$, $p = .04$, suggesting the more Facebook fans teams have, the higher their home game attendance. Results from the regression are reported in Table 3.

Table 3. Home Game Attendance Model Results

	B	β	S.E.	t-value	p-value
Intercept	.72		.05	15.82	< .001
Win %	.33	.53	.09	3.50	.002
Market size	.000000007	.04	.000000003	.25	.81
Facebook fans	.000000008	.34	.000000003	2.23	.04

Winning percentage and the number of Facebook fans were significant predictors of home game attendance. While market size was not a significant predictor of home attendance, it was left in the model as a control. The standardized betas indicated winning percentage had a greater effect on home game attendance than the number of Facebook fans. Teams that won more often had higher home game attendance numbers. Additionally, the more Facebook fans a team had, the higher its home game attendance was.

To test whether home game attendance could be predicted from the number of posts, likes, comments, and shares in each of the 5 categories, these 20 variables were added and the model was compared to the model including winning percentage, market size, and number of Facebook fans. Results of a multiple regression analysis indicated the model including post content and engagement was not significant, $R^2 = .85$, adjusted $R^2 = .02$, $F(23, 4) = 1.02$, $p = .56$. The residual plot also was examined and was approximately symmetrical with no clear pattern. The non-significant R^2 suggested the engagement and different types of content did not significantly impact home game attendance.

RQ 2: Does the number of Facebook fans or the level of engagement with different types of posted content affect away game attendance?

The model including winning percentage and market size as predictors of away game attendance was significant, $R^2 = .50$, and adjusted $R^2 = .46$, $F(2, 25) = 12.4$, $p < .001$. The model including the number of Facebook fans was also significant, $R^2 = .78$, adjusted model $R^2 = .75$, $F(3, 24) = 27.68$, $p < .001$. The residual scatterplots for both models indicated well-fitted models. The difference in R^2 between the two models was significant, R^2 change = .28, $F(1, 24) = 29.73$, $p < .001$, indicating the more Facebook fans teams have, the higher their away game attendance. Table 4 reports regression equation results.

Table 4. Away Game Attendance Model Results

	B	β	S.E.	t-value	p-value
Intercept	15,969		234	68.16	< .001
Win %	2,076	.45	478	4.34	< .001
Market size	.000009	.07	.00001	.62	.54
Facebook fans	.0001	.59	.00002	5.45	< .001

The market size coefficient was not significant in the final model, however, market size was left in the model as a control. The number of Facebook fans was the strongest predictor in the model, although winning percentage also had a significant coefficient. The greater the number of Facebook fans, the higher away game attendance. Also, away game

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attendance was higher when teams were more successful on the court.

The number of posts, likes, comments, and shares in each of the five categories were added to the model. Model results were not significant, $R^2 = .97$, adjusted $R^2 = .77$, $F(23, 4) = 4.84$, $p = .07$. The points on the residual plot narrowed as the residuals moved away from the y-axis, which may indicate the model was ill-fitted.

RQ 3: Does the number of Facebook fans or the level of engagement with different types of posted content affect operating income?

Winning percentage and market size were entered as predictors in a multiple regression analysis to control for their effects on operating income. The model was not significant, $R^2 = .15$, adjusted model $R^2 = .09$, $F(2, 25) = 2.26$, $p = .12$. The addition of the number of Facebook fans variable resulted in a significant amount of variance accounted for, $R^2 = .33$, adjusted model $R^2 = .25$, $F(3, 24) = 3.94$, $p = .02$. Examination of the residual scatterplots did not indicate issues with model assumptions. The additional R^2 added by including fans in the model was significant, R^2 change = .18, $F(1, 24) = 6.33$, $p = .02$. The significant change indicated the more Facebook fans teams had, the greater their operating income. Results from the multiple regression analysis are reported in Table 5.

Table 5. Operating Income Model Results

	B	β	S.E.	t-value	p-value
Intercept	2.99		.14	.21	.84
Win %	20.52	.13	28.99	.71	.49
Market Size	.0000005	.11	.0000009	.58	.57
Facebook fans	.000003	.47	.000001	2.52	.02

Note: Operating income was measured in millions.

Model results indicated number of Facebook fans was the only significant predictor for operating income. While their coefficients were not significant, market size and winning percentage were left in the model as controls for the model of engagement and content type. Results indicated the model including the number of posts, likes, comments, and shares in each of the five categories was not significant, $R^2 = .95$, adjusted $R^2 = .66$, $F(23, 4) = 3.31$, $p = .13$. A clustering of a small portion of points in the residual plot might indicate the model needs improvement.

RQ 4: Does market size, winning percentage, or the level of engagement with different types of posted content influence the number of Facebook fans teams have?

The model including market size and winning percentage as predictors of the number of Facebook fans did not account for a significant amount of variance, $R^2 = .18$, adjusted model $R^2 = .12$, $F(2, 25) = 2.90$, $p = .07$, which indicated these two variables did not significantly predict the number of Facebook fans teams had. A review of the residual scatterplot revealed no clear pattern and was relatively symmetric, although it appeared a few outliers might be impacting the fit of the model. To examine the impact of content type and interaction on the number of Facebook fans, a multiple regression was run with the number of posts, likes, comments, and shares in each of the five categories as predictors of the number of Facebook fans. First, the number of posts in each category was entered into the model to control for the effects of the number of posts. The variables did not account for a significant amount of variance in the number of Facebook fans, $R^2 = .24$, adjusted $R^2 = .06$, $F(5, 22) = 1.37$, $p = .28$. Next, the likes, comments, and shares for each content area were entered into the model. The model accounted for a significant amount of variance in number of Facebook fans, $R^2 = .98$, the adjusted $R^2 = .90$, $F(20, 7) = 13.61$, $p = .001$. The additional amount of variance explained over the previous model was significant, R^2 change = .74, $F(15, 7) = 13.74$, $p = .001$. To further delineate which of the content and engagement variables were significantly predicting the number of Facebook fans, stepwise regression was used. The stepwise model explained a significant amount of variance in the number of Facebook fans, $R^2 = .86$, the adjusted $R^2 = .85$, $F(1, 26) = 155.46$, $p < .001$, but only included one variable, the number of shares for posts related to team information, $B = 264.87$, $\beta = .93$, $t = 12.47$, $p < .001$. The model was compared to the model including the number of posts in each category and resulted in a significant change in variance explained, R^2 change = .65, $F(1, 21) = 116.38$, $p < .001$. Once the interaction data were entered into the model, the residual plot revealed a mild clustering of points in a distribution that points to potential heteroscedasticity.

DISCUSSION

According to Grönroos (2004), interactions and two-way communications are at the core of the relationship marketing process. Increased engagement and activity on social networks can improve customer relationships (Gummerus et al., 2012; Rishika et al., 2013). As such, sports organizations should engage in a dialogue with customers on these networks to build and sustain long-term relationships, which relationship marketing theory suggests lead to improved financial performance, increased revenue, improved retention rates, reduced costs, and increased brand loyalty (Buhler & Nufer, 2010; Gummesson, 1999; Williams & Chinn, 2010).

The purpose of this study was to examine the impact of number of Facebook fans, engagement on social media, and types of posted content on business outcomes including home and away game attendance and operating income, while controlling for market size and winning percentage. The changing Facebook News Feed algorithm could impact the level of engagement posts receive, and the implications of the results should be considered in relation to the point in time when data were collected. As the results are discussed and analyzed, it should be remembered that further analysis of current data is necessary to make current decisions related to strategy.

While not the focus of this study, the variables of market size and winning percentage provide some interesting findings. First, the market size teams operate in does not appear to have a significant effect on home or away game attendance, operating income, or the number of Facebook fans. In and of itself, this is an interesting finding because it is logical to presume teams with a larger metropolitan area population would have higher attendance at home games and a higher number of Facebook fans simply because there are more people living in the vicinity of the team. However, the results do not support this assumption. This result suggests that teams in large markets are not able to assume it will be easier to cultivate fans simply because of a larger population to draw fans from. Potentially, this is an effect of the multitude of options for spending discretionary income in larger cities or the price of tickets for larger-market teams, which lessens the impact of the market size on attendance and operating income variables. Teams in larger areas may have fewer Facebook fans because their use of the communication channel and their promotion of it may be inherently different from that of smaller-market teams, or because individuals are less attached emotionally to one specific team in larger markets with multiple professional sports teams to support.

While the literature suggests increased engagement with social media will have a greater impact on business outcomes (Goh et al., 2013; Gummerus et al., 2012; Peters et al., 2013; Rishika et al., 2013), the findings in this study do not corroborate this. The effect of specific engagement behaviors and the five categories of content are not significant for attendance or operating income. This could be due to the small sample size. In fact, this analysis may be more useful as a longitudinal study to examine if changes in the way teams are using their Facebook pages result in increases in attendance and operating income. Also, multicollinearity among likes, comments, and shares for each content type could be confounding results. Since likes, comments, and shares are nested within posts and posts are nested within teams, multilevel modeling might be necessary. Additionally, because higher levels of engagement with posted content can increase relationship quality and strength (Jahn & Kunz, 2012; Pronschinske et al., 2012), the effects of different engagement levels and types of content on business outcomes in sports may be mediated by relationship quality. To examine this, survey research is needed to measure Facebook engagement behaviors, relationship quality, and consumer behaviors.

Including the number of Facebook fans in the model to predict home game attendance results in a significant increase in explained variance from 44% to 54%. The number of Facebook fans is a significant predictor of home game attendance, a finding also supported by Hopkins (2013), regardless of market size or win-loss record. A few potential explanations for this exist. First, if teams are promoting home games on their Facebook page, fans following teams may be learning about games online, encouraging them to attend. Facebook gives teams an additional outlet for promoting games and reminding fans of when teams are in town. The more Facebook fans teams have, the greater the impact of promotion through this channel. Also, a larger number of Facebook fans may actually indicate a stronger relationship with the overall fan base because fans are willing to align themselves with the team online. Because relationship quality impacts intentions to attend games (Kim, Trail, & Ko, 2011), a greater number of Facebook fans also would lead to increased levels of home attendance.

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When controlling for market size and winning percentage, the number of Facebook fans also significantly predicts away game attendance. The model explains 78% of the variance in away game attendance. Interestingly, the impacts of Facebook fans on away game attendance are greater than the impacts on home game attendance. Potentially, Facebook allows teams to connect with fans living outside of the team's home market. Whereas before television coverage of sports and the explosion of the Internet fans had a difficult time staying connected to their favorite teams, now fans can follow their favorite team from essentially anywhere.

Neither market size nor winning percentage are significant predictors of operating income. This is an interesting finding because both market size and success would seemingly give a team more opportunities to generate income. However, the number of Facebook fans does account for a significant amount of variance in operating income. The more Facebook fans teams have, the higher their operating incomes. This could be due to the promotion of merchandise and games on Facebook. Teams who use Facebook to keep in constant contact with fans have a greater potential to directly market to these fans on a channel where they spend a significant amount of time. With 63% of Facebook users checking the site at least once a day (Duggan & Smith, 2014), and market research suggesting Facebook users spend about 7 hours per week on the site (eMarketer, 2013), Facebook gives teams easy access to and continued, captive attention of fans. Team posts show up in their Facebook fans' news feeds, and updates are sent directly to a market teams know is interested in their content. The more Facebook fans a team has, the more people who are exposed to marketing messages, which then increases a team's income. Another potential explanation is that teams with more income can invest more in social media, which increases the number of Facebook fans the team has. More research is needed to further understand the direction of this relationship.

While the different types of content account for additional variance in the number of Facebook fans, stepwise regression indicates the only significant variable is sharing of team information. This reinforces the viral nature of marketing on social media. If an individual shares information the team posts including game updates and summaries or injury information, it is likely someone in his or her network also is a fan of the team and will read this information and decide to become a Facebook fan to receive updates instantly. As information spreads, more and more individuals are likely to choose to like the team on Facebook. This also supports the suggestion that shares are more important than other types of interaction on Facebook (Malhotra et al., 2013), because they require Facebook users to publicly acknowledge they are aligned with the team.

Unfortunately, the results of this study do not allow for comparisons of the different types of content to determine if content designed to build social bonds, such as posts to provoke fan interactivity or encourage a deeper connection to players and personnel, have greater impacts on business outcomes than posts meant to offer information or promote the organization. However, the results of this study are still promising for teams using social media. Growing their fan bases on Facebook could increase the utility of the social networking as a marketing tool by allowing teams to stay in constant contact with fans all over the world. However, it is unlikely studying team-level information is the best approach to measure how specific content and engagement with that content effect business outcomes. Survey research may be better designed to assess Facebook and other social networks as marketing tools.

Implications for Marketers in Sport Organizations

Because the number of Facebook fans results in increased home and away game attendance and operating income, teams should commit resources to creating a precise Facebook strategy, substantiating this claim by Abeza et al. (2013). Resources include dedicated personnel, time, and the means to track and analyze the types of content shared most often. Team personnel may also benefit from attending seminars or working with consultants to improve their team's Facebook page. Teams fully committed to relationship marketing also would benefit from conducting surveys of Facebook fans to adjust strategy to the needs and desires of customers who interact online.

Facebook provides a channel for fans to interact with, stay connected to, and receive information from their favorite team. This may include following score updates or player movement, accessing behind-the-scenes videos and interviews, or engaging in discussions about the team. Teams can use Facebook to continually foster a connection with fans across the country and encourage fans to attend away games when their favorite team visits where they live.

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Teams also should consider taking an active approach to targeting fans in away game markets. One option might be to offer a Facebook photo contest for fans that post pictures of themselves attending away games. A prize could be an inexpensive piece of merchandise that can be mailed to the winner, which can continue to foster the relationship between the fan and the sport team. This user-generated content also could serve to increase Facebook fans for the team because photos also will be posted on fans' Facebook news feeds (in addition to the team's Facebook wall), which exposes people in fans' networks to the team.

Marketers should consider ways to promote games on Facebook that appeal to social relationships between the team and fans and also among fans. If fans are more likely to share posts relating to the results of the game or injury information, teams should consider ways to incorporate game promotion with these posts. This may include attaching links or images at the end of the post that include information about the next game. Also, if shares are important for building a fan base, sport marketers managing Facebook accounts should include a call to action by specifically asking fans to share the post.

CONCLUSION

The purpose of this study was to examine the effect of NBA teams' Facebook pages and fans' engagement on them on home and away game attendance and operating income. Results suggest the use of Facebook does have an impact on business outcomes, however, linking the exact types of content posted to these outcomes is problematic. Nevertheless, the results will inform future research in this area.

A limitation of this study is the small size of the sample, due to the focus on one professional sports league. The small number of cases used likely impacted the effects of market size and winning percentage, which may not be adequately represented. A larger sample size with teams from multiple leagues may better capture impacts of market size and winning percentage. Additionally, because this study focused on NBA fans, results may not be generalizable. Future research should examine other professional sports leagues using the same methodology and compare information across leagues. Finally, comparing the different behaviors such as liking, sharing, and commenting can help teams develop strategies to cultivate these behaviors. Research should attempt to further delineate the effects of these variables.

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