# When sponsorship causes anger: understanding negative fan reactions to postings on sports clubs' online social media channels

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1   **When sponsorship causes anger: Understanding negative fan reactions to postings on**
2   **sports clubs' online social media channels**
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2    **When sponsorship causes anger: Understanding negative fan reactions to postings on**

3    **sports clubs' online social media channels**

4    **Abstract**

5    **Research question**: Fans' perception that sponsors are a financial need illustrating the increased

6    commercialisation in sports is not always aligned with their view of a club's culture. This perceived

7    imbalance represents a challenge in the online marketing strategies of sports clubs. When club managers

8    decide on the content of online social media posts/messages related to sponsors, they should be aware

9    of potential fan reactions. Therefore, this study analyses how sponsor-related and other online social

10   media communication of football clubs affect fan reactions.

11   **Research methods**: We analyse Facebook postings (N=4,603) published by German first division

12   football clubs. After classifying postings regarding their content, we regress 'Reactions', 'Shares', and

13   'Angry' reactions on the content variable and further covariates. Linear regression models, Poisson

14   regression models, and general dominance statistics are used for exploring variance within the data.

15   **Results and Findings**: Fans react considerably angrier to sponsor-related posts than to other content

16   except for defeat-related postings. Regarding overall reactions and shares, sponsor-related posts

17   perform worst among different contents. In addition, the content of posts is elementary to negative

18   reactions, but of less importance to overall reaction rates.

19   **Implications:** Sports managers and sponsors should be aware of the potential negative shift in reactions

20   when using clubs' social media channels to share sponsor-related content. We recommend releasing

21   sponsor-related posts as videos on game days to decrease the fraction of negative responses and

22   simultaneously maximize the overall reactions.

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24   **Keywords**: Facebook; Sponsorship; Social Media; Football; Sports Fans.

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3    Like other entertainment-related brands, sports clubs increasingly use online social

4    media channels (OSMC; e.g. Facebook, Twitter, or Instagram) for developing relationships

5    with consumers, building up consumption capital, and offering branded entertainment

6    (Anagnostopoulos, Parganas, Chadwick, & Fenton, 2018). Sports clubs trigger strong

7    consumer involvement (Beaton, Funk, Ridinger, & Jordan, 2011; Waters et al., 2011), and fans

8    share emotions more frequently than average consumers do (Benigni, Porter, & Wood, 2009).

9    Therefore, from a club's brand management perspective, the growing importance of

10   communication via OSMC is not surprising (Abeza, O'Reilly, Séguin, & Nzindukiyimana,

11   2015; Filo, Lock, & Karg, 2015; Ruiz-Mafe & Veloutsou, 2017). While research has associated

12   fan emotions mainly with game outcomes for a long time, newer studies have expanded this

13   view by considering the stimuli triggered by sports teams and marketing activities leading to

14   these emotions (Kwak, Kim, & Hirt, 2011; Lee, Kim, & Heere, 2018). Consequently,

15   understanding fans' emotional reactions towards teams and their activities is crucial for sports

16   managers because these reactions may be a display of fans' loyalty towards the club (Biscaia

17   Correia, Rosado, Maroco, & Ross, 2012; Kaynak, Salman, & Tatoglu, 2008).

18   In this regard, sports managers need to understand how to minimize fans' negative

19   emotional reactions (e.g. anger, unhappiness, and worry) on OSMC to prevent damaging their

20   relationship with the club (Coulter et al. 2012). One possibility to influence fan reactions seems

21   to be through the content of OSMC posts (Yuki, 2015). While sports clubs have no choice to

22   hold back negative public information (i.e. game results or player transfers), they are more

23   flexible when it comes to non-public content. One category of non-public content posted

1  voluntarily[1] is content related to sponsors (Eagleman & Krohn, 2012; Delia & Armstrong,

2  2015). Indeed, posting slots on a club's OSMCs are usually included in sponsorship packages

3  (Meenaghan, 2013), which is why sponsor-related content on OSMCs has become a frequent

4  issue for sports organisations (Delia & Armstrong, 2015).

5      A fan's reaction to sponsor-related content is a manifold and complex construct. For

6  many fans, supporting a club is an integral part of their identity (Lock & Heere, 2017) and they

7  do not switch clubs even when they are unhappy with the team's performance or league

8  standing (Giulianotti, 2005; Koenigstorfer, Groeppel-Klein, & Schmitt, 2010). However, since

9  fans often perceive the club as 'belonging' to them (Margalit, 2008), they tend to turn club-

10 related events into cultural and social events, and often disregard the commercialisation and

11 business part of it (Dionísio, Leal, & Moutinho, 2008). The resulting lack of congruence

12 between a club's identity (culture) and its sponsors (commercialisation) might induce negative

13 reactions (Kennedy & Kennedy, 2012; Martinez & Janney, 2015; Popp, Germelmann, & Jung,

14 2016; Popp, Horbel, & Germelmann, 2018), while positive reactions are triggered if fans

15 perceive a fit between both parties (Biscaia et al., 2017). Therefore, despite contributing to the

16 clubs' financial stability and growth, sponsors might lead to an increased team

17 commercialisation and not align with the club's culture. This perceived imbalance between

18 club and sponsor (Mazodier & Quester, 2014) is a challenging issue for managing OSMC due

19 to the potential impact on fans' negative reactions (Cornwell & Kwon, 2019; Meenaghan,

20 2013; Popp et al., 2018).

21     Although recommended by past literature (Abeza et al., 2015; Filo et al., 2015),

22 research on fan reactions to sponsor-related posts (i.e. posts by a club endorsing a sponsor) is

23 still sparse and requires further development because the extent to which these posts are viewed

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[1]  Even if the post is contractually fixed, the decision to sign the contract with a sponsor regarding posts on their OMSC is a free choice from a club's perspective.

more positively or negatively by club fans is an important indicator of performance (Meenaghan, McLoughlin, & McCormack, 2013) for both clubs and associated sponsors. Hence, the examination of fan reactions to sponsor-related posts is both timely and warranted. The purpose of the current study is to address this research gap by investigating (1) how fans react to the content of posts on a club's OSMC, and (2) whether there are more negative user reactions to sponsor posts compared to other content posts.

## Theoretical Background and Hypotheses

### Sports Clubs and Online Social Media Channels

Motivated by the convenience of constant updates, fans follow their clubs' OSMC and interact with the club and other fans (Mahan, 2011; Santos, Correia, Biscaia, & Pegoraro, 2019). Consequently, a well-managed OSMC is an important tool for clubs in their relationship-marketing (Williams & Chinn, 2010) and is distinctly more beneficial for consumer engagement than unidirectional marketing campaigns (Santos et al., 2019; Yan, Watanabe, Shapiro, Naraine, & Hull, 2018). Therefore, monitoring OSMC content seems crucial to gain competitive advantages and to provide club managers with quantitative feedback on the level of consumption capital related to their clubs (Ghiassi, Skinner, & Zimbra, 2013; Kaplan & Haenlein, 2010; Prinz, Weimar & Deutscher, 2012).

Understanding how fans react to OMSC content is also vital for managing a club's brand image (Abeza et al., 2015; Filo et al., 2015). Following Keller (1993), a club's image refers to the set of mental associations consumers hold in memory regarding that club. These associations can be further classified into attributes (product-related or non-product-related), benefits (meaning attached to the product by consumers), and attitudes (consumers' overall evaluation of the brand) (Biscaia et al., 2016; Keller, 1993). In contrast to attitudes and perceived benefits (e.g. pride in place, peer-group acceptance, escape, entertainment) that often

1    arise from a club's brand attributes and are often less controllable, a sports club can directly

2    influence the communication of product-related attributes (e.g. club performance, players and

3    head coach) and non-product-related attributes (e.g. club history and tradition) when

4    developing a club's brand image (Bauer, Stokburger-Sauer, & Exler, 2008; Biscaia et al., 2016;

5    Kunkel, Funk, & King, 2014). Past research has shown that such attributes of clubs' brand

6    images are key predictors of consumers' reactions to these clubs (Biscaia et al., 2016; Kunkel,

7    Hill, & Funk, 2013). For example, Bauer, Sauer, and Exler (2005) suggested that positive brand

8    attributes (product- and non-product-related) are the means for consumers to obtain a desired

9    benefit. In this regard, the content and the way it is communicated by sport properties via

10   OMSCs contributes to an increased consumer online experience (Huang & Hsu, 2010;

11   Kharouf, Biscaia, Garcia-Perez, & Hickman, in press). In addition, Önder, Gunter, and Gindl

12   (2019) found that content type tends to affect consumer reactions, and thus product- and non-

13   product-related attributes might influence how fans react to a club's OSMC communication

14   (Bauer et al., 2008; Kunkel et al., 2013).

15        This connection has been observed for different sport-related brands such as clubs and

16   athletes. For example, Geurin-Eagleman and Burch (2016) noted that athletes' posts related to

17   their athletic pursuits (e.g. athlete-related news, competition outcomes, injuries) are more

18   appreciated by fans than other posts. Furthermore, Anagnostopoulos et al. (2018) examined

19   two clubs and verified that club management-related information via OSMC tends to generate

20   fewer likes (e.g. pictures or announcements of the executive management), while Parganas,

21   Anagnostopoulos, and Chadwick (2015) focused on a single football club and noted that posts

22   related to star players and team success (i.e. product-related) generate more engagement (e.g.

23   retweets) among fans both in off-season and during the season. Collectively, these studies seem

24   to align with balance theory (Heider, 1958) suggesting that people react more positively to

25   consistency (i.e. sport-related brands posting content linked to the core product). Although

these studies provide useful insights for managing different brands involved in the sport ecosystem, the analysis of club-related communication through OSMC should extend beyond 'likes' and 'tweets' and focus on a greater number of clubs to better understand how to manage club-fan relations. In addition, tourism researchers have suggested that the way content is posted (e.g. core-product-related or promotions) influences consumer interactions (Önder et al., 2019) and that the medium used to share the information (e.g. videos or photos) as well as conversational posts (as opposed to advertising posts) influence the number of consumer reactions (Kwok & Yu, 2013). In a study of the Giro d'Italia (bicycle racing), Kassing and Sanderson (2010) found that event-specific information was especially suitable to foster fan interaction. Wallace, Wilson, and Miloch (2011) further showed that product-related posts of NCAA organisational sport pages led to a significantly higher number of likes than non-product-related posts. Posts signalling authenticity and fan interaction (e.g. riffles) especially influence the relationships between clubs and their fans positively (Pronschinske, Groza, & Walker, 2012). Therefore, based on previous literature analysing different types of posts (e.g. advertising, event, game or athlete-related, management and sponsor announcements) and the remaining gaps, we propose that:

H1: The type of content of a sports club's posts on OSMC influences the number of fan
     reactions.

**Negative Fan Reactions to Sports Clubs' OSMC-Content**

Besides using information found in OSMCs as inspiration for further consumption or for sharing positive emotions (Heinonen, 2011), fans might also communicate negative feelings towards a club with other online consumers (Jansen, Zhang, Sobel, & Chowdury, 2009; Popp et al., 2016). The behavioural consequences of negative emotional reactions can range from a negative influence on future consumption intentions to negative word-of-mouth or anti-brand activism (Bagozzi et al., 2016; Zeelenberg & Pieters, 2004; Popp et al., 2018).

1    Thus, to properly manage a club's image among fans, sports clubs are assumed to generally act

2    averse towards content potentially eliciting negative behavioural reactions in OSMC

3    environments given that such reactions negatively correlate with fan loyalty (Coulter et al.,

4    2012).

5         Negative reactions often emerge when fans perceive a conflict between different parties

6    in a sport setting, and balance theory has proven valuable to explain it in relation to clubs and

7    sponsors (e.g. Angell, Gorton, Bottomley, & White, 2016; Demir, & Söderman, 2015; Popp et

8    al., 2018). According to Heider's (1958) balance theory, people strive for psychological

9    balance in their lives. This implies that, when individuals have a positive perception about an

10   object (e.g. sports club) and a negative perception about an associated object (e.g. sponsor),

11   they feel a sense of imbalance (Peluso, Rizzo, & Pino, 2019; Popp et al., 2018). Following this

12   rationale, a mismatch (i.e. lack of fit or imbalance) between fan expectations concerning a

13   club's product- and non-product related attributes (e.g. success, tradition or culture) and the

14   content of posts on OSMCs might lead to negative reactions since unfulfilled expectations

15   negatively influence fans' satisfaction and feelings of balance (Peluso et al., 2019; Yoon &

16   Kim, 2000).

17        Within this discussion of negative reactions to the content of posts on OSMCs of sports

18   clubs, past research indicated sponsor-related communication as one potential source of

19   conflict (Biscaia et al., 2017; Kim, Lee, Magnusen, & Kim, 2015; Tsordia, Papadimitriou, &

20   Parganas, 2018). Digital environments provide companies with sponsorship opportunities to

21   engage individuals and groups, communicate real-time offers, build communities of interest,

22   and offer new user experiences (Meenaghan et al., 2013). Sport properties also use OSMCs to

23   attract and promote sponsors (Eagleman & Krohn, 2012; Alonso-Dos-Santos, Guardia,

24   Campos, Calabuig-Moreno, & Ko, 2018; Santos et al., 2019). To this respect, it is important to

1    note that fan reactions towards OSMC posts are often affected by the relationship with the club

2    and that the sponsor appears as a third party in this relationship (Popp et al., 2018).

3            Posts regarding a sponsorship may lead to positive reactions if fans perceive them to

4    be credible and helpful to the club (Biscaia et al., 2017; Rifon, Choi, Trimble, & Li, 2004).

5    Since relatedness influences storage in memory and retrieval of information (Cornwell, Weeks,

6    & Roy, 2005), a perceived high degree of fit also leads to positive reactions (Angell et al.,

7    2016). In addition, the sponsor-sponsee fit has been suggested to positively influence

8    perceptions of altruistic motives and credibility of the sponsors (Rifon et al., 2004). However,

9    since fans often perceive sports not as business but as culture, reactions to sponsorship can also

10   generate tension (Kennedy & Kennedy, 2012). This is problematic, since research on

11   sponsorship and balance theory suggests that fans want to avoid such perceived inconsistencies

12   between sponsor and sponsee (Cornwell et al., 2005). In summary, sponsors and clubs have the

13   potential to affect one another and to trigger fan reactions (Dalakas & Levin, 2005; Kunkel &

14   Biscaia, 2020). As noted by Gwinner and Eaton (1999), image transfer often occurs in a

15   sponsorship agreement due to an associate network process, and a lack of fit between both

16   parties may lead to unfavourable thoughts if the incongruency is not resolved by managers

17   (Jagre, Watson, & Watson, 2001; Mazodier & Quester, 2014). When there is a lack of fit

18   between the sponsor (commercialisation) and a club's identity (culture), fans may perceive

19   sponsorship posts as not adding value to their online experience with the club (Williams &

20   Chinn, 2010) and thus have negative reactions (Martinez & Janney, 2015). This highlights the

21   importance of the fit between both parties (i.e. strategic match between sponsor and sports club

22   in business, mission, target, audience, geographic location, image, and/or values; Becker-Olsen

23   and Hill, 2006; Mazodier & Merunka, 2012),

24           Since the perceived fit (or non-fit) between a club and its sponsor influences a fan's

25   reaction to the sponsor brand (e.g. Biscaia et al., 2017; Delia & Armstrong, 2015; Popp et al.,

1    2018), one might expect spillover effects to the club's image. For instance, increased

2    commercialisation (e.g. player salaries or sponsors) or unauthentic club or player behaviour

3    have led to prompt declines in crowd numbers (both at live and TV games) and other negative

4    fan reactions in the German Bundesliga in the past (Merkel, 2012). Also, Delia and Armstrong

5    (2015) have noted that both positive and negative mentions to sport event sponsors are common

6    in online platforms. Given that fans often develop a stronger sense of identification with their

7    teams (Lock & Heere, 2017), and that sponsorship incongruence can be detrimental to sports

8    clubs due to the difficulty to cognitively reconcile (Groza, Cobbs, & Schaefers, 2012) the

9    sponsor message with the club's values and image (Kennedy & Kennedy, 2012), an

10   examination of how sponsor-related posts affect associated clubs is timely and warranted.

11   Based on previous research and the existing gap in understanding fan reactions to sponsor-

12   related posts on OSMC, we propose that:

13   H2: If the content of a post on a club's OSMC is sponsor-related, then the number of negative

14      reactions is higher compared to other content.

15

16                          **Empirical Analysis**

17   **Data Sample**

18      Among the 18 German first division (Bundesliga) clubs investigated in this study, all

19   run a Facebook channel. Facebook has been suggested to be an important OSMC to understand

20   how individuals react to brands since many people use the platform to retrieve information.

21   Consumers visit Facebook pages because they tend to apply the principle of least effort and

22   this platform is one of the easiest ways to retrieve information while avoiding information

23   overload (Önder et al., 2019). Our data sample covers information on all Facebook posts that

24   were released by the 18 First Division Bundesliga clubs between February 1$^{st}$ and March 31$^{th}$,

25   2017 (N=4,603 posts). Since the number of posts for football clubs per day is generally high,

1    we restricted the research to a two-month period. The reactions for every post were manually

2    collected after four weeks. This time gap between the day of the posting and the collection of

3    the data was necessary for ensuring an almost complete caption of the reactions to the post

4    (since fans keep reacting to posts for several days). Therefore, the data represents the (time-

5    point related) accumulated reactions four weeks after the initial posting.

6

7    **Dependent Variables: Facebook Reactions**

8          Facebook offers several outcome information linked with consumer reactions (e.g.

9    Prinz et al., 2012; Filo et al., 2015). Since 2009, Facebook users can 'evaluate' a post with the

10   'like' button that reflects the reactions to a post's content. Thus, the variable reflects the sum

11   of all reactions to a post. Facebook also enables users to share posts on their personal page by

12   clicking the 'share' button, which is reflected by the second dependent variable SHARES. Both

13   'reaction' and 'share' buttons can be selected independently from each other. However, the

14   'share' button offers a rather ambiguous measurement of reaction, since postings might be

15   shared through agreement or disagreement with the content (Larsson, 2018).

16          In order to offer users a more detailed way to express their feelings, Facebook

17   redesigned the 'like' button in 2015 by adding five options to the original like option: 'love',

18   'haha' (i.e. funny/laugh), 'wow' (i.e. impressed/fascinated), 'sad' and 'angry' (i.e.

19   dislike/rejection). Therefore, REACTIONS is the sum of all these options (i.e. like, love,

20   laughing, wow, sad, angry). In accordance to hypothesis 2, adding the angry options to the post

21   reaction canon enabled us to investigate negative reactions.[2] Therefore, our third dependent

22   variable is labelled "ANGRY" and covers the number of users mainly associating a post with

23   anger or rejection. Still, as the total number of angry reactions may not be enough when

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[2]    Facebook itself offers the choice between like, love, sad, surprised and angry. Therefore, we only collected the information on likes and angry reactions and did not code the reactions by ourselves in any way.

1   examining hypothesis 2, we divided the total number of angry 'statements' by the overall

2   number of reactions (REACTIONS). This ANGRY RATIO could be compared among posts

3   with different reaches and is our fourth and main dependent variable.

4

5   **Independent Variables**

6         The main independent variable POST CONTENT contains information on the content

7   of Facebook posts. Since there is no existent research on the segmentation of post contents for

8   football clubs through Facebook, we clustered the posts explanatory into 13 subcategories,

9   which we found to reflect the best trade-off between maintaining variance in the data and

10  reducing the content dimensions to an analysable and interpretable number of subcategories.

11  Two researchers coded the content of the postings in an exploratory way. We grouped the first

12  content and compared it to the next. When we identified a clear distinction to the already

13  existing categories, a new category was defined. In doing this, we ended up with 13 categories:

14  advertising (e.g. merchandise), event-related (e.g. information for a special club event), fan-

15  related (e.g. information concerning fan meetings), game defeat (e.g. post-game reports after a

16  defeat), game draw (e.g. post-game reports after a draw), game pre-information (e.g.

17  preliminary reports to an upcoming game), game win (e.g. post-game reports after a victory),

18  injuries (e.g. news related to player injuries), management-related (e.g. announcement to

19  personnel changes of managerial aspects), other club-related (e.g. opponent, other local clubs),

20  player-related (e.g. posts related to player statements or news), sponsor-related (any verbal or

21  visual connection to the sponsor except for advertising for a certain product of the sponsor) and

22  raffle (announcements of a raffle).

23        Further covariates control for the month of the post (FEBRUARY=1, MARCH=2), the

24  WEEKDAY the post was released, the TIME OF THE DAY a post was released and the

25  medium used to transport the message (POST MEDIUM). With respect to the latter variable,

1    we distinguish between live videos (i.e. recorded via Facebook app and simultaneously

2    streamed), pictures, pure text messages, title pictures (i.e. pictures that appear in the page

3    heading to every user), and non-live videos. The option for these variables is based on previous

4    research highlighting the connection between the medium and the success/reach of the

5    communication (Bene, 2017; Gerodimos & Justinussen, 2015; Malhotra, Malhotra, & See,

6    2013).

7    **Descriptive Statistics**

8    Descriptive statistics (Table 1) show clear patterns of right skewed dependent variables,

9    which stems from the count nature of these variables. Count variables possess the largest

10   fraction of observation at the lowest level and decline rapidly from that maximum on. While

11   REACTIONS is less right skewed, SHARES shows zero observations within 25% of the lowest

12   values and ANGRY RATIO even among the lowest 75% of the observations. In contrast to

13   ANGRY RATIO, the variables REACTIONS, SHARES, and ANGRY show a much larger

14   variance compared to the mean, which is an indication of overdispersion in the count data. This

15   first impression is supported by a Pearson test of overdispersion. On average, Facebook posts

16   generated 2,956 reactions, they were shared 108 times, and received 15 angry reactions, which

17   makes 2% negative emotional responses.

18                                             [Table 1]

19   As shown in Table 2, the most frequent types of content were pre-game information

20   (24%) and player-related news (22%). As content of main interest in the present study, sponsor-

21   related posts were rather seldom with 61 posts among the 4,603 observations. Most posts were

22   released on Saturday (22%), which should be associated with the fact that Bundesliga games

23   are mostly taking place on that day. Monday was identified as the weekday with the smallest

24   fraction of posting activities. The detailed descriptive statistics for TIME OF DAY show that

25   the majority of the posting activities occur in the afternoon (35%) and evening (28%), with this

1   pattern being similar to previous research on OSMC activities (Golder, Wilkinson, &

2   Huberman, 2007). A vast majority of the posts (71%) contained a picture as content (POST

3   MEDIUM). Videos were also a popular medium with 22%.

4                                               [Table 2]

5          When investigating the bi-variate correlation structure among the metric and ordinal

6   variables (table 3), we found a high correlation (r=0.76) between REACTIONS and

7   SHARES, which is in line with previous findings indicating that the number of reactions is

8   more associated to shares than comments (Saxton & Waters, 2014). A rather low correlation

9   (r=0.40) between ANGRY and ANGRY RATIO can be seen as a further justification for the

10  differentiation between the two variables in the subsequent empirical estimations. No critical

11  correlations were found among the ordinal independent variables. Due to the high correlation

12  of both daytime variables (r=0.86), we decided to include the reduced daytime information

13  only.

14                                              [Table 3]

15  **Empirical Model**

16         To expand our understanding of the independent parameters, we used linear ordinary

17  least squares regressions as starting models. Since the total amount of a Facebook page's

18  postings influences the overall reaction rate (Prinz et al., 2012: Weimar, 2012) and the number

19  of Facebook fans strongly differs between the Bundesliga clubs, we concluded that fixed

20  effects are suitable (OLS FE).

21         Based on the linear model, the count nature of the dependent variables raises questions

22  about applying appropriate non-linear models to account for the right skewed distribution

23  and/or the high fraction of zeros in the data. For count data, non-linear Poisson regressions are

24  one possible approach (Long & Freese, 2014). However, Poisson estimations are biased if there

25  is overdispersion in the dependent variable. As discussed above, REACTIONS, SHARES, and

1    ANGRY (not ANGRY RATIO) are strongly characterized by overdispersion. To account for

2    overdispersion, a multiplicative random effect θ could be added to a Poisson regression model

3    to represent unobserved heterogeneity, which is then called a negative binomial regression

4    model (Long & Freese, 2014). To better measure the impact of the fixed effects in the

5    dominance models, we use an unconditional least squares dummy variable approach in every

6    model (LSDV).

7         For better insights into the relation between the dependent and independent variables

8    beyond statistical significance, we use a measurement of relative importance. For this purpose,

9    we use general dominance statistics (Budescu, 1993; Grömping, 2015), which reflect the

10   average marginal contribution of each independent variable to the overall $R^2$ of all possible

11   covariate combinations, also called Shapley values (Grömping, 2015). The final values can be

12   interpreted as > 0.14 strong effects, > 0.06 moderate effects, > 0.01 small effects, and < 0.01

13   negligible effects (Cohen, 1988; Richardson, 2011). The advantage of this method (compared

14   to t-values, standardized beta coefficients, or zero-order correlations) is a lower sensitivity to

15   multicollinearity (Tonidandel & LeBreton, 2011).

16                                      **Results**

17        Results show the highest variance explanation by the independent variables for our

18   main model 4 (ANGRY RATIO) with an adjusted $R^2$ of 47.8% (table 4). The variance within

19   REACTIONS for the posts seems to be more affected by unobserved factors, as the adjusted

20   $R^2$ is only 37.8%. In turn, variance within SHARES (16.3%) and total negative reactions (8.6%)

21   is even more determined by unobserved heterogeneity.

22                                     [Table 4]

23        Regarding POST CONTENT, dominance statistics show a diverse relation between

24   content and different reaction variables (table 5). While content explains 7% of the variance in

25   REACTIONS, its $R^2$ contribution rises up to 32% in the ANGRY RATIO model. Moreover,

1    its relative importance among the independent variables rises from 19% in REACTIONS up to

2    67%. In this term, the importance of a post's content is stronger than the fixed effects of the

3    clubs (73% variance explanation). This result suggests that the content has a strong impact on

4    ANGRY RATIO, but less on other reactions (5% of the total variance in SHARES, 6% of the

5    total variance in ANGRY). In a similar vein, the importance of POST MEDIUM is more

6    important for negative emotional reactions (13% of the total variance) than it is for the other

7    Facebook reaction statistics. As shown in table 5, the variables FEBRUARY, WEEKDAY, and

8    TIME OF DAY have only a negligible role in explaining variance within the Facebook

9    reactions ($R^2$ contribution <0.01). Summing up, the estimations showed statistically significant

10   differences in reactions of content to OSMC reactions, which supports hypothesis 1.

11                                        [Table 5]

12       The precise estimations from the linear regressions (table 4) and the non-linear count

13   model regressions (table 6) mainly confirm the first impressions from the dominance analysis.

14   Generally, the estimations from the OLS and the non-linear models are very similar, for which

15   reason we mainly refer to the non-linear estimations (table 6) in the subsequent part. In this

16   regard, FEBRUARY, WEEKDAY, and TIME of DAY show only few statistically significant

17   differences among the ordinal categories for REACTIONS and SHARES. As indicated by the

18   non-linear estimations (table 6), posts released on Saturday and Sunday receive more overall

19   reactions as posts released on other days, while Tuesday posts show the lowest total reaction.

20   Furthermore, "lunch posts" are less effective than others. Posts in the morning, evening and

21   night lead to statistically significant higher reactions and shares compared to "lunch posts".

22   More importantly, both the OLS and the Poisson estimations showed marginal effects of

23   FEBRUARY, WEEKDAY, and TIME of DAY on negative responses to posts.

24                                        [Table 6]

1    POST MEDIUM seems to have different impacts on the reaction variables. According

2  to table 6, pure text posts generated on average 1,849 reactions less than pictures. In addition,

3  videos were less effective than pictures, regarding REACTIONS. Focusing on ANGRY

4  RATIO, pictures lead to an average effect, whereby text and live videos increase the ratio, and

5  title pictures and videos lead to statistically significant less critical reactions. To put it in more

6  detail, compared to picture posts, title pictures lead to a decrease of 1.1% in ANGRY RATIO.

7  Compared to live videos, the difference is 5.1%. The high t-value of 7.15 suggests the strongest

8  difference. Videos lead to 0.6% less negative reactions compared to pictures, while text posts

9  increase to ratio of negative reactions by 1.8% and live videos even by 4%.

10    Results for POST CONTENT show important effects concerning our main model 8

11  (ANGRY RATIO, Table 6). Compared to the average effect for fan-related content, posts

12  related to a game defeat increase the return of negative perceptions (ANGRY RATIO) to a

13  maximum with a positive and statistically significant difference of 9.4%. That is 9.9% higher

14  than for raffle-related or victory-related posts, which are associated with the lowest return of

15  negative reactions. The difference between the highest right 95% confidence interval (95CFI)

16  of a game defeat (=0.11) and the lowest left 95CFI of other club-related posts (=-0.009)

17  indicates a maximum difference of the average effect of 11.9%. On average, sponsor-related

18  post lead to more negative reactions, which is statistically significantly different from the mean

19  determinant (fan-related posts). More precisely, sponsor-related posts lead to an increase of

20  negative reactions by 4.8% compared to the mean determinant and 5.3% in the category with

21  the lowest negative reaction rate (raffle). Thus, sponsor-related posts were the second most

22  negative post content among all content categories. Looking at the 95CFI of sponsor-related

23  posts, the range of an average coefficient lies between 7.5% and 3.1% above a raffle post as

24  the most positive content and between 3.7% and 5.4% below the most negative content (game

25  defeat). This negative effect of sponsor-related posts on Facebook reactions is also covered

with a statistically significant lower number of reactions and shares. Together with advertising

posts, sponsor-related posts perform lowest on REACTIONS (-2112 on average) compared to

fan related and even lowest on SHARES (-115 on average). According to the results discussed

above, hypothesis 2 is supported by the empirical analysis.

Further interaction models (Figure 1 - Figure 3) reveal statistically significant relations

among the relevant variables. Since sponsor-related posts were not recorded for every

subcategory (morning, live video, title picture, text), these categories were suppressed in the

figures. Figure 1 depicts the relation between the effect of sponsor-related posts and the

weekday. Based on the means, Saturday seems to be the best choice for posting sponsor-related

content, as the proportion of negative reactions (ANGRY RATIO) is the smallest. In turn,

Sunday should be avoided for posting sponsor-related content. While the mean is different from

other days, the 95CFIs only show a statistically significant difference from Monday and

Sunday. The large 95CFI for Thursday, Tuesday, and Wednesday result from the small amount

of observations for these days. Thus, the differences among the day times might be statistically

significant when increasing the number of observations. The preference for Saturday has also

been supported by additional interaction estimations with REACTIONS.

[Figure 1]

Figure 2 suggests rather posting sponsor-related information in the Evening to decrease

the ratio of negative responses. Midmorning showed the most critical mean. However, the

95CFIs are broad and make a differentiation between Midmorning, Lunch, and Afternoon

difficult. Separate interaction estimations for REACTIONS also showed similar patterns.

[Figure 2]

Regarding the medium of sponsor-related posts, only picture and video posts were

observed. Both are significantly different from each other (Figure 3). While a sponsor-related

picture leads to a proportion of 5.7% angry responses, a video only induces a negative rate of

1.6%. Therefore, one can conclude that sponsor-related posts should be released as videos on Saturday evening to lower the negative reactions rates associated with the post.

[Figure 3]

## Discussion and Managerial Implications

The current study aims at investigating how sponsor-related online social media communication and other content posted by football clubs affect fan reactions. The results show that social media posts related to a club's sponsors induce a higher probability of negative reactions (except for game defeats). This may be related to the fact that fans are primarily attracted to OSMC because of their commitment to the club and will to interact with other fans (Stavros, Meng, Westberg, & Farrelly, 2014; Popp et al., 2018), and sponsor-related posts may not add value to their online experience (Williams & Chinn, 2010). In addition, a missing fit or perceived imbalance between the fans' image of a club and that of its sponsor might lead to a perceived psychological imbalance and thus to negative emotional reactions (Mazodier & Quester, 2014; Popp et al., 2016; Popp et al., 2018). Nevertheless, sponsorship is one of the most powerful sources of revenues for clubs and sponsors consider OSMC as important vehicles to communicate with (prospect) consumers (Delia & Armstrong, 2015; Meenaghan et al., 2013). Thus, since clubs often do not have the option of not releasing sponsor-related information, they should work closely with sponsors to develop online content exhibiting a symbiotic relationship and thus ensuring a perceived psychological balance of the relationship among fans. A clear fit between the two parties facilitates image transfer of the club to the sponsor, leading to an improved attitude towards the sponsored products (Alonso-Dos-Santos et al., 2018). Also, when exposed to sponsorship information, fans assess club and sponsor schemas from memory and compare them to judge the appropriateness of the partnership (Cornwell et al., 2005; Gwinner & Eaton, 1999). This means that the image of both sponsor and sponsee can affect each other (Bauer et al., 2008; Kunkel & Biscaia, 2020). Thus, due to

1    the growing importance of online environments for sport properties (Filo et al., 2015; Kharouf

2    et al., in press), the current study's results further consolidate the idea that managers should

3    proactively communicate the fit between club and sponsor (Mazodier & Quester, 2014) through

4    OSMC to trigger a sense of perceived psychological balance. To this respect, storytelling can

5    contribute to resolve imbalanced states among fans (Cornwell et al., 2005). Also, as noted by

6    Uhrich, Koenigstorfer and Groeppel-Klein (2014), acting as a commercial sponsor and doing

7    good is not contradictory, meaning that CSR-linked sponsorship strategies promoted via

8    OSMC may add social meaning to the partnership and improve the evaluation of both parties.

9         The findings further suggest that fan reactions and perceived balance depend on the

10   temporal conditions of a post as well as on the medium used to convey the sponsor-related

11   content. Thus, we add to existent sponsorship literature that fans' perceived balance does not

12   only result from the actors involved in a sponsorship deal, but it is also subject to external

13   circumstances. Our results have shown that fans have the least amount of negative reactions to

14   sponsor-related posts on Saturdays (i.e. usually game day) and that clubs should place these

15   posts in the evening. This may be explained by the fact that fans are more emotionally involved

16   with their club around game days and the goodwill toward the club may be transferred to the

17   sponsors' brands or products (Biscaia et al., 2013; Madrigal, 2001). Moreover, posting after a

18   team win might be especially helpful in order to transfer fans' positive emotional reactions

19   from the team to the sponsor.  Sponsors should capitalise on this goodwill spillover effect

20   through posts related to the game and by promoting co-creation activities to engage fans with

21   the club's online community, the sponsor, and associated products (Alonso-dos-Santos et al.,

22   2018; Santos et al., 2019). The exhibition of experiential marketing activities with fans on these

23   online platforms may also prove to be important given that it often boosts the persuasive power

24   of the sponsors (Fetchko, Roy, & Clow, 2018) and may add value to the overall fan experience

25   in the club's OSMC. Furthermore, it may help alleviate fan concerns about over-

1  commercialisation of sports (Kennedy & Kennedy, 2012; Uhrich et al., 2014). Rather than

2  'badging' (i.e. linking the logo and image with the sport property), sponsors need to evolve to

3  'building' (i.e. promoting brand engagement and relationships with fans) (Meenaghan et al.,

4  2013). Coca Cola's 'Aléntrometro' campaign during the 2011 Copa America (Latin Spots,

5  2011) or Super Bock's campaign to make fans' dreams come true (Mirror, 2016) are good

6  examples of content that could be shared with fans on OSMC to trigger more positive reactions.

7      In addition, the results show that fans perceive sponsor-related videos more positively

8  than pictures or text. This is contrary to prior research on tourism (Kwok & Yu, 2013), which

9  may be related to the fact that fans are knowledgeable about their clubs, as opposed to tourists

10  surfing online to obtain reviews and suggestions about the next destination (Önder et al., 2019).

11  On the other hand, these findings suggest that formats enabling more complete forms of

12  communication (e.g. videos) have more impact than leaner formats (e.g. written text) (Kaplan

13  & Haenlein, 2010). Given that insincere marketing appeals often lead to consumer scepticism

14  (Gable & Impett, 2012), it is important for fans to understand not only how the club and sponsor

15  fit together based on the respective attributes, but also that the relationship is authentic (i.e.,

16  the extent to which the relationship is genuine; Charlton & Cornwell, 2019). Thus, the adoption

17  of the club's colours (Henderson, Mazodier, & Sundar, 2018), association with the club's

18  values and traditions, the social value of the partnership beyond the economic advantages

19  (Uhrich et al., 2014), and entertainment elements linking both parties could represent important

20  aspects to consider in sponsor-related videos. Given that perceptions of commercialization in

21  sponsorship agreements tend to generate negative reactions among fans and perceived fit is

22  often associated with positive responses (Cornwell & Kwon, 2019), sponsors and clubs need

23  to explicitly articulate the meaning of the relationship through OSMC to help fans create a link

24  between the existing schemas held with respect to both parties (Mazodier & Quester, 2014)

25  and show the authenticity of the sponsorship deal in the content of the posts.

1       In more general terms, the results of the current study also indicate that posts related to

2   pre-game information and player-related news generate more reactions than all other posts.

3   This is consistent with the idea that product-related attributes of a club lead to more fan

4   engagement in online platforms (e.g. Anagnostopoulos et al., 2018; Parganas et al., 2015) and

5   highlights the importance of developing an online strategy around the action on the fields and

6   those who directly contribute to that. It allows to extend previous empirical studies (e.g.

7   Anagnostopoulos et al., 2018; Santos et al., 2019) by providing a more nuanced understanding

8   of the type of product-related attributes that clubs should manage to boost reactions among

9   fans. As players are pivotal for a club's success and games represent the moment most fans

10  wait for, posts with updates about the upcoming games (e.g. ticketing, fan rituals, game-day

11  promotions, club and opponent statistics), showing players' commitment in training sessions,

12  or using key club personnel to promote the game and intended behaviours may likely favour

13  clubs and promote online fan engagement. Also, it may generate benefits outside the online

14  environment, given that previous studies have suggested fan engagement through OSMC

15  positively influences behavioural intentions towards the club in offline settings (Lim & Lee,

16  2015; Santos et al., 2019). Moreover, as the perceived prestige of the team and its players has

17  been shown to influence one's identification with the club (Gwinner & Swanson, 2003), the

18  findings from the current study may lead to a better understanding of how the content managed

19  via OSMC contributes to the development of identity benefits (Lock & Heere, 2017; Meng,

20  Stravos, & Westberg, 2015).

21

22                                              **Conclusion**

23      The current study examined how the content posted on a club's OSMCs affects fan

24  reactions and whether there were more negative reactions to sponsor-related posts as opposed

to other contents. We found that posts containing sponsor-related content perform worst on overall reactions and shares and second worst on the ratio of negative reactions.

We recommend releasing sponsor-related posts as video posts on Saturday evenings (i.e. typically game day) to decrease the fraction of negative responses and simultaneously maximise overall reactions. Moreover, while club fixed effects are the main drivers for the variance within overall reactions and shares, the share of negative emotional responses is strongly driven by the content, which explains 30% of the variance in angry reactions. Therefore, clubs should select the content of their OSMC posts wisely in order to decrease negative emotional reactions. Both clubs and sponsors should be aware of the potential negative shift in reactions to sponsorship posts when using a club's OSMC to transmit sponsor-related content. In order to select which sponsor content to post, clubs should consider their target group and factor in that fans often perceive their favourite clubs as part of their identity (Lock & Heere, 2017). Thus, clubs and sponsors should try to depict a good fit and an authentic relationship to create perceived sense of balance among fans and thereby minimizing negative spillover effects.

Despite the contributions of the current study, there are limitations that should be acknowledged and considered in future research endeavours. First, despite all 18 clubs examined in this study posted sponsorship-related posts, these posts only make up a small fraction of all posts (61 out of 4,903), which might over- or underestimate the proposed effects and effect strength.[3] Another limitation is the fact that individuals often experience sports from their own unique perspectives of the world, which means their perceptions of the sponsorship fit may depend on that (Delia & Armstrong, 2015). In the current study, analysing the comments to the posts did not seem expedient, given that a large amount of these comments

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[3]  Although we considered the possibility to increase the data set in the aftermath, this was technically not possible due to a potential selection bias, a restriction of automatic data collection from Facebook after 2018 and impossible manual data collection due to a memory overload of the browser.

1    are links to friends or emojis. Only very few comments contain enough verbal text to give

2    deeper insights. For this reason, we used the quantitative data offered by Facebook, which

3    seems to be an adequate approximation of the actual comments, assuming that almost everyone

4    leaving an 'angry' comment should click the angry button, while not everybody clicking the

5    'angry' button leaves a comment. Notwithstanding, future studies should still consider the

6    possibility to qualitatively investigate the content of the posts related to sponsors and the

7    reasons for such small amount of sponsorship postings to better understand how to manage

8    fan-club relationship via OSMC.

9        Moreover, while our results allow managers to understand how fans react to different

10    types of posts and provide them with results to develop managerial strategies, future studies

11    should extend the period of data collection to an entire season to better assess the in-season

12    effects. Second, our study focused only on German football clubs. Since the expression of anger

13    is modified across cultures to maintain social order (Matsumoto, Yoo, & Chung, 2010),

14    findings might differ in other cultures. Third, the existent literature is still scarce when it comes

15    to understanding the Facebook reaction options, which has only been available since 2015.

16    Thus, the interpretation of angry reactions by fans that we used in this study to proxy negative

17    emotional responses might be misinterpreted. Finally, future research may consider a more

18    precise segmentation of post-related contents. For instance, Dickenson and Souchon (2019)

19    have recently found that collective responsibility of sponsors can lead to a positive perception

20    of both sponsors and sponsees. Further research could develop field experiments to investigate

21    reactions to controlled content in order to derive more robust and causal interpretations.

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15

1      **Table 1.** Distribution of dependent variables.

|  | REACTIONS | SHARES | ANGRY | ANGRY RATIO |
|---|---|---|---|---|
| **Percentiles** | | | | |
| 1% | 50 | 0 | 0 | .00 |
| 5% | 90 | 0 | 0 | .00 |
| 10% | 125 | 0 | 0 | .00 |
| 25% | 253 | 2 | 0 | .00 |
| 50% | 695 | 20 | 0 | .00 |
| 75% | 2,551 | 71 | 4 | .00 |
| 90% | 8,146 | 236 | 16 | .03 |
| 95% | 13,132 | 458 | 46 | .09 |
| 99% | 31,810 | 1,505 | 276 | .30 |
| *Min* | 20 | 0 | 0 | .00 |
| *Max* | 137,558 | 9,387 | 4,093 | .56 |
| *Mean* | 2956.55 | 108.26 | 15.10 | .02 |
| *Variance* | 47,200,0.00 | 136,386 | 12,084 | .003 |
| *Skewness* | 7.10 | 11.62 | 2.97 | 5.10 |
| *Kurtosis* | 88.67 | 205.29 | 603.47 | 32.41 |
| *Pearson test of overdispersion* | 12800000** | 1628405** | 832676 ** | 345.3 |

2      *Note:* $^{*}$ *p* < .05, $^{**}$ *p* < .01, robust estimations.
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1      **Table 2.** Descriptive Statistics of bivariate independent variables (N=4,603).

| Variables | Observations | Mean |
|---|---|---|
| FEBRUARY | | .48 |
| WEEKDAY | | |
|   Monday | 449 | .10 |
|   Tuesday | 529 | .11 |
|   Wednesday | 680 | .15 |
|   Thursday | 641 | .14 |
|   Friday | 749 | .16 |
|   Saturday | 1006 | .22 |
|   Sunday | 549 | .12 |
| TIME OF DAY | | |
|   Morning | 484 | .11 |
|   Midmorning | 609 | .13 |
|   Lunch | 541 | .12 |
|   Afternoon | 1616 | .35 |
|   Evening | 1273 | .28 |
|   Night | 80 | .02 |
| POST CONTENT | | |
|   Advertising | 160 | .03 |
|   Event related | 198 | .04 |
|   Fan related | 508 | .11 |
|   Game defeat | 302 | .07 |
|   Game draw | 238 | .05 |
|   Game pre info | 1110 | .24 |
|   Game win | 559 | .12 |
|   Injuries | 33 | .01 |
|   Management related | 192 | .04 |
|   Other team related | 121 | .03 |
|   Player related | 1019 | .22 |
|   Sponsor related | 61 | .01 |
|   Raffle | 102 | .02 |
| POST MEDIUM | | |
|   Live Video | 114 | .02 |
|   Picture | 3269 | .71 |
|   Text | 95 | .02 |
|   Title picture | 133 | .03 |
|   Video | 992 | .22 |

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1    **Table 3.** Correlation matrix.

|  | REACTIONS | SHARES | ANGRY | ANGRY RATIO | FEBRUARY | WEEKDAY |
|---|---|---|---|---|---|---|
| REACTIONS | - | | | | | |
| SHARES | .76 | - | | | | |
| ANGRY | .09 | .06 | - | | | |
| ANGRY RATIO | -.08 | -.05 | .40 | - | | |
| FEBRUARY | .01 | .01 | .04 | .03 | - | |
| WEEKDAY | .01 | .00 | .03 | .12 | .05 | - |
| TIME OF DAY | .09 | .07 | .06 | .11 | .03 | .06 |

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1    **Table 4.** Regression Results (N=4,603).

| | (1) OLS FE REACTIONS | (2) OLS FE SHARES | (3) OLS FE ANGRY | (4) OLS FE ANGRY RATIO |
|---|---|---|---|---|
| FEBRUARY | 16.705 (1.02) | 2.405 (.25) | 7.485 (2.52)* | -.001 (-.82) |
| WEEKDAY(Ref=Sunday | | | | |
| Monday | 57.286 (.20) | 23.433 (1.38) | 2.283 (.38) | -.003 (-1.20) |
| Tuesday | -354.146 (-1.23) | 26.888 (1.44) | 9.182 (1.22) | -.002 (-.89) |
| Wednesday | 739.294 (1.88) | 69.873 (3.18)** | 3.393 (.62) | -.002 (-.70) |
| Thursday | 32.239 (.13) | 24.165 (1.50) | 8.732 (1.43) | .001 (.27) |
| Friday | -213.103 (-.86) | 6.807 (.53) | 6.058 (.97) | -.001 (-.26) |
| Saturday | 482.873 (1.90) | 31.571 (2.10)* | .973 (.13) | .000 (.05) |
| TIME OF DAY (Ref=Lunch) | | | | |
| Morning | 478.353 (2.04)* | 21.776 (1.58) | -12.813 (-3.05)** | -.002 (-.80) |
| Midmorning | 4.407 (.19) | -9.461 (-.80) | -11.309 (-2.82)** | -.003 (-1.81) |
| Afternoon | 153.682 (.78) | 4.819 (.43) | .625 (.13) | .000 (.01) |
| Evening | 1042.184 (4.05)** | 32.779 (2.10)* | -5.081 (-1.08) | .001 (.31) |
| Night | 3812.961 (2.47)* | 126.964 (2.01)* | -1.289 (-.95) | .003 (.56) |
| POST CONENT (Ref=Fan related) | | | | |
| Advertising | -2809.122 (-6.43)** | -88.592 (-4.40)** | -14.010 (-2.62)** | .021 (6.52)** |
| Event related | -2267.536 (-5.52)** | -95.725 (-5.14)** | -1.969 (-2.40)* | -.003 (-1.80) |
| Game defeat | -1335.779 (-3.91)** | -63.488 (-3.50)** | 111.514 (4.61)** | .111 (16.24)** |
| Game draw | -1225.165 (-3.04)** | -64.359 (-3.19)** | 24.575 (3.17)** | .023 (5.11)** |
| Game pre info | -1094.260 (-3.35)** | -33.699 (-1.95) | -7.582 (-1.77) | -.004 (-2.55)* |
| Game win | 3534.113 (6.27)** | 178.819 (4.94)** | -13.394 (-3.02)** | -.006 (-3.85)** |
| Injuries | -454.986 (-.64) | -5.847 (-2.20)* | 13.008 (1.45) | .016 (3.45)** |
| Management related | -62.040 (-1.91) | -48.318 (-2.59)** | -4.802 (-1.04) | .001 (.43) |
| Other team related | -1667.183 (-3.57)** | -44.118 (-.84) | -6.965 (-1.57) | -.000 (-.05) |
| Player related | -23.951 (-.07) | -62.899 (-3.47)** | -7.344 (-1.64) | -.004 (-2.79)** |
| Sponsor related | -3192.035 (-5.66)** | -114.780 (-5.17)** | -12.712 (-2.18)* | .038 (4.08)** |
| Raffle | -3091.675 (-6.25)** | -93.516 (-3.24)** | -17.074 (-3.27)** | -.003 (-1.86) |
| POST MEDIUM (Ref=Picture) | | | | |
| Live Video | -1235.308 (-4.32)** | -38.400 (-2.08)* | 4.870 (1.14) | .015 (4.23)** |
| Text | -1396.743 (-5.05)** | -44.878 (-3.70)** | -29.903 (-1.72) | .098 (7.74)** |
| Title picture | -81.828 (-.22) | -34.896 (-2.41)* | -5.394 (-1.97)* | -.003 (-2.13)* |
| Video | -1455.672 (-6.84)** | 1.949 (.12) | -13.793 (-5.46)** | -.005 (-4.26)** |
| Constant | 2488.085 (5.64)** | 14.285 (4.28)** | 4.525 (.51) | .010 (2.59)** |
| Adjusted $R^2$ | .378 | .163 | .086 | .478 |

2    *Note: t* statistics in parentheses * $p < .05$, ** $p < .01$, robust estimations.
3

1    **Table 5.** General dominance statistics.

| | %R2 OLS FE REACTIONS | %R2 OLS FE SHARES | %R2 OLS FE ANGRY | %R2 OLS FE ANGRY RATIO |
|---|---|---|---|---|
| FEBRUARY | .00 (.00) | .00 (.00) | .00 (.01) | .00 (.00) |
| WEEKDAY | .00 (.01) | .00 (.02) | .00 (.00) | .01 (.02) |
| TIME OF DAY | .02 (.05) | .01 (.04) | .00 (.02) | .01 (.01) |
| POST CONENT | .07 (.19) | .05 (.31) | .06 (.67) | .32 (.67) |
| POST MEDIUM | .01 (.01) | .00 (.01) | .00 (.04) | .13 (.27) |
| CLUB FE | .28 (.73) | .10 (.61) | .02 (.25) | .02 (.03) |
| SUM ($R^2$ adjusted) | .378 | .163 | .086 | .478 |

2    *Note:* Relative contribution in parentheses.
3

1     **Table 6.** Negative Binominal Regression (NBR) and Poisson Regression Results (N=4,603).

| | (5)<br>NBR FE<br>REACTIONS | (6)<br>NBR FE<br>SHARES | (7)<br>NBR FE<br>ANGRY | (8)<br>Poisson FE<br>ANGRY RATIO |
|---|---|---|---|---|
| FEBRUARY | 493.384 (5.31)** | 24.768 (3.66)** | 2.658 (1.38) | .001 (.65) |
| WEEKDAY(Ref=Sunday) | | | | |
|   Monday | -408.368 (-2.16)* | -12.177 (-1.05) | -4.834 (-1.21) | -.005 (-2.13)* |
|   Tuesday | -687.992 (-3.94)** | -19.228 (-1.80) | -3.434 (-.98) | -.005 (-2.44)* |
|   Wednesday | -375.503 (-2.01)* | 4.052 (.32) | -7.376 (-2.36)* | -.003 (-1.36) |
|   Thursday | -463.698 (-2.33)* | .900 (.06) | 8.455 (1.38) | -.001 (-.54) |
|   Friday | -493.358 (-2.69)** | -16.180 (-1.52) | 3.731 (.74) | -.002 (-1.08) |
|   Saturday | 211.657 (1.30) | 18.321 (1.72) | -2.339 (-.79) | -.001 (-.56) |
| TIME OF DAY (Ref=Lunch) | | | | |
|   Morning | 782.672 (4.15)** | 32.109 (2.21)* | -21.030 (-3.19)** | -.003 (-.79) |
|   Midmorning | 87.405 (.56) | -22.174 (-1.92) | -19.973 (-3.07)** | -.005 (-1.45) |
|   Afternoon | 41.852 (.28) | -4.804 (-.40) | -7.499 (-1.10) | -.000 (-.13) |
|   Evening | 696.812 (4.43)** | 19.798 (1.58) | -11.133 (-1.68) | .001 (.19) |
|   Night | 2272.784 (4.80)** | 71.886 (2.33)* | -4.085 (-.39) | .001 (.19) |
| POST CONENT (Ref=Fan related) | | | | |
|   Advertising | -2111.927 (-11.51)** | -107.765 (-7.90)** | 24.406 (3.55)** | .026 (5.85)** |
|   Event related | -1915.939 (-9.88)** | -104.902 (-7.61)** | -8.181 (-3.38)** | -.004 (-2.12)* |
|   Game defeat | -1849.181 (-1.36)** | -1.854 (-7.13)** | 214.170 (5.34)** | .094 (11.47)** |
|   Game draw | -1176.609 (-5.71)** | -77.893 (-5.09)** | 47.351 (3.61)** | .024 (5.73)** |
|   Game pre info | -1107.994 (-6.52)** | -54.228 (-4.03)** | -4.245 (-1.90) | -.002 (-1.52) |
|   Game win | 2736.696 (9.18)** | 133.866 (5.32)** | -3.299 (-1.41) | -.005 (-2.93)** |
|   Injuries | -608.602 (-1.90) | -7.028 (-4.05)** | 76.968 (1.91) | .015 (3.19)** |
|   Management related | -321.081 (-1.04) | -39.249 (-1.78) | -4.299 (-1.60) | .002 (.76) |
|   Other team related | -1686.360 (-7.76)** | -96.702 (-5.85)** | -8.270 (-3.40)** | -.001 (-.16) |
|   Player related | 254.464 (1.27) | -69.207 (-5.05)** | -4.335 (-1.95) | -.004 (-2.50)* |
|   Sponsor related | -2112.461 (-9.61)** | -115.692 (-8.13)** | 29.553 (2.83)** | .048 (3.82)** |
|   Raffle | -1902.409 (-5.73)** | -69.455 (-2.33)* | -9.207 (-3.61)** | -.005 (-3.15)** |
| POST MEDIUM (Ref=Picture) | | | | |
|   Live Video | -548.429 (-2.70)** | 6.112 (.36) | 76.321 (3.75)** | .040 (2.77)** |
|   Text | -1849.869 (-12.76)** | -84.149 (-12.23)** | -1.906 (-.68) | .018 (5.88)** |
|   Title picture | 114.204 (.53) | -31.992 (-3.42)** | -9.114 (-2.72)** | -.011 (-7.15)** |
|   Video | -839.482 (-7.78)** | 47.337 (4.25)** | -1.883 (-5.82)** | -.006 (-5.87)** |
| Pseudo R2 | .09 | .08 | .11 | .30 |

2     *Note: t* statistics in parentheses * $p < .05$, ** $p < .01$, robust estimations, average marginal effects are reported.
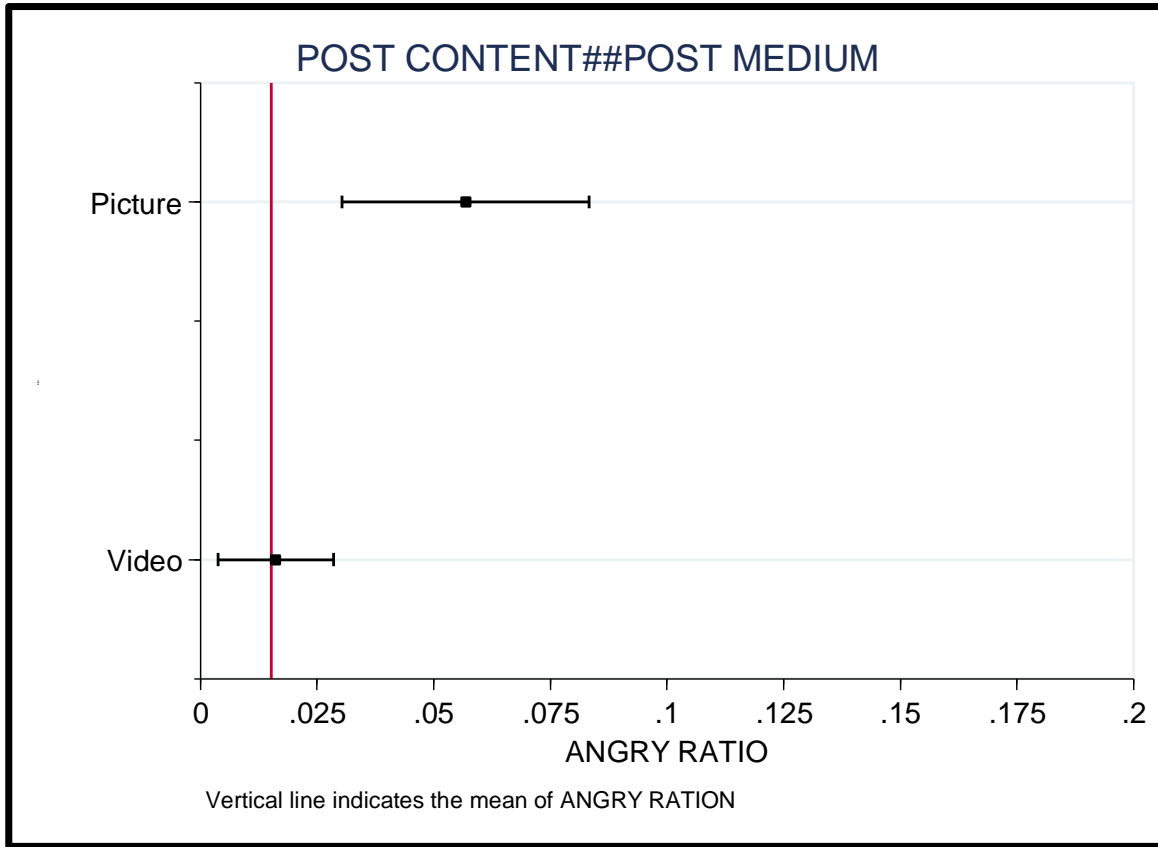3
4
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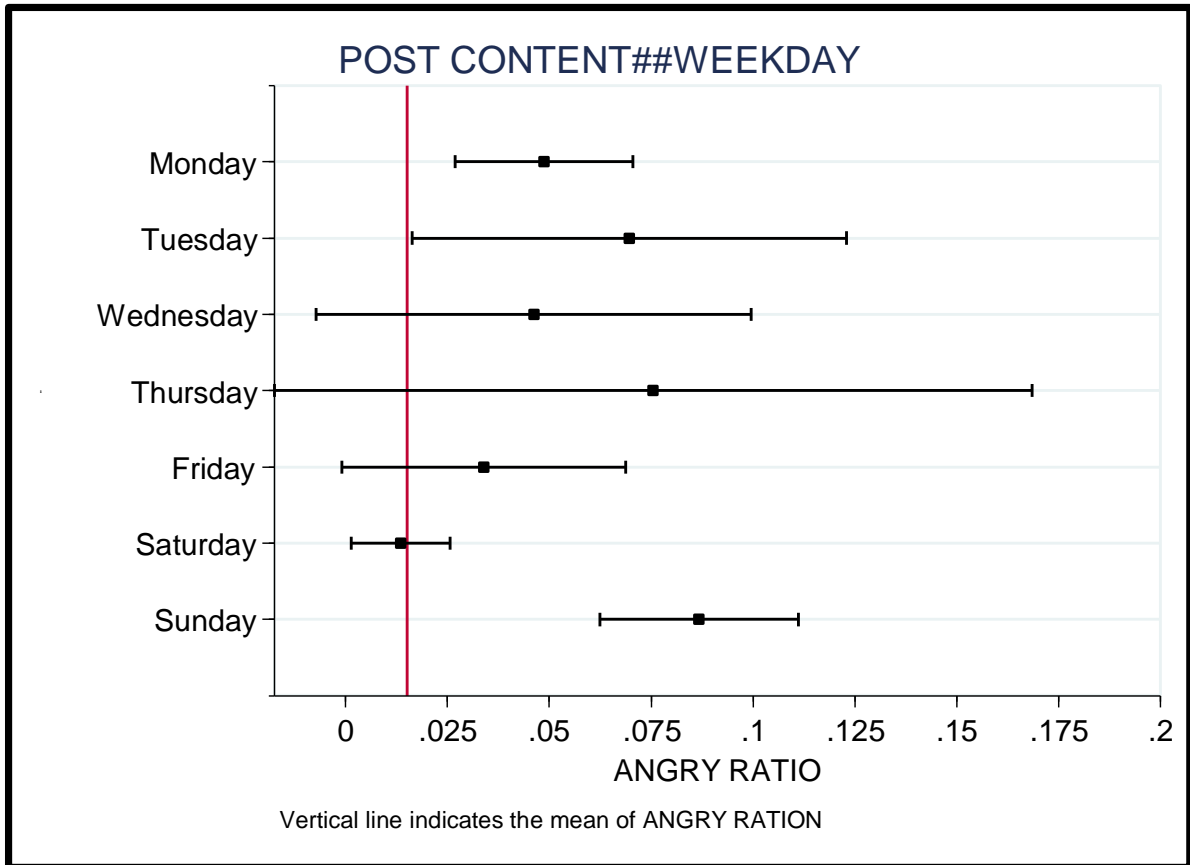
**Figure 1.** Interaction of sponsor post and weekday (Model 8 Poisson).
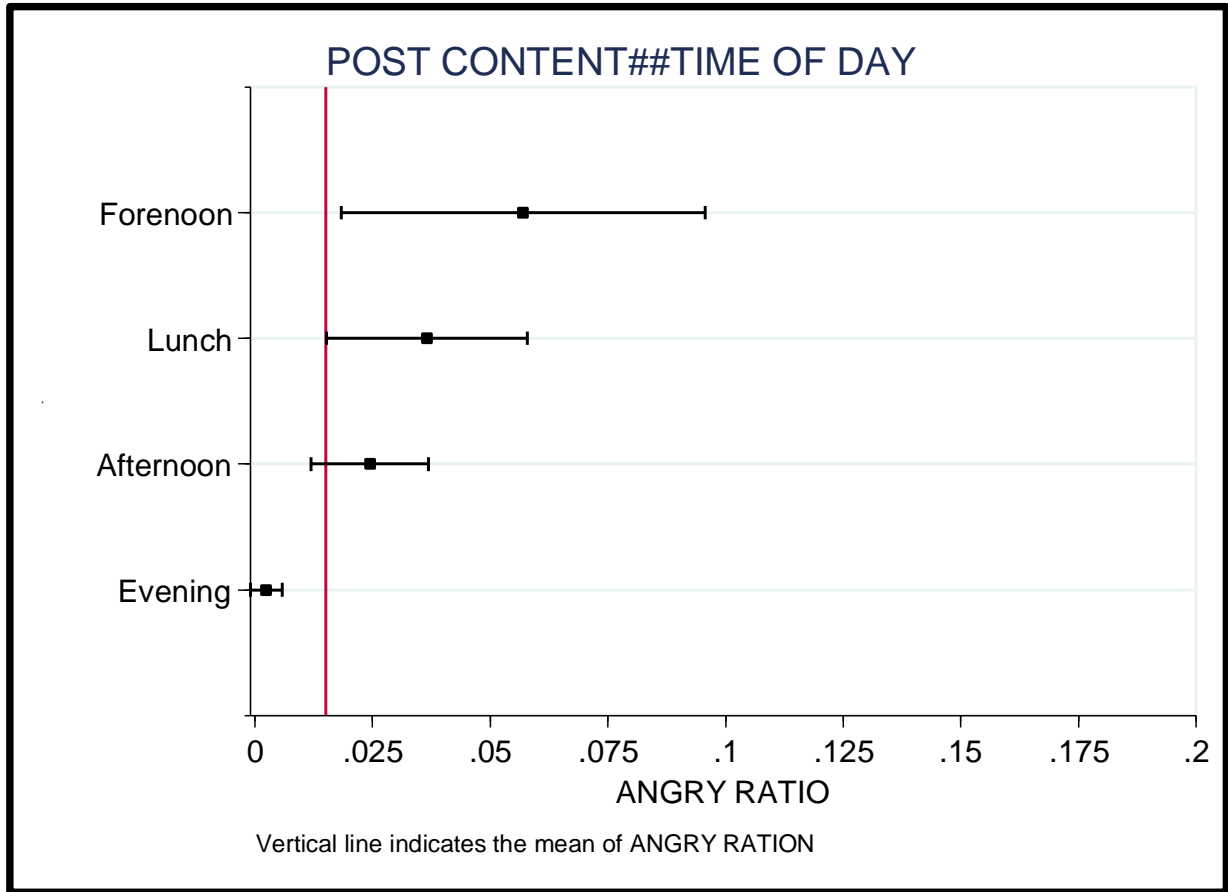
**Figure 2**. Interaction of sponsor post and Time of day (Model 8 Poisson).

**Figure 3.** Interaction of sponsor post and POST MEDIUM (Model 8 Poisson).