Official sports sponsorship fortress vs ambush marketing attack

Investigating the impact on implicit and explicit brand knowledge

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Abstract

Purpose – The purpose of this paper is to assess the effectiveness of event-related sports sponsorship and ambushing activity using social media video advertising that aim to affect spectators' implicit and explicit brand information processing.

Design/methodology/approach – A dual model of brand knowledge is used that considers the implicit and explicit information processing of marketing-induced brand messages. A web study was conducted prior to the 2014 FIFA World Cup. Each participant implicitly and explicitly evaluated either one sponsor brand or one ambush brand before and after watching the video advertisement (within-subject design). A Wilcoxon signed-rank test was used to evaluate each change of the pre-post testing scores.

Findings – Implicit and explicit brand associations as well as brand behavior were partially affected by the short contact with the advertisements of sponsor brands and ambush brands. In this regard, the implicit association measurements were more sensitive to reveal changes in the brand knowledge structure than their explicit counterparts. Furthermore, sponsorship advertising was slightly more effective than ambush advertising.

Originality/value – The current exploratory study evaluated for the first time the performance of event-related video advertisements that were originally released on social media of sponsor brands and ambush brands. The findings emphasize the necessary requirement of evaluating the implicit processing in addition to the explicit processing of sponsorship information to ensure a holistic evaluation of consumers' memory with regard to the effectiveness of a sponsorship activity.

Keywords Brand knowledge, Sport marketing, Dual information processing, Event sponsorship, Reaction time measurement

Paper type Research paper

Introduction

With the growth of commercial sponsorship and increasing efforts to secure sponsorship rights (Hoek and Gendall, 2002a), the phenomenon of ambush marketing in sports as a "parasitic activity" (Hoek and Gendall, 2002b, p. 72) has gained popularity in diverse

manifestations (e.g. Nufer, 2016). In particular, the heightened competition for rights to international sporting events as an attractive marketing communication environment to address a global target group has reduced the number of potential bidders who can fund these rights but has simultaneously raised the number of ambushers because of the increased prestige of such worldwide events (Hoek and Gendall, 2002b). For official sponsors and event owners, this development has created a greater sponsorship fortress to defend exclusive associations with such events. This enhanced sponsorship protection is partly because sponsorship has become a "mainstay of marketing communications" (Cornwell, 2008, p. 41).

It is less surprising that event owners and official sponsors typically regard ambush marketing as immoral and unethical since it threatens and limits the overall ability to recoup the marketing investments made in the event (Payne, 1998). In fact, as part of a broader brand-building marketing program to receive superior brand appeal (e.g. Keller, 2003), marketers of a sponsor brand aim to enrich their financial efforts of a sponsorship engagement to enhance brand knowledge (Gwinner and Eaton, 1999). From a marketing perspective, a successful sponsorship is reflected in the ability to gain a competitive advantage by creating an added value for consumers (e.g. providing less quality uncertainty), so-called brand equity, which results in, among other things, greater consumer confidence in the sponsor brand than in a competitor brand (e.g. Farquhar, 1989). The measurement and management of brand equity generally embody consumer perception and consumer behavior (Silverman et al., 1999). In particular, consumers' view of a brand, which comprises perceptual drivers (e.g. brand image), affects consumers' brand behavior, which includes relational and intentional outcomes (e.g. brand loyalty) (Esch et al., 2006). Typically, customer-based brand equity is conceptualized with reference to strong, favorable and unique brand associations and the corresponding brand knowledge that is created in consumer's mind (Keller, 1993; Keller and Lehmann, 2006). According to the associative network theories of cognition, knowledge of a brand is constituted by all the mental representations of a brand that are based on past experiences with the brand (Keller, 2003), which, in turn, are stored as clusters of meaning and associations in the memory of consumers (e.g. Teichert and Schöntag, 2010; Friedman and Leclercq, 2015).

A study by Cornwell et al. (2001) confirms that managers perceive sponsorship as a marketing instrument that "can contribute to the difficult task of differentiating a brand from its competitors and adding financial value to the brand" (Cornwell et al., 2001, p. 48). However, comparatively little sponsorship studies have been conducted regarding the effectiveness of leveraging brand knowledge through sponsorship, especially in the context of innovative media and marketing approaches such as social media to communicate a sponsorship and regarding the manner in which sponsorship-linked communication is processed in a spectator's mind that relates to the information processing of brand messages (Cornwell, 2008). With reference to Cornwell (2008), the present study aims to fill the gap of empirical research in general and empirical evidence in particular that focuses on the measurement of sponsorship effects as one of the main research streams of academic sponsorship research (Cornwell and Maignan, 1998). Specifically, the purpose of the current research is to create meaningful insights to better understand the communication capabilities of sponsorship and ambushing on the processing of implicit and explicit brand associations. Such brand association networks not only evoke a meaning or image but also primarily form consumers' mental knowledge of a brand that is understood as "the essence of what a brand represents, how it can achieve competitive advantage and ultimately significant value to a business" (Richards et al., 1998, p. 48).

Review of literature
In marketing science and business practice, self-reports are regularly regarded as the gold standard to measure brand knowledge by focusing on brand awareness and brand image often

used as performance indicators to evaluate brand-related marketing efforts such as sponsorship (e.g. Esch *et al.*, 2006). However, in the last two decades, an essential finding and consensus of social and cognitive psychology is that stored evaluations such as attitudes "often come to mind automatically" (Wilson *et al.*, 2000, p. 102). Specifically, various studies have demonstrated that people often are not fully aware of their beliefs, thoughts, and feelings, which suggests an inherent lack of introspective access to implicit mental processes (e.g. Nisbett and Wilson, 1977; Wilson, 2009). The still-existing shortage of a systematic implicit assessment of brand knowledge in marketing is surprising, particularly because well-established dual-process theories of reasoning and decision making with concurrent explicit and implicit information processing have been developed since the late 1970s and early 1980s (e.g. Schneider and Shiffrin, 1977; Cacioppo and Petty, 1984; Smith and DeCoster, 1999). In addition, Tyebjee (1979) and Aaker *et al.* (1980) published academic articles on reaction time (RT) measurement as an innovative and beneficial approach to capture implicit processes for brand performance assessment in A+ journals more than a quarter century ago. Furthermore, various consumer studies have demonstrated the substantial impact of implicit processes on perception and behavior (e.g. Maison *et al.*, 2004; Weber *et al.*, 2009; Florack *et al.*, 2010).

Similarly, effectiveness evaluations of sponsorship activities mainly focus on recall, recognition and image tests that are based on explicit self-reports (e.g. Chanavat *et al.*, 2010; Biscaia *et al.*, 2014). According to the hierarchy of effects (HOE) models in communication and advertising (e.g. Barry, 1987; Vakratsas and Ambler, 1999), the reasoning behind these conventional measurement approaches is the assumption that conscious awareness of a marketing activity (e.g. TV advertising, event sponsorship) is a necessary prerequisite for a marketing impact (e.g. increased brand image, enhanced willingness-to-recommend). Such HOE models do not take into account findings from psychology that provide strong evidence that judgments and decision making are often influenced and activated by automatic processes, with no (or only little) conscious awareness of this causation (e.g. Bargh, 1994; Chartrand, 2005; Dijksterhuis *et al.*, 2005). For this reason, various valuable implicit measures that "are intended to assess relatively automatic mental associations that are difficult to gauge with explicit self-report measures" (Hofmann *et al.*, 2005, p. 1369) have been developed since the mid-1990s in social cognition research.

Recent research in sports marketing has indicated an increasing level of interest regarding the implicit processing of sponsorship information and has provided valuable insights concerning the effectiveness of sports sponsorship, e.g. memory-based consideration set (Herrmann *et al.*, 2011, 2014), sponsor-event linkage (Koenigstorfer and Groeppel-Klein, 2012; Trendel *et al.*, 2012; Schmidt *et al.*, 2013) and sponsor-sponsored-entity fit (Trendel and Warlop, 2007; Zdravkovic and Till, 2012). However, the majority of empirical research on sponsorship-related issues is conducted solely on explicit self-reports. In total, there is comparatively little research that explains and investigates the impact of implicit information processing regarding the effectiveness of sports sponsorship as a mainstream communication tool in a broad marketing context. This lack of research is surprising because the highly influential sponsorship article by Cornwell *et al.* (2005) over a decade ago not only emphasized the relevance of implicit processes but also noted the need to systematically consider the implicit processing of sponsorship messages: "Implicit memory also plays a major role in the processing of sponsorship information. As such, greater consideration in future research must be given to investigating implicit memory for sponsorship information, rather than just using studies involving sponsor recall and recognition tasks tapping explicit memory" (Cornwell *et al.*, 2005, p. 29).

Research background and objective
Psychological theories on information processing often provide the basis for marketing communication research (Cornwell, 2008). The current research follows the psychological

perspective of the dual-system view as proposed by Kahneman (2003). According to this theory, outcomes of (social) judgments (e.g. "I like the sponsored event") and decision making (e.g. "I will buy the sponsor brand") result from the simultaneous interplay of two major brain systems, namely, System 1 and System 2.

System 1, the implicit system, operates on an automatic level and its processing path is fast and effortless, whereas System 2, the explicit system, works on a controlled level and its processing routine is slow and effortful. Against this background, successful brand information processing creates meaningful (salient) implicit and explicit brand associations. Concerning this matter, Schmidt *et al.* (2016) recently introduced a dual model of brand knowledge. Their model is grounded in Keller's (1993) brand equity conceptualization and relies on the brand image construct that incorporates "perceptions about a brand reflected by the associations held in consumer memory" (Keller, 1993, p. 3). Specifically, the dual knowledge model of Schmidt *et al.* (2016) evaluates the favorability and uniqueness of brand associations. In particular, the favorability of brand associations refers to the attitudinal value, i.e. some kind of preference. Furthermore, the uniqueness of brand associations relates to the additional motivational benefits (e.g. a unique selling proposition) that provide an appealing reason for consumer's decision making, i.e. some kind of desire. In greater detail, the Zurich Model of Social Motivation as developed by Bischof (1993) constitutes the core for evaluating the motivational values of a brand and proposes three motivational subsystems: arousal, autonomy, and security (Schneider, 2001). Within this dual model of brand knowledge, both types of associations are processed on an implicit and explicit level. Consequently, implicitly and explicitly stored and retrieved brand knowledge influences the behavioral response toward the brand (e.g. recommendation, repurchase). As illustrated in Figure 1, this advanced brand knowledge evaluation enables a comprehensive analysis of association changes and behavior shifts in the implicit and explicit mind of sports spectators to assess the effectiveness of sponsor-linked marketing.

Against this backdrop, the current study seeks to address the relative lack of implicit research on sports sponsorship in general and to respond to the call by Cornwell *et al.* (2005) in particular. More precisely, the goal of the present research article is to assess the effectiveness of event-related sports sponsorship and ambushing activity using social media video advertising that aims to affect spectators' implicit and explicit brand knowledge and brand behavior. Specifically, this study addresses the following research question:

> *RQ1.* What is the effect of sponsorship and ambushing on spectators' processing of implicit and explicit brand associations and on spectators' brand behavior after they are exposed to an event-related social media video advertisement?
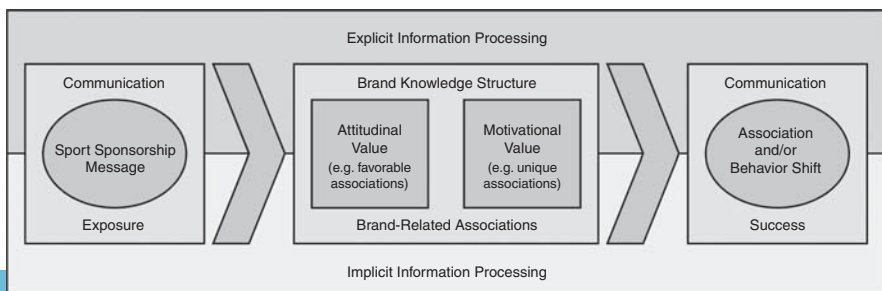

Figure 1.
Dual-process model of brand knowledge for sports sponsorship communication

Research methodology

Study context and relevance

In the present study, the FIFA World Cup was chosen as the research context because it is, along with the Olympic Games, the most attractive sporting event worldwide in terms of spectator interest and media coverage (Slater, 2014) and has been particularly affected by the emergence of ambush marketing (Chadwick and Burton, 2011). In the past, the FIFA World Cup has attracted not only well-known sponsors but also an increasing number of ambushers with innovative high-profile campaigns, such as the successful "Beer Babes" intrusion by the Dutch brand Bavaria, which generated more free publicity and significant buzz in the online blogosphere than any of FIFA's official partners during the World Cup 2010 (Edwards, 2010). Despite FIFA conducting rigorous efforts to inhibit this ambush marketing attack, or perhaps for this very reason, the Dutch brewer Bavaria received widespread online attention, according to Google data (Herzog and Nufer, 2014). Encouraged by such viral online success, ambushers have placed their individual marketing campaigns on social media platforms as a new battleground to attack the exclusive attention fortress of official sponsors, even ahead of the 2014 FIFA World Cup (Burns, 2014).

To test the perceptual and behavioral impact of sponsorship and ambushing with reference to spectators' implicit and explicit mind, as shown in Figure 1, the present study evaluated the changes in brand associations that refer to implicit and explicit information processing and the behavioral shift after exposure to an event-related video advertisement that was published on the social media platform YouTube. As mentioned above, the sporting event 2014 FIFA World Cup was chosen as the investigation context. FIFA invested enormous time and resources, including the establishment of a Brand Protection Team, to guard the valuable brand assets of the 2014 FIFA World Cup before and after the championship against ambush marketing attacks in the offline and online world (FIFA, 2014). In general, FIFA's sponsorship fortress includes the exclusive usage of universally known branding elements, such as the official emblem, the FIFA World Cup Trophy, its official mascot, official slogan and other assets, which represent key elements of FIFA's commercial program (FIFA, 2017). Official sponsor brands are allowed to use these event-related key assets in their marketing and communication activities for their commercial association with the FIFA World Cup. In contrast, ambushers are not authorized to use any of FIFA's official marks in their promotions and advertisements that constitute a direct or indirect commercial association with the event.

Study design and material

To empirically compare the effectiveness of official sponsor partner appearance and ambush marketing intrusion using social media video advertising, an exploratory research study that uses a within-subject design was conducted in Germany 14 to 7 days before the 2014 FIFA World Cup officially began. Specifically, each participant evaluated either one sponsor brand or one ambush brand before and after watching the video advertisement of the assigned brand (pre-post testing). Only subjects who confirmed that they wanted to watch the 2014 FIFA World Cup at least partly (dichotomous "yes/no" question: "I do agree that I want to watch at least a couple of games of the upcoming 2014 FIFA World Cup") were allowed to participate in the study.

Concerning the selection of investigation brands, sponsors were defined as being an official FIFA partner that deployed official marks of the 2014 FIFA World Cup in its marketing communication. In addition, ambushers were interpreted as non-sponsors that used event-related elements such as famous football stars in their advertising to associate themselves with the FIFA World Cup event. From the nine existing FIFA partners (IEG Sponsorship, 2014), four brands were selected for the final study because for each of

these brands, a comparable ambush brand that operated in the same market was identifiable with a comparable video advertisement in terms of length and similar advertisement release ahead of the event on social media. Concretely, the following sets of brands were chosen (sponsor brand – ambush brand): Adidas – Nike, Coca-Cola – Pepsi-Cola, Sony – Samsung, and Emirates – Turkish Airlines.

The selected video media advertisements were released on YouTube approximately three (e.g. Adidas and Nike) to six months (e.g. Turkish Airlines and Samsung) ahead of the 2014 FIFA World Cup. Each sponsor brand used FIFA's official marks in their advertisement, while the selected ambush brands bypassed FIFA's communication restriction by relying on prominent football stars as testimonials to create a football atmosphere. However, the advertisement of Emirates as sponsor brand utilized not only official marks of the 2014 FIFA World Cup (the official event logo and labeling as an official FIFA partner) but also a former (Pelé) and current (Cristiano Ronaldo) football player as testimonials. Also, the advertisement of Turkish Airlines as ambush brand adopted not only a football player (Lionel Messi) as a testimonial but also a well-known US basketball star (Kobe Bryant) without any apparent associations to the FIFA World Cup event. Therefore, in both cases, the effective reason for a potential impact on the customer-based brand equity is less clear because of the use of different retrieval cues (brand information), which should be kept in mind when interpreting the results.

Sample and procedure
In June 2014, participants were recruited based on opportunity sampling. On selective social network websites (e.g. Facebook, Twitter, YouTube), links were distributed with the invitation to actively contribute to the web study. Consumers with a principal interest in the 2014 FIFA World Cup were targeted as study participants. To gain access to the final online questionnaire after they clicked on the invitation survey link, the subjects were requested to click on a consent button to agree to participation. Furthermore, the participants were told that the study concerned the upcoming FIFA World Cup, but they were not informed about the research objective to avoid any biased judgments and decisions. Questionnaires from subjects who confirmed to have seen the respective advertisement before were removed ($n = 16$). In total, 271 questionnaires were used for the final data analysis (female: 47.6 percent; male: 52.4 percent; mainly aged 18 to 24 years: 65.3 percent; average age: 26.12 years). Random assignment to one of the eight investigation brands was executed: Adidas ($n = 29$), Nike ($n = 40$), Coca-Cola ($n = 41$), Pepsi-Cola ($n = 31$), Sony ($n = 37$), Samsung ($n = 32$), Emirates ($n = 27$), and Turkish Airlines ($n = 34$). Each participant agreed to be familiar with the assigned brand (I am aware of the brand.).

After answering various introductory questions with a general focus on sports so that they felt comfortable with the survey (e.g. individual sports preference and sports consumption), the participants were randomly assigned to one of the eight investigation brands and asked to indicate their familiarity with the respective brand. Next, the participants completed the pre-measurement, which started with a RT measurement to capture the implicit brand associations, followed by a self-report to assess the explicit brand associations and behavioral response toward the brand. After this pre-measurement, the participants were asked to turn on their speakers to watch an online video. Then, the video advertisement that was originally released on YouTube was shown on the screen. Specifically, the video advertisement was embedded in the professional survey software used to conduct the web study (www.unipark.de) by employing YouTube's iframe embedding functionality with control elements disabled (e.g. pause button) and autoplay enabled. This proceeding ensured that the subjects were actually watching the video advertisement without being distracted by other (uncontrollable) social media content and

that they were unable to manipulate the video playback (e.g. skipping forward). Finally, the participants finished the survey with the post-measurement in the same order of measures as in the pre-measurement. In the pre and post testing, the implicit measurement was applied prior to the explicit measurement to avoid an evaluative conditioning regarding the content of the implicit measurement (e.g. Gawronski and Bodenhausen, 2006).

Measures and data analysis
As a qualified explicit measure, a self-report was employed to capture a controlled and reflected brand association assessment on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), as used in previous studies that evaluated customer-based brand equity (e.g. Yoo *et al.*, 2000). In addition, the latency-based measure e^2 BrandREACT (eye square, 2017) was applied as an appropriate implicit test with reference to a spontaneous and automatic brand association evaluation. In particular, this type of RT measurement is similar to the Single Category Implicit Association Test (IAT) as introduced by Karpinski and Steinman (2006). More precisely, it requests subjects to decide as quickly as possible whether the corresponding attribute item displayed on the screen fits to the brand through a "yes" and "no" key allocation. The attribute items regarding the assessment of the attitudinal value (attitude: good, great) and the three motivational values (arousal: thrilling, exceptional; autonomy: ruling, powerful; security: caring, proper) were adapted from previous studies (e.g. Simpson *et al.*, 1996; Schmidt *et al.*, 2013) and used for both the explicit and implicit association measurements. Furthermore, global scales were rated in the pre and post testing to assess the external validity of brand attitude (feeling thermometer, 11-point scale: 0 = very cold to 10 = very warm) and brand motivation (overall measure for each dimension, 7-point scale: 0 = not at all arousal-/autonomy-/security-oriented to 7 = extremely arousal-/autonomy-/security-oriented).

Considering the behavioral response toward the brand, which is affected by significant implicit and explicit brand associations (cf. Figure 1), the recommendation intention was used as a performance indicator similar to the sponsorship study of Pitt *et al.* (2010). Specifically, the recommendation intention was measured by applying Reichheld's (2003) Net Promotor Score (NPS). Despite all criticism of the NPS (e.g. Keiningham *et al.*, 2007), this simple single indicator is easy to track and a valuable diagnostic metric that provides information about the current brand health with reference to the reflection of consumers' past brand experiences and the examination of consumers' overall brand loyalty as an essential behavioral outcome (e.g. Reynolds and Phillips, 2005; Grisaffe, 2007).

Regarding the individual calculation of the implicit values, in a first step, all latencies lower than 300 ms/greater than 3,000 ms were recoded to 300 ms/3,000 ms according to the conventional IAT scoring algorithms (Greenwald *et al.*, 2003). Next, the captured RT and response given (RG) (yes = "1," no = "−1") for each attribute were first transformed into one single implicit score (IS_{att}) by applying the following formula: $IS_{att} = RG \times (RT - RT_{max})/(RT_{min} - RT_{max})$. This data transformation places "quick responses at each extremity of the continuum according to the nature of the response" (Craddock *et al.*, 2012, p. 191). With this formula, "yes" responses are translated into increasing positive scores (indicating a certain level of approval), while "no" responses are translated into increasing negative scores (indicating a certain level of non-approval) (see also Schmidt *et al.*, 2017). Subsequently, an average value over all corresponding scores and items for each implicit and explicit measurement, respectively, was calculated to obtain the construct estimates. In addition, each implicit and explicit value (construct estimate) was transformed on a scale from 0 to 100 by using the following minimum-maximum adjustment: 100 × (value − minimum value possible)/(maximum value possible − minimum value possible). Such rescaling was applied to ensure a high level of understanding and comparability considering the various measurement scales.

To ensure a robust test of the reliability and validity of the multiple-item measures, structural equation modeling (SEM) was applied, similar to past research in the domain of implicit-explicit measurement (e.g. Gawronski, 2002; Nosek and Smyth, 2007). Specifically, partial least squares (PLS) was chosen as an appropriate SEM technique to evaluate the outer model (evaluation of the measurement instruments) against the background of the exploratory character of the present research, and due to the fact that roughly one-third of the values were non-normally distributed. The association constructs were defined as independent latent variables, whereas the behavioral construct was determined as dependent latent variable. The PLS-SEM estimation was conducted with the statistical software SmartPLS 3 (Ringle *et al.*, 2015). Furthermore, to examine the outcome of the present empirical research with repeated measures and a within-subject design, not only the statistical significance but more importantly the practical (clinical) significance (importance) are evaluated by calculating the effect size to avoid the potential peril of flawed interpretations concerning the obtained *p*-values (Ranstam, 2012). In addition, this approach enables academics for future studies to conduct meta-analyses for a substantial research progress toward a cumulative, cohesive and practical science (Lakens, 2013). As stated above, the data were non-normally distributed to a large extent, and thus, did not meet a crucial requirement of parametric tests. For this reason, a Wilcoxon signed-rank test was used as an alternative approach to evaluate each difference (change) of the pre-post testing scores. Then, as a useful and robust effect size index (for an overview, see Rosnow and Rosenthal, 2003), the effect size Pearson's product-moment *r* was computed from the reported *z*-score of the Wilcoxon signed-rank test for each before-after change. In detail, the following formula for non-parametric data was used: $r = z/\sqrt{N}$ (e.g. Fritz *et al.*, 2012, p. 12), where N is the total number of observations without the ties (only the count of positive and negative ranks) (Larson-Hall, 2010, p. 382).

Results

Evaluation of measurement instruments

Table I presents the empirical results of the measurement evaluations. First, all brand association measures achieved satisfactory values in terms of item reliability (factor loadings

	Factor loadings	Composite reliability	Cronbach's α	Average variance extracted	External validity	Fornell-Larcker criterion
Pre-measurement						
Explicit attitude	0.921 >	0.924	0.835	0.858	0.681*	0.926 > 0.606
Implicit attitude	0.910 >	0.914	0.800	0.842	0.536*	0.918 > 0.681
Explicit arousal	0.920 >	0.924	0.836	0.859	0.485*	0.927 > 0.579
Implicit arousal	0.878 >	0.900	0.752	0.818	0.520*	0.904 > 0.681
Explicit autonomy	0.933 >	0.938	0.867	0.883	0.652*	0.940 > 0.649
Implicit autonomy	0.890 >	0.895	0.755	0.809	0.557*	0.899 > 0.649
Explicit security	0.879 >	0.876	0.717	0.779	0.486*	0.883 > 0.579
Implicit security	0.854 >	0.869	0.677	0.768	0.451*	0.876 > 0.659
Post-measurement						
Explicit attitude	0.920 >	0.924	0.835	0.858	0.692*	0.926 > 0.588
Implicit attitude	0.904 >	0.910	0.802	0.835	0.467*	0.914 > 0.684
Explicit arousal	0.924 >	0.927	0.843	0.864	0.634*	0.930 > 0.572
Implicit arousal	0.894 >	0.889	0.752	0.801	0.525*	0.895 > 0.684
Explicit autonomy	0.928 >	0.935	0.860	0.877	0.756*	0.936 > 0.644
Implicit autonomy	0.899 >	0.896	0.768	0.812	0.564*	0.901 > 0.644
Explicit security	0.857 >	0.865	0.690	0.763	0.569*	0.873 > 0.594
Implicit security	0.837 >	0.863	0.688	0.759	0.519*	0.871 > 0.644

Table I.
Evaluation of the brand association measures

Note: *Significance of the Spearman rank correlation coefficient $p < 0.01$

and composite reliability) and internal consistency (Cronbach's α). However, the Cronbach's α for implicit security in both measurements (pre and post) and for explicit security in the post-measurement is slightly below the recommended threshold of 0.7, but still acceptable (Taber, 2017). Second, each brand association measure significantly correlated with a corresponding global scale, thus suggesting sufficient external validity. Third, the average variance extracted for each measure was in the range from 0.76 to 0.88, in support of convergent validity. Fourth, the Fornell-Larcker criterion was met, and hence, discriminant validity is established. Overall, considering the reliability and validity of all brand association measures, the empirical results provide supportive evidence of a reasonable quality of the measures.

Findings

The results of the pre-post testing including the effect size product-moment r are shown in Table II. To report statistical significance, the common cutoff of $p < 0.05$ is used. Considering the practical relevance of changes in brand knowledge and behavior, the following thresholds are applied as benchmarks to interpret the effect size product-moment r: 0.1 = small effect, 0.3 = medium effect, 0.5 = large effect (Cohen, 1992). The next sections separately consider the results for each group of brands.

Sports brands: Adidas vs Nike. Regarding the information processing of implicit and explicit brand associations, the results indicate no association changes for Adidas or Nike. Moreover, no difference in the recommendation intention is identified. Thus, both advertisements were incapable of triggering brand association changes with regard to implicit and explicit brand knowledge, and likewise, no change in brand behavior is provoked.

Soda brands: Coca-Cola vs Pepsi-Cola. The empirical results suggest a significant positive and medium effect on implicit attitude for Coca-Cola as the sponsor brand ($\Delta M = 5.878$, $p = 0.015$, $r = 0.381$). Regarding Pepsi-Cola as the ambush brand, the results reveal a significant positive and medium increase of implicit security ($\Delta M = 8.081$, $p = 0.030$, $r = 0.391$). Considering explicit brand associations and brand behavior, no changes are indicated for both brands.

Technology brands: Sony vs Samsung. A significant positive increase with a medium effect size is suggested by the empirical results regarding the information processing of implicit arousal for the official sponsor brand Sony ($\Delta M = 8.419$, $p = 0.017$, $r = 0.393$). In contrast, no change is identified considering the information processing of implicit brand associations for the ambush brand Samsung. In addition, the explicit brand knowledge structure and brand behavior indicate neither a positive nor a negative shift for both brands.

Airline brands: Emirates vs Turkish Airlines. Against the background of the empirical results, a significant enhancement of implicit attitude with a large effect ($\Delta M = 14.407$, $p = 0.007$, $r = 0.523$) and of implicit autonomy with a medium effect ($\Delta M = 8.426$, $p = 0.020$, $r = 0.449$) is revealed for the sponsor brand Emirates, whereas no change is identified considering the explicit brand knowledge structure. In comparison, a significant positive and large increase of implicit arousal ($\Delta M = 15.279$, $p = 0.001$, $r = 0.600$) and explicit arousal ($\Delta M = 9.191$, $p = 0.010$, $r = 0.560$) is suggested for the ambush brand Turkish Airlines. Regarding brand behavior, the sponsor brand advertisement of Emirates was impactful and evoked a significant positive and large shift in the recommendation intention ($\Delta M = 9.259$, $p = 0.044$, $r = 0.503$), but not the ambush brand advertisement of Turkish Airlines ($\Delta M = 0.882$, $p = 0.790$, $r = 0.060$).

Conclusions and interpretation

Primarily, customer-based brand equity was enhanced at least partially by a single short contact with the advertisements of sponsor brands and ambush brands. Specifically, implicit

Construct	ΔM[a]	SD	Z	p	r[b]	ΔM[a]	SD	Z	p	r[b]
	Sponsor brand: Adidas (n = 29)					*Ambush brand: Nike (n = 40)*				
Implicit attitude	−2.724	20.351	0.530	0.596	−0.098	0.788	16.288	0.021	0.983	0.003
Implicit arousal	3.207	20.412	0.552	0.581	0.102	−0.275	14.871	0.195	0.845	−0.031
Implicit autonomy	2.672	19.323	1.081	0.280	0.201	−0.625	15.022	0.054	0.957	−0.009
Implicit security	−1.034	22.822	0.454	0.650	−0.084	−0.275	16.051	0.112	0.911	−0.018
Explicit attitude	−2.874	15.314	0.580	0.562	−0.130	−1.250	13.970	0.036	0.971	−0.006
Explicit arousal	2.586	18.413	0.802	0.423	0.184	1.875	18.680	0.600	0.548	0.146
Explicit autonomy	−2.586	14.322	0.821	0.412	−0.194	0.000	18.989	0.153	0.878	0.034
Explicit security	−1.724	13.247	0.644	0.519	−0.186	1.563	15.808	0.528	0.598	0.110
Recommendation	−2.414	11.849	1.038	0.299	−0.277	0.000	9.058	0.060	0.953	0.015
	Sponsor brand: Coca-Cola (n = 41)					*Ambush brand: Pepsi-Cola (n = 31)*				
Implicit attitude	5.878	16.784	2.437	0.015	0.381	4.726	19.432	1.098	0.272	0.197
Implicit arousal	0.927	18.003	0.246	0.805	0.038	4.887	17.664	1.460	0.144	0.262
Implicit autonomy	−3.000	16.557	1.263	0.206	−0.202	1.081	17.269	0.000	1.000	0.000
Implicit security	−1.976	19.613	0.480	0.632	−0.075	8.081	17.732	2.175	0.030	0.391
Explicit attitude	1.626	15.334	0.475	0.635	0.083	−2.823	16.611	0.242	0.809	−0.047
Explicit arousal	3.354	22.013	0.609	0.543	0.115	1.613	16.690	0.395	0.693	0.096
Explicit autonomy	−1.524	25.341	0.807	0.419	−0.172	−3.629	23.760	0.703	0.482	−0.157
Explicit security	5.183	20.724	1.737	0.082	0.302	−0.403	19.760	0.205	0.837	−0.047
Recommendation	−2.683	21.216	1.483	0.138	−0.291	−6.129	23.760	1.400	0.162	−0.305
	Sponsor brand: Sony (n = 37)					*Ambush brand: Samsung (n = 32)*				
Implicit attitude	0.797	18.889	0.189	0.850	0.031	0.969	19.893	0.627	0.531	0.111
Implicit arousal	8.419	17.599	2.392	0.017	0.393	4.188	22.489	0.832	0.405	0.147
Implicit autonomy	3.162	13.984	1.222	0.222	0.201	5.516	17.571	1.578	0.115	0.283
Implicit security	−1.486	20.305	0.573	0.566	−0.094	2.594	19.526	0.842	0.400	0.149
Explicit attitude	1.577	14.970	0.260	0.795	0.048	−3.255	12.907	0.884	0.377	−0.177
Explicit arousal	3.716	19.513	1.010	0.313	0.220	−0.391	12.891	0.206	0.837	−0.048
Explicit autonomy	2.703	18.665	0.601	0.548	0.142	−2.734	12.988	1.195	0.232	−0.319
Explicit security	−0.338	16.268	0.116	0.908	−0.026	1.953	12.743	0.936	0.349	0.221
Recommendation	−0.811	17.381	0.989	0.323	−0.064	−0.625	17.402	0.271	0.787	−0.064
	Sponsor brand: Emirates (n = 27)					*Ambush brand: Turkish Airlines (n = 34)*				
Implicit attitude	14.407	22.685	−2.715	0.007	0.523	7.324	21.477	−1.832	0.067	0.319
Implicit arousal	7.704	25.219	−1.454	0.146	0.280	15.279	21.981	−3.449	0.001	0.600
Implicit autonomy	8.426	17.955	−2.331	0.020	0.449	−3.588	23.580	−0.812	0.417	−0.139
Implicit security	10.815	25.465	−1.946	0.052	0.375	1.147	23.288	−0.616	0.538	0.106
Explicit attitude	4.938	19.917	−1.593	0.111	0.340	3.309	20.043	−1.090	0.276	0.232
Explicit arousal	5.556	25.080	−1.076	0.282	0.261	9.191	19.047	−2.567	0.010	0.560
Explicit autonomy	7.870	22.239	−1.675	0.094	0.384	3.676	20.068	−1.115	0.265	0.238
Explicit security	3.704	23.973	−0.618	0.537	0.142	−4.779	17.947	−1.516	0.130	−0.339
Recommendation	9.259	23.685	−2.014	0.044	0.503	0.882	17.984	−0.267	0.790	0.060

Notes: [a]ΔM = pre-test score subtracted from post-test score; [b]Pearson product-moment r

Table II.
Results of the pre-post testing scores

brand associations were positively affected for three of the four sponsor brands and for two of the four ambush brands, although not all implicit brand associations of each of these brands increased. In contrast, the explicit brand knowledge structure was partially affected only for one of the four ambush brands, but not at all for any of the investigated sponsor brands. Regarding brand behavior, one of the four sponsor brand advertisements was sufficiently impactful to increase the recommendation intention, whereas the ambush brand advertisements triggered no change considering the recommendation intention.

Overall, exposure to the sponsor and ambush brand advertisements affected the information processing of implicit brand associations to some extent for most brands, whereas the explicit brand knowledge and the brand behavior remained almost unchanged for the majority of the investigated brands. However, the advertisements of the sponsor

brands seemed to be slightly more effective with four brand knowledge changes and one behavior shift. In comparison, the ambush brand advertisements affected the brand knowledge less with three association changes and no behavior shift. Figuratively speaking, at least in the current research, the sponsorship fortress defied the ambush marketing attack, although sports sponsorship "5 to 3 win" over ambush marketing is not a superior victory. However, mental availability, which is the brand-related network of salient associations in a consumer's mind, or the so-called "brand's share of mind" (Sharp, 2010, p. 193), should in general be better developed through sponsorship compared with ambushing for two main reasons, namely: the quantity and quality of associations which are potentially "transferred" from the entity to the brand (Sharp, 2010). Quantity refers to the number of associations, while quality relates to the strength and relevance of the associations. With reference to the current research, it can be assumed that the average spectator and consumer holds an established network of associations in the memory concerning a well-known sports event such as the FIFA World Cup due to a greater and more intensive experience with this sports event. In contrast, the network structure of a testimonial that is typically used as a core entity in an ambush advertisement should only reach a greater amount of associations among the spectators and consumers with a high level of fan identification. In a nutshell: the average spectator and consumer knows and cares more about a sports event than a testimonial. Thus, a sponsor brand should be associated with more and positive associations when linked to a sports event than an ambush brand that is associated with a testimonial.

Considering the diagnostic performance of the measurements, the implicit association measures were more sensitive to reveal changes in the brand knowledge structure against the explicit counterparts. In particular, the advertisement of the sponsor brand Emirates elicited the highest implicit association impact with positive changes of the attitudinal value and one motivational value. In fact, Emirates was the only brand that could gain an increase in brand behavior, and it therefore established an improved brand strength. This result agrees with the work of Schmidt *et al.* (2016) who argue that "attitudinal values create the necessary conditions and motivational values create the reasonable conditions for strong brand positioning in a customer's head" (Schmidt *et al.*, 2016, p. 9). However, in the case of Emirates, the pure impact of the sponsorship is less clear because the video advertisement of Emirates included both sponsorship (official marks) and ambushing elements (testimonials). However, it is reasonable to argue that the testimonial implementation of Cristiano Ronaldo as one of the two testimonials that were used in the advertisement should have evoked a controversial spectator perception because Cristiano Ronaldo is hated by most (opposition) football fans (e.g. *The Telegraph*, 2015). Thus, if any exists, one may have expected a negative testimonial impact of Cristiano Ronaldo on brand knowledge and brand behavior, but this negative impact may have be neutralized by the more positive impact of Pelé as the other testimonial and more prestigious football player (e.g. *The Guardian*, 2016). Therefore, without implementing any testimonial, the advertisement of Emirates should probably reach the same if not greater level of effectiveness.

Discussion
Contribution and implications
Past research has revealed a positive relationship between sponsorship and brand knowledge (e.g. Roy and Cornwell, 1999; Donlan, 2013; Lacey and Close, 2013). From a brand management perspective, brand knowledge is the primary source of brand equity (Keller, 2003). Accordingly, sports sponsorship must be understood and designed as a brand marketing program in general and marketing communication program in particular to leverage brand equity (Keller, 2013). Sponsorship leverage significantly contributes to increase brand equity (e.g. Sparks, 1999; Henseler *et al.*, 2007; Holt, 2007), but it must be backed by goal-oriented communication

investments in advertising and promotion (Cornwell *et al.*, 2001; Henseler *et al.*, 2011). In this regard, the present work has analyzed the effectiveness of sponsorship-linked marketing that relies on event-related social media video advertising concerning the 2014 FIFA World Cup to affect the implicit and explicit brand knowledge of sports spectators. In particular, the current article extends the findings from sponsor-linked marketing research on the effectiveness of official sponsorship compared with ambush marketing using only explicit self-reports (e.g. McDaniel and Kinney, 1996; Michaelis *et al.*, 2008) and applying both implicit and explicit measures (e.g. Koenigstorfer and Groeppel-Klein, 2012; Trendel *et al.*, 2012).

The present study provides significant contributions and valuable implications for science and business practice. Specifically, an advanced model of brand knowledge with a dual information processing approach was used for the first time. This model extends the common brand association evaluation regarding brand attitude through the supplementary consideration of the associations that relate to brand motivation. In addition, the processing of sponsorship information was assessed by investigating not only explicit associations but also implicit associations. Additionally, the captured behavioral response was considered to enable a more comprehensive evaluation of brand equity. Concerning the measurement quality, all implicit and explicit measures were successfully examined and applied. In this regard, the current study evaluated for the first time the performance of event-related video advertisements of sponsor brands and ambush brands that were originally released on social media as an emerging communication channel that is becoming increasingly important in sports marketing. Specifically, the present study revealed partially positive effects of sponsorship and ambushing advertisement on brand perception and brand behavior, which primarily enriches the knowledge of implicit and explicit measurements in sponsorship research (e.g. Roy and Graeff, 2003; Koenigstorfer and Groeppel-Klein, 2012). Furthermore, the current empirical research extends the sports marketing literature not only by identifying the dual effects of official sponsorship on brand motivation (e.g. Schmidt *et al.*, 2013) but also by determining the implicit and explicit influences of ambushing on brand motivation.

Overall, the findings of the present research provide further evidence for the crucial role of implicit processes regarding the processing of sponsorship information. In particular, the current study emphasizes and demonstrates the requirement for marketing managers and marketing researchers to assess, analyze and address not only explicit but also implicit brand associations to ensure a comprehensive evaluation of consumers' memory regarding the effectiveness of a brand communication activity. In fact, for five of the eight investigated brands (62.5 percent) in the present research, an implicit impact on brand knowledge was identified, but an explicit impact was identified only for one of the eight brands (12.5 percent). Thus, without assessing implicit association changes, the effectiveness of brand communication such as sponsorship and ambushing may be easily underestimated if not regarded as non-existent. The perceptual and behavioral significance of implicit processes and their assessment, eventually, increases in conditions with a low level of awareness, which appears to be the predominant mode of information processing as stated by Bargh and Chartrand (1999): "most of a person's everyday life is determined not by their conscious intentions and deliberate choices but by mental processes that are put into motion by features of the environment and that operate outside of conscious awareness and guidance" (Bargh and Chartrand, 1999, p. 462). In current times of all-pervasive second-screen media usage during the consumption of sports events (Jensen *et al.*, 2015), spectators' available awareness is even more limited, and therefore, primarily, the implicit system is put in charge of processing sponsorship information. Generally speaking, concerning evidence-based brand management, marketing managers should constantly examine the dual brand knowledge to evaluate the effectiveness of brand communication such as sponsor-linked marketing.

Limitations and next research steps
Given the nature of exploratory research, several study limitations demand the need for further research considering the sound applicability of the introduced measurement instruments and the generalizability of the derived insights. First, future studies should repeat the presented evaluation approach of a dual brand knowledge assessment to review the reliability and validity of the applied measures, especially with a larger sample size that enables more sophisticated examinations such as multitrait-multimethod analysis regarding dual-construct validation (Nosek and Smyth, 2007), and not only on an aggregated brand level but also on an individual brand level. Second, the study covered only the impact of social media advertising prior to a sporting event. Therefore, future research should concentrate on the assessment of the communication performance in the media in general and social media in particular during and after a sporting event. In addition, this research used the FIFA World Cup event as a communicative frame for sponsorship and ambushing activities. Thus, third, future sponsorship studies should investigate and use other major sporting events that occur every few years within a narrow time frame (e.g. the Summer Olympics or Winter Olympics) or every year in a specific time frame inside the regular season (e.g. biathlon) as well as a year-long season with several contests over the course of a year (e.g. motorcycle racing). Fourth, the additional application of other implicit measures (e.g. facial coding) should provide further insights regarding the implicit processing of brand communication in sports marketing.

Overall, the introduced methodology and derived findings of the present study should create an encouraging basis for ongoing research that incorporates the knowledge of consumer psychology and sports marketing into one transdisciplinary research framework. In general, each brand communication should follow the three neuropsychological laws of relevance, coherence and participation to create salient brand associations in consumers' memory (Walvis, 2008). Ultimately, "creating and repeating relevant specificity (over time and across touch points) around one central brand theme, using the richest and most engaging forms and media possible" (Walvis, 2008, p. 189) should be the communication motto. Concerning this matter, sports marketing has – with its manifold and exciting opportunities – best qualifications to win the battle in consumers' implicit and explicit mind.

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