The effectiveness of sponsorship of the F1 Singapore Grand Prix: recall and recognition

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The Effectiveness of Sponsorship of the F1 Singapore Grand Prix:
Recall and Recognition

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ABSTRACT

This article examines the effectiveness of sport sponsorship at the 2014 F1 Singapore Grand Prix, particularly by testing recall and recognition of brands on cars, driver's clothing and venue. Data was gathered from 120 undergraduate students who were asked to watch a 30-second video first and complete the questionnaires. The multivariate analysis of variance revealed that cars and driver's clothing were found to be more effective locations for brand awareness. There was significant differences in both recall ($\Delta M = 1.28$, $p < .05$ and $\Delta M = 0.80$, $p < .05$, respectively) and recognition ($\Delta M = 2.15$, $p < .05$ and $\Delta M = 1.47$, $p < .05$, respectively). These findings help present or potential sponsors review the benefits and costs associated with this channel of sponsorship and maximise their sponsorship investments on F1 teams or the Singapore Grand Prix in the future.

KEYWORDS

Singapore Formula One, Sponsorship Effectiveness, Recall, Recognition

INTRODUCTION

Sponsorship activities have increased over the past two decades. Sponsorship is a rising trend around the world and has become a sophisticated business with a large amount of marketing dollars at stake, accounting for an estimated expenditure of up to US$55.3 billion in 2014 (Statista, 2015). The majority of sponsorship investments around the world has been conducted in the sport industry, and the worldwide spending on sports sponsorship is projected to increase rapidly (Mullin, Hardy, & Sutton, 2014). Various reasons contribute to why sponsors are leaning towards investing particularly in sporting events. A live sport event provides sponsors opportunities to create a more intimate or proximal relationship with the audience, such that fans and spectators are more receptive to messages than outside the arena (Fortunato, 2013). Sponsorship through sporting events is also highly beneficial for sponsors as it is able to create a more positive impression and association through image transfer as compared to sponsorship in non-sporting events (Mullin et al., 2014). It is thus apparent that a mutual benefit is evidenced between the sponsor's brand and the sport property, whereby corporations leverage sport via sponsorship investments for effective branding and growing market share while sport teams, leagues and associations rely on sponsors as a major source of revenue (Fortunato, 2013).

In line with the increase in sport sponsorship investments, there has been a growing interest in both industry and academia in determining the measurable returns to the sponsor (Garland, Charbonneau, & Macpherson, 2008; Walraven, 2013). One of the methods to evaluate sponsorship effectiveness is to measure the change in brand awareness as this change can be attributed to sponsorship activities (Madrigal, 2000; Pascale, 1997). A popular way to measure brand awareness is to utilise recall and recognition techniques (Pitts & Slavery, 2004). Brand recognition, also known as aided-recall, refers to a consumer's ability to remember past exposure to certain brands or logos and is measured with an aided technique where subjects select the brands/logos they recognise among many others including dummies listed in the questionnaire (Aaker, 1992; Walsh, Kim, & Stephen, 2008). Brand recall, on the other hand, is the ability to correctly retrieve the brand name from memory without any prompts or mention of any further information such as product category or other brand choices (Aaker, 1992).

One of the more prominent live sport events today is the Formula One™ (F1) motor sport racing. It is one of the highest-profile and most expensive sporting events in the world with a large worldwide audience and fan base (Donahay & Rosenberger, 2007). The F1 Singapore Grand Prix was held in Singapore for the first time in September 2008. It attracted about 80,000 spectators and generated an increase of about SG$100 million in tourism receipts (Cheng & Jarvis, 2010; Lin, Kaur, & Tien, 2014). In a cosmopolitan country with a thriving economy like Singapore, the introduction of this high-profile sport is an attractive platform for sponsorship activities. Yet while the 2014 F1 Singapore Grand Prix is the 7th consecutive race held in Singapore, little prior studies have been conducted to investigate the sponsorship effectiveness with regard to the F1 Singapore Grand Prix.

It is a current trend that sport events with a large audience base are increasingly becoming the epicentre of sponsorship or logo showcasing (Choi, 2006). An average of 127 seconds of sponsor logo exposure at such events is able to achieve the same effect as a 30- second television advertisement (Olson & Tjomoe, 2009). Thus, sponsors often compete for better locations achieving maximum brand exposure such as space on players' clothing, equipment and site venues. In light of the increasing competitiveness of sponsorship industry, it is crucial to examine which are effective locations for logo placement in this mega sporting event.

In today's competitive world of sport sponsorship, it is important for sponsors to learn more effective and efficient ways to reach their target audience. Despite the surfacing of various measurement and evaluation techniques for effective sport sponsorship, many brand owners still fail to capitalise on the full potential of their sponsorship investments (Kolah, 2003). Therefore, the purpose of this study was to examine the effectiveness of sport sponsorship for the 2014 F1 Singapore Grand Prix, particularly analysing recall and recognition of brands on cars, driver's clothing and venue. Results derived from this study can be used to evaluate sponsorship effectiveness in the F1 Singapore Grand Prix in particular. In addition, the study helps present and potential sponsors evaluate the financial value of their sponsorship investment more confidently and purchase a more effective location for brand placement in future events.

LITERATURE REVIEW

Sport Sponsorship

Generally, sponsorship is defined as an agreement between two organisations, namely a sponsor and a sport property (Walraven, 2013). It appears as a form of assistance in terms of finance or in-kind to activity by a company to fulfill the purpose of achieving commercial objectives (Meenaghan, 1983). Companies seek different objectives via sponsorship investments so as to increase awareness of a company's brand, inform potential consumers of benefits and enhance the image of a company and its products through an association with the event (Marshall & Cook, 1992). In the sport event context, the sponsorship effectiveness can be interpreted as the degree to which the formulated sponsorship objectives are achieved. Many past studies conducted experiments to see changes in sponsorship recall

and/or recognition rates between before and after events (e.g., Bennett, 1999; Boshoff & Gerber, 2008; Jalleh, Donovan, Giles-Corti, & Holman, 2002).

Brand Awareness

Quester and Farrelly (1998) affirmed that determining the effectiveness of sponsorship should involve measuring brand awareness that can be attributed to specific sponsorship activity. They conducted a study to examine brand association and memory decay effects for the Australian Formula One Grand Prix. In terms of brand recognition, the results showed that consumers' recognition rates was significantly increased after the event, supporting that the event effectively led to an increase in brand awareness among the race-goers (Quester & Farrelly, 1998). In terms of brand recall, the results showed that at least 48% of participants involved were able to recall at least one or more sponsors correctly without any aids provided (Quester & Farrelly, 1998). Another interesting finding was that most participants were able to correctly recall the sponsor brand 'General Motors', which was a title sponsor of the event (Quester & Farrelly, 1998). Therefore, Quester and Farrelly (1998) concluded that the extent of effective sponsorship was largely dependent on the type of sponsorship companies invested in (e.g., title sponsor, official sponsor, product supplier), with the title sponsor receiving greater brand awareness. These findings were also consistent with those revealed by Gardner and Shuman (1988).

Another study by Jalleh et al. (2002) examined the sponsorship effectiveness in a motor sports setting and revealed different findings. The results from the comparisons among various brands in commercial sponsorships did not show any significant impact on the level of brand awareness (Jalleh et al., 2002). There was a small increase in the brand recall after the event, but the increase was not significant. This might be due to the fact that famous brands such as Coca-Cola which already had very high levels of brand awareness.

Logo Placement

In a lab setting, Lardinoit and Derbaix (2001) explored the impacts of two modalities of sponsorship (i.e., field and TV sponsorship) on consumers' brand awareness. While television sponsorship influenced both recall and recognition, field sponsorship had a significant positive impact on recognition with an effect size of .53 but an insignificant impact on recall with a marginal effect size of .30. The conflicting results were due to firstly the length of time during which the sponsor logos were visible to spectators. For example, a major sponsor of a F1 team enjoys a higher level of brand exposure than a sponsor whose logo was displayed only on the race track signage (Lardinoit & Derbaix, 2001). In addition, "the intensity of distraction associated with the sport" is a possible reason (Lardinoit & Derbaix, 2001, p. 184). Lardinoit and Derbaix (2001) explained that in higher intensity sports, a racing car is able to attract more attention to itself as compared to lower intensity sports like soccer, where attention is usually drawn to the sports actions. Thus, the results from this study suggested that the length of logo exposure and the intensity of sports were primary factors which affected awareness of sponsorship (Lardinoit & Derbaix, 2001). Similarly, Nicholls, Roslow, and Dublish (1999) conducted an exploratory study comparing spectators' brand awareness and brand preference in the golf and tennis events to provide a guideline that helped sponsors identify the location for optimal and effective brand exposure. The results showed that the length of brand exposure mattered for brand awareness (Nicholls et al., 1999). Sponsors aiming to achieve effective brand awareness should place brand logos at location which allow for repeated exposures to spectators throughout a sport event.

Brand Recall and Recognition

Bennett (1999) tested spectators' recall of both sponsors and advertising signage in the stadium during the UK football matches. The study found out that the environment played a significant part in affecting brand recall among spectators. Signage located around the perimeters of playing areas

received highest exposure whenever the focus of the game moved in a particular direction, or when spectators' attention wandered during a boring period of play, thus increasing message impact and recall (Bennett, 1999). Brands or sponsor logos endorsed by team players on their clothing, on the other hand, were able to achieve a more mentally attributed desirable characteristic by spectators, which was hoped to translate into a lasting impression of the sponsors and brands (Bennett, 1999). Bennett (1999) concluded that enhancement of a brand recall was indeed attributable to the repeated (forced) exposure to the posters or logos on the perimeter of the playing field, with season ticket holders or fans having higher recall and recognition rate. This finding revealed that the increase in brand awareness was a depiction of effective sponsorship, but this result could only be applicable to brand logo placement on a stationary medium (Bennett, 1999).

Robinson and Bauman (2008) conducted a quantitative research on the exposure of logos on television during the 2006 Winter Olympic Games in Turin and investigated the TV audience perceptions about, recall, and recognition of the brands. The surveys on the participants showed that most logos were observed in the skiing events with logos placed on athletes' ski suits, helmets, goggles, gloves, ski poles and skis. Sponsors like Nike which chose to place brand logos on athletes' clothing also received the most exposure on television broadcast, with an average of 33.7 seconds on screen exposure (Robinson & Bauman, 2008). Recall and recognition rates of logos placed on clothing, equipment, and venue signs were significantly higher than the other locations at the .01 level, but even then, only 30.8% of respondents were able to recall one or more brands correctly (Robinson & Bauman, 2008). The Pearson correlation was also calculated for these three groups, and the results showed a positive correlation between the number of days of watching the Olympics and the numbers of logos estimated to be seen, proving that repeated exposures to brands increase brand impression and awareness (Robinson & Bauman, 2008). Specifically, sponsors' logo placed on athletes' clothing received the most exposure during broadcast (Robinson & Bauman, 2008).

Walraven (2013) found various factors affecting recall and recognition rate of sponsor logos, which in turn affect brand awareness and hence sponsorship effectiveness. The quality and quantity of arena advertising exposure, clarity of brand logos, duration of exposure and consumers' prior attitudes towards the brand or event are significant factors that should be considered (Pokrywczynski, 1994). However, it is uncertain whether these determinants could be also generalised to the spectators of the F1 Singapore Grand Prix. Hence, the objective of this research was to examine the sponsorship effectiveness via brand recall and recognition of the official sponsors of the 2014 Singapore Formula One Grand Prix, and find out more effective locations to maximize brand awareness. It was hypothesised that sponsors which placed their brand logos on driver's clothing would receive a higher level of brand awareness among spectators, as compared to sponsors who placed their logos on venue or cars.

METHOD

Participants

A total of 120 participants (60 males and 60 females) took part in the study. They were all undergraduates currently attending a large university in the western Singapore, aged between 21 to 26 years old ($M = 23.43$, $SD = 1.45$). The participants were randomly split into three groups for this study, with 40 participants in either group namely:

1. Group focusing on brands exposure on cars;
2. Group focusing on brands exposure on driver's clothing;
3. Group focusing on brands exposure on venue.

The participants were told that participation is completely voluntary, and their identity will be kept strictly confidential. Student samples were used as it allows better control of variables like education

level and age, which are highly likely to influence the recall and recognition rates (Kinney, McDaniel, & DeGaris, 2008). The use of student samples is common in various past studies and has been considered to be useful (Lardinoit & Derbaix, 2001; Mikhailitchenko, Tootelian, & Mikhailitchenko, 2012; Walsh et al., 2008). The participants were also advised that they were allowed to withdraw from taking part in the study any time they wished.

Procedure

Three different video clips of the 2014 Singapore Formula One Grand Prix broadcast were designed. All participants were given a short two minutes briefing before the start of the survey where they were informed of the procedure of the survey. They were tasked to watch the 30 second videos before filling in a questionnaire subsequently. The questionnaire was given to participants immediately after watching the videos and they were given ample time to address any questions they might have throughout the survey. The participants were instructed to be honest and to answer the questions to the best of their ability without guessing. They were not informed of the topic of this study beforehand as divulging the topic might lead to deliberate memorisation or greater attention to brands shown in the video, thus leading to biased results gathered thereafter (Leng, 2011). The video and questionnaire were expected to take no more than 15 minutes to complete.

Instrument Development

The brand awareness items included both non-aided recall as well as aided recall (recognition) with the former questions placed in the first page. The questions were administered in this order to prevent previous exposure to the recognition measure, which could result in contamination in the recall answers (Singh & Rothschild, 1983):

- **Brand recall:** There were seven brands that received considerable exposure, of more than five seconds, from the videos shown to the participants. The participants were instructed to write down as many brands as they could remember from the video via an open-ended question format, with instructions not to guess the brands if they were unsure;
- **Brand recognition:** A list of 14 brand names was then used to assess brand recognition. The list consisted of seven true sponsors and seven dummy sponsors. The dummy sponsors chosen to be included in the list were competitor brands in the same product category. For instance, Audi was included as a dummy item for Mercedes which was a true sponsor. After watching the video and having answered the brand recall section, the participants were instructed to choose the brands they could remember from the video they watched.

Data Analysis

The data gathered from the surveys were entered into SPSS 22.0. In preparation for the data analysis, brand recall and recognition scores were calculated by summing up the total number of brands correctly recalled or recognised, and subtracting the number of incorrect responses from the total thereafter, with the minimum score achieved to be zero (Walsh et al., 2008). Descriptive statistics were used to describe the demographic information of the participants. Data collected from the surveys were tested for normality before the between-subject multivariate analysis of variance (MANOVA) was performed. With the location of signage (cars, driver's clothing and venue) as the between group factors and recall and recognition as the dependent variables, individual ANOVA was performed to find any significant multivariate effects between the variables. A post-hoc test using LSD was then applied to find out exactly where significant differences lay between the groups. Statistical significance between groups was assumed for $p < .05$.

RESULTS

Preliminary Analysis

The data ($N = 120$) were screened. No invalid or outliers were found through the descriptive statistics. For normality test, the skewness and kurtosis statistics of the recall and recognition variables fell within the range of ± 1.00 (Kline, 1998; see Table 1). Hence, the normality of the data was assumed.

Brand Recall and Recognition

For MANOVA, Box's Test of Equality was above .001 ensuring that normality, linearity and multicollinearity have been met. The MANOVA results indicated significance differences (Wilks' Lambda = .753, $p < .05$) among the participants for all three groups in both the recall and recognition scores. Given the significance of the overall test, the univariate main effects were examined. Tests of the between subjects effects on the two dependent variables showed significance value of $F = 6.304$, $p < .05$ for recall test and $F = 19.066$, $p < .05$ for recognition test. The partial eta squared values (η^2) for recall and recognitions were .10 and .25, respectively, meaning that 10% of variance in recall and 25% variance in recognition were explained by the groups. Post-hoc test using LSD indicated that,the participants in cars ($M = 3.35$) and driver's clothing ($M = 2.88$) scored significant higher ($\Delta M = 1.28$, $p < .05$; $\Delta M = 0.80$, $p < .05$) in the mean score as compared to the participants in venue ($M = 2.08$) for the numbers of the brands correctly recalled. However, there was no significant difference in recall scores between cars and driver's clothing ($p = .193$; see Table 2.)

Similar to the results in the recall rates, for recognition, the participants reported significantly higher scores for the brands on cars ($M = 4.88$) and driver's clothing ($M = 4.20$) than those on venue ($M = 2.73$; $\Delta M = 2.15$, $p < .05$ and $\Delta M = 1.47$, $p < .05$, respectively. However, there was no significant difference in recognition scores between cars and driver's clothing ($p = .06$; see Table 2). Overall, the participants in cars and driver's clothing received higher brand awareness for both recall and recognition rates.

Table 1. Descriptive statistics for recall and recognition across three locations

		M	*SD*	Skewness	Kurtosis
Recall	Car	3.35	1.66	0.33	-0.48
	Driver's Clothing	2.88	1.68	-0.04	-0.04
	Venue	2.08	1.54	0.27	-0.86
Recognition	Cars	4.88	1.56	-0.34	-0.29
	Driver's Clothing	4.20	1.32	0.17	-0.27
	Venue	2.73	1.85	0.48	-0.49

Table 2. LSD post-hoc tests with recall and recognition as dependent variables in the ANOVA design

	Cars		Driver's Clothing	
	ΔM	***p*-Value**	**ΔM**	***p*-Value**
Cars				
Driver's Clothing	.47 (.68)	.19 (.06)		
Venue	1.28 (2.15)	.00* (.00*)	.80 (1.47)	.03* (.00*)

Note: Values in this table are representation of the dependent variables as such: Recall (Recognition).
ΔM refers to the difference between the mean scores of the groups.
*Significant at *p* < .05.

DISCUSSION

To summarise the main findings of this study, both measurement techniques of recall and recognition rates revealed the consistent outcomes and trends in sport sponsorship across three different locations. The brands on cars and driver's clothing had significant differences over those on venue in terms of the number of brands correctly recalled and recognised. However, there was no significant difference in recall and recognition scores between cars and driver's clothing.

Recall is a more complex process depending on both the availability and accessibility of information in a subject's memory while recognition relies on the availability of information in the subject's memory only (Biscaia, Correia, Ross, & Rosado, 2014). As such, it is highlighted that participants in this study are more successful in identifying the correct brand sponsors when they only have to differentiate correct brands among several other dummy sponsors, unlike the situation where the task requires greater mental processing (Cornwell, 2008). A recall technique is a more successful indicator only when consumers are able to find congruence between the brands and event (Cornwell et al., 2006). From a practical perspective, these findings are useful in helping sponsors understand the value of their link to a sports entity.

Logo meaning, familiarity, presentation and placement are significant in understanding the consumer decision-making process (Cornwell, 2008). The reason why logo placement on cars and driver's clothing was more effective than placement on venue may be attributed to several possible reasons. Firstly, the participants were able to recall and recognise brands placed on cars correctly due to the extent of publicity and hence association with the sponsors. The team sponsors such as Red Bull are able to attain the 'naming rights' of the team, and have their brand logos placed on the cars that are likely to receive maximum amount of exposure. This could be further supported by the results in this study, in which most participants stated that the brands, which 'have made the most impact to them from this event/ video are brands like Red Bull, Mercedes, and Ferrari. These brands are commonly recognised as title sponsors of F1 racing cars. As racing cars are the main highlight in the F1 Grand Prix, the participants who have had prior impression or race attendance are more likely to have an impression and association of the event to the sponsors of the racing teams.

Secondly, the logo placements on driver's clothing are able to capture the participants' attention as well especially during the close-up view during driver's interviews broadcasted at the podium finish. Unlike the racing cars that are able to draw attention to themselves, brand logos placed around the perimeter of the racing track were less likely to leave a lasting impression on participants due to the nature of the sport event (Lardinoit & Derbaix, 2001). Motorcar racing like the F1 Grand Prix consists of a high level of distraction, and thus the participants who watched the video might shift their focus onto the moving cars on track instead of the surrounding sponsor's billboards (Lardinoit & Derbaix, 2001).

Billboards placed around the venue also received limited exposure time during broadcast, as their on-screen appearance time is highly dependent on the speed of the car exiting every turn or road. This difference between recall and recognition scores of the brands on cars and driver's clothing can be attributed to the length, timing and consistency of exposure available for these areas during broadcast, as compared to the limited exposure of a simple logo placed on billboards (Pokrywczynski, 1994). Most participants in this study were able to correctly recognise and recall brands like Mercedes as this brand logo was large and visibly printed on Lewis Hamilton's cap and clothing at his left chest level. By linking its name with an event or celebrity, the company can share an image "the same way that a product shares the image of the celebrity who endorses it" (Javalgi, Traylor, Gross, & Lampman, 1994, p. 47). Hence, these brands and brand logos were highly likely to leave an impression on the participants. A lasting impression may be formed among the participants who associated brands that were endorsed by drivers they favor, in a positive attitude and desirable characteristics. This finding coincides with the findings from the previous study conducted by Bennett (1999).

Practical and Theoretical Significance

The findings from this study have both practical and theoretical significance. The list of participating sponsors for this event changes every year. Although this study is preliminary and limited in its scope, its findings could be useful for companies looking for the ideal space for maximising brand logo exposure as well as for F1 teams looking for sponsorships.

One of the primary objectives of sponsorship is to increase brand awareness (Donahay & Rosenberger, 2007). When watching motorsport events through television, people may be inclined to see brands on certain locations. The identification of prime locations which easily capture people's attention is important for marketers when deciding ad places for such F1 events. Particularly a high visibility location is very crucial because it is a direct indicator of brand awareness (Pyun, Han, & Yoo, 2008). Given this sequence, our results contribute to the current knowledge that that sponsorship in the motorsport is an effective marketing tool, and this brand exposure produces positive influence on consumers' impression and memory of the brands (Levin, Joiner, & Cameron, 2001). According to the model of the message reception process (Wells, Moriarty, & Burnett, 2005), brand awareness directly influences brand understanding (e.g., brand association, image building), which eventually help persuade or change consumers.

As price setting in sport sponsorship is usually negotiated in private, little is known about what determines a proper price of sponsorship (Wishart, Lee, & Cornwell, 2012). With replication and further development in future studies, information gathered from this study will be vital in helping marketing practitioners recognise the benefits and cost associated with sponsorship and subsequently maximise their returns on sponsorship investments for F1 teams or the Singapore Grand Prix event in the future.

Limitations and Future Research

While this study yields theoretical contributions to sport sponsorship literature as well as the analysis of the brand awareness, it is essential to take the limitations of the study into consideration. Firstly, while student samples still represent a significant a consumer segment for the Singapore Grand Prix, other socio-demographics groups should also be considered. This is especially warranted since the working class holds higher spending power in general and hence might be a more appropriate consumer segment to measure the effectiveness of sponsorship. In addition to the disposition of the samples, the current sample size could be an issue. The study concluded that there was no significant difference in recognition scores between cars and driver's clothing although its p-value of .06 is very close to the significance level of .05. It should be more careful to simply jump to the conclusion that there is no significant difference as a few more samples would easily reject the null for this case. A future study could recruit more samples to examine whether the significant difference really exists.

Secondly, the F1 Singapore Grand Prix is unique and different from the other Grand Prix in the world as it is a night race. Hence, the results gathered from this study may not be generalised to other Grand Prix races. The findings are also not generalisable to other sport events of a different nature from motorsports. Thirdly, the results are largely dependent on how much effect the 30-second video had on the participants. Different outcomes could be derived if research subjects are able to watch the entire F1 race or watch more than one race. A future study could look into repeated exposures or use longer video clips. This could result in a higher ecological validity of the findings as spectators of F1 usually receive multiple exposures to the different brands around the circuit/venue throughout the 61 laps and across the three-day race. Lastly, recall and recognition are important factors in the evaluation of brand awareness but may not fully explain how sponsorship works. Purchase intentions and image enhancement would be also crucial factors for corporations wishing to achieve brand awareness through brand placement within a sporting event (Walsh et al., 2008). Hence, a future study could examine sponsorship awareness and its relationship to other outcomes such as brand

credibility (Spry, Pappu, & Cornwell, 2011), purchase intentions, and attitude towards sponsor (Speed & Thompson, 2000). Being aware of this information will enable corporations to have better awareness of the benefits when engaging in sports sponsorship.

CONCLUSION

Sponsorship is widely used as a promotional and communication tool in the sports setting. The tests of the recall and recognition across the brand sponsors in this study support the effectiveness of sponsorship via the F1 Singapore Grand Prix. The findings supported the hypothesis and suggested that there was eminent brand awareness of sponsors exposed on cars and driver's clothing being more effective locations. This is partially attributable to consumers' strong associations with team sponsors. These findings are beneficial to corporations who are considering F1 sponsorship as the foundation for their promotional activity. Sponsors are now better equipped to make choices that will help them gain maximum benefits from their investments. Regarding this, this study provides a more practical understanding of this sport promotional tool.

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