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Consumer co-creation of product quality: examining home advantage in State-of-Origin rugby

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Abstract
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Consumer Co-creation of Product Quality:
Examining Home Advantage in State-of-Origin Rugby

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Home Advantage in State-of-Origin Rugby: Can Fans Co-create Product Quality?

Results of 84 State of Origin rugby league matches were analysed to determine the extent of home advantage (HA). When the Queensland Maroons play at home in Lang Park/Suncorp Stadium they win 64% of the time (30 wins, 17 losses), with an average point spread of +4.32 points. However, they win only 43% of the time (16 losses, 21 losses) when they are away in New South Wales, with the average spread of -2.76. The contingencies for winning percentage ($\chi^2_1 = 3.55, p < .06$) and point spread ($t_{1,83} = 2.5, p < .02$) are significant, indicating that HA exists.
Introduction: Home Advantage as Consumer Co-creation of Product Quality

Attendance at sporting events is an important aspect of consumer behaviour, not only because of its economic magnitude (Borland and MacDonald, 2003), but also due to the unique and sometimes bizarre behaviours of dedicated sports fans (Dionisio, Leal and Moutinho, 2008). In addition, sports fans play a major role in creating the product they consume, along with athletes and sports management organizations (Devasagayamand and Buff, 2008). The home team is essentially the preferred brand for many consumers of sporting events, and an important determinant of product quality is whether the team wins or not.

The home advantage (HA) is in many ways the ultimate example of consumers co-creating product quality because not only do fans create the atmosphere in which the sporting event is watched, they may also influence the outcome of the contest. Indeed, several explanations for HA have been advanced, many of which involve the actions of fans, including (a) interfering with player communication on the away team, (b) increasing the motivation of the home team, (c) intimidating the away team into making errors, (d) causing the away team to exert less effort, and (e) biasing the officiating in favour of the home team (Courneya and Carron, 1992). Running through many of these explanations is the idea that fans, as loyal customers of the home team, engage in behaviours that directly influence the likelihood of victory.

Research has established that the HA exists in sports such as soccer, baseball, ice hockey, basketball, American football, Australian rules football, cricket, figure skating, speed skating, Alpine skiing, freestyle skiing, ski jumping, tennis, golf, boxing, gymnastics, and cross country running, with the size of the effect varying from one sport to the next (Courneya and Carron, 1992; Schlenker et al., 1995; Balmer, Nevill, and Williams, 2001, 2003; Carron, Loughhead, and Bray, 2005).

Much of the research on HA examines sports competitions where the home fans affiliation with the team stems from membership in a small community, city, or university. Collective identity and group affiliation are central to the fan behaviours that create HA (Gibson, Willming, and Holdnak, 2002). The affiliation with other fans can, over time, come to feel like a surrogate family, with new partners, children, close friends and other “family” members brought into the fold over time (Gibson et al., 2002). A desire to be distinct from other social groups motivates many fans (Dionisio et al., 2008), suggesting that HA may be more relevant when the team affiliation is local rather than state-wide or national.

Another reason that HA may be less pronounced in representative competitions is the “learning” explanation, wherein the advantage to home players stems from the superior knowledge of the grounds on which they play half of their matches (Courneya and Carron, 1992; Carron et al., 2005). Evidence to support this explanation stems from studies finding larger HAs for teams that play at unusual home grounds (i.e., artificial surfaces, large fields, small fields, etc.) (Carron et al., 2005). So there is some basis in the literature for suspecting the HA in representative competitions to be less pronounced than regular league competitions because the affiliation with the home team is based on citizenship rather than local community, and many of the “home” players lack familiarity with the “home” grounds.
However, some studies of international competitions involving national teams have found evidence of HA (Gibson et al., 2002). Although Balmer et al. (2001, 2003) found evidence of HA in Olympic competitions it tended to be more pronounced in sports like boxing, gymnastics, figure skating, and freestyle skiing, where judges not athletes determine the winner. Although referee decisions can influence the outcome of a rugby match, their influence is limited compared to that of judges, who literally have the power to select the winner (Balmer et al., 2001, 2003). However, Balmer et al. (2003) did observe a rather large HA for Olympic team sports like basketball, field hockey, and volleyball, suggesting that fan behaviour may affect the outcome of a competition apart from its influence on judging.

**Home Advantage in State of Origin Rugby**

One of the most enthusiastically attended sporting events in Australia, the State of Origin rugby league competition began in 1980. The competition, which takes place in the middle of the regular National Rugby League season, pits players who began their careers at clubs in Queensland against players originating in New South Wales, regardless of where they currently play in the regular National Rugby League competition. Hence a player who is a hero for the local team one week, can become the villain the next week if he began his career in the “other” state. Since 1980, 93 matches have been played between the Queensland Maroons and the New South Wales Blues. The current format is an annual best two out of three match competition, with the team having the two home games rotating each year.

In 2011, after the Maroons had won the first match, Gordon Tallis, a Maroons legend, caused a stir by suggesting on national TV that Queensland fans were more passionate than Blues supporters. After the Blues won the second match, Ricky Stuart, coach of the Blues, suggested that several prominent Maroons players intimidate referees and that he hoped this would not influence the outcome of the third and deciding contest. As it turned out, the Maroons won the third and deciding match when they beat the Blues 34 – 24, improving their record at Lang Park/Suncorp Stadium to 30 wins, 17 losses, and one draw. The match wasn’t as close as the final point total might suggest, as Queensland held a 24 – 0 lead before the Blues earned their first points.

The comments of Tallis and Stuart implied that the HA is significant in State of Origin rugby. However, actual studies of HA in rugby competitions are scarce. Terry, Walrond, and Carron (1998) and Polman et al. (2007) found little or no differences in the affective states of rugby union and rugby league players, respectively, just prior to home versus away matches. However, Kerr and van Schaik (1995) found higher levels of self-reported arousal for rugby union players prior to away days versus home games. Jones, Bray and Oliver (2005) found that rugby league players’ levels of aggression were not affected by whether they were playing at home versus away.

Page and Page (2010) found that referees in rugby union and rugby league competitions tended to favour teams from their own nationality in terms of penalties awarded, implying a possible HA. The only study directly assessing the effect of location on final point spread did find evidence of HA in rugby union, but only for the Super 12 league competition, wherein the home side fared 6.7 points better on average. There was little or no evidence of HA for the representative Tri Nations international competition between
Australia, New Zealand, and South Africa, suggesting a possible difference between league and representative competitions in the same sport (Morton, 2006).

Given the various factors that contribute to HA discussed above, the State of Origin series has some rather unique features. First, the featured sport is rugby league, a football code that has not received much attention in the HA literature. Second, the affiliation of the fans with the home team is based on state citizenship rather than national citizenship, local community membership, or university enrolment. Third, while one team has played virtually all home matches on the same ground since the start of the competition (i.e., the Maroons), the other has rotated between several stadia in the home state (i.e., the Blues). Hence, the research reported below examines the extent of HA in the State of Origin Rugby Series, using win-loss percentage and average point spread as indicators.

Method and Results

Data were collected on 2 and 6 July, 2011. Several on-line sources provided identical data on the results of the 93 matches played since 1980. The key independent variable was whether a match was played in Queensland, New South Wales, or at a neutral site. The two dependent variables were whether Queensland won the match, coded as 1 for a win and 0 for a loss, and the final point spread from the perspective of the Maroons (i.e., a loss was a negative spread).

As shown in Table 1, if matches played on neutral soil and draws are omitted, the overall record in the series is 46 wins for the Maroons and 38 wins for the Blues. However, the winning percentages vary considerably depending on where the match was played. Of the matches played in Queensland’s Suncorp Stadium (formerly Lang Park), the Maroons have won 30 and lost 17, whereas in the matches played in NSW, they have won only 16 and lost 21. This contingency is marginally significant ($\chi^2 = 3.55, p < .06$), suggesting that the outcome of a match depends on the state in which it was played.

Further analysis of the match data by state indicates the exact nature of this contingency. For matches played in Queensland, the Maroons’ winning percentage is statistically higher than 50% using a one-sided test ($z = 1.77, p < .05$), suggesting they are more likely to win than lose when playing at Lang Park/Suncorp Stadium. However, the same test for matches played in New South Wales does not produce a significant result ($z = 0.82, p > .2$), failing to rule out the null hypothesis that the Blues are equally likely to win or lose when matches are played in NSW.

The same basic contingency emerges when average point spread is the dependent variable. Across all 84 matches, the average point spread is 1.20 in favour of the Maroons. But in matches played in Queensland the average point spread is 4.32, whereas

<table>
<thead>
<tr>
<th>Location</th>
<th>Team</th>
<th>QLD Maroons</th>
<th>NSW Blues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Winning %</td>
<td>Average Spread</td>
<td>Winning %</td>
</tr>
<tr>
<td>QLD</td>
<td>64% (30)</td>
<td>+4.32</td>
<td>36% (17)</td>
</tr>
<tr>
<td>NSW</td>
<td>43% (16)</td>
<td>-2.76</td>
<td>57% (21)</td>
</tr>
<tr>
<td>Overall</td>
<td>55% (46)</td>
<td>+1.20</td>
<td>45% (38)</td>
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</tbody>
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in matches played in NSW it is -2.76, which is a statistically significant difference ($t_{1,83} = 2.5$, $p < .02$). Further analysis of the matches played in Queensland reveals that the 95% confidence interval for the average point spread lies entirely above zero (0.38 to 8.26), indicating a definite HA. But a similar analysis of the matches played in NSW produces a 95% confidence interval of -1.12 to 6.48, failing to reject the null hypothesis that the true population point spread is zero.

**Discussion**

In terms of consumer behaviour, HA represents a rather unique instance of consumers influencing the quality of the product they purchase. From a branding perspective, the notion of consumer co-creation involves two-way dialogues between customers and company officials, and a negotiated understanding of what the brand means, but customers are not directly involved in producing anything tangible (Prahalad and Ramaswamy, 2004). The same is true for many services. A customer may communicate their wishes throughout the entire production of a hair styling, but they do not actually cut, colour, straighten, curl, highlight, or otherwise treat their own hair (Ojasalo, 2010).

However, in other service categories, for example entertainment events where consumers gather in large numbers, customers directly produce at least part of the spectacle. Half the fun of attending a rock concert is observing the wild antics taking place in the audience in addition to those happening on the stage. In this sense State of Origin fans co-create the very product they consume by gathering in large numbers, participating in pre-match rituals, cheering during the actual game, and celebrating afterwards, all of which enhances the quality of the product.

But HA implies that fans can actually destroy the quality of competitive brands in addition to enhancing that of their preferred brand, a rather unique outcome in terms of co-creation. It is difficult to imagine loyal consumers of durable or non-durable goods actively reducing the quality of competitive brands. They might help a company compete by supplying market information about competitive products, but it is unlikely that they would interfere with the production process directly.

It is possible to envision how loyal customers could harm competitive brands in various service settings by actively sabotaging the production process (i.e., in the role of a mystery shopper), but it seems less likely that they have a motivation to do so. Sporting events are rather unique in providing loyal customers with the ability and the motivation to co-create the quality of their preferred brand while co-destroying the quality of competitive brands, and the HA documented in numerous studies provides evidence of co-destruction.

Importantly, the data do not say why HA exists in State of Origin. What role do loyal home fans play? Gordon Tallis’ comments suggest that passionate fans inspire the home team to try a little harder than the away team. It is unlikely that any available data can be used to test this explanation. But Ricky Stuart’s comments suggest a “biased officiating” hypothesis, wherein match referees call more penalties against the away team. Data on the penalties called in each State of Origin match are available from various on-line sources and should be used to test the biased officiating hypothesis in future research.
References


Ojasalo, K., 2010. The shift from co-production in services to value co-creation. The Business Review 16 (1), 171-177.


