Negative Influence of Market Competitors on the Attendance of Professional Sport Games: The Case of a Minor League Hockey Team

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Abstract
Through identifying market competitors of a minor league professional hockey team, this case study was designed to test the hypothesis that substitute forms of entertainment and other sport attractions would negatively affect the attendance of a sport team. From interviewing the team administrators and a review of literature, 15 possible entertainment options were identified in the greater metropolitan community. The Scale for Entertainment Choice (SEC) was formulated by phrasing entertainment options into test items in a Likert 5-scale and presenting items in a random order. Selected by random cluster sampling procedures, spectators (N = 2,225) from six second-half season home games of the hockey team participated in the study. Survey packets including the SEC and game attendance frequencies were passed out to the subjects during the first intermission and collected during the second intermission of a game. Stepwise multiple regression analyses revealed that the primary competitions for a minor league team came from the major league sports, movies, recreational participation, and TV. Several marketing strategies were suggested, along with a research model for other professional teams.

Introduction
Competition within professional sport has increased with the addition of rival leagues of same and/or different sports, the ongoing expansion of playing seasons, moving of franchises, and the sale of broadcasting rights. Competition extends well beyond professional sport itself. Organizations of all types compete for the customer's discretionary time and money. Since the 1970s, dollars spent on recreation activities, commercial participants amusement, video, movies, and community recreation activities have increased; however, those spent on spectator sport have shrunk. Consequently, as the competition for the entertainment dollar has increased, the need for professional sport marketing has increased (Mullin, Hardy, & Sutton, 1993). Marketing of professional sport has become progressively difficult in the last few decades. Today, many sport managers do little research to identify who qualifies as a market competitor. Although clearly determining competitors is a difficult task, competitor analysis is one major step in market situation analyses that would provide facts and information necessary for planning and implementing the marketing mix (product, price, promotion, and place). That is, identification of market competitors is the prerequisite for the formulation of marketing plans (Stotlar, 1989).

Attracting and competing for spectators have become major marketing objectives of professional sport teams because game attendance is the primary revenue producer for professional sport teams. With the major exception of the NFL, tickets and stadium revenue are the key to franchise success. Teams also have other secondary revenue resources, such as broadcasting rights, parking, concessions, programs, endorsements, uses of team logos, and media productions. In fact, the secondary income resources are extensions of the primary income source (i.e., ticket sales; Noll, 1974; Staudohar & Mangan, 1991). Researchers
The purpose of this study was to identify the market competitors of a professional sport team, using the case of a minor league professional hockey team. Choosing a minor league hockey was based on a number of considerations: (a) There is growing trend of minor league sports; (b) market competition for minor league teams would be intense; and (c) a majority of studies have focused on major league baseball, basketball, and football, whereas hockey has been studied to a lesser extent. Additionally, professional sport teams are in different market positions; therefore, it is the intention of this study to provide a research model to other cases. The hypothesis tested was as in the following:

H1: Substitute forms of entertainment and other sport attractions would negatively affect the attendance of a sport team.

Method

Subjects

Spectators (N = 2,225) from six 1994-1995 second-half season home games of an International Hockey League team participated in the study. Random cluster sampling procedures were conducted for the purpose of including subjects from various backgrounds.

The age of the participants ranged from 9 to 77 years old (M=31.9; SD=10.8). Of the subjects, 1,276 (64.6%) were males and 699 (35.4%) were females. Ethnic composition included 1,758 (86.8%) Caucasians, 142 (7.0%) Hispanics, 51 (2.5%) Asians, 38 (1.9%) African-Americans, and 37 (1.8%) Other.

Measurements

The Scale for Entertainment Choice (SEC) was developed to investigate entertainment options of spectators (Appendix A). According to Mullin et al. (1993), "an organization offering a similar product or service whose critical trading radius overlaps more than 25 percent of the marketer's own trading radius is a competitor. Usually this means that the competitor's facility or retail outlet will be located within 30 minutes traveling time of the marketer's own facility" (p. 94). Besides the International Hockey League team, 15 other entertainment options in the greater metropolitan community were identified by the hockey team administrator and a thorough review of literature. The options fell into the following five areas: (a) sports at the professional and amateur levels, (b) arts including movies and concerts, (c) recreational activities, (d) television and (e) restaurants and night clubs. Each entertainment option was phrased into a test item in a Likert 5-point scale ("Always," "Often," "Sometimes," "Occasionally," and "Never"). The test items were presented in a random order.

Additionally, demographic variables (age, gender, and race) and attendance frequencies (number of games having attended during the current season and total number of games intended to attend in the current season) were investigated.

Procedures

The ice arena had 75 seating sections. For each game, 25 sections were randomly selected. The questionnaires containing the SEC as well as the demographic and attendance variables, were passed out to the spectators in the selected sections during the first intermission and were collected during the second intermission of a game.

Twenty-five university students helped with the test administration of each game. An average of 600 questionnaires were distributed in each of the six games. In total, 3,600 forms were passed out and 2,225 completed forms were returned, with an average of 371 forms returned from each game (return rate of 61.81%).

Treatment of Data

Procedures from the Statistical Package for Social Science (SPSS) (SPSS Reference Guide, 1990) were utilized to conduct the data analy-
Table 1

Descriptive Statistics of the Entertainment Option Variables

<table>
<thead>
<tr>
<th>Entertainment Option</th>
<th>% of Response to the Likert Scale*</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional &amp; Amateur Sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend profootball games</td>
<td>44 26 16 6 7</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Attend proindoor soccer games</td>
<td>83 18 5 2 2</td>
<td>1.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Attend probasketball games</td>
<td>31 27 22 11 9</td>
<td>2.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Attend probaseball games</td>
<td>23 26 25 15 11</td>
<td>2.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Attend intercollegiate games</td>
<td>40 21 18 10 11</td>
<td>2.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Attend other sport shows</td>
<td>25 23 32 13 8</td>
<td>2.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Recreational Participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Play recreational sports</td>
<td>16 15 24 18 27</td>
<td>3.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Work out/Exercise</td>
<td>11 16 23 21 29</td>
<td>3.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Travel</td>
<td>8 13 27 24 28</td>
<td>3.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend concerts</td>
<td>18 27 27 16 12</td>
<td>2.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Attend movies</td>
<td>7 15 26 26 26</td>
<td>3.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Television</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch sports on TV</td>
<td>7 11 17 25 41</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Watch nonsport programs on TV</td>
<td>5 12 21 25 38</td>
<td>3.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Dining and Night Clubs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend bars/restaurants</td>
<td>8 7 20 28 37</td>
<td>3.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Attend night clubs</td>
<td>35 23 18 12 12</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

* 1 = Never; 2 = Occasionally; 3 = Sometimes; 4 = Often; 5 = Always.

Descriptive statistics were calculated for sociodemographic, attendance, and entertainment option variables. Stepwise multiple regression analyses were conducted to examine the impact of market competitors on game attendance of the minor league hockey team.

Results

The results are presented in two sections: (a) descriptive statistics and (b) impact of entertainment options.

Descriptive Statistics

The number of games having attended during the current season (1994-1995 season) ranged from 1 to 38 (M=5.6; SD=8.5). The total number of games intended to attend in the current season ranged from 1 to 41 (M=9.9; SD=11.8). Descriptive statistics for the SEC variables are presented in Table 1.

Impact of Entertainment Options

Intercorrelations between the entertainment options and the attendance variables were first examined. Although the statistical relationships were weak (see Note #1), five entertainment options (Attend Professional Basketball Games, Attend Other Sport Shows, Attend Movies, Work Out/Exercise, and Watch Other Nonsport Programs on TV) were found to have significantly (p < .05) negative zero-order correlations (see Note #2) with the number of games fans had attended in the current season. These same five variables and two other entertainment options (Attend Professional Football Games and Play Recreational Sports) had significantly (p < .05) negative zero-order correlations with the total number of games fans intended to attend in the current season. Table 2 supports what marketers have long thought: Movies, nonsport TV programs, fitness clubs, and other teams are all rivals for fan interest. On the other hand, concert attendance may reveal the profile of a “live-event” consumer, who is a solid prospect for any sport team.

Because people have a limited amount of time and money for entertainment and leisure, participation in some activities may affect participation in others. When

Table 2

Intercorrelations Between Entertainment Options and Game Attendance

<table>
<thead>
<tr>
<th>Game Attendance Variable</th>
<th>Entertainment Option</th>
<th>No. Having Attended This Season</th>
<th>Total No. Planned for This Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional &amp; Amateur Sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend profootball games</td>
<td>-.03</td>
<td>-.10*</td>
<td></td>
</tr>
<tr>
<td>Attend proindoor soccer games</td>
<td>-.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend probasketball games</td>
<td>-.08*</td>
<td>-.09*</td>
<td></td>
</tr>
<tr>
<td>Attend probaseball games</td>
<td>-.01</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Attend intercollegiate games</td>
<td>-.04</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>Attend other sport shows</td>
<td>-.06*</td>
<td>-.08*</td>
<td></td>
</tr>
<tr>
<td>Recreational Participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Play recreational sports</td>
<td>-.04</td>
<td>-.05*</td>
<td></td>
</tr>
<tr>
<td>Work out/Exercise</td>
<td>-.08*</td>
<td>-.08*</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>.02</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend concerts</td>
<td>.04</td>
<td>.05*</td>
<td></td>
</tr>
<tr>
<td>Attend movies</td>
<td>-.08*</td>
<td>-.08*</td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch sports on TV</td>
<td>.03</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Watch nonsport programs on TV</td>
<td>-.07*</td>
<td>-.06*</td>
<td></td>
</tr>
<tr>
<td>Dining &amp; Night Clubs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend bars/restaurants</td>
<td>-.04</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>Attend night clubs</td>
<td>-.03</td>
<td>-.02</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .05 level.
examining the relationship between game attendance level and leisure activities, it was necessary to remove the mutual influence among the activities. Therefore, a more advanced statistical technique, called stepwise multiple regression analysis, was employed (see Note #3). Findings from this analysis would be more representative of the market environment and hence more applicable to marketing practice. The analysis revealed that to some extent six entertainment options as a group (Attend Professional Basketball Games, Work Out/Exercise, Attend Concerts, Attend Movies, Watch Non-sport Programs on TV, and Watch Sports on TV) competed with the number of games attended in the current season. Only 2.5% variance was explained, yet it was statistically significant ($p < .05$). It is necessary to note here that two entertainment options (Attend Concerts and Watch Sports on TV) were not related to this game attendance variable when examining their zero-order correlations; however, with the presence of other entertainment options, one (Watch Sports on TV) became a major suppressor of game attendance whereas the other (Attend Concerts) positively affected game attendance.

Further, stepwise multiple regression analyses revealed that six entertainment options (Attend Professional Football Games, Attend Professional Basketball Games, Work Out/Exercise, Attend Concerts, Attend Movies, and Travel) competed with the total .05). One of the six entertainment options (Travel) was not found to be related to this attendance variable when examining zero-order correlation; however, with the presence of other entertainment options, it actually affected the game attendance in a positive way because it had a positive correlation with the attendance variable (Table 3).

**Discussion and Implications**

The discussion and implications are presented in four sections: (a) limitations, (b) key results, (c) implications, and (d) conclusion.

**Limitations**

Based on the scale used in this study, only 2 to 3% of the variance in game attendance was explained in the regression analyses (see Tables 2 & 3). Because approximately 97% variance was not explained in the regression model, great concern remains that the generalizability of the results of this study may be limited. In part, this may be due to the adoption of the Likert 5-scale ("Always," "Often," "Sometimes," "Occasionally," and "Never"). Scales such as these are ordinal in nature, typically reduce statistical power of interval/ratio data. Actual attendance frequencies of entertainment options (interval/ratio data), if obtainable, may enhance variance explanation. In a practical sense, low variance explanation may also indicate that it is necessary for teams to study other game attendance related variables (that is to look for other predictor sets), along with substitute forms of entertainment and other sport attractions.

**Key Results**

The findings of this study confirmed the previous assumptions that the presence of other sport attractions and substitute forms of entertainment would negatively affect the attendance of a sport team.

The findings of this study confirmed the previous assumptions that the presence of other sport attractions and substitute forms of entertainment would negatively affect the attendance of a sport team. The findings were also consistent with the suggestions by Stotlar (1989) that "... it might be possible for main competition to be..."
movie theaters, shopping malls, or other community events. Televised programs may be the major competitors” (p. 33). Descriptive results from this study revealed that spectators generally participated in activities not directly related to sport attraction (e.g., TV and recreational participation) (see Table 1). Although it seems that major competitions for the team were primarily from these nonsport entertainment options, descriptive statistics do not provide the information about whether attending more nonsport events would negatively affect the game attendance of the team. Consequently, when the relationships between entertainment options and attendance variables were examined to see if attending other entertainment options affect the game attendance of the team, professional sports (particularly basketball), along with those variables identified through descriptive statistics, were shown to be vital competitors (see Tables 2 & 3). The identified competitors were basically found to be in four areas: other professional sport teams, movies, fitness and recreational participation, and television. Based on the assumption that people can dispose a limited amount of time and money for entertainment and leisure, results from Table 3 are particularly noteworthy because the relationships were examined while taking into consideration the presence of all entertainment options.

Implications

Competitive strategies from other sports and attractions may be incorporated in the game presentation, service, and programs of the team. According to Stollar (1989), “Once competitors are identified, they should be studied. See what they are doing, try to assess their strategies in the marketplace. Each of your competitors has a different position in the market; each has its particular strengths and weaknesses” (p. 33). Mullin et al. (1993) indicated that a sport team needs to develop a management information system that contains up-to-date information on competitors, such as price list, product lines, and promotional strategies. In addition, it is necessary to visit competitor facilities and to critique competitor’s strengths and weaknesses. Sometimes, it may be wise to cooperate with the competitors.

Attendance at professional hockey was affected by other professional sports, mainly major league basketball and football teams. This may be because the competition seasons for professional hockey, basketball, and football and promoting ticket sales through organizations may be good strategies to compete for audience. When possible, showing and/or leasing films of hockey highlights may increase the entertainment value of the game. Hockey promotional advertising at movie theaters and video stores may be a creative way to countercompetition.

To certain extent, concerts positively affected game attendance. This may suggest that some common nature exists between people attending the hockey games and concerts. Possibly, this is because of similarities in the lifestyle and leisure interests of spectators attending these events. Based on the sociodemographic characteristics of hockey game attendants as shown in this study and the report by the Simmons Market Research Bureau (1990), young and single males and females with middle to high income account for a major portion of spectators. These “yuppie” types of people are competed for by most of the entertaining and leisure businesses. Providing quality concert elements in game presentations (e.g., symphony, rock music, ice ballet, figure skating, ice dancing, bands, and singers) would continue to attract these who pursue a “special taste” of life. Teams may seek collaborations with concert organizers for joint promotions. Tying the team with special events, such as Walt Disney World on Ice, might enhance community image on the artistic value of hockey games.

With the current attention to health-related fitness, it is unsurprising that recreational participation, mainly work out and exercise, was identified as a competitor to the team. To deal with the situation, a team may highlight its mission in promoting health and fitness to the

The identified competitors were basically found to be in four areas: other professional sport teams, movies, fitness and recreational participation, and television.
community. It may be necessary for the team to create an image that this game is for health-related fitness by tying the game to fitness, providing fitness tips, constructing public ice facilities, and providing skating and hockey lessons. When ice facilities are available, joint promotions would become natural. Countercompetitions may be fulfilled by advertising through fitness clubs, schools, and parks. Joint promotions may be conducted with fitness clubs, sporting goods stores, and bookstores. That travel was identified as a helper to game attendance may be due to economic status and lifestyle of spectators. Joint promotion with travel agencies, airlines, and recreational resorts would be a good usage of this finding.

Both sport and nonsport programs on TV were identified as vital competitors. The findings support the league arrangement that home games are not televised. By communicating with TV stations, a team may try to arrange its schedule to avoid conflicts with major TV programs. Although this idea might be difficult to implement, the scheduling of games on nights of high TV rated shows appealing to the core of hockey spectators (young people with high income) should be avoided, if possible. On the other hand, the team needs to develop good media relations in order for effective coverage to be informative to the community. TV is an efficient channel for advertising games, events, and promotional programs. Occasionally, TV outlets in the arena may be used to broadcast other programs that are not related to the game. Additionally, the team may want to advocate active lifestyles through game attendance.

**Conclusion**

Key results and marketing implications to practitioners are summarized in Table 4. Compared to previous studies related to sport market competition, this study has made improvement in the research procedures to identify market competitors while considering those competitors that are not related to sport and TV. However, this case study was limited to one minor league professional hockey team. The results from this case study may have provided some implications to other minor league professional teams in a similar environment whereas the competitors of all teams should be studied individually because organizations have different positions in the market. It is expected that this study has set a research example for other professional and amateur sport organizations.

**References**


University of Illinois.

**Research Notes**

1. A statistically significant relationship indicates only that the correlation coefficient is greater than zero on a 0.0 to ±1.0 scale. A weak correlation (closer to 0) may be significant when the sample size is large, which was the case for the present study. For example, the strongest correlation in Table 2 was the correlation between attending professional football games and the total number of season games fans intended to attend. Although statistically significant, the correlation between these two variables was only \( r = 0.10 \). This means only 1% of the hockey team game attendance was affected by professional football games (\( r^2 = 0.01 \) or 1% variance). In marketing practice, 1% variance explanation is rather small. In other words, 99% of game attendance was explained by other factors. Therefore, the relationships noted in this study need to be interpreted cautiously.

2. Another name for zero-order correlation is Pearson Product Moment Correlation Coefficient (PPMCC). It is to calculate the relationship between two variables while not considering the presence of other related variables. The strength of the correlation ranges from 0.0 to ±1.0.

The closer to ±1.0, the stronger the relationship.

3. Multiple regression, an extension of zero-order correlation, examines the relationship between one variable and a set of predicting variables.

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**Appendix A**

**MARKETING SURVEY FORM**

**PURPOSE.** This survey is for the purpose of providing better service to the Xxxxx (professional team name) audience. The collected information will be solely used for research, and your name will not be identified. Your sincere and honest response is greatly appreciated.

**ENTERTAINMENT OPTIONS. Please rate how much you participate in the following activities (5 - Always; 4 - Often; 3 - Sometimes; 2 - Occasionally; 1 - Never).**

1. Attend professional indoor soccer game 5 4 3 2 1
2. Attend a concert 5 4 3 2 1
3. Attend intercollegiate games 5 4 3 2 1
4. Attend professional basketball games 5 4 3 2 1
5. Attend a night club 5 4 3 2 1
6. Attend professional baseball games 5 4 3 2 1
7. Watch sports on TV 5 4 3 2 1
8. Play recreational sports 5 4 3 2 1
9. Attend a movie 5 4 3 2 1
10. Watch non-sport programs on TV 5 4 3 2 1
11. Work out/Exercise 5 4 3 2 1
12. Travel 5 4 3 2 1
13. Attend professional football games 5 4 3 2 1
14. Go to bar/restaurant 5 4 3 2 1
15. Attend other sport shows 5 4 3 2 1

**ATTENDANCE INFORMATION. Please fill in the blanks.**

- How many Xxxxx home games have you attended this season?
- How many total Xxxxx home games do you plan to attend this season?
- How many Xxxxx games will you attend next season?

**DEMOGRAPHIC INFORMATION. Please provide the following information.**

Age: ______ Gender: ______


THANK YOU FOR YOUR COOPERATION AND ASSISTANCE!!!
Multiple regression goes further by accounting for mutual influences (shared properties) among the predicting variables. Several multiple regression techniques are available; however, stepwise is a very powerful and commonly adopted method to sequentially identify the most important predicting variables. In marketing studies, stepwise multiple regression analysis is generally used to examine the predictability of customer consumption levels from market indicators, while the intercorrelations among these market indicators are considered and removed. Conducting stepwise multiple regression analyses in the current study was based on the assumption that people have a limited amount of time and money for entertainment and leisure. If one participates in some activities, one may not be available for other activities.