The Determinants of Television Audience Demand for Professional Baseball: An Analysis of Post-Season Games

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TV ratings are important for both sports organizations and TV networks because these are one of the well-established indicators of the demand for sports as a content of broadcast media (Gratton & Solberg, 2007). There are many studies on the TV broadcast demand for sports, covering a variety of professional sports leagues including; the NFL (Paul & Weinbach, 2007; Tainsky, 2010), the UEFA (Solberg & Hammervold, 2004), and the mega sports events such as the Olympic Games (Choi, 2008). Each researcher has taken his or her approach to identify the most relevant factors that would predict the television audience demand for sports, but there has not been any unifying framework of classifying determinants of television demand. This is because researchers have tried to take into consideration the unique features of respective sports leagues and the culture of spectatorship. Although researchers fail to reach consensus, the antecedent factors of television sports ratings can be grouped into two categories: match related factors and match unrelated factors. Match related factor refers to ‘variables accounted for feature of the game’ such as team record, quality of player, whereas match unrelated factor refers to ‘variables not accounted for the match related factors’ such as economic and media variables. Thus, this study identifies the determinants of TV audience demand for Professional Baseball into two types of factors: factors related to the match and factors not related to the match. The television audience demand were measured as two dependent variables: television ratings and the number of viewers for each game, which are both obtained from the AGB Nielson, the third-party television audit company in Korea.

The data set for the analysis was collected for a total of 128 games, which accounts for the entire post-season games during the period between 2006 and 2014. The unit of analysis was per individual game. This study applied the pooled ordinary least squares (pooled OLS) regression method to analyze the data.

The results of pooled OLS on TV rating indicate that all of the match-related factors, except for the derby factor, were found to be significant predictors of television ratings. With respect to the first match significance factor, compared to Semi-playoff, Korean Series were associated with 2.47 percentage points higher television ratings ($b = 2.47$, $t = 6.07$, $p < .01$); but the difference between the Semi-playoff and Playoff games was not statistically significant ($b = .20$, $t = .56$, n.s.). The second match significance factor, namely the determining match, was also associated with a significant marginal increase of 1.19 percentage points in television ratings ($b = 1.19$, $t = 4.15$, $p < .01$). The final score difference, a proxy measure of the uncertainty of outcome, also appeared to be a significant predictor of television ratings as it was found that one point less difference in the final scores between the two teams led to a .3 percentage point increase in the television ratings ($b = -.30$, $t = -4.30$, $p < .01$). Another score related factor and the proxy measure of the excitement level of the game, called the final score sum, was found to be a positive predictor of the television ratings. Each additional point accrued for the game was associated with .1 percentage point increase in the television ratings ($b = .10$, $t = 2.43$, $p < .01$).

Regarding the match-unrelated factors, game time, broadcast platform, and stadium occupancy appeared to be significant predictors of the television ratings. Specifically, night games were associated with an increase of 2.33 percentage points in the television ratings compared to the day games ($b = 2.33$, $t = 2.19$, $p < .05$). Broadcast platform was found to exert substantial impact on the ratings. Terrestrial broadcasting channels were associated with an increase of 3.98 percentage points in television ratings compared to the paid-TV channels ($b = 3.98$, $t = 9.55$, $p < .01$). Furthermore, the standardized coefficient of broadcast platform was found to be the largest ($b = .48$) among all, indicating that the relative impact of the broadcast platform is the greatest in determining the television ratings. Stadium occupancy was found to have a significant impact on the ratings figures; when the stadium was fully
occupied, the television ratings were 1.11 percentage points higher than the less fully occupied games (b = 1.11, t = 2.93, p < .01), which indicates that the attendance at the stadium is significantly correlated to the television ratings. Finally, compared to the reference year of 2006, years 2009 and 2011 were associated with 2.16 (b = 2.16, t = 3.30, p < .01) and 2.70 (b = 2.70, t = 4.55, p < .01) percentage points higher television ratings, respectively. For the match-unrelated factors, day of the week and the stadium quality did not appear to be significantly associated with the television ratings.

On the other hand, the results of pooled OLS on number of viewers indicate that all of the match-related factors, except for the score sum and derby factor, were found to be significant predictors of number of viewers. With respect to the first match significance factor, Korean Series games, compared to Semi-playoff games, led to an increase of 31.9% in the total number of viewers (b = .31, t = 5.45, p < .01); however, the playoff games did not differ from the Semi-playoff games in terms of the number of viewers (b = -.01, t = -.14, n.s.). The second match significance factor was also found to be a significant predictor of the number of viewers (b = .14, t = 3.33, p < .01). In particular, the determining matches, as compared to non-determining matches, led to an increase 13.7% in the total number of viewers. Regarding the final score differences, it appeared that one point less difference in the final scores between the two competing teams, led to an increase of 3.2% in the total number of viewers (b = -.03, t = -3.29, p < .01).

In terms of match-unrelated factors, game time, broadcast platform, stadium occupancy, and team value appeared to be significant predictors of the television ratings. With respect to the game time, night games were associated with an increase of 30.9% in the total viewers than the day games (b = .31, t = 2.02, p < .05). The broadcast platform was also found to be the most influential factor, as indicated by the largest standardized coefficient (b = .52) among all predictors. Specifically, when games were televised via terrestrial broadcast channels, the number of viewers increased by 71.7%, as compared to games televised via Pay-TV channels (b = .71, t = 11.98, p < .01). As expected, stadium occupancy is a significant predictor of the number of viewers. When the stadium was fully occupied, the number of viewers rose by 13.1%, than when the stadium was not fully occupied (b = .13, t = 2.42, p < .05). The team value, as measured by the Forbes Korea’s team valuation system, appeared to be a significant predictor of the number of viewers; one unit increase in the team value score was associated with 3.6% increase in the total viewers of the game (b = .04, t = 3.71, p < .01). Finally, except for the year 2007, the total viewers had consistently increased since the year 2006. For example, the number of viewers in the 2014 post-season games was 48.5% greater than that of the 2007 games (b = .49, t = 5.55, p < .01).

These results have implications not only for academic but also for a practitioner’s perspective. There are not many studies or analyses on TV sports audience in Korea compared to the Western countries. For the first time in Korea, we collected long-term (9 years) data for this research. The outcome reveals that Korea sports fans have the similar approach to the sports contents as Western TV audiences. When they choose the sports contents to watch, they seem to consider some of the factors such as the broadcasting platform, match significance, and game time. In addition, our study yields important insight for sports organization and media. Research outcomes can help the KBO setting schedule of the game thereby maximizing rating and profits. For example, KBO can schedule post-season game at night and sell the broadcasting right to public networks for a better TV rating.

In conclusion, this research result gives guidelines to broadcasting companies when they buy broadcasting right of the game and/or decide on the advertisement price of each game. For example, if a TV network has an option to choose the game it would be better to pick a weekday game instead of the weekend game to maximize profits. To the TV company, a weekday game is more valuable than a weekend game because the date of the game is not an effective factor on TV rating. The results also give an idea that TV networks can provide more value the last game of playoffs rather than the first game of the playoffs when promoting their advertisements.