An Examination of Dynamic Ticket Pricing and Secondary Market Price Determinants in Major League Baseball

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In 2009, the San Francisco Giants became the first professional sports organization to utilize dynamic ticket pricing (DTP) where prices fluctuate daily based on factors that include team performance, player performance, and weather. In 2010, the Giants reported a 7% increase in revenue through DTP (“Forty Under 40,” 2011). Despite a substantial annual revenue increase in this Major League Baseball (MLB) case, sport organizations have been slow to adopt this new strategy as there is little precedent on which to base its anticipated success.

One issue with this strategy is the limited understanding of specific factors that influence dynamically priced tickets. Price setting in a demand-based environment is contingent upon understanding the variables that influence fluctuations in demand. There is a wealth of literature on sport demand (see Borland & McDonald, 2003); yet the research on ticket pricing determinants in sport is underdeveloped, specifically when dealing with the demand-based pricing of tickets. Previous research has examined organizational pricing determinants with traditionally priced tickets (Reese & Mittelstaedt, 2001; Rishe & Mondello, 2003, 2004) while only one study has focused on factors affecting demand-based ticket prices in the secondary ticket market (Drayer & Shapiro, 2009). However, this study was conducted prior to the advent of DTP and utilized data from eBay which operates in an auction format. Most tickets in the secondary market are sold through online brokers and ticket platforms such as StubHub where tickets are bought and sold instantly. Academic research examining factors influencing DTP prices and whether these factors are consistent with previous investigations is non-existent. The success or failure of a demand-based pricing strategy (through DTP or in the secondary market) is heavily dependent on the ability to correctly identify the degree to which specific factors may influence prices.

Therefore, the purpose of this study was to examine price determinants in the primary market where DTP has been implemented and comparable tickets in the secondary market. The secondary market has traditionally capitalized on the inefficiencies in the primary market through demand driven pricing. Consequently, the factors that are relevant in the secondary market might be similar to those in the primary market where a DTP strategy is being used. However, differing seller objectives with regards to sales may also lead to the identification of distinct factors in each market. Two research questions were developed to guide this study:

1. What factors influence ticket prices for MLB in the primary market when DTP is used?

2. What factors influence ticket prices for MLB in the secondary market?

The San Francisco Giants were chosen for the current examination as they were the first professional team to utilize DTP for all seats throughout the course of the 2010 regular season. Two multiple regression models were developed to examine the factors that influence price through DTP and the secondary market. These models were developed through previous research in price determinants in the primary market (Reese & Mittelstaedt, 2001; Rishe & Mondello, 2003, 2004) and the secondary market (Drayer & Shapiro, 2009). Additionally, factors noted by the San Francisco Giants and its DTP pricing partner Qcue were considered in the development of these models (“Giants Go Dynamic”, 2009).

Twelve games were purposively selected in this examination in order to take into account a multitude of factors that impact demand-based pricing. Additionally, ticket price data for each section on each day were collected in the primary market (DTP) through the Giants’ official website and in the secondary market through StubHub. A total of (N = 1,316) observations were examined in the current study. Originally, 31 independent variables were used in the regression models. Variables included several team performance, player performance, environmental, logistical, and event characteristics along with 2009 individual ticket prices and 2010 season ticket prices. After an expert review and multicollinearity issues, both models were reduced considerably.
The overall regression model for primary market ticket prices through DTP was found to be significant $F(23,584) = 472.15$, $p < .001$ explaining 94.9% of the variance in the current sample of primary market ticket prices. A total of 14 variables were found to have a significant influence on DTP tickets at the .05 level. The strongest explanatory variables in the model were individual ticket prices from the previous year and ticket price for 2010 season ticket holders. Both had a positive influence on DTP ticket price. Six team performance variables were found to be significant in the model including number of all-stars on the opposing team’s roster, Giants’ winning percentage overall and in the last 10 games, Giants’ number of games back from first place, Tim Lincecum’s ERA, and opponent’s winning percentage in the last 10 games. The number of days before the game was also found to have a significantly negative influence on DTP price. Ticket price increased as the event drew closer. Environmental factors were also found to be significant in the model. As precipitation chances increased, ticket price dropped, while a rise in the temperature forecast increased ticket price. Time of day and whether the game was nationally televised also significantly influenced ticket prices. Interestingly, day game prices were approximately $13.26 higher than night games and nationally televised game prices were $5.15 higher than untelevised games. Finally, both section of the stadium and opponent significantly influenced DTP price.

The overall regression model for the secondary market was also found to be significant $F(18,592) = 172.64$, $p < .001$ explaining 84% of the variance in the current sample of secondary market ticket prices. A total of 9 variables were found to have a significant influence on secondary market tickets at the .05 level. The strongest explanatory variable in the model was also individual ticket prices from the previous year; however, ticket price for 2010 season ticket holders was not found to be significant in this model. Four team performance variables were found to be significant in the model including number of all-stars on the opposing team’s roster, Giants’ number of games back from first place, Giants’ winning percentage in the last 10 games, and opponent’s winning percentage. Time of day and whether the game was nationally televised also significantly influenced secondary market ticket prices. Day game prices were approximately $27.19 higher than night games and nationally televised game prices were $19.17 higher than untelevised games. Both section of the stadium and opponent also significantly influenced secondary market price.

Both models were consistent with the price determinant literature. Performance variables, previous prices, and time play a significant role in ticket pricing (Drayer & Shapiro, 2009; Reese & Mittelstaedt, 2001; Rishe & Mondello, 2003, 2004). Some differences between the primary and secondary market models are worth noting. Interestingly, the Giants’ overall winning percentage was not significant in the secondary market model. Also, the number of days before the game and environmental factors did not significantly influence secondary market price. The findings in the current study illuminate some of the strategies used by the Giants and secondary market sellers in determining their ticket prices. Similarities and differences between the two models also show the key differences in seller objectives. Additionally, certain factors that were not significant within the model are considered to be drivers of consumer demand which suggests additional improvements to price-setting in the primary and secondary markets are possible. A detailed discussion of these implications will be provided along with suggestions for future academic research.