How Can Professional Teams Make More Money? An Investigation of a National Hockey League Team

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Sport spectators are responsible for roughly 13.4%, or $26.27 billion, of the sport industry’s consumption by spending money on tickets, merchandise, and food and beverage (“The Sports Industry,” 2007). Game day consumer spending is critical for sport organizations’ sustainability and profitability, especially in the National Hockey League (NHL) as nearly half the NHL franchises generate more than two-thirds of their annual income from ticket sales (Masteralexis, Barr, & Hums, 2008). If sport organizations can understand and potentially predict game day spectator spending on tickets, merchandise, and food and beverage, they can implement appropriate marketing campaigns and pricing strategies to maximize game day revenue. Therefore, the purpose of our study was to analyze team generated financial data in order to understand the influence of game day variables, including game outcome, month in season, opponent, day of week, game time, and special promotion, on ticket sales, merchandise per cap sales, and food and beverage per cap sales for a NHL team.

Previous research (e.g., Trail, Anderson, & Fink, 2000; 2005; Trail, Fink, & Anderson, 2003) has examined what influences sport consumption intentions. To estimate the consumption phase beyond purchase intentions, DeSchriver (2007) and DeSchriver and Jensen (2002) utilized economic demand models to show that special promotions and on-field success were statistically significant predictors of attendance in Major League Soccer. Rascher, McEvoy, Nagel, & Brown (2007) have also found a positive influence of variable ticket pricing (VTP) on attendance and game day revenue. However, no previous research has examined the consumption phase beyond purchasing intentions using team generated actual financial data to investigate the relationship between game day variables and game day consumer spending.

Satisfaction and self-esteem theories, which have been used to examine sport consumers’ intentions to purchase, were used as theoretical frameworks to explain relationships among game day variables and consumer game day spending (e.g., Trail, Anderson, & Fink, 2005). Consumers’ levels of (dis)satisfaction hinge on comparisons between initial expectations about a product and post-performance product experiences (Oliver, 1997). Sport peripheral dimensions, like convenience and customer service, can also influence satisfaction (Van Leeuween, Quick, & Daniel, 2002). Self-esteem responses, like basking-in-reflected-glory and cutting-off-reflected failure, have also been found to influence sport consumer spending, specifically merchandise consumption and attendance (Cialdini et al., 1976; Mahony, Howard, & Madrigal, 2000; Snyder, Lassegard, & Ford, 1986). Therefore, the purpose of our study was to investigate the relationship between game day variables and consumer spending using team generated sales data. Our study contributes to the literature, theory development, and research on understanding sport consumer spending. Based on previous research, our hypotheses were that 1) winning would have a statistically significant influence on game day merchandise per cap sales and food and beverage per cap sales, and 2) special promotions would have a statistically significant influence on game day ticket, merchandise per cap, and food and beverage per cap sales.

Data was collected from the NHL team’s official website and from official game day event revenue summaries provided by the team’s legal counsel and chief financial officer. Event revenue summaries provided a game by game breakdown of sales data including total ticket sales, merchandise per cap sales, and food and beverage per cap sales. The total sample consisted of 123 home hockey games from the 2006-2007, 2007-2008, and 2008-2009 NHL regular seasons that began in early October and ran through mid-April. A t-test as used to test group differences based on outcomes for each game (i.e., wins and losses) with respect to food and beverage per cap sales and merchandise per cap sales. Using simultaneous regression models, the independent variables (i.e., game outcome, the game’s month in season, opponent, day of week, game time, and special promotion) were regressed separately on each of the dependent variables (i.e., ticket sales, merchandise per cap sales, and food and beverage per cap sales).
Results indicated that game outcome did not have a significant influence on food and beverage per cap sales \([t(121) = .81, p = .42]\) and merchandise per cap sales \([t(121) = 1.20, p = .24]\). Regression results revealed that month in season, day of week, time of game, and special promotions had a statistically significant influence on consumer game day spending. The game day variables tested in this study explained 43.4% of the variance in ticket sales, 40.5% of the variance in merchandise per cap sales, and 34% of the variance in food and beverage per cap sales. For ticket sales, day of week \((\beta = .61)\), special promotion \((\beta = .28)\), and time of game \((\beta = .27)\) explained the most variance in ticket sales. Month in season \((\beta = -.42)\) and day of week \((\beta = .43)\) were the only significant explanations of the variance in merchandise per cap sales. Finally, day of week \((\beta = -.44)\) and time of game \((\beta = .30)\) significantly explained the variance in food and beverage per cap sales.

Both of our hypotheses were not confirmed. Our study found that game outcome had no immediate effect on consumer game day spending. Therefore, we can infer that consumer spending on merchandise and food and beverage is not invoked by immediate self-esteem responses to a particular game outcome. Rather self-esteem maintenance behaviors, illustrated through merchandise and special promotion consumption, are displayed at specific points during the season to showcase team affiliation. Furthermore, our study extends previous research such that peripheral dimensions of the game (i.e., month in season, day of week, game time, and special promotions) had the greatest influence on ticket sales, merchandise sales, and food and beverage sales supporting the idea that customer satisfaction is about the total purchased experience and not just expectations about game outcome.

Conclusions from this study provide practical insight into sport consumer spending. For this particular NHL team under investigation, consumer spending was influenced by non-performance game day variables including month in season, day of week, time of game, and special promotion. Unlike the game outcome, non-performance game day factors are known ahead of time, which allows sport organizations to react with appropriate marketing efforts, pricing strategies, concession specials, and promotions to maximize game day revenue. For example, for this particular NHL team, concession specials should be instituted on the weekends or during odd meal time games (e.g., 3:00 PM) to encourage more attendees to spend money. Also, the results show that special promotions would help drive ticket sales on weekday (e.g., Tuesday) when lower attendance is expected. In our study, consumers were more likely to spend money on merchandise on the weekends and at the beginning of the season, so merchandise discounts should only be available during weekdays and toward the end of the season. From the practitioner’s standpoint, other sport organizations should systematically analyze their game day revenues and assess the variables influencing consumer game day spending.