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Abstract

In an era of dynamically priced tickets, sport marketers benefit from a greater understanding of factors impacting the price consumers are willing to pay. Past research has investigated external factors affecting ticket price on the secondary market, but little work has investigated internal factors and no prior research has utilized actual price paid as a dependent variable. The current study found age, income, prior attendance, timing of purchase, and seat location influenced secondary ticket price paid, explaining 44.9% of the variance, while fan identification and alumni status did not impact the amount patrons paid for tickets to a major college men's basketball tournament.

Keywords: *Dynamic pricing, ticket price, college basketball*

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Research Problem

The marketplace for sport ticket purchases has changed dramatically over the last century. Traditionally, sports organizations utilized direct distribution channels, expecting spectators to purchase tickets through team or venue-controlled box offices. However, ticket resellers or scalpers have long been a part of the sporting scene (Ammon & Mulrooney, 1997), allowing spectators the opportunity to purchase tickets outside of the sport organization-controlled delivery methods. Over the last two decades, the secondary ticket market has also evolved into a legitimate online platform for consumers to purchase tickets. Nearly anyone with a ticket to a sporting event can now sell it online for prices either above or below the face value established by the sport organization, while buyers have more choices in what they are willing to pay for a ticket (Stein, 2014). Several sports organizations have responded to the secondary ticket market through differential and demand-based pricing techniques, including variable ticket pricing (VTP) and dynamic ticket pricing (DTP), allowing the sport organization to change direct-to-consumer ticket prices depending on particular variables related to the event (Drayer & Rascher, 2013).

Several researchers have examined the impact of particular factors on ticket pricing (Drayer, Rasher, & McEvoy, 2012; Drayer & Shapiro, 2009; Kemper & Breuer, 2015; Paul & Weinbach, 2013; Shapiro & Drayer, 2012; Shapiro & Drayer, 2014), but most of these studies have investigated external market and event related factors. Very few studies (Drayer & Shapiro, 2011; Nalbantis, Pawlowski, & Coates, 2017) have examined the impact of buyer characteristics or traits that may also contribute to the amount of money a sports fan may be willing to spend on tickets purchased within the dynamic secondary market. Thus, the purpose of the current study is to examine the relationship between various buyer-related variables and the amount they are willing to spend on the secondary market purchasing sport event tickets. The current study is particularly unique because the variable of interest, price paid for a ticket, is the actual amount consumers paid for the ticket on the secondary market. All similar prior studies have used hypothetical scenarios, typically asked in the form of a "willingness-to-pay" survey question, to determine the outcome variable.

Literature Review

Understanding consumers and their preferences is a basic tenet of sport marketing (Mullin, Hardy, & Sutton, 2014). When sport organizations develop pricing strategies, they should certainly consider, among other things, issues such as the elasticity of the market, competitors in the market place, and demographic variables of target populations. The increased popularity of the secondary ticket market and dynamic ticketing software has now enabled sport organizations to alter pricing in real time. As such, many sport organizations have become increasingly interested in the factors which predict increased demand for tickets.

Recent research regarding variables affecting sport ticket prices on the secondary market have focused primarily on event factors. For example, Paul and Weinbach (2013) investigated dynamic pricing of Major League Baseball teams and found variables such as day-of-the-week, team success, opponent, and promotions all had significant effects on ticket prices on the secondary market. Kemper and Breuer (2015) examined 23 variables affecting ticket price on eBay auctions for German Bundesliga matches, with team success measures, opponent information, and match-related variables such as weather and start time, all significantly predicting price. Another factor studied is the impact lead time to an event has on the price of tickets in the secondary market. In general, research has found that as the actual event date gets closer, fans expect a greater availability of tickets and expect to pay lower prices on the secondary market (Drayer & Shapiro, 2009; Dwyer, Drayer, & Shapiro, 2013; Shapiro & Drayer, 2012; Shapiro & Drayer, 2014). In addition, fans are more likely to purchase tickets from the secondary market if they know and trust the source, leading to an expectation of fairness with the ticket price (Shapiro, Dwyer, & Drayer, 2016).

These prior studies, however, do not account for the impact of personal characteristics, traits, and demographic data of consumers on what they are willing to spend on tickets. Wann and Branscombe (1993), in their seminal work examining fan and team identify, suggest more highly identified fans are willing to spend more money supporting their team. This finding has been supported by a number of further studies that have indicated highly identified fans engage in higher levels of sport consumptive behaviors such as the purchase of team merchandise (e.g., Kwon & Armstrong, 2002; Lee, Trail, Lee, & Schoenstedt, 2014), intentions to attend future games (e.g., Shapiro, Ridinger, & Trail, 2013), and in general will support their team from a financial and discretionary time perspective regardless of the team's win/loss record (e.g., Kwon, Trail, & Lee, 2008). While highly identified fans may be willing to spend more of their discretionary income on their favorite teams, a notable question remains: are highly identified fans willing to pay more for the SAME sport product than less identified fans? In a non-sports setting, research has suggested when products are priced dynamically, both what is known about the consumer and the timing of the price change make a difference to the buyer's willingness to purchase (Grewal, Hardesty, & Iyer, 2004) but this topic has not been adequately addressed in the sport management literature.

Only a few studies have examined the impact of buyer characteristics and team identification on the amount of money consumers are willing to spend on sport event tickets. In an experimental setting, Drayer and Shapiro (2011) found fan identification had a significant effect on the amount students said they would be willing to pay on the secondary market for tickets to a National Basketball Association (NBA) game. Shapiro et al. (2016) also examined consumer perceptions of demand-based pricing in the primary and secondary market for

MLB. Consumer perceptions such as team performance expectations and price fairness perceptions played a significant role in perceived value and purchase intentions. Using German Facebook followers of Bundesliga team VfB Stuttgart, Nalbantis et al. (2017) examined the impact of several factors, such as perception of game uncertainty (suspense), gender, income, marital status, and distance from venue, on what respondents would be willing to pay for a ticket to a match. This study suggested perceived suspense, income, and distance from the venue were all significant positive predictors of a willingness to pay a higher price for tickets. While these studies have taken an important first step in examining buyer characteristics and feelings regarding a willingness to pay more for dynamically priced tickets, both rely on hypothetical buying scenarios, creating several limitations related to hypothetical and exaggeration bias. The current study addresses this shortcoming by utilizing data collected from consumers who actually purchased tickets for a sporting event on the secondary market.

Methods

Data for this study were collected via pen-and-paper survey at a high-profile NCAA Division I men's basketball conference tournament. The tournament was held in a neutral venue in a major metropolitan area, and most sessions of the tournament were sold out with most tickets initially only available through the participating schools. The event lasted five days and consisted of nine sessions of games. Surveys were distributed by the research team to various sections of the arena between each session. In total, 750 surveys were disseminated. However, for purposes of this study, observations were limited to individuals who purchased single session tickets through the secondary market. Therefore, a total of 281 purchase observations were included in the current examination as most other respondents purchased tickets through university athletic departments.

Instrument and Variables

The research team worked in conjunction with the event organizers to develop an instrument that met both the market research interests of the organization and the research purpose developed a priori by the investigators. Data collected for the study included (a) four demographic variables (age, income, distance travelled to attend event, and whether respondent was an alumnus of one of the participating schools), (b) prior product consumption (number of regular season games attended, number of regular season games watched on television, and number of prior tournaments attended), (c) when tickets were purchased (prior to regular season, during regular season, after regular season but prior to tournament, and during tournament), (d) a fan identification measure based on the Team Identification Index (Trail & James, 2001), and (e) price paid per ticket if respondents indicated they bought their ticket from a secondary source. Surveys were also categorized as to whether respondents were sitting in the upper bowl or lower bowl of the arena when completing the instrument.

Data Analysis

The current investigation was a correlational design examining the influence of demographic and consumer preferences on resale ticket purchase price. Multiple regression analysis was conducted to examine these relationships. Descriptive statistics, residual plots, and statistical tests for normality and equality of variances showed that none of the assumptions associated with multiple regression were violated. In addition, potential multicollinearity issues within the model were examined through variance inflation factors and tolerance statistics. The results suggested there were no significant multicollinearity issues in any of the regression equations used in the analysis. The dependent variable in the regression model was resale purchase price. Since the price variable was outside of the normal distribution range, a transformation was used (natural log of price). A total of 10 independent variables were included in the model to examine their influence on resale purchase price. Lists of independent variables are shown in Tables 1 (demographics) and 2 (consumer preferences).

Results

Table 1 provides demographic information on the individual ticket buyers included in this analysis. Most respondents were male (78.3%), age 18-29 (39.8%), single (54.6%), Caucasian (79%), and had a family annual income above $240,000 (24.6%). Additionally, the majority of respondents were not alumni of any of the schools participating in the tournament (70.5%).

Table 2 provides consumer preference data. Most respondents traveled 200 or more miles to attend the tournament (31%), bought their tickets during the tournament (56.2%), and had attended one or zero tournaments in the past (63.3%). Additionally, most respondents watched nine or more games on television during the regular season (68%) and attended 0-2 live regular season games (69.8%). Team identification scores of respondents were considerably high (M = 4.49, SD = .863, 5-point scale).

The regression model was significant $F(10, 237) = 18.50$, $p = <.001$, explaining 44.9% of the variance in resale ticket purchase price (see Table 3). A total of six independent variables significantly influenced purchase price. Significant demographic factors included age and income. For every increase in the age and income category, purchase price increased approximately 18.3% and 15.2%, respectively. Three consumer preference variables significantly influenced purchase price as well. For every categorical increase in previous tournaments attended, resale purchase price increased approximately 11%. Additionally, respondents who purchased tickets closer to the tournament game date spent less on their tickets. Purchase price decreased approximately 4% for every change in category (closer to the game date). The number of regular season games attended had a significant negative relationship with purchase price. For every categorical increase in live games attended, purchase price decreased by approximately 1.3%.

Table 1

Demographics

Variable	Category	*N*	Percent
Gender	Male	220	78.3%
	Female	54	19.2%
	No Response	7	2.5%
Age	18-24	70	24.9%
	25-34	66	23.4%
	35-39	24	8.5%
	40-49	38	14.5%
	50-59	49	17.4%
	60-above	16	5.7%
	No Response	9	3.2%
Marital Status	Single	149	54.6%
	Married/Partner	123	43.8%
	No Response	1	0.5%
Income	Less than $30,000	26	9.3%
	$30,000 - $59,999	36	12.8%
	$60,000 - $89,999	30	10.7%
	$90,000 - $119,999	34	12.1%
	$120,000 - $149,999	17	6.0%
	$150,000 - $179,999	21	7.5%
	$180,000 - $209,999	10	3.6%
	$210,000 - $249,999	13	4.6%
	$250,000 or more	69	24.6%
	No Response	25	8.9%
Ethnicity	African American	28	10.0%
	Asian	12	4.3%
	Caucasian	222	79.0%
	Hispanic	5	1.8%
	Other	6	2.1%
	No Response	8	2.8%
Alumni Status	Alumni	81	28.8%
	Non-alumni	198	70.5%
	No Response	2	0.7%

Table 2

Consumer Preferences

Variable	Category	*N*	Percent
Miles Traveled to Tournament	0-10	71	25.3%
	11-24	32	11.4%
	25-49	34	12.1%
	50-99	27	9.6%
	100-199	23	8.2%
	200 or more	87	31.0%
	No Response	7	2.5%
Tournaments Attended Previously	0	178	63.3%
	1	45	16%
	2	19	6.8%
	3	11	3.9%
	4	5	1.8%
	5	17	6.0%
	No Response	6	2.1%
Regular Season Games Watched On Television	0	7	2.5%
	1-2	9	3.2%
	3-5	26	9.3%
	6-8	46	16.4%
	9+	191	68.0%
	No Response	2	0.7%
Regular Season Games Attended	0	68	24.2%
	1-2	128	45.6%
	3-5	41	14.6%
	6-8	10	3.6%
	9+	32	11.4%
	No Response	2	0.7%
Time Tickets were Purchased	Before Season	0	0%
	During Season	22	7.8%
	End of Season	99	35.2%
	During Tournament	158	56.2%
	No Response	2	0.7%

Table 3

OLS Regression Results

Variable	U-beta	Beta	*t*-score	*p*-value
Intercept	5.01	-	7.66	<.001
Fan Identification	.044	.098	1.63	.104
Alumni Status	-.015	-.006	-.117	.907
Regular Season Games Watched on TV	.091	.074	1.23	.221
Number of Games Attended	-.134	-.137	-2.51	.013
When Tickets Were Purchased	-.194	-.107	-2.06	.040
Age	.079	.183	3.14	.002
Income	.061	.152	2.64	.009
Miles Traveled	-.004	-.007	-.137	.891
Prior Tournaments Attended	.091	.110	2.10	.037
Seat Location	-1.11	-.471	-9.20	<.001

Note: U-Beta = unstandardized beta coefficient, Beta = Standardized beta coefficient

Also, fan identification scores and alumni status had no significant impact on ticket price paid. Finally, as expected, seat location significantly influenced resale purchase price as lower bowl seats were purchased at substantially higher prices compared to upper bowl seats.

Discussion

The purpose of the current study is to examine the relationship between various buyer-related variables and the amount they are willing to spend on the secondary market purchasing tickets to a major college basketball tournament. Not surprisingly, age and income were both positive predictors of purchase price. As this is a prestigious event featuring a number of the top college basketball programs in the country, those with higher levels of income, which generally also comes with age, may be willing to pay more for a ticket as it relates to premier matchups,

echoing the findings of Nalbantis et al. (2017). In addition, the likelihood that someone will pay more for a ticket on the secondary market increased if he or she had attended prior tournaments. This points to the importance of maintaining a good customer database of attendees. By doing so, the conference host may be able to generate more revenue and sell the tickets directly to returning fans as opposed to the fans relying on the secondary market to purchase tickets. Alternatively, the tournament organizers could also set up and manage a direct secondary marketplace where fans could sell and purchase verified tickets. Past research also suggests buying directly from the conference host may increase an individual's perception of fairness in the price, thus increasing his or her potential willingness to purchase the ticket from the conference host as opposed to an outside source (Shapiro et al., 2016). Prior work also suggests fans expect to pay less for tickets the closer to the date of the event (Drayer & Shapiro, 2009; Dwyer et al., 2013; Shapiro & Drayer, 2012, 2014), a finding supported by the results of this study.

While age, income, and past tournament attendance all had a positive significant influence on the price paid for tickets on the secondary market, how many times a participant watched his or her favorite team play in person had a negative effect on purchase price. That is, the more times people attended a regular-season game of their favorite team, the less they paid for their tickets. This may have occurred as there may be less demand for tickets from an individual who has already seen the team play in person multiple times throughout the year. Also, the event was held in a market that is geographically far from many of the schools participating. As such, locals may not have had as much opportunity to see these teams play in person and may be willing to pay more for a ticket on the secondary market to do so. Those attending many regular-season games might also have a different price expectation for post-season tournament tickets because they have a psychological price anchor based on what they paid for tickets during the regular season.

Interestingly, while fan identification has been found to have a significant impact on a variety of consumptive behaviors, including the amount individuals are "willing to pay" for a ticket on the secondary market (Drayer & Shapiro, 2011), identification was not found to be a significant predictor of the actual amount spent for tickets on the secondary market. In addition, alumni status was not a significant predictor of purchase price. These findings were unexpected and notable. Highly identified fans are certainly a critical target market for any sport marketer, while alumni have always been a key demographic for collegiate sport marketers. Past research suggests segments of the population are willing to spend more to support their favorite teams (Kwon, Trail & Lee, 2008; Shapiro, Ridinger & Trail, 2013; Wann & Branscombe, 1993), although it should be noted, when examining college athletics donors, alumni and non-alumni tend to give at equal levels (Tsiotsou, 2007) regardless of when they became highly identified with their favorite college team (Popp, Barrett, & Weight, 2016). The current research suggests

highly identified fans and university alumni are not necessarily willing to spend more on the SAME purchases as those who are less identified or are not alumni. In this era of dynamically priced sport products (tickets, parking, concessions, travel packages, etc.), marketers seeking the greatest profit margins for similar products may not want to target the population based on team affinity. Instead, income, age, number of opportunities to attend a live event, and time of purchase might be more effective ways to segment to market for profit maximization.

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