

Customer Preference and Student Basketball Tickets: Using Conjoint Analysis to Develop Ticket Policy

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Whether they are selling out events or barely drawing a crowd, effective marketers will seek methods to attract new customers, increase the frequency of attendance, and retain current customers. Intercollegiate athletic departments often target students to meet their attendance objectives, however there is little consensus as to which methods are best as universities employ a variety of methods to market, sell, and distribute athletic event tickets to students. Students are an important group as they add to the atmosphere of events, are key targets for future ticket sales, and are potential future donors. Many university athletic departments assume students will buy tickets and attend games simply because these activities are part of campus life, despite the lack of empirical support concerning this assumption (Sutton & McDonald, 2000). Without empirical support, it cannot be assumed universities are efficiently meeting the needs of an important stakeholder group, the student body.

Several studies have identified attributes related to attendance such as price (Hansen & Gauthier, 1989), player characteristics (Armstrong, 1999; Baade & Tiehen, 1990; Hansen & Gauthier, 1989), promotional activity (Antonelli, 1994; McDonald & Rasher, 2000), stadium quality (Hansen & Gauthier, 1989), sport popularity (Ferreira & Armstrong, 2004), degree of physical contact (Ferreira & Armstrong, 2004), and team success (Branvold, Pan, & Gabert, 1997; DeSchrive, 1999; Greenstein & Marcum, 1981; Shackelford & Greenwell, 2005; Pan, Zhu, Gabert, & Brown, 1999; Schofield, 1983; Wells, Southall, & Peng, 2000; Whitney, 1988). Many of these attributes, such as team success, are beyond the control of marketers. Policy attributes, an area receiving little attention, are much more controllable by marketers thereby warranting further study. This consideration is important as marketing is a policy oriented field, yet little research concerns policy evaluation (Bronnenberg, Rossi, & Vilcassim, 2005).

Ticket Distribution Issues

Student ticket distribution can be a complex and sensitive issue, with policies varying widely between institutions. Attributes such as price, seating location, and other aspects of the purchasing process differ greatly from one university athletic department to another. Little is known, however, about which of these attributes are most salient to students. For example, would students rather pay to sit in choice seats to watch a college basketball game or not pay for tickets and sit in less desirable locations? Would students accept the idea of limiting the number of tickets the student body could receive if they were able to bring non-student guests? These are important trade-offs featured in most ticket policies. Little to no empirical research exists, though, to assess which attributes contribute most to student preferences.

Ticket Policies

An examination of ticket policies reveals policy attributes are quite different across institutions as a variety of strategies are used to market and distribute tickets. For example, price differs greatly across institutions. Whereas many schools charge students for tickets, others may collect a portion of tuition and student activity fees from the general student population, then offer students "free" football tickets in return. For example, students at the University of North Carolina do not pay for tickets to football and men's basketball games,

however, students are assessed a fee which is used to fund athletic scholarships and coaches' salaries (Stancill & Pickeral, 2005). Many schools opt to charge students for tickets but offer substantial discounts over prices paid by the general public. A minority of schools charge students full price. For example, students at schools like Notre Dame, Southern California, and Texas pay the same amount for single-game football tickets as the general public (Lee, 2002b; Bachman, 2002) but may receive a discount on season tickets (Lesar, 2002).

The number of tickets allocated to students also differs across institutions. For example, at two schools which normally lead in average attendance, the University of Michigan and the Ohio State University, athletic department officials decided to sell student tickets at a discounted rate, but limited the amount of student tickets available (Lee, 2002a; Gray, 2004). Thus, more tickets could be sold for full price to a football-hungry general population. The University of Wisconsin basketball program developed a similar scenario after building a new arena and experiencing a much-improved level of success from its men's basketball team. The result: allocated student seating at the Kohl Center is the smallest percentage of building capacity of any school in the Big Ten Conference, a fact not welcomed by the general student body (Jaeger, 2005).

Squeezing out students to maximize revenue may be a viable option at the largest and most popular athletics programs, but what about schools which

are not traditional powers with sold out venues? For them, the more important question becomes how to get more students to attend. Many athletic departments decide the best way to attract students is to get them closer to the action. The University of Arkansas and Texas Tech football programs (Dungan, 2001; Williams, 2002) and basketball programs at UCLA, New Mexico, and Montana (Newman, 2003; Carlton, 2005; Moy, 2005) have all experimented recently with allowing more students in prime locations.

Some schools try to compromise between giving students a combination of expensive seats close to the action, or less desirable seats in the upper concourses. Officials at the University of Oklahoma created two separate student seating sections at Sooner basketball games. Athletic marketers made available to students 600 high-priced court-side seats, as well as a 1,100-seat section in the upper level (Downs, 2005).

Another major dilemma for athletic departments revolves around the question of how to distribute tickets in a fair and agreeable manner (Henline, 2004). Once ticket pricing is set and the amount of student seating determined, the issue of student access to these tickets remains. Athletic departments may elect to give first priority to upper level students, with seniors and juniors provided the first option of purchase (Grush, 2005). Conversely, other institutions may choose to reward loyalty by giving priority to students who purchased season tickets in the past and actively attended games (Mazda, 2004).

Another option could involve universities electing to eliminate all preferences, and instituting an electronic lottery system for ticket distribution (Leone, 2004). Still other schools might continue the time-honored tradition of allowing students to camp out overnight for the first opportunity to purchase prime student tickets (Dickinson, 2004). At least one school, the University of Maryland, changed their policy when a student stampede resulted in near-injury after an anxious student body stormed the ticket windows trying to nab a handful of tickets to a popular Atlantic Coast Conference game basketball game (Argetsinger, 2002).

In sum, student ticket policies vary greatly, yet little to no empirical research exists to determine what attributes students find most important in a student basketball ticket policy. Therefore, this study investigates two major research questions. First, this study investigates which attributes of college basketball tickets policies are most preferable to students. Second, this study investigates whether different groups of students identify the various attributes of student ticket policies as being more or less important. Specifically, this study investigates whether preferences differ according to sex, frequency of attendance, and residential status. An identification of these combinations of attributes should give athletic ticket office personnel a better idea of how to create the most preferable ticket policies for their students as a whole and for specific student segments. Further, this study illustrates how marketing research

techniques can be utilized to develop and/or evaluate policy.

Attributes and Preference

Product attributes are often defined as the features, functions, or benefits that differentiate products. Typically, consumers perceive products to have multiple attributes (Edwards & Barron, 1994; Ferreira & Armstrong, 2004) and customers place different weights on each of the attributes to establish preferences (Bagozzi, Rosa, Celly, & Coronel, 1998; Jones, Suter, & Koch, 2006). Consumer motivations and beliefs often determine the importance of these attributes (Dickson, 1982; Yang, Allenby, & Fennell, 2002). For example, a consumer purchasing an automobile may evaluate multiple attributes of the vehicle such as gas mileage, comfort, style, safety, and price. A customer choosing an automobile to transport small children may place a lot of importance on safety, thereby putting more weight on that particular attribute.

Further, it is rare that products feature all of the most desirable attributes, therefore customers may have to make trade-offs when developing product preferences. For example, consumers might trade fashion for durability in a running shoe, or accept slower lines in exchange for better selection at the ballpark concession stand. Considering most products have multiple attributes to evaluate, it is important for marketers to understand how consumers respond to different combinations of attributes in

order to predict the most effective arrangements of attributes.

Students have predetermined expectations of what should be in a ticket policy generated from past experience, word of mouth or media exposure, and base their satisfaction on how well the policy meets these ideal expectations (Greenwell, 2005). However, an NCAA Division I athletic department can rarely offer students the highest level of all attributes. For example, it is financially unrealistic for these departments to allocate an unlimited number of their best seat locations to students at a greatly discounted rate, even though most students would prefer this option. Thus, techniques must be utilized that allow researchers to investigate how students evaluate combinations of attributes in order to develop policies that will better meet ideal expectations.

Conjoint Analysis

The multivariate method best suited for examining trade-offs is conjoint analysis (Green & Srinivasan, 1990). Conjoint analysis is a widely utilized advanced marketing research technique which enables researchers to study customers' reactions to different attribute combinations or trade-offs while maintaining a high degree of realism (Hair, Anderson, Tatham, & Black, 1998; Smith & Albaum, 2005; Toy, Rager, & Guadagnolo, 1989). Conjoint is also relevant in service settings as it allows researchers to examine preference across a range of service attribute levels (Danaher, 1997) and can provide infor-

mation about which attributes of a service are most important and what trade-offs customers are willing to make (Ostrom & Iacobucci, 1995). Conjoint analysis has been utilized to study preferences in several service industries such as financial services (Clark-Murphy & Souter, 2005), mobile communications (Kohne, Totz, & Wehmeyer, 2005), recreation facilities (Ross, Norman, & Dorsch, 2003), club membership (Chang & Johnson, 1995; Daniel & Johnson, 2004) and tourism (Caldwell & Coshall, 2003).

In a conjoint study, customers are forced to trade-off positive and negative characteristics of a product to develop their preference. Preference structures are then decomposed to generate part-worths for each attribute. Part-worths are estimates of the utility associated with each level of each attribute. By analyzing part-worths, researchers can analyze subjects' preference structures, identify relative contributions of each attribute, and understand preferences of different consumer groups (Hair et al., 1998). By understanding part-worths for each attribute, policies can be developed using combinations of attributes that will yield the highest preferences.

Method

To address the two purposes of the study, to investigate which attributes of college basketball tickets policies are most preferable to students and to investigate whether different groups of students identify the various attributes of student ticket policies as being more or

less important, this study utilized conjoint analysis to examine preferences toward various attributes of student ticketing programs. The research design was a six-attribute by two-level conjoint with attendance preference as the outcome variable. The full profile approach was chosen due to its perceived realism, explicit portrayal of trade-offs, and use of preference judgments. Further, the full profile approach lends itself to the use of fractional factorial designs (Hair et al., 1998; Smith & Albaum, 2005).

Ticket Policy Attributes

Given there is little academic literature on ticket attributes, media reports of ticket allocations and actual ticket policies from different institutions were first analyzed to develop a list of potential variables or factors. Next the list was confirmed through discussions with athletic department administrators and depth interviews with students to ensure the most important attributes had been identified. Further, care was taken to identify factors that were both communicable and actionable. "The factors and levels must also be capable of being put into practice, meaning the attributes must be distinct and represent a concept that can be precisely implemented" (Hair, et al., 1998, p. 405). From this process, six attributes that frequently differentiate student ticket policies were identified: price, location, availability, priority, timing, and guest policy. Two levels were defined for each attribute. The levels were generated to represent

Table 1
Student Ticket Policy Attributes and Levels Used in Conjoint Analysis

Attribute	Levels
Price	Students pay for tickets Tickets are free for students
Location	Students have seats in good locations Students have seats in poor locations
Availability	Student seating is limited Student seating is unlimited
Priority	Students with higher class ranks get better seat locations The first students in line get the better seat locations
Timing	Tickets can be acquired in advance Tickets are only available on game days
Guests	Students are able to obtain tickets for guests Students are not able to obtain tickets for guests

actual ticket policies and enhance the realism of each scenario (e.g. "Students have seats in poor locations" and "students have seats in prime locations"). A list of attributes and levels is presented in Table 1.

Although other attributes such as team success, arena location, strength of schedule, and parking availability may influence students' preferences, these are typically not actionable by marketers nor are included within student ticket policies (e.g. the marketer cannot control team performance). Therefore, the study is limited to policy attributes and other variables are not manipulated. Further, the study's scenario design allowed the variables of interest (policy attributes) to be manipulated while holding all other variables (team success, arena location, etc.) constant, al-

lowing an isolated analysis of the variables of interest.

Given that using all combinations of attributes would generate 64 ($2 \times 2 \times 2 \times 2 \times 2 \times 2$) different profiles, a fractional factorial design was utilized. Fractional factorial designs allow researchers to use a fraction of the possible combinations rather than having to use all possible combinations (Kirk, 1995). An orthogonal and balanced set of profiles was generated where each factor appears an equal number of times. Eight profiles were generated, with each representing a hypothetical ticket policy.

Sample and Procedure

The sample for the study was 354 students attending one of three NCAA Division I institutions. A convenience sample was drawn from students taking

classes that had a sport or activity theme (not limited to any particular major) in order to target students likely to be interested in sports and be part of the athletic department's target market. A broader sample of students not in the target market was not preferred as it would have likely generated data from a large number of students with no interest in ever attending, thereby skewing the results.

Three different universities were used in order to control for potential threats to validity due to sample characteristics. In other words, three different groups were utilized to mitigate problems that may have arisen due to choosing a sample with characteristics not representative of the population (e.g. different perceptions regarding the sport, experiences related to the sport, or exposure to a specific policy). At the first institution (School A), the team played in a major conference, enjoyed a loyal fan following, and had a strong tradition of success. At the second institution (School B), the team also

played in a major conference, but did not have a strong tradition or following. The third institution (School C) was a member of a mid-major conference and did not have a strong tradition or following. The third institution also differed from the first two in that it did not field a football team.

Each subject in the sample received all eight profiles (hypothetical ticket policies) and was asked to rate on an 11-point scale (from 0 = definitely would not prefer to 10 = definitely prefer) the likelihood he or she would prefer to attend basketball games given the attributes described in each profile. Two different versions of the questionnaire were developed using the same eight profiles in order to prevent learning bias. The questionnaire also included various demographic items as well as an item measuring frequency of attendance. Given each subject evaluated eight different profiles, each completed questionnaire represented an n of 8 resulting in a set of 2832 evaluations.

The first students in line get the better seat locations										
Tickets are only available on game days										
Students are able to obtain tickets for guests										
Tickets are free for students										
Students have seats in poor locations										
Student seating is limited										
Would you prefer to attend games at a school with this policy?										
0	1	2	3	4	5	6	7	8	9	10
Definitely not			Neutral				Definitely prefer			

Figure 1. Sample Profile

Data Analysis

Multiple regression was utilized to estimate the part-worths (regression coefficients) of each attribute (Hair et al., 1998). Part-worths represent the utility associated with the level of each factor. Preferences were entered as the dependent variable and regressed on each of the six attributes, which were assigned codes of 1 or 0 depending on the level specified in the profile. Importance weights were derived for each attribute by dividing each attribute range by the sum of attribute ranges. Further, subjects were divided into segments and the analysis was repeated for each group. Separate analyses were performed for institution, frequency of attendance, sex, and residence.

Results

The majority of the sample were male (58.1%) and two-thirds lived in non-residential housing (67.7%). Respondents indicated they attended games somewhat often [1.17 on a 7-point bi-polar scale (-3 to +3 with a 0 midpoint) an-

chored by "never" and "often"]. Additionally, respondents also considered themselves to be somewhat loyal fans of college basketball [1.57 on a 7-point bipolar scale (-3 to +3 with a 0 midpoint) anchored by "not a fan at all" and "very loyal fan"].

For the entire sample, results indicate location (part-worth range = 4.906, factor importance = 36.5%) was by far the most important attribute, followed by price, availability, guest tickets, priority, and timing. This finding indicates that when given a choice, students indicated they preferred paying for tickets and would accept other inconveniences in exchange for good seat locations. This was similar across schools as location was most important for each. Price was the second most important attribute for Schools B and C, but only the fourth most important for School A indicating the school's tradition and loyal following may have reduced the importance of price. Part worth ranges with importance weights for the entire sample and each individual school are presented in Table 2.

Table 2
Part-worth Ranges and Factor Importance for Full Sample and Individual Schools

Attribute	Overall		School A		School B		School C	
Location	4.91	36.5%	5.36	38.9%	4.24	28.3%	4.41	39.2%
Price	2.13	15.9%	1.39	10.1%	3.70	24.7%	2.53	22.5%
Availability	1.99	14.8%	2.27	16.5%	2.05	13.7%	1.23	10.9%
Guests	1.86	13.8%	2.07	15.0%	1.66	11.1%	1.50	13.4%
Priority	1.53	11.4%	1.49	10.8%	2.26	15.1%	0.95	8.5%
Timing	1.04	7.7%	1.20	8.7%	1.04	7.0%	0.62	5.5%

Table 3
Part-worth Ranges based on Frequency of Attendance, Sex, and Residence

Attribute	Infrequent	Frequent	Male	Female	On campus	Off campus
Location	4.743	5.045	4.728	5.137	4.526	5.099
Price	1.948	2.305	2.436	1.730	2.466	1.980
Availability	2.050	1.928	1.853	2.172	2.170	1.905
Guests	2.180	1.570	1.671	2.126	1.735	1.916
Priority	1.339	1.723	1.560	1.487	2.104	1.260
Timing	1.006	1.024	0.903	1.173	0.824	1.106

Responses were analyzed to identify differences based on frequency of attendance. To accomplish this task, frequency of attendance was converted into a dichotomous variable, with cases below the median classified as the low frequency group, and cases above the median classified as the high frequency group. Location was the most important attribute for both infrequent and frequent spectators, but the groups dramatically differed regarding the availability of guest tickets. This attribute was the second most important attribute for infrequent spectators (part-worth range = 2.180, factor importance = 16.4%) while only the fifth most important for frequent spectators.

Responses were also analyzed to identify differences based on sex of the respondent. Both males and females felt location was most important, however, females rated availability of tickets (part-worth range = 2.172, factor importance = 15.7%) and the opportunity to acquire guest tickets (part-worth range = 2.126, factor importance = 15.4%) higher than males who rated price (part-worth range

= 2.436, factor importance = 18.5%) as the second most important attribute.

One difference, ranking of guest tickets, was evident based on the residential status of the respondent. Guest tickets was the third most important attribute among non-residential students (part-worth range = 1.916, factor importance = 14.4%), but was only the fifth most important attribute among residential students (part-worth range = 1.735, factor importance = 12.5%). Even though both groups ranked location as most important and price as the second most important attribute, the magnitude of importance was quite different. Location was more important to non-residential students (factor importance = 38.4%) compared with their residential counterparts (factor importance = 32.7%). Conversely, price was more important to the residential students (factor importance = 17.8%) than non-residential students (factor importance = 14.9%). Part worth ranges for each group are presented in Table 3.

Discussion

A number of different student ticket policies are utilized by intercollegiate athletic departments, yet there is little known about how the different combinations of policy attributes influence students' preferences for attending college basketball events. This study illustrates, through the use of conjoint analysis, which attributes are preferred by college students as a whole and by different student sub-groups. Given few athletic departments can offer students the best of every attribute, conjoint allows researchers to examine how students evaluate different attributes while taking into consideration various ticketing trade-offs. These findings should give athletic administrators a better understanding of how to create ticket policies that are more likely to satisfy current students and attract new student spectators.

When designing a ticket policy, athletic administrators should note students place a greater emphasis on location over other key attributes of a student ticket policy. The results indicate students may be willing to pay for tickets and accept limits on the number of tickets they can receive as long as they have good seat locations. Athletic departments cannot assume students will be satisfied with any location as long they don't pay full price for tickets. Further, athletic departments may be hesitant to give students prime seat locations as it would reduce the number of premium seats that could be sold to boosters or the general public. The re-

sults of this study, however, indicate students may be willing to pay for seats and accept a reduction in the total number of seats allocated in exchange for good locations, thereby lessening the financial impact of the change in policy.

While seat location was the most important attribute across all three universities, price was much less important at School A than the other two universities. School A differed from the other two institutions in that they had a much more loyal fan following and a long tradition of success on the court. This finding suggests price has little effect on preferences for students attending an institution with a quality basketball team. In cases such as this, students desire other attributes such as availability and guest tickets and are most likely willing to pay for those features.

Other attributes had varying levels of importance among different sub-groups suggesting minor changes in ticket policy could make attending games more attractive for underrepresented groups. The most notable of these attributes was the availability of guest tickets. Women, non-residential students (off-campus), and infrequent spectators each ranked this attribute much higher, implying a guest ticket program could be vital to improving attendance. These groups may either be less identified with the sport or less connected to the campus community; therefore they may be more likely to attend if they could bring others who were not part of the campus community such as high school friends, family, co-workers, etc. For universities that do not sell out and have excess ca-

capacity, this would be easy to accomplish. For those universities that do sell out, this is a more challenging task. In order for these institutions to allow students to bring guests they would either have to limit the number of games students could attend over the course of the season or charge more for this opportunity. The data provides some support for these ideas. Infrequent and non-residential students weighted guest tickets higher than ticket availability, indicating they may accept ticket limitations for the ability to bring guests. Female students weighted guest tickets higher than price, indicating they may be willing to pay more in order to bring guests to games.

The residential status of the student also resulted in notable differences. Both groups ranked location as most important, but non-residential students placed a higher importance on location than residential students. Conversely, both groups placed price as the second most important attribute, but residential students placed a higher importance on that attribute. Taken together, these findings indicate non-residential students are more willing to pay for tickets if they can have desirable seat locations. This finding is especially relevant for universities who find it important to keep their non-residential students involved in campus activities.

Alternatively, priority was among the bottom three attributes for each group and the timing of ticket distribution was identified by both groups as the least important attribute. Students are mostly indifferent to these two aspects of ticket

policies; therefore, athletic departments may be able to manipulate these aspects at their convenience knowing the impact on student preferences will be slight.

In conclusion, this study illustrates how conjoint analysis can be used to develop policy. Given the experimental nature of conjoint analysis, administrators can use the technique to understand how different attributes of a policy can influence customer preferences during planning stages. This course of action may be more preferable and less costly than developing policy based on tradition or trial and error (Ross et al., 2003).

Limitations and Future Research

The purpose of the study was to identify relevant attributes for different groups; therefore, it was limited to investigating the six attributes at only two levels each in order to avoid being too lengthy or cumbersome. Future research should investigate multiple levels of each of the most relevant attributes. For example, price could be expanded to include different price points and those could be compared against different levels of location (courtside, sideline, end court, upper deck, etc.) or different degrees of availability. This type of analysis would extend the present results and provide more specific information so that policy makers could optimize price points, locations, or number of seats available to students.

In addition, this study was limited in that it only addressed customers at-

tending men's basketball games, and attributes may differ in importance between sports. For example, attributes may have different levels of importance in college football due to having fewer games but more seating. Therefore, future research should investigate other sports such as football or women's sports. Additionally, future research could be used to develop policy for professional sports. A similar study could be developed to analyze the different benefits or amenities corporate customers desire in relationship to ticket price.

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