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Household Life Cycle As A Segmentation Approach for Major Professional Sports Teams

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Abstract

As entertainment and leisure market offerings increase, major professional sports teams need different approaches to segmenting consumers. Household life cycle represents an approach to segmenting. Using data from one major professional sports team, the household life cycle is found to have a relationship with purchase of different season ticket packages. Major professional sports team managers should offer different types of ticket packages to different segments of the household life cycle.

Introduction

The entertainment/leisure market remains large. Americans annually spend an average of $2,482 on entertainment (Bureau of Labor Statistics, 2016a). There has been a 2% decrease on average household spending for entertainment purposes (*Best Customer Demographics of Consumer Demand* 2015). The typical consumers that purchase and attend live sporting events are 45 to 54 years old, married with household income greater than $70,000, and have children older than six years old (*Best Customer Demographics of Consumer Demand* 2015). However, overall attendance at major professional sports leagues events declined by 21% from 2000 to 2013 (*Best Customer Demographics of Consumer Demand* 2015).

Some major professional sports leagues report increases in attendance over the last five years. For example, the National Basketball Association (*hereafter* NBA) and National Hockey League (*hereafter* NHL) report increases of 3% each, with the NBA being the highest growth in regular season attendance of the four leagues (See Table 1).

Attendance at major professional sports leagues' events compete for consumers' household income against variety of activities such as movies, plays, and subscription services. In the past three years, streaming-services such as Netflix and Hulu have shown gains in

popularity as the number of hours spent on these services has increased. In 2015, individuals streamed 42.5 billion hours of Netflix, which is up 13.5 billion hours from 2014's 29 billion hours that were streamed (Hasting and Wells, 2016). Nielsen (n.d. a) reports that individuals that make under $25,000 watch the most television; spending an average of 211 hours and 14 minutes watching television per month (See Table 2). As household income increases consumers typically spend less time watching television. For example, a household with an income of $75,000 spends 113 hours and 41 minutes of watching television per month (See Table 2). From 2013 to 2014, individuals spent more than 7 hours a month watching a screen including traditional television sets, computer monitors, and mobile devices (Nielsen. n.d. b). Only consumption of live or unrecorded television shows a decrease in consumption by consumers.

According to the Bureau of Labor Statistics (2011) in 2010, people spend an average of 5.54 hours (5 hours, 32 minutes) a day on leisure and sports (Bureau of Labor Statistics, 2011) (See Table 3). Leisure and sport includes sports exercise, and recreation; socializing and communicating; and other leisure activities (Bureau of Labor Statistics, 2011). Of that time, people spent the majority of it watching television. In 2015, average time spent per day on sport and leisure decreased to 5.21 hours (5 hours, 13 minutes) (Bureau of Labor Statistics, 2016b). People also spend less time on socializing and communication compared to five years ago (See Table 3).

Firms in the leisure market, including major professional sport leagues, compete against each other for consumers' time and income. Attendance at a major professional sport leagues involves the consumer foregoing the time at the event and the money for admission. Hence, the firm compete market segment by market segment to improve or maintain its competitive advantage (Hunt and Morgan, 1995). Several approaches exist to segmenting the market

including the household Life cycle, which represents an approach to segment the market (Wilkes, 1995).

The household life cycle focuses on using life cycle stages instead of age in a research study on consumer behavior because the stages explains more about consumers than simply relying on age. The household life cycle focuses on three characteristics including: (1) age, (2) marital status, and (3) presence/absence of a child in the home (See table 4).

By segmenting the market using the household life cycle, a firm such as a major professional sports league team could gain a competitive advantage because it would possess market intelligence not necessarily known by other firms in the market (Hunt and Morgan, 1995). Therefore, the purpose of this paper is to explore the household life cycle variable as an approach to segment the market of live major professional sporting events.

Specifically, the paper will look at the relationship between the stages of the household life cycle as described by Wilkes (1995) and purchase of various types of season ticket packages offered by a major professional sports league team in the upper Midwest. The relationship being analyzed will incorporate 24 stages household life cycle cross tabulated, with a focus on the chi squared analysis, with purchase of three-season ticket packages. The season ticket packages in the analysis include a full season (i.e., 41 games), half season (i.e., 20 games), and a quarter season (i.e., 10 games).

Review of Literature

The size of the North American sports market is estimated to be $69.38 billion in 2017, with most of that spending allocated toward major professional sports league teams (Johnson, 1993; PwC, n.d.). Johnson separates professional sports into two categories including (1) major professional sports leagues and (2) non-major professional sports leagues. He defines a major

sports league as “capable of attracting millions of fans to a stadium in one season, whereas even a successful minor league team rarely draws more than a few hundred thousand fans” (Johnson, p. 7). Major professional sports teams rely on season ticket purchases, whereas non-major professional sports teams rely on single game purchases; so the household life cycle is not relevant to non-major professional sports teams. Furthermore, major professional sports leagues are more likely to receive independent media attention as well as own a broadcasting network dedicated to that particular sports league. Examples of major professional sports leagues include the National Football League, the National Basketball Association, Major League Baseball, and National Hockey League. A household spends on average $53.77 to attend one major professional sports league game (*Best Customer Demographics of Consumer Demand,* 2015).

Household Life Cycle

Wells and Gubar (1966) examine family life cycle to explain consumer behavior toward leisure purchases and treat the family life cycle as stages that consumers move through over time. The stages were formed by combining the head of household’s age, marital status, and presence of a child in the household. Wells and Gubar find that family life cycle better predicts behavior compared to the constituent elements including age.

Not all families fit in one of Wells and Gubar’s (1966) nine stages. To resolve this issue, Gilly and Enis (1982) expand the nine stages for a more modernized version of the family life cycle. They incorporate two major changes in the family life cycle including (1) marriage separated by divorce or by the death of a member in the household and (2) the time when the first child arrived and the last child left the household. Wilkes (1995) applies Gilly and Enis’ approach to examine systematic spending behavior.

As individuals transition from stage to stage throughout the household life cycle their spending habits evolve over time. For example, Wilkes (1995) notes that the transition from young married to full nest one increases spending in insurance, child care, apparel for babies and young children, and medical services and equipment while decreases in spending occurred in other categories.

Consistent with Wilkes (1995), purchase patterns vary across the household life cycle. Regardless of product category, household life cycle stages exhibit different patterns or levels of purchase. This pattern could be explained by differences in household income and related expenses. For example, a married couple that is under the age of 35 but has no children would have less income but similar expenses as a married couple that is between 35 and 64 but has no children. Hence, it would be expected that purchase of the season ticket package for major professional sports league teams would have an association with household life cycle stages. Formally,

> H1: Household life cycle has a relationship with purchase of major professional sports league team's season ticket packages.

Household income levels would have a relationship with consumption patterns (Wells and Gubar, 1966). A household requires a certain level of income to complete a purchase. Households with less income would either spend less compared to household with more income, or would select a product that cost less.

In the market for major professional sports league events, income predicts consumption (Levin, McDonald, and Wilcox, 2013). As income increases, consumption increases. Correspondingly, it would be expected that the purchase of season ticket packages for major profession sport league teams would have an association with household income. Formally,

H2: Household income has a positive relationship with purchase of major professional sports league team's season ticket packages.

Method

The overarching purpose of this paper is to examine empirically the relationship between household life cycle and purchase of season ticket packages from a major professional sports league team.

Data

The data set was collected from a major professional sports league team located in the upper Midwest. The data set was provided to the team from an external research company. The individuals in the data set had purchased either a single game ticket package or one of the three season ticket packages; full season (41 home events,) half season (20 home events), or quarter season package (10 home events) from the major professional sports league team. Initially, 21,217 individuals were in the data set along with variables associated with head of household's age, marital status, and presence of a child. The age of the child, if appropriate, was also indicated. Household income levels were reported as ordinal data.

A listwise deletion approach was taken for missing values, incomplete responses, or inconsistent responses (e.g., listing the presence of a child but not including the age of the child). If the individual had purchased only a single game ticket, then the individual was removed from the dataset. The final dataset includes 4,211 individuals.

Household Life Cycle

The household life cycle was constructed using the concatenate function in Excel consistent with Wilkes (1995), and Gilly and Enis (1982). All 24 stages are applied in the analysis.

Results

Both hypotheses are tested by using a cross-tabulation with a χ^2 test using SPSS (22.0). This approach is appropriate because the data for the three variables (e.g. season ticket package purchase, stages of the household life cycle, and household income level) remain nonmetric in nature. Hence, a nonparametric analysis such as a cross-tabulation with a χ^2 test is suitable for testing the two hypotheses.

Hypothesis 1 was supported ($\chi^2 = 516.146$, $p = 0.00$); that is, household life cycle was predictive of season ticket purchase. Specifically households that include an individual who is married and under 35, regardless of presence of a child actually purchase a quarter season ticket package more than expected by chance and are less likely to purchase a full season ticket package than expected by chance. This group could lack the time, interest, identity, and/or income to commit to consuming all the product produced by the major professional sports league team. However, these groups do value the experience associated with this type of consumption. The individuals that bought more quarter season tickets than expected were those that are under the age of 35. The individuals that purchased more half season tickets were not married, and those with no children purchased more full season ticket packages than expected (See Table 5). Those that purchased less quarter season tickets than expected were individuals over age 35. The individuals that purchased less half season ticket packages had no children, and those that purchased less full season packages than expected were under the age of 35 (See Table 5).

Hypothesis 2 was also supported ($\chi^2 = 78.652$, $p = 0.00$); a positive relationship exists between income level and purchase of a major professional sports league team's season ticket package (See Table 6). Households earning less than $100,000 actually purchase more quarter season ticket packages than expected. Similarly, households earning more than $125,000 purchased more full season ticket packages than expected.

Cramér's V was calculated as a post-hoc analysis to compare the predictive value of household life cycle vs. household income. Values range between 0 (e.g., no association) and 1 (e.g. complete association) and explains the inter-correlation of two nominal variables. The Cramér's V allows for comparison between two cross-tabulations regardless of the number of rows and columns in each cross tabulation. The household life cycle cross-tabulation (Cramér's V = 0.136) appears to have the stronger association compared to household income cross-tabulation (Cramér's V = 0.097). However, both values are closer to 0 so this means that there is an association between the two variables tested (household life cycle and household income) and the season ticket package that is purchased, but it is a weak association (See Table 7).

Discussion

Managerial Implication

The findings from the research project offers implications for managers. Individuals in the household life cycle stages 6 and 13 (See Table 5) should be focused on for the quarter season option, whereas individuals in stages 5, 7, 9, 17, and 21 should be the main focus for the full season ticket package. Based on the household life cycle chi squared expected vs. actual analysis (See Table 5), major professional sports league managers should not focus on half season package options.

Consumers that need more focus are those purchasing quarter season packages that make between $15,000 and $99,999. Those purchasing a half season are all near or above their expected value so managers/leagues should focus on them as a whole. Whereas the individuals that need the main focus for full season ticket packages are only those who make more than $124,999, the rest are barely above the expected or severely below the expected (See table 6).

Limitations and Future Research

The dataset suffers from several limitations and offers directions for future research. The data set only contained demographic variables that were categorical in nature. A more complete prediction of season ticket package sales would include several and/or ratio data on constructs related to behavior use, usage occasion, and/or psychographics. In turn, such data would allow for more complex analysis such as ANOVA or regression.

Past research has shown a clear role of a team's past performance in boosting, or lowering, ticket sales (Levin, McDonald, & Wilcox, 2013), yet the current research did not take this into account. A major professional sports league team could sell additional season ticket packages if the team posted a winning record and/or captured the league championship. However, the major professional team in question had a record that placed them in the lower portion of their league when the data was collected, so attendance was low. Since then the major professional team's record has improved and they have risen to the top of their league, and attendance has increased. By considering past performance, a more complete model could be tested.

Finally, the length of the season (Levin, McDonald, & Wilcox, 2013) does impact attendance. The model for this paper only considered a team from one professional sports league that offered many opportunities to purchase. In such an instance, the value of the offering would not be strongly considered however in major professional sports league that offers few opportunities to purchase, then the value of offering would be strongly considered. Additionally research is needed that replicates this model on a team from a major professional sports league that offers many opportunities to purchase, and that extends this model on a team from a major professional sports league that offers few opportunities to purchase.

Overall, I have found that the household life cycle stages and household income, have a relationship with which season ticket package an individual purchases. Also, that the household life cycle is has a stronger relationship with the season ticket package purchased then the household income level. The household life cycle has is a stronger indicator than age, marital status, and the presence of children alone.

Table 1: Total Regular Season Attendance (in millions)

Sports League	2010-11 Season	2015-16 Season	Percent Change
National Basketball Association[1]	21.30	21.95	3.05 %
National Football League[2]	17.01	17.26	1.47 %
National Hockey League[3]	20.93	21.58	3.01 %
Major League Baseball[4]	73.20	73.76	0.77 %

[1]ESPN.com, n.d. a
[2]ESPN.com, n.d. b
[3]ESPN.com, n.d. c
[4]ESPN.com, n.d. d

Table 2: Monthly Time Spent Watching Television in the Third Quarter of 2015[1]

Income Bracket	Total Time (minutes)	Time (hours and minutes)
Less than $25,000	12,674	211 Hours, 14 Minutes
$25,000 - $50,000	10,345	172 Hours, 25 Minutes
$50,001 – $75,000	8,670	144 Hours, 30 Minutes
Greater than $75,000	6,821	113 Hours, 41 Minutes

[1]Nielsen, n.d. a

Table 3: Average hours Spent on Leisure and Sports per Day

Category	2010[1]	2015[2]
Socializing and Communication	49 min.	41 min.
Participating in Sports, Exercise, & Recreation	19 min.	19 min.
Watching Television	2 Hours, 53 min.	2 Hours, 47 min.
Total	5 Hours, 32 min.	5 Hours, 13 min.

[1]Bureau of Labor Statistics, 2011
[2]Bureau of Labor Statistics, 2016 b

Table 4: Applied Household Life Cycle Compared to Previous Life Cycles

Applied HLC	Wells & Gubar (1966)	Gilly & Enis (1982)	Wilkes (1995)
1 Married, < 35, no children	XXX	XXX	XXX
2 Married, < 35, children under 6	XXX	XXX	XXX
3 Married, < 35, children 6-10	XXX	XXX	XXX
4 Married, < 35, children 11-17	XXX	XXX	XXX
5 Married, 35-64, no children	XXX	XXX	XXX
6 Married, 35-64, children under 6	XXX	XXX	XXX
7 Married, 35-64, children 6-10	XXX	XXX	XXX
8 Married, 35-64, children 11-17	XXX	XXX	XXX
9 Married, 65+, no children	XXX		
10 Married, 65+, children under 6			
11 Married, 65+, children 6-10			
12 Married, 65+, children 11-17	XXX		
13 Unmarried, < 35, no children	XXX	XXX	XXX
14 Unmarried, < 35, children under 6	XXX	XXX	
15 Unmarried, < 35, children 6-10	XXX	XXX	
16 Unmarried, < 35, children 11-17	XXX	XXX	
17 Unmarried, 35-64, no children	XXX	XXX	
18 Unmarried, 35-64, children under 6	XXX	XXX	
19 Unmarried, 35-64, children 6-10	XXX		
20 Unmarried, 35-64, children 11-17	XXX		
21 Unmarried, 65+, no children	XXX	XXX	XXX
22 Unmarried, 65+, children under 6			
23 Unmarried, 65+, children 6-10			
24 Unmarried, 65+, children 11-17			

X–Included

Table 5: χ^2 Results for Season Ticket Package Purchased vs. Household Life Cycle Stages (Actual/Expected)

Stage Number	Quarter Season	Half Season	Full Season	Total
1	107/78.3	41/43.2	63/89.4	211/211
2	25/19.3	12/10.7	15/22.0	52/52
3	20/14.8	8/8.2	12/17	40/40
4	47/31.2	20/17.	17/35.6	84/84
5	393/423.9	219/234	530/484.1	1142/1142
6	83/67.6	36/37.3	63/77.1	182/182
7	85/94.3	49/52.1	120/107.7	254/254
8	245/255.7	144/141.2	300/292.1	689/689
9	66/82.4	32/45.5	124/94.1	222/222
10	3/3.7	1/2.0	6/4.2	10/10
11	6/6.3	2/3.5	9/7.2	17/17
12	18/16.3	4/9	22/18.7	44/44
13	125/94.3	63/52.1	66/107.7	254/254
14	9/6.7	6/3.7	3/7.6	18/18
15	10/9.3	9/5.1	6/10.6	25/25
16	18/11.1	4/6.4	8/12.7	30/30
17	198/223.8	130/123.6	275/255.6	603/603
18	13/16.7	14/9.2	18/19.1	45/45
19	28/25.2	16/13.9	24/28.8	68/68
20	43/49.7	35/27.5	56/56.8	134/134
21	18/30.1	17/16.6	46/34.3	81/81
22	0/.4	1/.2	0/.4	1/1
23	1/.7	0/.4	1/.8	2/2
24	2/1.1	0/.6	1/1.3	3/3

Table 6: χ^2 Values, P Values, and Cramér's V Values for the Analysis

Analysis	χ^2	p	Cramér's V
Season Ticket Package vs. Household Life Cycle Stages	516.146	0.00	0.136
Season Ticket Package vs. Household Income Level	78.652	0.00	0.097

Table 7: χ^2 Results for Season Ticket Package Purchased vs. Household Income Level (Actual/Expected)

Income Level	Quarter Season	Half Season	Full Season	Total
$15K - $49,999	242/224.6	151/124.0	212/256.5	605/605
$50K - $74,999	393/341.5	186/188.5	341/390.0	920/920
$75K - $99,999	309/295.8	178/163.3	310/337.8	797/797
$100K - $124,999	139/155.5	101/85.9	179/177.6	419/419
> $124,999	450/512.2	230/282.8	700/585.0	1380/1380
Did Not Answer	30/33.4	17/18.4	43/38.2	90/90

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