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TOUCHDOWN OR TURNOVER? AN EXAMINATION OF FAN SATISFACTION WITH NFL CONCESSION OFFERINGS

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Abstract:
Sports fans spend a substantial amount of money on food, drinks, and concessions during sporting events, making concessions a significant revenue source for sports teams and leagues. The demand for high-quality, diverse, and healthier concession options has been increasing among modern sports fans. This paper explores the challenges and opportunities faced by concession providers in meeting fan expectations and enhancing the game day experience. The study analyzes the evolving trends in concessions, including the demand for local and healthier food options, gluten-free and kosher choices, and unique offerings that reflect local cuisine. By understanding these trends and aligning their offerings accordingly, concession providers can cater to the changing preferences of sports fans and maximize their revenue potential.

Keywords: Sports concessions, fan experience, food and beverage, health-conscious, local cuisine.

Introduction

Foods, drinks, and concessions are an essential part of the sports fan experience. Sports teams and leagues earn considerable revenue from concessions sales. In 2015, Major League Baseball franchises reported revenues of more than $610 million from the sale of food, drinks and concessions (Ozanian, Badenhausen, & Settimi, 2016). In 2009, the National Football League estimated that fans spent more than $9 billion on food and beverages in 2009 (Larson & Steinman, 2009).In 2015, the average fan was reported to have spent up to $73 per person on food and drinks at stadiums and arenas for sports and other events, according the International Association of Venue Managers (Ingoglia, 2015), while the 2015 Team Marketing Report suggests that the typical fan at an NFL game paid more than $20 for one beer, one hot dog, and one soft drink; many fans likely spend much more because they revisit concessions stands several times during an event(Team Marketing Report, 2015). A major challenge for companies that provide concession services at sports events is to high quality food and beverages that meet fan expectations and deliver an excellent game day experience (Broughton, 2015; Kaplan& Muret, 2008).Today's sports fans are expecting healthier concessions, unique concessions that reflect the local cuisine, and such healthy and diverse foods as locally-grown, gluten-free and kosher options (Oches, 2011; Schouten, 2016).

Several sports teams and stadiums outsource concessions at stadiums and arenas to outside vendors including (among many others) the San Francisco 49ers, the New York Yankees, and the Los Angeles Dodgers (Muret, 2012; Kaplan & Muret, 2008). Despite the important role that concessions play in generating revenues and creating fan satisfaction, few studies have been done to investigate fan perceptions of concession service quality at sports events. This study fills a gap in the academic literature because it is one of the first studies to focus on how fans assess the quality and importance of concessions at major sports events. The purpose of this study is to investigate the perceptions of fans at National Football League games about concession quality, and how concession quality affects

key marketing outcomes (e.g., consumer satisfaction, fan loyalty, repurchase intentions, and intent to spread word-ofmouth, the extent to which it influences fan loyalty).

Literature Review

Studies of Foods, Drinks and Concessions at Sports Events

A number of studies have been carried out that investigate some aspect of the role of food and drink concessions in influencing the fan experience, but many of those projects did not focus on service quality and behavioral outcomes (Ross, 2007; Trail, Robinson, & Kim, 2008; Lee, Lee, Seo, & Green, 2012; Yoshida, James, & Cronin, 2013; Lee, Heere, & Chung, 2013; Whisenant, Dees, Bolling, & Martin, 2013;Yamaguchi, Akiyoshi, Inaba, & Yamaguchi, 2015). Ross (2007) studied the factors that influence individuals to become attached to a sports team and included perceptions of the food and drinks at sports events as one factor that might play a role; the findings suggest there may be a relationship between consumer perceptions of the concessions experience and certain types of fans. Likewise, Trail et al., (2008) examined the extent to which concessions might be a factor that affects fan interest in sports and asked respondents to rate their perceptions of concessions; the results suggest that concession experiences are one of many factors that influence fan satisfaction. Lee et al. (2012) developed an instrument to measure fan perceptions of the smell of foods at sports stadiums that asked fans to rate the extent to which they like the smell of stadium foods and believe the stadium provides good tasting food; however, the service quality of stadium concessions is not measured. Yoshida et al. (2013) developed and validated a scale to assess the extent to which innovations in food and concessions at sports stadiums might influence fan behavior; the results suggest that younger fans might be more motivated by new technology, but service quality was not examined. Lee et al. (2013) studied the extent to which fans' perceptions of the taste and smell of food might affect fan satisfaction; results suggest that smells and taste of ballpark foods may affect the loyalty of fans and their bond with a team; results suggest that concession quality may have a relationship with the fan experience. Whisenant et al. (2013) investigated if the amount of money fans spent on concessions at sports events might be influenced by the score of the game or the stadium atmosphere. Yamaguchi et al. (2015) developed and validated a scale for service quality at sports events that includes the availability of a wide range of food choices as one of several dimensions of service quality. Another line of research is investigating ways to best measure the atmosphere or total fan experience at sports stadiums, and fan perceptions of concession quality are a commonly used variable in these studies (Uhrich & Benkenstein, 2010; Lee et al., 2012; Sarstedt, Ringle, Raithel, & Gutergan, 2014). Ulrich & Benkenstein (2010) developed a conceptual model to sports stadium atmospherics and included fan perceptions of quality of food and concessions as one component of their instrument. Lee et al. (2012) explored fan perceptions of stadium food; the research suggests the sensory experiences of customers play an important role in shaping perceptions of the value provided by products and service and that is especially true in the context of sports events where foods are cooked and served on-site. Sarstedt et al. (2014) expanded on the concept of stadium atmosphere by measuring how the quality of food and beverages influences stadium atmosphere; respondents were surveyed about their level of satisfaction with concessions service quality at the sports events including service providers, waiting time, prices, and food and beverage quality.

Service Quality Theory

One of the first models of service quality were established by Parasuraman, Zeithaml & Berry (1988); the model was originally designed to measure customer expectations about such dimensions of service quality as reliability, assurance, tangibles, empathy, and responsiveness (collectively known as RATER).

Reliability measures the ability to perform the service dependably and accurately (Parasuraman et al., 1988) and includes greeting a customer properly, providing helpful information, and accurately addressing questions. Assurance measures the knowledge and courtesy of employees and their ability to convey trust and confidence to the customer.

Tangibles capture the appearance of physical facilities, equipment, personnel, and communication materials; services should be delivered in settings that are clean, well-lit, and comfortable. Empathy is the perceived caring or individualized attention employees provide to the customer; service providers express empathy when they smile and provide personal attention. Responsiveness is defined as the willingness to assist and provide prompt attention, to respond readily to customer needs in a manner that demonstrates willingness to help. From this, many variations of measuring service quality in sport have been generated.

A recent line of research involves examining service quality in sports using the principles of the SPORTSERV model. Theodorakis, Kambitsis, Laios, & Koustelios (2001) were some of the first researchers to explore the possible relationships between measures of service quality and satisfaction of spectators in professional sport. Theodorakis & Alexandris (2008) developed and tested the SPORTSERV model which is which is a 22-item scale, consisting of five dimensions (e.g., Tangibles, Responsiveness, Access, Security, and Reliability); this scale has since been widely used to study issues related to concessions, food, and related items (Ko, Zhang, Cattani, & Pastore, 2011; Biscaia, Correia, Menezes, Rosado, & Colaço, 2012; Calabuig-Moreno et al., 2016). Ko et al. (2011) built upon the principles of SPORTSERV to develop the Model of Event Quality for Spectator Sports to assess spectator perceptions of service quality; concessions service quality was measured in this study. Biscaia et al. (2012) tested the SPORTSERV model in a survey of Portuguese soccer fans to explore the extent to which service quality might influence behavioral intentions among avid and casual fans; the study suggests that service quality is one factor that affects fan loyalty and purchase intent. Calabuig-Moreno et al (2016) modified the SPORTSERV model to investigate spectator perceptions of event quality at sports events; the findings indicate that the principles of SPORTSERV resulted in acceptable data results in terms of validity and reliability (among many other types of results).

Studies Investigating Concessions Service Quality at Sports Events

A number of studies have investigated possible relationships between service quality and concessions at sports events (Shonk & Chelladurai, 2008; Gau, James, & Kim, 2009; Nagel, 2010; Ko et al., 2011; Yamaguchi et al., 2015; Sarstedt et al., 2014). Shonk & Chelladurai (2008) developed a model to examine relationships between service quality at sports events, customer satisfaction, and behavioral intentions; the model asked respondents about service encounters with stadium employees including those working in concession stands. Gau et al. (2009) investigated the extent to which the amount of foods, drinks and concessions purchased by fans and their perceptions of service quality fans might be related to attachment to a sports team; the study assessed service quality by asking respondents the extent to which concessions service was efficient and concession servers were friendly and efficient, and fans did not have to wait long for service. Nagel (2010) investigated fan perceptions of the appearance, speed, and efficiency of individual concession stations at a college basketball arena; results indicate that a discrepancy existed among concession outlets in regards to physical appearance and speed of customer transactions. Ko et al. (2011) tested the Model of Event Quality for Spectator Sports to assess spectator perceptions of service quality across several dimensions including concessions. Yamaguchi et al. (2015) explored the extent to which innovations in concessions and food quality at sports events might influence perceptions of service quality; the research was based on principles associated with service quality in sports. Sarstedt et al. (2014) developed and tested a measurement index for fan satisfaction (FANSAT) at sports events that is based on the concept that service quality associated with food and concessions is one of several factors that needs to be assessed in determining fan experiences at sports stadiums.

The present study expands upon previous efforts by the researchers to study service quality at a National Football League Stadium. Larson & Seymour (2006) applied SERVQUAL to assess spectator assessments of service quality, while Larson & Steinman (2009) investigated the extent to which service quality might influence fan satisfaction and return intentions.

Limitations of Previous Studies

Several studies have investigated issues related in some way to the relationships between service quality associated with concessions at sports events and customer satisfaction but these studies have limitations. Shonk & Chelladurai (2008) developed a model to investigate service quality at sports events including concessions, but had not tested the model as of this writing. A weakness of Theodorakis & Alexandris (2008) is that it did not examine issues specifically related to concessions or foods at sports venues. Trail et al. (2008) collected data from undergraduate students in a classroom, not actual spectators at a sports event. The sampling frame for Pritchard, Funk, & Alexandris (2009) came from sending a printed survey in the mail to individuals on a mailing list who attended Major League Baseball games; they did not interview people at a stadium. Gau et al. (2009) did not attempt to try to explain the causal relationships between the level of fandom and perceived service quality; they only sought to investigate whether such correlations existed in the data. The study by Ko et al. (2011) had relatively low factor loadings and the model they developed might not be applicable to sports other than minor league baseball. Lee et al. (2012) developed a scale to assess components of the sensory cape by surveying 218 fans at a minor league baseball game as well as Houston Astros fans online; the results show only a moderate fit to the data and thus several of the constructs may need to be reexamined. Osti, Disegna, & Brida (2012) note that they only surveyed people who were actually at a ski tournament and that it might provide a better perspective to measure all the people who came to the site year-round for various purposes and not just one event. Yoshida et al. (2013) note that limitations of their study is that age was the only moderating variable that was studied. Lee et al. (2013) relied on surveys of students in the classroom and did not interview respondents at the stadium. Sarstedt et al. (2014) carried out an online survey and did not interview fans at the stadium, and their model only explained 50% of overall fan satisfaction. Yamaguchi et al. (2015) surveyed fans at a major rugby tournament in Japan using a convenience sample; but the AVE score for food was only 0.41.

The Unique Contribution of This Study; How It Fills a Gap in the Literature

The present study is distinctly different than previous investigations and fills a gap in the academic literature. This study surveys at fans at actual National Football League games to obtain real-world perceptions of the quality of service actually being provided at major sports events. In contrast, several other studies have investigated some aspect of concessions, food, and drinks at sports events but typically not form a service quality perspective. Even some of the studies that have examined service quality at sports competitions have not surveyed fans while they were attending a major sports event such as the National Football League but instead rely on a sample that is removed from the event (e.g., students in a classroom, people on the internet, or persons who have attended college or minor league sports). Secondly, this investigation focuses entirely on issues related to service quality at sports events and specifically concessions service quality. Other studies (Gau et al., 2009; Ko et al., 2011) include service quality as one of many issues being investigated but the present study is much more focused on service quality in sports. Thus, a contribution filled by this study is that it does investigate the perceptions of actual fans at a major sports event about perceptions of service quality, that it focuses on service quality associated with concessions at sports events, and that it attempts to explore the relationships that exist between concessions service quality and behavioral outcomes.

Methodology and Research Questions

To test the effect of service quality constructs on concession experience and the experience's effect on marketing outcomes in an actual sport service setting, we surveyed fans using a mall-intercept technique at an NFL team's stadium during two regular season afternoon games. Walliser (2003) lamented the limitation of many studies using student samples in sports marketing research. As a result, this paper strives to study actual attendees at a live sporting event to add a degree of external validity that has been lacking in other studies.

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Twenty student field researchers were divided into ten teams to cover the stadium systematically. The small teams approached attending fans at random (every third fan above the age of 18) who have recently exited a concession stand within a research team's assigned area. Other research teams were assigned to approach the service professionals with minimal disturbance. Respondents from all areas of the stadium were solicited (e.g., the upper concourse, club level, and the main concourse). Data were collected beginning three hours before kickoff (when concession areas open) until just after halftime when the flow of fans visiting the concession stands slow. The surveys took 10 minutes to complete. A total of 507 usable fan surveys were collected in two games during the 2013 NFL season.

Measures - The survey utilized five-point Likert scales ranging from "Strongly Agree" to "Strongly Disagree" to measure of the difference between customers' expectations and perceptions of the actual service they received (Brown, Churchill, & Peter 1993). Questions were developed based on the original RATER model (Parasuraman et al.

1988) with approximately 2 to 3 questions per dimension (see Figure1).

These items, as well as other questions were further slightly modified with input from host management team marketers to capture issues crucial to their specific business as recommended by prior field researchers (Eastwood, Brooker, & Smith, 2005) who note it is not uncommon to adapt service quality assessment items to accommodate specific industry needs, and may even be necessary, to collect more pertinent information.

These dependent variables included a measure of Word-of-Mouth, Attitude-toward-the-team, future ticket purchase intentions, and how memorable the game day was. The single page survey ended with standard demographic questions: age, race, education, gender, and fan avidity. A series of questions also posed to each fan included fan response with respect to the level of satisfaction of the game day experience (Figure 2). These questions include responses ranging from 1-5, with 1=*Strongly Disagree* and 5=*Strongly Agree*. While not expressly related to the fan's concessions experience, responses to these questions are deemed reflective of the concession **and** combined game day experience.

RQ 1: Service Quality constructs positively affect the concession experience

RQ 2: Is the concession experience positively related to customer responses: (a) sport event was more memorable, (b) likelihood to engage in positive word-of-mouth, (c) ticket purchase intentions, or (d) feeling appreciated. RQ3: Fans at different levels of the stadium perceive the concession experience differently.

Survey Questions and Constructs

This study includes an examination of the effects of concession service quality on fan experience using individual level surveys of concession customers in attendance at two NFL games during the 2013 season. The survey is in the form of a written instrument administered to fans at the stadium and is primarily composed of questions organized into constructs, with each construct having two or three questions each as noted in Figure 1. Survey responses to the twelve construct questions range from 1-5 representing Strongly Disagree to Strongly Agree, respectively.

Figure 1. Survey Questions and Constructs

Construct	**Survey Question**	**Range**
Reliability	The concession line moved quickly.	1-5
	I received my order quickly.	1-5
	I received exactly what I ordered the first time.	1-5
Assurance	Concession staff seemed well trained.	1-5
	The concession employees appeared professional.	1-5

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Tangible	The quality of the food met my expectations.	1-5
	The concession stand was clean.	1-5
	The condiment area appeared clean.	1-5
Empathy	Concession staff seemed thankful for my patronage.	1-5
	The employee greeted me with a smile.	1-5
Responsiveness	Concession staff was willing to help a lot.	1-5
	Concession employees handled issues quickly.	1-5

Individual responses to questions in each construct were aggregated to form the construct variable values as shown in Figure 2 such that each construct includes a maximum value equal to the number of questions in the construct (Q) multiplied by 5 as the highest response value (5Q). The construct's value then is a range of agreement with the questions presented in the construct, with 1 representing **Strongly Disagree** and 5Q representing **Strongly Agree**. *The actual team participating in the study has been replaced with "team" to respect their anonymity.**Figure2.** Construct Variable Values and Outcomes

Construct Inputs (X_i)	**Range**
Reliability	1-15
Assurance	1-10
Tangible	1-15
Empathy	1-10
Responsiveness	1-10

Outcomes (Y_i)

I will return to the concession again.
The experience today was memorable.
I will speak highly of my fan experiences with the *team
I will continue to buy the team's tickets
The team will always be my favorite sports team I really feel appreciated by the organization How would you describe yourself as a team fan?

Each respondent was also queried regarding age, gender, ethnicity and stadium seating level (Figure Figure 3). While the gender response specified the respondent's gender as female or male (0,1) the ethnicity response differentiates fans by race including White, Black, Hispanic, Asian and Other. For the purpose of this examination, these responses are organized into Minority (Black, Hispanic, Asian and Other) with a value of 1, and Non-Minority (White) with a value of 0. The Stadium Level response, ranging from 1-3, represents differing levels of seating in the stadium in which 1 = Upper Concourse, 2 = Club Level, and 3 = Lower Level. For the purposes of several of the analyses in this examination, fan ages were banded into ranges of 18-25, 26-40, 41-60, >60. As a small number of fans surveyed were less than 18 years, a category for <25 was formed. In limited cases fan age was used as a continuous variable.

Figure3. Demographics and Stadium Inputs (Q_i)

Demographic/Stadium Inputs (Q_i)	**Response Range**
Age	< 25
	18–25

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	26-40 41–60 > 60
Gender	0 = Female 1 = Male
Minority	0 = Non-Minority (White) 1 = Minority
Stadium Level	1 = Upper Concourse 2 = Club Level 3 = Lower Concourse

A series of questions also posed each fan include fan response with respect to the level of satisfaction of the game day experience (Figure 4). These questions include responses ranging from 1-5, again with 1 being **Strongly Disagree** and 5 being **Strongly Agree**. While not expressly related to the fan's concessions experience, responses to these questions are deemed reflective of the concession **and** combined game day experience.

Figure 4. Likert-scale Questions Used in the Study

Outcomes (Y_i)	**Range**
I will return to the concession again.	1-5
The experience today was memorable.	1-5
I will speak highly of my fan experiences with the team	1-5
I will continue to buy team tickets	1-5
The team will always be my favorite sports team	1-5
I really feel appreciated by the organization	1-5
How would you describe yourself as a team fan?	1-5

Descriptive Statistics

Fans were surveyed by one of the researcher's using student survey teams under the direction of the researcher, as they exited the concessions counter with their purchased orders in hand, but before the concessions products were consumed. Of the 507 fans from whom completed surveys were obtained, non-minority males and females accounted for 76.53% (179 female, 209 male) with Black fans representing the largest ethnic group at 57.69 of minority respondents (Figure 5). The average age of the fan attending the two NFL games was 37.1 years of age.

Figure 5. Gender of respondents (by race)

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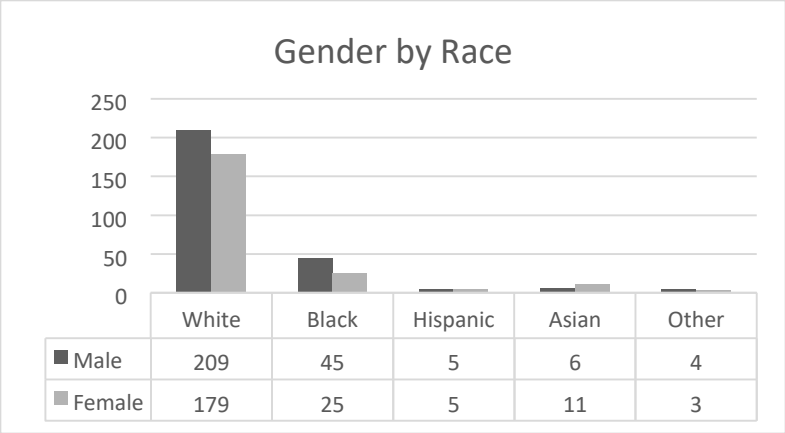
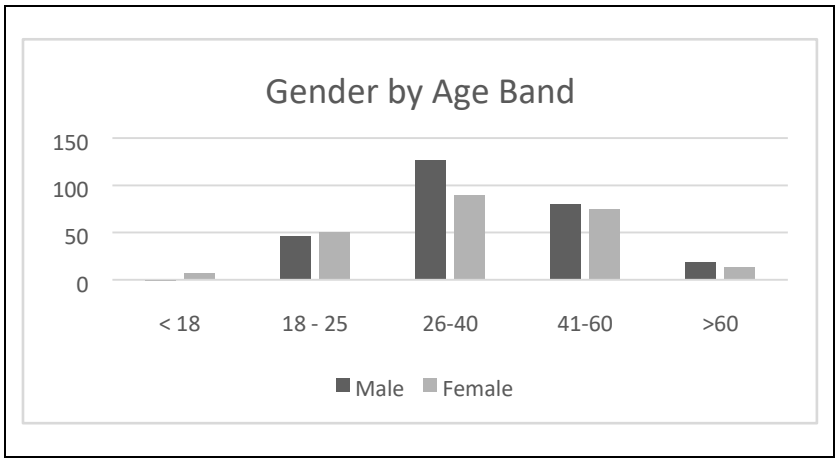


Fans ages 26-40 represented 42.6% of those surveyed with those ages 41-60 representing 30.57% (Figure 6). Male fans in the 26-40 age band were disproportionately larger than females at 63.43, where male fans in the 41-60 age band were more representative of the surveyed fan base at 51.61% for ages 26-40 and 53.85%.

Figure 6. Gender of respondents by age band



Non-minority and Black fans expressed similar levels of fan avidity, 4.045 and 3.903 respectively on a scale of 1-5, while Hispanic, Asian and other race group fans expressed avidity levels of 3.25, 3.824 and 3.857, respectively (Figure 7). Male fan avidity exceeded female fan avidity in all race groups but Blacks, where male and female fan avidity levels were nearly equal at 3.9 and 3.95 respectively.

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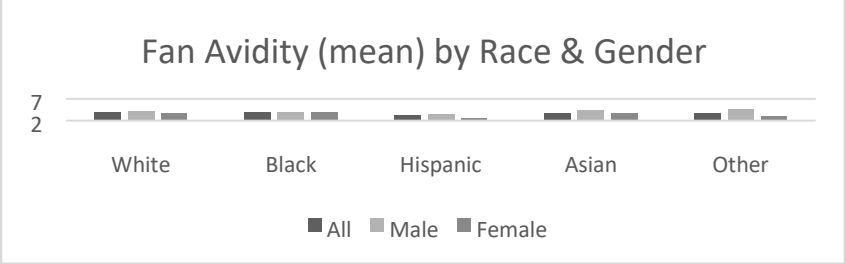
Figure7. Fan Avidity by Race and Gender.



Surveyed fan avidity amongst males and females ages 61 and older was highest at 4.72 and 4.25, respectively, while the lowest levels of fan avidity were expressed by those less than 18 years of age with expressed mean avidity of 3.714 (Figure 8). In contrast, purchase intent was highest amongst fans under 18 years of age (4.75) with the purchase intent of all other age bands ranging from 4.35 to 4.51 (Figure 9). Though these younger fans are limited in number, they may directly contribute to future ticket and concession purchases and as such are included in this study.

Figure 8. Fan Avidity (mean) by Age Band and Gender

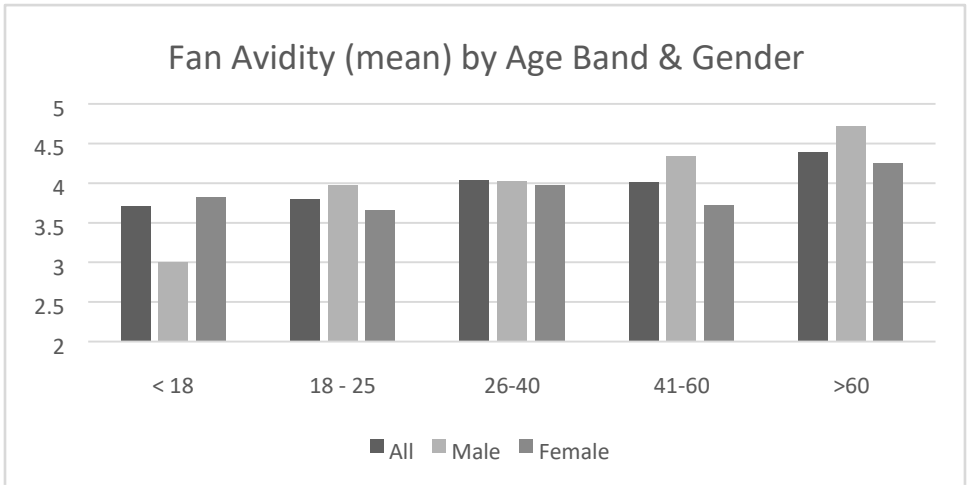


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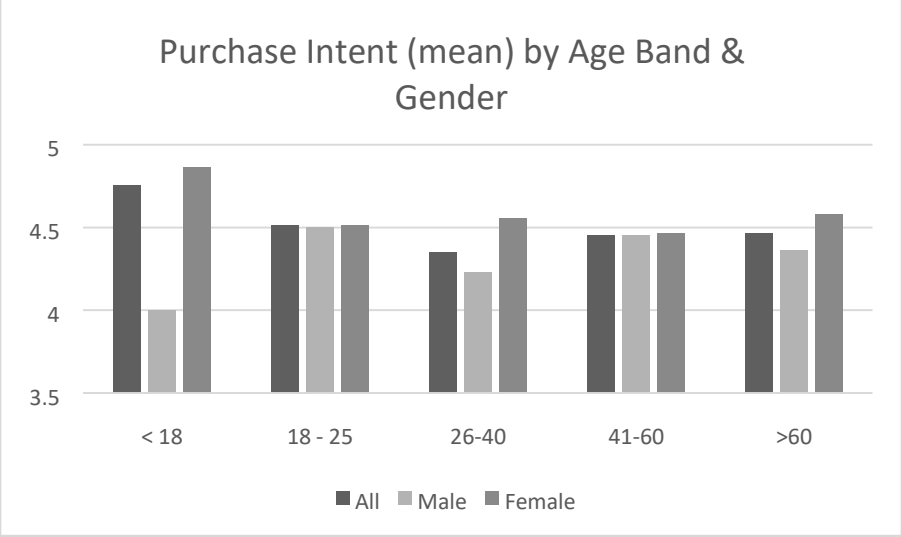
Figure 9. Purchase Intent (mean) by Age Band and Gender.



Study Question Organization

In an effort to examine fan responses to the research questions (RQ_2)of this study "Does service quality positively effect concession experience?" (RQ_1), "Is fan concession experience positively related to customer experience?" (RQ_2), and "Do fans at different levels of the stadium perceive the concessions experience differently?" (RQ_3), central study questions RQ_1 and RQ_2 representing fan outcomes (Y_i) are categorized by survey question as indicated in Figure 10*, while central survey question RQ_3 includes all fan outcome questions.* Actual name of NFL team has been replaced with "host team" in the manuscript to maintain team's privacy.

Figure10. Central Study Questions, Fan Outcome Questions, and Outcome Variables

Central Study Questions	**Fan Outcome Questions**	**Outcome Variables (Y_i)**
(RQ_1) "Does service quality positively effect concession experience?"	I will return to the concession again.	Return
	The host team will always be my favorite sports team	Fan Favorite
	My overall concession stand experience was positive.	Overall
	How would you describe yourself as a team fan?	Avidity
(RQ_2) "Is fan concession experience positively related to customer experience?"	The experience today was memorable.	Memorable
	I really feel appreciated by the host team organization	Appreciated
	I will speak highly of my fan experiences with the host team.	Word-of-Mouth
	I will continue to buy team tickets	Purchase Intent

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	I really feel appreciated by the host team organization	Appreciated
(RQ_3) "Do fans at different levels of the stadium perceive the concessions experience differently?"	All outcome questions	All Outcome Variables

Estimated Outcomes

Statistical panels representing ordinary least squares regression outcomes for questions RQ_1 and RQ_2 are presented in Figure 11 in which all constructs and all outcomes are assessed without controls for gender, ethnicity, or age banding. The values for each of the construct values range from 1 to 5Q as noted previously such that the outcome coefficients in this panel may be read as a one (1) unit change in a particular construct variable results in an X unit change in the outcome variable. Statistical significance of the input construct's effect on the outcome variable is noted by the presence of asterisks below the coefficient (* statistically significant below 10%, ** below 5% and *** below 1%).

Figure 11. Estimated Outcomes for RQ1 and RQ2.

	RQ1: Service quality positively effects concession experience				**RQ2: Concession experience positively related to customer experience**			
Construct (scale)	**Return**	**Overall**	**Avidity**	**Fan Favorite**	**Purchase Intent**	**Appreciated**	**Memorable**	**Word of Mouth**
Reliability (15)	-0.0041	0.0255 *	-0.0039	0.0239	0.0126	0.0674 ***	0.0444 **	0.0711 ***
Assurance (10)	0.129 ***	0.123 ***	0.0141	0.0348	0.0417	0.00529	0.0576 *	0.00187
Tangible (15)	0.0790 ***	0.0162	-0.0215	0.0403	0.0426	0.0267	0.0635 ***	0.0741 ***
Empathy (10)	-0.0301	0.0475 *	0.0303	0.106 **	0.0941 **	0.108 ***	0.0558 *	0.0314
Responsiveness (10)	0.215 ***	0.242 ***	0.0499	0.0353	0.0541	0.131 ***	0.0492	0.0716 **
Observations	489	491	448	488	484	488	492	488
R-squared	0.620	0.722	0.015	0.191	0.273	0.428	0.408	0.378

Statistically significant regression coefficients for RQ_1 in this panel are limited to Assurance (0.129 ***), Tangible (0.079***) and Responsiveness (0.215***) for Return; Reliability (0.025*), Assurance (0.123***), Empathy (0.0475*) and Responsiveness (0.242***) for Overall; and Empathy (0.106**) for Fan Favorite. Each of these estimates reflects positive coefficients of change with respect to each of the statistically significant input variables or constructs. This indicates service quality measures provide marginally positive effects on the fan concession experience. For RQ_2 the statistically significant regression coefficients are limited to Empathy (0.0941**) for Purchase Intent; Reliability (0.0674***) and Empathy (0.108***) for Appreciated; Reliability (0.0444**), Assurance (0.0576*), Tangible

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(0.0635***), and Empathy (0.0558*) for Memorable; and Reliability (0.0722***), Tangible (0.741***) and Responsiveness (0.0716**) for Word-of-Mouth. As with RQ1, we see evidence the fan concession experience is marginally positively correlated with each of the statistically significant constructs. Figure 12 includes regression estimates for the same combination of construct and outcome variables as presented above for RQ_1 with the inclusion of controls for gender, ethnicity and age. Few differences appear in this construction for Return and Overall with each being negatively correlated with fan Age (-0.004 * and -0.005*** respectively), while all other control variables represent little or no statistically significant marginal effects for RQ_1 or RQ_2.

Figure 12. Regression Estimates for RQ1 and RQ2.

	RQ1: Service quality positively effects concession experience				**RQ2: Concession experience positively related to customer experience**			
Construct (scale)	**Return**	**Overall**	**Avidity**	**Fan Favorite**	**Purchase Intent**	**Appreciated**	**Memorable**	**Word of Mouth**
Reliability (15)	-0.0002	0.0296**	-0.00707	0.0211	0.00620	0.0620***	0.0346*	0.0660***
Assurance (10)	0.106***	0.112***	0.0431	0.0267	0.0478	-0.0222	0.0617*	-0.00979
Tangible (15)	0.0779***	0.0268	-0.0366	0.0560	0.0426	0.0450	0.0612**	0.0765***
Empathy (10)	-0.0138	0.0392	0.0212	0.0931*	0.0914**	0.128***	0.0513	0.0452
Responsiveness (10)	0.206***	0.236***	0.0805	0.0282	0.0503	0.107***	0.0538	0.0598
Age	-0.0046*	-0.00502***	0.00987***	0.000597	0.00250	-0.00112	-0.00261	-0.00232
Gender	-0.0513	-0.0303	0.321***	-0.0637	-0.0866	-0.0815	-0.0974	-0.0996
Minority	0.0417	0.0233	-0.0749	0.111	-0.0307	0.134*	0.00325	-0.0480
Observations	457	458	421	457	455	457	459	456
R-squared	0.610	0.736	0.070	0.181	0.260	0.427	0.400	0.360

RQ_1: Service quality correlation with concession experience

Given the statistically significant outcomes presented for return and overall in RQ_1, further analysis is performed with results differentiated by levels of controls: none, gender and ethnicity, and age band, gender and ethnicity. Figure 13 represents estimations for Return with no controls applied and reports statistically significant outcomes for Assurance (0.129***), Tangible (0.079*** and Responsiveness (0.215***) against the outcome (Return). These

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same constructs report with the same levels of statistical significance and only minimal reductions (0.016 or less) in outcomes coefficients when controls for gender and ethnicity are applied.

Figure 13. Service Quality Correlation with Concession Experience for RQ1.

RQ_1: Service quality correlation with concession experience : Return

	Controls		**Control: age band, gender, ethnicity**				
Construct, Controls (scale)	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**
Reliability (15)	-0.0047	0.00272	-0.0530	-0.0190	-0.0385	0.000219	0.240***
Assurance (10)	0.129***	0.113***	0.141**	0.116	0.141***	0.0326	0.285**
Tangible (15)	0.0790***	0.0751***	0.0804*	0.0629	0.0805**	0.112***	-0.0577
Empathy (10)	-0.0301	-0.0170	0.0867	0.112	-0.0862**	0.126**	0.124
Responsiveness (10)	0.215***	0.211***	0.133*	0.0988	0.260***	0.0963*	-0.186
Gender		-0.0528	-0.187*	-0.215*	-0.0789	0.0649	-0.169
Ethnicity		0.0599	-0.153	-0.0903	0.0571	0.158	-0.209
Observations	489	468	97	89	201	142	28
R-squared	0.620	0.627	0.589	0.581	0.583	0.724	0.895

As controls for age band, gender and ethnicity are applied Reliability and Empathy appear as statistically significant inputs: Reliability for fans over 60 years of age and Empathy for fans 26-40 and 41-60. Gender is presents with minimal statistical significant for fans < 25 and 18-25 and is negatively correlated, suggesting male fans intent to Return is lower than female fans in the same age bands. Similar regression panels are presented for Overall with the same control configurations (Figure 14).

With no controls in place we see that Reliability (0.0255*), Assurance (0.123***), Empathy (0.0475*) and Responsiveness (0.242***) are each offer statistically significant effects against the outcome (Overall). When controlling for gender and ethnicity we find Reliability, Assurance and Responsiveness continue to be statistically significant with coefficients only marginally different than pre-control level estimations (changes of less than .007), while Empathy no longer reports with statistical significance below any plausible level. Extending the controls to include age band, gender and ethnicity introduces Tangible as having a statistically significant effect in the 26-40 and > 60 age bands and gender as being significant for those fans < 25 and 26-40.

Figure 14. Service Quality Correlation with Concession Experience (Overall)

RQ_1: Service quality correlation with concession experience : Overall

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	Controls		Control: age band, gender, ethnicity				
Construct, Controls	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**
Reliability (15)	0.0255 *	0.0308 **	0.00141	-0.00982	-0.00489	0.0810 ***	0.0766
Assurance (10)	0.123 ***	0.116 ***	0.134 **	0.155 **	0.0954 **	0.167 ***	0.163
Tangible (15)	0.0162	0.0288	0.0183	0.0204	0.0468 *	-0.0381	0.213 ***
Empathy (10)	0.0475 *	0.0272	0.0824	0.0900	0.0226	0.0518	0.0199
Responsiveness (10)	0.242 ***	0.242 ***	0.234 ***	0.215 ***	0.273 ***	0.177 ***	-0.108
Gender		-0.0233	0.174 *	0.144	-0.116 *	-0.0478	-0.0267
Ethnicity		0.0449	-0.0721	-0.0754	0.0915	0.00912	-0.0402
Observations	491	469	97	89	200	144	28
R-squared	0.722	0.740	0.698	0.694	0.758	0.752	0.867

RQ_2: Fan concession experience correlation customer experience

RQ_2's regression analysis examines this research question for each key marketing outcome: Purchase Intent, Appreciated, Memorable, and Word-of-Mouth. In this regression panel coefficients are estimated for each construct input variable without controls, with controls for gender and ethnicity, and with controls for age band, gender and ethnicity. With no active controls the only statistically significant input against Purchase Intent is Empathy (0.0941**), while both Tangible (0.0497*) and Empathy (0.917**) offer statistically significant effect when controls for gender and ethnicity are applied. As controls for age band, gender and ethnicity are each applied the only statistically significant inputs are observed with Assurance (0.119*) for fans ages 26-40 and Empathy (0.330*) for fans age over 60 (Figure 15).Worth note is the decrease in r-squared values for the regression estimators for RQ_2 as compared to RQ_1. RQ_1's estimators have r-squared values ranging from 0.581 to 0.895, while RQ_2's values are consistently at 0.50 or less for all but those in which age band controls are included on fans > 60, in which r-squared values range between 0.478 and 0.794.

Figure 15. Concession Experience Correlation with Customer Response, Purchase Intent (RQ2).

RQ_2: Concession experience correlation with customer responses: Purchase Intent							
	Controls		**Control: age band, gender, ethnicity**				
Construct, Controls (scale)	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**

Reliability (15)	0.0444**	0.0387**	0.0603	0.0721	-0.00124	0.0982***	0.00946
Assurance (10)	0.0576*	0.0691**	0.0309	-0.00632	0.158***	-0.0359	-0.228
Tangible (15)	0.0635***	0.0605**	0.0744	0.0761	0.0442	0.103*	0.0934
Empathy (10)	0.0558*	0.0517	0.0446	0.0448	0.0357	-0.0973	0.380***
Responsiveness (10)	0.0492	0.0596*	0.0379	0.0622	0.0703*	0.131	0.0987
Gender		-0.0916	-0.264**	-0.207	-0.0950	-0.0486	-0.00702
Ethnicity		0.00609	0.0976	0.104	-0.0448	-0.0642	-1.583**
Observations	492	470	97	89	201	144	28
R-squared	0.408	0.431	0.353	0.356	0.500	0.404	0.794

Figure 16 includes regression estimates for the construct variables against Appreciated. With no controls applied we observe that Reliability (0.0674***), Empathy (0.108***), and Responsiveness (0.131***) are each statistically significant inputs. As controls for gender and ethnicity are applied, these same input variables remain significant, with only marginal coefficient changes, and are joined by Tangible (0.0497*). Tangible and Empathy are consistently significant for fan ages through 40 while Reliability (0.166***) and Gender (-0.206) are statistically significant for fans age 41 – 60. There are no statistically significant variables present for fans greater than 60 years of age.

Figure 16. Concession Experience Correlation with Customer Response, Appreciated. RQ2.

RQ_2: Concession experience correlation with customer responses: Appreciated

	Controls		**Control: age band, gender, ethnicity**				
Construct, Controls (scale)	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**
Reliability (15)	0.0674***	0.0664***	0.0173	-0.00768	0.00424	0.166***	0.0575
Assurance (10)	0.00529	-0.0219	-0.133	-0.0954	0.0572	-0.0503	-0.329
Tangible (15)	0.0267	0.0497*	0.154**	0.170***	0.0720*	-0.00252	0.0188
Empathy (10)	0.108***	0.120***	0.179**	0.164*	0.0909*	0.0910	0.126

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Responsiveness (10)	0.131 ***	0.112 ***	0.111	0.0956	0.115 **	0.0546	0.511
Gender		-0.0795	0.0972	0.0869	-0.101	-0.206 *	0.0471
Ethnicity		0.135 *	0.369 **	0.339 **	0.0149	0.140	-0.457
Observations	488	468	97	89	199	144	28
R-squared	0.428	0.451	0.489	0.487	0.485	0.476	0.513

By contrast to the regression outcomes for Purchase Intent and Appreciated, as the construct variables are examined against the outcome variable Memorable, only one variable reports as statistically significant when controls include gender, ethnicity and age bands, and that variable is uniquely different for each of the age bands as noted in Figure 17.

With no controls applied the statistically significant construct variables are Reliability (0.444**), Assurance (0.576*), Tangible (0.0635***), and Empathy (0.0558*). As controls for gender and ethnicity are applied Empathy is no longer significant, but Responsiveness (0.0596*) now presents with statistical significance.

Figure 17. Concession Experience Correlation with Customer Response, Memorable. RQ2.

RQ_2: Concession experience correlation with customer responses: Memorable

	Controls	**Control: age band, gender, ethnicity**					
Construct, Controls (scale)	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**
Reliability (15)	0.0444 **	0.0387 **	0.0603	0.0721	-0.0012	0.0982 ***	0.00946
Assurance (10)	0.0576 *	0.0691 **	0.0309	-0.00632	0.158 ***	-0.036	-0.228
Tangible (15)	0.0635 ***	0.0605 **	0.0744	0.0761	0.0442	0.103 *	0.0934
Empathy (10)	0.0558 *	0.0517	0.0446	0.0448	0.0357	-0.0973	0.380 ***
Responsiveness (10)	0.0492	0.0596 *	0.0379	0.0622	0.0703 *	0.131	0.0987
Gender		-0.0916	-0.264 **	-0.207	-0.0950	-0.0486	-0.0070
Ethnicity		0.00609	0.0976	0.104	-0.0448	-0.0642	-1.583 **

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Observations	492	470	97	89	201	144	28
R-squared	0.408	0.431	0.353	0.356	0.500	0.404	0.794

As the construct input variables are regressed against the outcome Word-of-Mouth, Reliability (0.711***), Tangible (0.0741***) and Responsiveness (0.0716**) report as statistically significant (Figure 18). When controls for gender and ethnicity are added these same variables reports as statistically significant with minimal change in coefficients. Adding controls for age banding reports with Reliability, Assurance, and Tangible as significant for fan ages > 41 and 26-40, respectively. With these controls in place Ethnicity also presents with statistically significant effects for fan ages < 41, but not for fan ages > 40.

Figure 18. Concession Experience Correlation with Customer Response, Word-of-Mouth. RQ2.

RQ_2: Concession experience correlation with customer responses: Word of Mouth

	Controls		**Control: age band, gender, ethnicity**				
Construct, Controls (scale)	**None**	**Gender, Ethnicity**	**< 25**	**18-25**	**26-40**	**41-60**	**> 60**
Reliability (15)	0.0711***	0.0674***	0.0341	0.0205	0.000882	0.134***	0.210***
Assurance (10)	0.00187	-0.00406	-0.035	-0.050	0.0933*	-0.0931	-0.211
Tangible (15)	0.0741***	0.0798***	0.0888	0.0950	0.110***	0.0771	0.0451
Empathy (10)	0.0314	0.0414	0.139	0.149	0.00346	-0.0314	0.229
Responsiveness (10)	0.0716**	0.0631*	0.0440	0.0633	0.0640	0.0836	-0.053
Gender		-0.0921	-0.191	-0.161	-0.0513	-0.0967	0.353
Ethnicity		-0.0434	0.345**	0.359**	-0.274***	-0.0048	-0.831
Observations	488	467	96	88	199	144	28
R-squared	0.378	0.386	0.403	0.417	0.456	0.345	0.746

RQ_3: Fans at different levels of the stadium perceive the concession experience differently

"Do fans at different levels of the stadium perceive the concession experience differently?" was examined using the construct input variables against each of the outcome variables categorized under RQ_1 and RQ_2 controlling for the stadium level in which the fan was seated. Figure 17 illustrates the sporadic and inconsistent distribution of statistically significant construct variable effects on the various measured outcomes based on fan stadium level

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seating. In this illustration the different colors correspond to different stadium levels as indicated and the matrix can be read as follows: Under RQ_1 for Reliability (construct input) and Return (outcome) stadium level was statistically significant for the Club Level only and not for the Upper and Lower Concourse. Levels. Under RQ_2 for the same construct input variable (Reliability) against Purchase Intent as the outcome variable fan stadium seating in the Lower and Club Levels provided statistically significant effects, while seating in the Upper Level did not.

Figure 17. Fans at Different Levels of the Stadium Perceive the Concession Experience Differently. RQ3.

RQ3: Fans at different levels of the stadium perceive the concession experience differently

	Lower Level	**Club Level**	**Upper Level**

	RQ1: Service quality positively effects concession experience				**RQ2: Concession experience positively related to customer experience**			
Construct (scale)	**Return**	**Overall**	**Avidity**	**Fan Favorite**	**Purchase Intent**	**App reciated**	**Memorable**	**Word of Mouth**
Reliability								
Assurance								
Tangible								
Empathy								
Responsiveness								
Gender								
Ethnicity								

RQ_3 was also considered using the fan stadium seating level without controlling for the construct input variables for each of the measured outcomes. Without the application of controls for gender and ethnicity there were no statistically significant effects of the fan stadium seating level. However, when age, gender and ethnicity controls are applied fan stadium seating differentiated by age reports with negative statistically significant effects against Return (-0.0829***), Overall (-0.0103***), Memorable (-0.00578**) and Word-of-Mouth (-0.00596*) and with positive effects against Avidity (0.0102***). With these same control variables applied Ethnicity reports with statistically significant and negative coefficient for each of the outcome variables except Avidity (0.312***) as noted in Figure 18. It is worth noting that the r-squared values for RQ_3 the estimations, with and without the various and fore mentioned controls, was less than 0.06 in all cases.

Figure 18. The Stadium Level Experience (All Levels of the Stadium, All Outcomes, No Controls). RQ1 and RQ2.

Stadium Level Experience: All Levels / All Outcomes - no controls

	RQ1: Service quality positively effects concession experience				**RQ2: Concession experience positively related to customer experience**			
	Return	**Overall**	**Avidity**	**Fan Favorite**	**Purchase Intent**	**Apprec**	**Mem**	**Word of Mouth**

Level	-0.0282	0.00838	0.0708	-0.0246	0.0573	0.0219	0.0244	0.00665
Age	-0.0083 ***	-0.0103 ***	0.0102 ***	0.00130	0.000889	-0.00532	-0.0058 **	-0.0066 *
Gender	-0.167 **	-0.141 *	0.312 ***	-0.179 *	-0.157 *	-0.160 *	-0.150 **	-0.164 **
Ethnicity	-0.0179	-0.0556	-0.0657	0.129	-0.0278	0.114	-0.029	-0.048
Obs	491	492	457	494	490	493	496	493
R^2	0.024	0.026	0.050	0.009	0.012	0.016	0.017	0.016

Discussion and Conclusion

The NFL and many of its older, established teams have a strong history of high fan loyalty and avidity. The team in this study enjoys the resulting high levels of consumer demand observable through many fan based measures. Many fans enjoy season tickets held for decades and the waiting list for new season ticket holders stretches well into the future. Games are regularly sold out and attendance is high regardless of the popularity of the opposing team, weather, or game schedule. As such, the researched team's fans may be expected to be little concerned with concession service quality. This, however, is not the case based on the results of the study. The concession experience that a marketing manager creates does affect the fan.

With respect to RQ_1, while statistically significant effects of the service quality constructs are marginal, they are consistently positive and broadly distributed suggesting the fan game day experience with service quality does effect the concession experience. Fan intention to return to the concession venue, their overall game day experience, level of fan avidity, and favoritism towards the professional organization is positively affected by their experience at the concession stand. From a theoretical perspective, results from this investigation reinforce the work of Larson & Seymour (2006) and Larson & Steinmann (2009) who identified the service quality of concessions at sports events as an influencer of fan satisfaction and return intentions of National Football League fans. These findings are also consistent with industry reports that suggest that the concessions experience is one of many factors that motivate fans to attend sports stadiums and provides fans with a satisfying experience (Broughton, 2015). The potential for highquality concessions to meet fan expectations is influencing decisions by several sports teams stadiums to strive to make the food and drinks offered at stadiums better than ever (Muret, 2012; Kaplan & Muret, 2008).

The estimators, outcomes and analysis of RQ_2 tells a similar story in which statistically significant and positive effects of the measured constructs on the targeted outcomes are broadly distributed, with and without controlling for age band, gender and ethnicity. Again, though the coefficients are marginal, the fan concession experience does move the needle in terms of fan purchase intent, fans' feelings of appreciated by the team and team management, having a memorable game day experience, and intention to spread their experience via word-of-mouth. The estimations for RQ1 and RQ2 both suggest the stadium management and team organization have yet to reach optimal levels of service quality and continued improvement will bring about additional marginal returns in each of the measured outcomes. Broadly speaking, the findings from this project indicate the concessions service quality is related to the spectator experience at sports events and subsequent fan behavior (e.g., intent to purchase, intent to revisit the stadium, and intent to spread word-of-mouth, etc.). Perhaps most importantly for sports marketers and managers, this study reinforces the need to consistently provide high quality concessions service. The results of this investigation demonstrate the importance of providing consistently high concessions service quality in order to

satisfy spectators; these results are consistent with Nagel (2010) who described the wide range of concessions service quality fans receive at sports events and the negative consequences of delivering poor quality. These results are along the lines of Biscaia et al. (2012) and Calabuig-Moreno et al (2016) who assert that service quality at sports events affects purchase intent and fan loyalty. The findings of the present investigation suggest that concessions service quality might influence the intentions of fans to revisit sports events; Osti et al. (2012), in a survey of visitors to winter skiing resorts, also found the price and quality of food and drinks was one of many factors that influenced intentions to return to these sports venues. In addition, the present study suggests that spectators might be more inclined to spread word-of-mouth after experiencing a sports event that meets their expectations; our results are consistent with Shreffler & Ross (2013) who suggest that fans who are dissatisfied with concessions (and many other aspects) of sports events are more likely to spread negative word-of-mouth while happy customers are more prone to share positive word-of-mouth. Industry reports (LePage, 2013) contend that the most loyal fans, who are satisfied with the game day experience (including perhaps concessions), are most apt to share word-of-mouth by talking to their friends or via social media.

Examination of the survey data with respect to RQ_3 representing the fan experience as a function of the stadium level in which they're seated reveals a less obvious set of outcomes generally when considered in context with concession service quality. Generally, fan stadium level seating has no statistically significant effect on the eight measured outcomes. When stadium seating level is examined with controls for age, gender and ethnicity both age and gender present negative coefficients for Return, Overall, Memorable and Word-of-Mouth suggesting female fans and younger fans are more affected in these measures by concession service quality. Age (0.0102***) and gender (0.312***) are positively correlated with Avidity: Fan Avidity levels are positively affected for males and older fans.

However, even with controls applied, the stadium seating level itself has no statistically significant on the outcome measures. The concept that the level of the stadium in which a spectator chooses to buy a ticket (e.g., the cheaper seats at the top level, club-level suites, field-level seats, etc.) may influence perceptions of service quality has its roots in the study of sports stadium atmospherics (Uhrich & Benkenstein, 2010; Lee et al., 2012); the underlying principle is that a spectator's perception of the atmosphere of a sports event (including where they sit and the quality of concessions) may influence fan satisfaction. However, the findings of this investigation suggest that there is no statistically significant relationship between the level of the stadium in which fans were located, concessions service quality, and behavioral intents. This may be due to the fact that so many other factors in addition to the level of the stadium in which fans saw the game may influence these complex relationships. While conventional thinking may suggest stadium level is a function of socio-economic status and fan avidity, the robust consumer demand for the host team's seating appears to have blurred expected heterogeneity between stadium levels.

Mobility between stadium levels may be a function of modern social and business networks rather than ability to afford, such that concessions expectations become homogenous across stadium levels.

Limitations and Future Research

This study is not without limitations. First, we investigate the perceptions of one sport (professional football) at one stadium. More studies of fan experiences at more venues attending other sports events will yield additional data. This study is also limited because other variables that could further explain the relationships between fans and concessions service quality were not included (e.g., perhaps the variety and quality of concessions offerings and the specific ways fans spread word-of-mouth on social media, etc.). Another weakness of this study is that, while we found significant correlations, it is difficult to establish causal relationships between fan perceptions of concessions quality and behavioral intentions.

This study has the potential to contribute to the foundation for many other future research projects. The extent to which the concessions experience influences all types of desired fan behaviors has scarcely been studied and more

investigations are sorely needed in different sports scenarios. Although this study focuses on food and drink concessions more research could be done in other concessions-related areas (e.g., stadium gift shops, beer vendors, food services in luxury suites, etc.). On a broader level the concept of service quality in sports needs to continue to be investigated, and this study plays a small role in expanding this line of research.

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