ResearchOnline@JCU

JAMES COOK UNIVERSITY AUSTRALIA

This is the author-created version of the following work:

Sarstedt, Marko, Ringle, Christian, Raithel, Sasha, and Gudergan, Siggi (2014) ***In Pursuit of Understanding What Drives Fan Satisfaction.*** **Journal of Leisure Research, 46 (4) pp. 419-447.**

Access to this file is available from:

https://researchonline.jcu.edu.au/75398/

© Copyright 2014 National Recreation and Park Association.

Please refer to the original source for the final version of this work:

https://doi.org/10.1080/00222216.2014.11950335

In Pursuit of Understanding What Drives Fan Satisfaction

Marko Sarstedt
Professor of Marketing
Ludwig-Maximilians-University Munich, Germany
and University of Newcastle, Australia
e-mail: sarstedt@bwl.lmu.de

Christian M. Ringle
Professor of Management
Hamburg University of Technology (TUHH), Germany
and University of Newcastle, Australia
e-mail: ringle@tuhh.de

Sascha Raithel
Assistant Professor of Marketing
Ludwig-Maximilians-University Munich, Germany
e-mail: raithel@bwl.lmu.de

Siegfried P. Gudergan
Professor of Strategy
University of Newcastle, Australia
e-mail: siggi.gudergan@newcastle.edu.au

Paper published in the *Journal of Leisure Research*. Please cite as:

Sarstedt, M., Ringle, C., Raithel, S. & Gudergan S. 2014, ' In pursuit of understanding what drives fan satisfaction', *Journal of Leisure Research*, vol. 46, pp. 419-447.

In Pursuit of Understanding What Drives Fan Satisfaction

ABSTRACT

With economic considerations exerting an ever-increasing influence on soccer club activities, fan satisfaction has become an essential focus for these organizations. Despite the obvious relevance of this topic, the literature has paid little attention to the measurement of fan satisfaction. Based on a thorough literature review and an empirical study of soccer fans, this paper outlines the development of a formative measurement index for fan satisfaction. Using data from a second soccer fan sample, the proposed fan satisfaction (FANSAT) index is assessed and applied to predict fan attendance. The results of a partial least squares structural equation modeling analysis imply that aspects of the stadium, club management, and the fan-based support for the club are the most important determinants of fan satisfaction and therefore affect their leisure experiences. The FANSAT index offers the marketing managers of soccer clubs guidance on measuring and improving their fans' leisure experiences. Further, from a methodological perspective, this paper illustrates the application of partial least squares structural equation modeling to develop a formative measurement approach within a leisure research context.

Keywords: satisfaction, leisure experience, multi-attribute model, formative measurement, partial least squares, structural equation modeling

Anecdotal evidence suggests that the sporting industry is increasingly emphasizing the satisfaction of those fans who are interested in personalized experiences (Grove, Pickett, Jones, & Dorsch, 2012). Moreover, economic aspects increasingly influence the activities of sport organizations (Buhler, Heffernan, & Hewson, 2007; Mason, 1999): sport clubs no longer just compete on the sport field, but also for revenues from broadcasting and sponsoring rights, tickets, and merchandise. Running professional sporting clubs means managing corporate businesses (Desbores, 2007) and creating memorable leisure experiences for fans. Therefore, "customer" (fan) satisfaction is of great importance to sport organizations (Anderson, Fornell, & Mazvancheryl, 2004; Anderson & Mittal, 2000). For example, the impact of fan satisfaction on favorable behaviors such as event attendance (Matsuoka, Chelladurai, & Harada, 2003; Shonk & Chelladurai, 2008; Wakefield & Blodgett, 1994), intentions to return (Chang, 2000; Theodorakis, Kambitsis, & Laios, 1991) and loyalty to the sport club (Theodorakis et al., 1991; Trail, Anderson, & Fink, 2005) are well-recognized. In addition to the direct revenue that sport clubs obtain through ticket sales, which is a major proportion of their revenues, fans also enable successful merchandising. Thus, an ability to understand and manage fan satisfaction is fundamental for creating valued leisure experiences. Ultimately, it is fundamental for the financial success of any sport club, particularly since satisfaction has been identified as an important driver of stock returns (e.g., Raithel, Sarstedt, Scharf, & Schwaiger, 2012).

A comprehensive understanding of sporting events as leisure experiences and of approaches to affect fan satisfaction should be based on knowledge of the key factors that contribute to satisfaction and, thus, the multitude of experiences associated with sporting events. More specifically, those managing sporting events cannot rely exclusively on aspects that are integral to the sport, but should also rely on those which, in principle, they can influence directly (Trail et al., 2005). Given the importance of this issue, the paucity and limitations of empirical research in this area, and the

diversity of fan satisfaction components, this study makes several important contributions to the leisure literature.

First, we outline exploratory research undertaken to develop a measurement approach for fan satisfaction by specifying the relevant dimensions that constitute fan satisfaction in the context of soccer. Leaning on Woodruff, Cadotte, and Jenkins (1983), as well as Homburg and Rudolph (2001), we conceptualize fan satisfaction as a multi-attribute model. We assume that fans use a combinatory function to reach their overall satisfaction judgments; a process which is based on their evaluations of prior experiences with a sports club and on all aspects related to the service provided to date. We also argue that fan satisfaction judgments are derived through a multi-variable linear function (e.g., Kellar & Preis, 2003; Preis & Kellar, 2003). There is, however, no knowledge of a consistent set of dimensions that characterizes the experiences that comprise the fan satisfaction construct. Similarly, there is a lack of understanding of how such specific dimensions affect overall satisfaction. For example, Bolton and Drew (1991) found that customers accord different weights to a service's core and facilitating aspects to evaluate their service satisfaction. Nevertheless, we develop and assess a measurement index for fan satisfaction (FANSAT) in the context of soccer events that is based on a large-scale dataset and by focusing on fans as a specific sub-group of customers who show increasing levels of involvement with the leisure experiences embedded in sporting events (as, for example, conceptually suggested by Sutton, McDonald, & Milne, 1997). The combination of our broader multi-attribute conceptualization and our empirical results provides a more nuanced understanding of the influence that potentially relevant dimensions have on overall fan satisfaction. We therefore extend existing research in this area (Yoshida & James, 2010).

Second, this study makes an important contribution by explicitly considering the epistemic nature between the fan satisfaction construct and its measures, which is of fundamental importance when measuring complex phenomena with multi-item measures (Diamantopoulos, Riefler, & Roth, 2008;

Diamantopoulos & Winklhofer, 2001; Jarvis, MacKenzie, & Podsakoff, 2003). Prior studies in the field (e.g., Greenwell, Fink, & Pastore, 2002; Hill & Green, 2000; Yoshida & James, 2010) univocally assume a reflective measurement model operationalization in which indicators are regarded as functions of the latent variable, whereby changes in the latent variable are reflected in changes in all the associated manifest variables. Conversely, formative indicators are assumed to "cause" a latent variable; that is, changes in the indicators evoke changes in the latent variable's value. It is crucial to consider the measurement perspective explicitly, since reflective and formative item purification guidelines use fundamentally different criteria to retain and exclude indicators. The latter generally encourages eliminating items with high inter-item correlations, while the former drops items with low inter-item correlations (Diamantopoulos et al., 2008). In particular, the meaning of formative constructs can be substantially altered by applying reflective scale purification techniques and may ultimately lead to materially different multi-item measures in terms of content, parsimony, and criterion validity (Diamantopoulos & Siguaw, 2006). Thus, the choice of measurement perspective is of fundamental importance when measuring constructs, which various studies show (e.g., Diamantopoulos & Siguaw, 2006; Sarstedt & Schloderer, 2010).

Past studies on fan satisfaction mostly do not explicitly consider this matter and treat formative constructs as reflective ones. For example, authors such as Kennett, Sneath, and Henson (2001) and, more recently, Yoshida and James (2010) set out to capture some elements of fan (and spectator) satisfaction. They developed and tested valid measurement models for those elements. However, through the process these authors applied (e.g., examining the measures' internal consistency), they excluded items that did not measure what they intended to measure, although these are items potentially associated with other aspects of the fan experience. Furthermore, these aspects could be revealed in a more comprehensive multi-attribute conceptualization of the overall fan satisfaction. The authors thus excluded items that could potentially have been formative measurement

components of a model for measuring overall fan satisfaction. While the mentioned studies, and similar ones, are valid in that they measured what they intended to measure, they may not capture the multi-facetted nature of overall fan satisfaction. Against this background, this paper employs a formative measurement approach to overall fan satisfaction to assess the influence that various peripheral and core leisure elements (more specifically, the service quality dimensions) have on it.

We selected soccer as the fan context. Soccer is the world's most popular sport and a multi-billion dollar industry. According to Joel Ewanick, the global marketing chief of General Motors, a major sponsor of soccer clubs worldwide, there are an estimated 3.5 billion soccer fans worldwide (AutomotiveNews, 2012).

Following a comprehensive review of the relevant literature to conceptualize the fan satisfaction construct, we discuss two empirical studies that allow for the iterative development and testing of our model of fan satisfaction. The first study develops and refines a comprehensive measurement approach for fan satisfaction by using data from a sample of soccer fans. The second study assesses the criterion validity of the index with regard to fan attendance. Through this approach, we take an important step towards developing a more comprehensive measurement model for overall fan satisfaction than any previously models. We argue that this approach is a basis on which to draw to develop satisfaction indices for different leisure contexts. In addition to the conceptual and applied methodological contributions, the FANSAT index offers managers of soccer clubs guidance on measuring and improving fan satisfaction. This study's findings can stimulate soccer club managers to assess the different drivers of fan satisfaction and allocate efforts accordingly.

THEORETICAL BACKGROUND

Research on sports usually relates satisfaction to a single discrete transaction (Marcum & Greenstein, 1985; Matsuoka et al., 2003). While this practice appears feasible for ordinary fans with low identification levels, vested fans have higher levels of identification with, and emotional attachment to, a team (Pons, Mourali, & Nyeck, 2006). Potentially they also maintain long-lasting relationships with a specific club, which Sutton et al. (1997) suggested conceptually. Consequently, it is more plausible to consider fan satisfaction as an overall evaluation of the leisure experience that the sport event organizer or club provides. Fan satisfaction is therefore based on the entire consumption experiences with the organization (Gustafsson & Johnson, 2004). In general, leisure experiences are multi-dimensional (Kelly, 1987; Tinsleya & Tinsleya, 1986). These experiences with individual dimensions can differ: some of the dimensions may include satisfying experiences, while others may not (Lee & Datillo, 1994).

Accordingly, we incorporate a multi-dimensional conceptualization of overall fan satisfaction by constructing a multi-attribute model (e.g., Ringle, Sarstedt, & Zimmermann, 2011; Woodruff et al., 1983). This conceptualization of fan satisfaction provides a basis to capture the notion that fans can simultaneously be satisfied or dissatisfied with one or more element(s) of their leisure experience. Furthermore, according to Woodruff et al. (1983), Crosby and Stephens (1987), Gudergan and Ellis (2007), and Homburg and Rudolph (2001), in general, the multi-attribute nature of overall satisfaction and, as we argue, of overall fan satisfaction suggests that fans use a combinatory function. This combination is based on their evaluations of their satisfaction with aspects of the service to date, which allows them to reach their overall satisfaction judgments. Therefore, following the arguments put forward by Preis and Kellar (2003) and Kellar and Preis (2003), we postulate that fans' judgments of their overall satisfaction are derived through a multi-variable linear function. Specifically, we specify our model of fan satisfaction as one in which satisfaction is a

linearly additive function of the fans' experiences with all the service aspects and with each aspect weighted according to its importance (e.g., LaTour & Peat, 1979). Thus, overall fan satisfaction is a cumulative judgment that is based on fan experiences over time, rather than on transaction-specific evaluations (Johnson, Anderson, & Fornell, 1995; Johnson & Fornell, 1991; Oliver, 1997).

Despite the significance of fan satisfaction, very few studies have examined its determinants more comprehensively (Van Leeuwen, Quick, & Daniel, 2002; Yoshida & James, 2010). Instead, most studies focus on the isolated effects of fan satisfaction in that they neither capture a suitably exhaustive set of customer experiences, nor assess their relative importance in driving a fan's overall satisfaction. For example, Madrigal (2006) proposed the FANDIM scale to measure what sports fans take into consideration when engaging in such leisure experiences. The author specified two higher-order factors (autotelism, appreciation), of which the first comprises three unidimensional factors—fantasy, flow, and evaluation—and the second one consists of personalities, physical attractiveness, and aesthetics. Further, past research has investigated the role of specific sportscape factors, including the stadium layout, functionality, and aesthetics (Greenwell et al., 2002; Höck, Ringle, & Sarstedt, 2010; Wakefield, Blodgett, & Sloan, 1996). Other studies have evaluated the role of team characteristics, such as the number of star players (Baade & Tiehen, 1990; Schofield, 1983) or the team success (Branvold, Pan, & Gabert, 1997; DeSchriver, 1999; Pan, Gabert, McGaugh, & Branvold, 1997). Yet other studies have examined aspects of competitor characteristics such as rivalry ranking (Wall & Myers, 1989) and the quality of the opponents (Madrigal, 1995; Marcum & Greenstein, 1985; Zhang et al., 1997).

While these studies provide valuable insights into the effects of individual factors on fan satisfaction, only a few studies offer empirical assessment of the multitude of factors comprising fan satisfaction. Madrigal (1995) provides empirical evidence of the influence of two affective components (enjoyment and basking in reflected glory) on fan satisfaction. Other researchers report

that these affective components mediate the effects of various cognitive elements—such as the disconfirmation of expectations, as well as team identification and the quality of the opponent (Martínez Caro & Martínez García, 2007)—on satisfaction. While these results underline that leisure experiences generated by sporting events and fan satisfaction with corresponding experiences are based on cognitive and affective elements, they provide little guidance on what precisely has an effect on these two types of elements. Likewise, conceptual models for spectator satisfaction—for instance, the sport spectator model (Van Leeuwen et al., 2002)—underline the importance of the core and peripheral dimensions of leisure experiences and spectators' identification with a club. To date, Yoshida and James (2010) have developed the most comprehensive framework for evaluating fan satisfaction. Their framework distinguishes between game and service satisfaction, but is limited to a subset of potential antecedent factors of overall fan satisfaction. We build on this research by assuming that a multitude of antecedent factors drive overall fan satisfaction and integrate this literature into a model which we examine empirically in two quantitative studies.

APPROACH & EMPIRICAL STUDIES

The approach employed in this research to develop a more comprehensive and valid measurement model for overall fan satisfaction entails identifying the multitude of components (or dimensions) that are accounted for within overall fan satisfaction judgments. Likewise, we need to develop the measurement scales that apply to the overall construct and its attributes which capture the dimensions that make up overall fan satisfaction. In addressing these two elements, we develop a measurement model for overall fan satisfaction, to which we will refer as the FANSAT index. This requires an explicit consideration of the epistemic nature of the relationship between the construct of overall fan satisfaction, its antecedent dimensions that measure satisfaction with aspects of the event experiences, and their respective measures (Gudergan, Ringle, Wende, & Will, 2008). After

providing a synthesis of our review of the relevant literature on fan satisfaction, we use data from a sample of 251 soccer fans to examine a preliminary structure of the fan satisfaction antecedent dimensions in Study 1. Building on these findings, in Study 2, we use a large-scale sample of 600 fans to empirically estimate and test our proposed FANSAT index within the context of a selected German Premium Soccer League club. The results allow for assessing the predictive relevance and criterion validity of each of the sub-dimensions and their respective measures.

LITERATURE REVIEW

In the first stage of operationalizing the fan satisfaction construct, we draw on a comprehensive synthesis of the literature to identify potential categories of drivers that act as antecedents of the overall fan satisfaction construct. The review includes studies that evaluate a range of factors assumed to influence fan satisfaction and attendance (TABLE 1). Our review reveals that a multitude of aspects make up fan satisfaction judgments. These illustrative aspects of fan experiences with an event can be classified into seven broad categories that, in turn, contribute to making up overall fan satisfaction. TABLE 1 summarizes these seven categories, which relate to different service quality dimensions (e.g., Greenwell et al., 2002; Hill & Green, 2000; Wakefield & Blodgett, 1996; Yoshida & James, 2010) that capture fans' experience of the service environment (i.e., different stadium characteristics), as well as of the service personnel (e.g., stadium employees, players, or the coach).

INSERT TABLE 1 ABOUT HERE

Team-related antecedents: One of the most critical aspects that contribute to fan satisfaction is the sport event itself (i.e., the game), which is the core element of sport services and leisure experiences (Greenwell et al., 2002; Hill & Green, 2000). Successful team performance and game outcomes increase fan satisfaction and stimulate future attendance. For example, different facets of

team performance—such as the current success (win or lose) and the quality of the team's play—have been shown to contribute significantly to the fans' satisfaction (Matsuoka et al., 2003). However, the core element of team success is unpredictable and beyond managerial control (Yoshida & James, 2010). Therefore, prior research into sports service quality has focused on the ancillary elements of the leisure experience, such as the number of star players (Baade & Tiehen, 1990; Schofield, 1983) or the players' interaction with the fans (Ko & Pastore, 2004) and the coach (Kwon, Trail, & Anderson, 2005).

Competitor characteristics: Prior research studies evaluate aspects associated with the competing teams' performance. For example, in his seminal study, Madrigal Madrigal (1995) shows that the quality of the opponent has a positive effect on spectators—they can bask in reflected glory—and on their enjoyment. Conversely, Marcum and Greenstein (1985) reveal that an opponent's past successes lead to lower game attendance. Hence, aspects that are linked to competing teams and the focal team's standing within a league are therefore likely to be taken into account when fans form their satisfaction judgments.

Sportscape characteristics: Prior research has primarily focused on the role the sportscape plays in the fans' satisfaction with, and their willingness to attend, events. These studies rely primarily on Bitner's (1992) conceptual framework of the servicescape environment, which suggests that positive evaluations of the service environment can improve customers' evaluations of their leisure experiences. When evaluating sportscapes, customers may rely on the physical environment as a tangible cue to the tangible and intangible aspects of the event and its supporting leisure elements. In the context of this study, such tangible evidence exerts an influence on fan satisfaction and behavior, since "the servicescape provides a visual metaphor for an organization's total offering" by suggesting "the potential usage and relative quality of the service" (Bitner, 1992, p. 67). Specific aspects relate to, for example, the cleanliness of the facilities (e.g., Höck et al., 2010), the audio

experience (e.g., Uhrich & Benkenstein, 2010), the seating comfort (e.g., Wakefield et al., 1996), the parking facilities (e.g., Kennett et al., 2001), as well as the facility's design and layout (e.g., Yoshida & James, 2010). Prior research suggests that all of these aspects exert a significant direct or indirect influence on spectator attendance (Chang, 2000; Hill & Green, 2000; Wakefield & Sloan, 1995b) and satisfaction (Chang, 2000; Höck et al., 2010; Shonk & Chelladurai, 2008). Accordingly, we argue that when fans judge their overall satisfaction, they take aspects associated with the sportscape into consideration.

Stadium security: The increase in the importance of security issues at major sport events has characterized the last decade. Event organizers place greater emphasis on effective risk management, but also ensure that the safety measures do not unduly deter spectators from enjoying the event, while these measures simultaneously meet the spectators' security expectations (Taylor & Toohey, 2006). Several studies provide evidence of the importance of security aspects in leisure-related service encounters (e.g., Wakefield et al., 1996; Wakefield & Sloan, 1995b; Yoshida & James, 2010). For example, Höck et al. (2010) identify visitors' perceived security as a crucial element of the service delivery process in multi-purpose stadiums. Their analysis shows that— together with the stadium atmosphere— stadium security has the strongest influence on visitor satisfaction. The security inside and outside the stadium, the presence and behavior of security personnel, and the perception of crowding are all aspects that comprise visitors' perceived security (e.g., Hill & Green, 2000; Wakefield & Sloan, 1995b; Yoshida & James, 2010).

Peripheral services: In a similar vein, researchers have examined the role peripheral services play in spectator attitudes and behaviors. Several studies show that aspects such as the quality and price of the merchandise (Kennett et al., 2001), as well as of the food and beverages (Hill & Green, 2000; Höck et al., 2010), influence fan satisfaction because they help create the total fan experience. Likewise, favorable evaluations of the frontline service employees can positively influence customer

evaluations of a leisure experience, regardless of the outcome of the experience (Bitner, 1992). Consequently, ticket sellers, merchandisers, ushers, and concessionaries may also contribute to fans' evaluations of the leisure experience (e.g., Höck et al., 2010; Kennett et al., 2001).

Fan-based activities: In addition to the importance of the peripheral services encountered during a stadium visit, previous research has underlined the importance of extraneous services which help maintain and strengthen the ties with fans. Such activities comprise, for example, the organization of excursions, or the offering of social events (e.g., meet and greet sessions) that are exclusively for members of the official fan club (Blatter, Fritschi, & Oberholzer, 2000). However, such fan-based activities may also apply to a broader audience with lower levels of fan involvement. In this context, offering special events for families or open training sessions may significantly contribute to fan satisfaction (Armstrong, 2008; Shank, 2009).

Club characteristics: Professional sports clubs pursue a multitude of goals to offer their members the best-possible service experience (e.g., Grove et al., 2012). Nagel (2008) finds that it is crucial for the club goals to correspond to the fans' expectations and interests, as this drives their commitment to the club. The author shows that the relevant elements in this context are, amongst others, the quality of the club (e.g., in terms of the quality of those organizing the club, the trainers, the board members, and of the youth work) and its sociability (e.g., with regard to maintaining the club's tradition and offering services beyond sports). In particular, the club's heritage and tradition are an important element (Abosag, Roper, & Hind, 2012).

This categorization into seven factors differs from previous research's categorizations. For example, Yoshida and James (2010) apply a less granular categorization and distinguish between service satisfaction and game satisfaction factors. Basically, team-related and competitive-related antecedents involve game satisfaction drivers, while sport-scape-related and peripheral services satisfaction drivers involve service satisfaction drivers.

In addition to these seven categories of antecedents, researchers have also considered other categories of potential satisfaction drivers; these include, for example, tickets (e.g., their price and purchasing convenience) and team identification (Kennett et al., 2001; Madrigal, 1995; Trail et al., 2005). Empirical evidence also indicates that team identification has a moderating effect on the relationship between the evaluation of a leisure experience and future attendance intentions (Theodorakis, Koustelios, Robinson, & Barlas, 2009). Hence, although most aspects can be classified into the antecedent categories described above, there are others that cannot. Furthermore, the set of aspects addressed in previous studies may not cover those that exhaustively make up overall fan satisfaction. At the same time, some previously considered aspects might only apply to a particular context and, hence, are not relevant for our research. Therefore, we did not initially engage in a confirmatory research setting by operationalizing each of the seven antecedent dimensions of fan satisfaction and testing their role in a nomological network. Instead, we used this categorization to guide an exploratory search for items that—in accordance with the formative measurement concept—capture all aspects related to the antecedent dimensions of fan satisfaction.

RELIMINARY EMPIRICAL ANALYSIS AND MODEL DEVELOPMENT (STUDY 1)

ITEM GENERATION

Based on the previously identified set of antecedent dimensions of fan satisfaction (i.e., team, competitor, sportscape, peripheral services, stadium security, fan-based activities, and the club), we generated a pool of items to capture all aspects related to fan satisfaction. Specifically, we engaged in a two-step process in which we first compiled indicators from previous studies on the satisfaction of spectators and fans (as described in the literature review section). Next, we complemented this initial list by adding further items, capturing aspects that have thus far been neglected in previous

empirical studies. In doing so, we drew on the input of soccer fans and a board member of a German Premium Soccer League club with more than 20 years' experience with marketing soccer. Their feedback was used to add, adapt, redraft, and re-structure various items. In a concluding pre-test stage, five individuals, who were not familiar with the details of the research project, assessed the clarity of the items. This assessment led to minor changes in the item wordings. This procedure generated a list of 108 items that relate to various aspects of soccer fan satisfaction (see Table A2 in the Appendix for the full list of items).

The next step involves creating categories of items with some similarity and which are possibly associated with a particular antecedent dimension of overall fan satisfaction but not with another one. Note that the set of antecedent dimensions leans on the preliminary set identified in the literature review, but not necessarily. To establish such a preliminary factor structure, we carried out an empirical study of soccer fans.

DATA

To collect data from a wide sample of soccer fans, we invited members of various soccer internet fan forums not affiliated to any particular club to participate in our study. The questionnaire included a global overall fan satisfaction statement, the previously identified 108 items, and several demographic variables. The measurement of each item was based on a 7-point scale (ranging from "very dissatisfied"/"very low" to "very satisfied"/"very high"); an additional "don't know" option allowed respondents not to rate items (Lietz, 2010). A pre-test with 21 university students provided important information with which to assess issues concerning the questionnaire design and the time required to complete the survey (10-15 minutes). During the data collection phase, which took four weeks, a total of 495 individuals completed the online survey. However, some responses needed to be excluded from the analysis. First, we deleted outliers (i.e., those who only selected the best

possible or only the worst answer for a particular soccer club). Second, the link to the survey was forwarded to and then appeared in several club-affiliated internet forums, which resulted in an overrepresentation of some clubs. To eliminate this bias, respondents from the overrepresented clubs were randomly removed to produce a more balanced club representation. Consequently, the preliminary empirical analysis and development of the model were based on the 251 remaining observations. Even though there is no publically available demographic information on soccer fans in Germany, the fan demographics of this sample (e.g., age and gender) were very similar to the fan data of a specific club to which we had access.

METHOD

To establish a preliminary factor structure of the 108 items, we followed the steps that authors such as d'Astous and Boujbel (2009) and Gao, Sirgy, and Johar (2010) suggested and ran a principal components analysis (PCA) on the data (Mooi & Sarstedt, 2011). It is important to note that this procedure was only used to derive a preliminary factor structure. In carrying out the PCA, we do not assume that, nor do we test whether, the measurement models for the antecedent dimensions are reflective in nature. Indeed, our argument is that the antecedent dimensions are formative in nature, as we will argue theoretically and substantiate empirically in Study 2.

In formative measurement models, the indicators, as a group, jointly determine the conceptual and empirical meaning of the construct. Therefore, a census of indicators is (ideally) required to fully capture the meaning of a formatively measured construct; omitting relevant indicators is equivalent to restricting the domain of the construct (MacKenzie, Podsakoff, & Jarvis, 2005). As formative indicators do not necessarily correlate, standard scale purification procedures, which build on cross-item correlations, are not applicable (Diamantopoulos & Winklhofer, 2001). In this context, Jarvis et al. (2003, p. 202) point out that "following standard scale development

procedures—for example dropping items that possess low item- to-total correlations—will remove precisely those items that would most alter the empirical meaning of the construct." Against this background, we do not further analyze the loadings of the items and do not consider reliability and validity criteria commonly applied in the context of reflective measures. Most importantly, we do not remove any items on empirical grounds (e.g., due to low communalities) in order to ensure that each antecedent dimension's content domain is fully captured. Rather, we used the resulting factor structure as a starting point for focus group discussions whose purpose was to reconsider the initial factor structure and re-arrange, if necessary, the items between the antecedent dimensions.

RESULTS

Running a PCA on the data yields a total of 20 factors with an eigenvalue greater than one. Jointly, these factors explain 73.68% of the total variance (TABLE A1 in the Appendix). Maximum factor loadings guided the assignment of items to the factors as displayed in TABLE A2 in the Appendix. In this table, only factor loadings with a value larger than 0.3 are shown; factor loadings larger than 0.5 appear in bold font for better orientation. Factor 20 has no item with a factor loading larger than 0.3. Hence, we remove this residual factor and only consider 19 factors.

The resulting factor structure was then subjected to a focus group discussion with three academics and two doctoral students. Prior to this discussion, the participants were shown the initial factor structure and asked to change it by reassigning items if they considered that certain items were conceptually more aligned with a different category of items and an associated antecedent dimension than another one (as the formative measurement mode would logically require). The participants were also asked to assign a name to each ensuing dimension. The group discussed the results, revealing a high degree of agreement on the nature of the underlying factors. For example, all the participants uniformly identified factors relating to the stadium, team, club management, and security. However, two empirical factors were ambiguously perceived. Therefore, the related items

(e.g., waiting time outside the stadium, extent of the admission security, and the stadium's name) were reassigned to other antecedent dimensions, which was justified by the content being better associated with these. To achieve model parsimony, those individual items that contributed very little to the content of and differentiation between the antecedent dimensions were excluded. After this stage of the analysis, the FANSAT index comprised 17 factors representing in total 99 items. TABLE A3 in the Appendix provides an overview of the factors and corresponding items. Finally, a board member of a German Premier Soccer League club examined the dimensions for a final assessment. This evaluation did not yield any changes to the preliminary model set-up.

APPLICATION AND EVALUATION OF THE FANSAT INDEX MODEL (STUDY 2)

In Study 1, we created 17 categories of items that have some similarity and are possibly associated with a particular antecedent dimension of overall fan satisfaction but not with another one. This set of categories potentially includes those antecedent dimensions that make up overall fan satisfaction. Notwithstanding the factor structure on which we have drawn to group the items, we neither theoretically nor empirically argue that the measurement mode is reflective. That is, although it is a necessary condition for reflective measurement models to demonstrate high degrees of internal consistency, this is not a necessary condition for measurement models with a formative mode; the latter, however, can display high factor loadings. In Study 2, we assess whether the 17 factors and their respective items that Study 1 identified do describe a multi-dimensional measurement model for overall fan satisfaction by using structural equation modeling (SEM). The key construct of this analysis is overall fan satisfaction, which—in line with prior satisfaction research (e.g., Sarstedt, Schwaiger, & Ringle, 2009)—summarizes the essence of what the different measurement approaches purport to measure (e.g., Sarstedt, Wilczynski, & Melewar, 2013).

Acknowledging the limitations of single item measures (Diamantopoulos, Sarstedt, Fuchs, Kaiser, & Wilczynski, 2012; Sarstedt & Wilczynski, 2009), we chose this approach nevertheless because such a single item allows respondents to simultaneously consider all those parts of the construct that they consider important (e.g., Wanous, Reichers, & Hudy, 1997). Correspondingly, several researchers suggest using single items to validate formative measurement models in the course of a redundancy analysis (e.g., Diamantopoulos & Winklhofer, 2001; Hair, Ringle, & Sarstedt, 2013).

In the structural model, overall fan satisfaction is conceptualized as having the 17 antecedent dimensions that Study 1 generated (TABLE A3 in the Appendix provides an overview of these antecedent dimensions and corresponding items). The measurement model for these antecedent dimensions, we argue, is formative (i.e., with a relationship from the item to its corresponding antecedent dimension). When reviewing the items for each of the antecedent dimensions, it becomes apparent that they fully meet the characteristic criteria for the formative measurement mode that Jarvis et al. (2003) suggest. For instance, each of the items is assumed to represent independent facets that determine their respective antecedent dimension (Diamantopoulos & Winklhofer, 2001; Gudergan et al., 2008). The statements that have been retained in Study 1 match this assumption. That is, based on their content, they do not necessarily have to correlate (but can) as fans can experience different levels of satisfaction with respect to those items that have been classified together. For example, a fan can be satisfied with specific stadium-related aspects, such as the comfort of the seats or the video scoreboards, but not necessarily be satisfied with the condition of the restrooms or the signposts inside and outside the stadium. Statistically, high correlations between these indicators are not necessarily expected. Furthermore, Chin's (1998, p. ix) guiding question "Is it necessarily true that if one of the items (…) were to suddenly change in a particular direction, the others will change in a similar manner?" can be answered with a resounding "no." This likewise implies a formative measurement model set-up. Lastly, from a conceptual perspective, measuring

fan satisfaction formatively conforms to the multi-attribute nature of overall fan satisfaction. This suggests that fans use a combinatory function to reach their overall satisfaction judgments , which they base on their evaluations of their satisfaction with the aspects experienced (LaTour & Peat, 1979). The results of the confirmatory tetrad analysis further support these theoretical arguments (Gudergan et al., 2008), which empirically supports the formative measurement model set-up. The results will be presented later.

EMPIRICAL DATA

The main survey used to examine our model consists of three parts. It includes questions on demographic characteristics and fan-related aspects (e.g., fan club membership and average number of games visited per season), as well as the 99 items generated in Study 1. The questionnaire also contains items to capture overall fan satisfaction and a fan's intention to attend future games. Following the pre-testing of our questionnaire, an online survey was carried out to collect responses from fans of a German Premier Soccer League club. The survey took place during the pre-season to minimize potential bias from recent match results.

Within two weeks, a total 1,054 fans agreed to participate in the online survey. Not only did we explicitly request that only fans of the particular club should participate in the survey, but we also asked specific questions (e.g., the number of stadium visits in the past twelve months) to assess whether the data was provided by 'true' fans. A notably high number of 623 fans returned their questionnaires (response rate: 59.11%), yielding 600 usable responses after excluding 23 incomplete questionnaires. In comparison with the fan database of a German Premier Soccer League club, our respondents show a typical fan structure demographic: for instance, 76% of respondents were male and 74% of them were between 18 and 50 years old. We examined the possibility of a non-response bias by comparing the first and last wave of respondents on all the examined variables (Armstrong

& Overton, 1977). There were no statistically significant differences ($p < 0.01$), which implies that there is no systematic non-response bias that would affect our conclusions.

METHOD

The application of SEM to our data allows for generating insights into the influence that our antecedent dimensions have on overall fan satisfaction. When estimating structural equation models, there is a choice of two different methods: covariance-based SEM (CB-SEM; Jöreskog, 1978) and variance-based partial least squares SEM (PLS-SEM; Wold, 1982). Although researchers have more commonly used CB-SEM to estimate structural equation models, PLS-SEM has become increasingly prominent in different research fields, such as accounting (Lee, Petter, Fayard, & Robinson, 2011), operations management (Peng & Lai, 2012), management information systems research (Ringle, Sarstedt, & Straub, 2012), marketing (Hair, Sarstedt, Ringle, & Mena, 2012; Henseler, Ringle, & Sarstedt, 2012; Henseler, Ringle, & Sinkovics, 2009), and strategic management (Hair, Sarstedt, Pieper, & Ringle, 2012).

Amongst other criteria to select a suitable SEM method (Hair, Hult, Ringle, & Sarstedt, 2013), PLS-SEM is particularly appropriate when the research goal is prediction-oriented (Henseler & Sarstedt, 2013), when formative measurement models are used (Hair, Ringle, & Sarstedt, 2011), and when the model is highly complex (Reinartz, Haenlein, & Henseler, 2009). Since these arguments apply to our study, it is appropriate to use the PLS-SEM method to estimate the structural equation model.

RESULTS

Our PLS path model estimation uses the statistical software application SmartPLS (Ringle, Wende, & Will, 2005). The criteria and procedures proposed in the literature, for example, by Henseler et al. (2009) and Hair, Sarstedt, Ringle, et al. (2012), are included in the evaluation of the

results. Prior to estimating whether our set of antecedent dimensions affects overall fan satisfaction, the measurement model for each of the constructs representing these antecedent dimensions needs to be assessed. Given the nature of the items representing the 17 potential antecedent dimensions that affect overall fan satisfaction, this study draws on formative measurement models (based and assessed on outer weights), which differ from reflective measurement models (based and assessed on outer loadings).

In an initial step, we evaluated indicator multicollinearity to assess our measurement models (Chin, 1998; Henseler et al., 2009). This analysis revealed that the highest variance inflation factor has a value of 3.46, which is well below the commonly suggested threshold of 5 in the context of PLS-SEM (Hair, Hult, et al., 2013). Hence, multicollinearity is relatively low and does not pose a problem in this study. We then applied the bootstrapping method (Hair et al., 2011) to identify those items with weights that do not differ significantly from zero, and could thus be potentially omitted (i.e., they do not significantly affect the antecedent factor and, accordingly, can be considered for removal to refine the measurement model). The parameter settings in our study include 600 cases per sample, no sign changes, and a total of 5,000 samples. The analysis showed that 41 items do not exert a significant influence on their corresponding construct ($p < 0.10$) (TABLE A3 in the Appendix provides an overview of the analysis results). Formative indicators constitute distinct facets of a construct and do not represent a homogeneous sample from the item universe—as the domain-sampling approach would suggest, which is only relevant for reflective items. Consequently, formative items often have low weights, especially in complex models (Chin, 1998; Hair, Hult, et al., 2013), which also applies to this research. To ensure a parsimonious measurement of overall fan satisfaction in a soccer context, we decided to omit non-significant items in the course of the model refinement. It is important to note that this reduction in model complexity does not

yield significant changes in the structural model. All path coefficients and the R^2 value of the endogenous construct remain at the same level when rounded to a hundredth.

Figure 1 illustrates the results with the standardized path coefficients, the corresponding t-values (in brackets), and the final model's R^2 value. The model explains about 50% of the endogenous latent construct's (overall fan satisfaction) variance which is a reasonable proportion of variance explained (Hair et al., 2011). On the other hand, 50% remain unexplained, which is likely due to performance aspects beyond managerial control (e.g., perceptions of team performance). The computation of the Stone-Geisser criterion, which draws on the blindfolding procedure to compute cross-validated redundancies (Henseler et al., 2009), yields a Q^2 value of 0.31, underlining the model's predictive relevance.

INSERT FIGURE 1 ABOUT HERE

An analysis of the standardized inner model path coefficients shows that fan satisfaction with the stadium exerts the strongest influence on overall fan satisfaction (path coefficient: 0.23). Satisfaction with the team, club management, and the club's fan-based support, which have lower path coefficients (ranging between 0.13 and 0.16), follow. The atmosphere experienced during the visit to the stadium (path coefficient: 0.08) and the website (path coefficient: 0.06) are significant but less important antecedent dimensions. The negative coefficient concerning entertainment in the stadium seems implausible at first glance. However, a possible explanation for this phenomenon could be that fans regard the accompanying program, such as the half-time entertainment show, in a generally positive light, but are fixated on the game and therefore find an extensive entertainment program distracting, or are simply indifferent to it. In addition to the relative importance of significant antecedent factors in explaining overall fan satisfaction, the PLS-SEM analysis reveals numerous factors that are not relevant. For example, accessibility by car and public transport, entrance fees, merchandise, and the team's coach do not significantly affect overall fan satisfaction.

In the next stage of our analysis, we focus on examining the criterion validity for our measurement model. In the context of overall fan satisfaction, attendance behavior can serve as a meaningful criterion variable (i.e., satisfaction with the leisure experience will likely have an influence on intentions to attend such leisure events again), as supported in various previous studies (Laverie & Arnett, 2000; Murray & Howat, 2002; Shonk & Chelladurai, 2008). We examine this by establishing a separate path model with the fans' intention to attend future games as a criterion variable (i.e., instead of overall fan satisfaction, fans' intention to attend future games is the dependent variable in the PLS path model). The analysis reveals an R^2 value of 0.36, indicating that antecedent fan satisfaction dimensions are moderate predictors of a fan's intention to attend future games. The Q^2 value of 0.25, which indicates a sufficient degree of predictive relevance concerning the criterion variable's antecedent factors, supports this notion (Hair et al., 2011). Consistent with prior research and theory (e.g., Laverie & Arnett, 2000; Murray & Howat, 2002; Shonk & Chelladurai, 2008), the empirical results confirm that overall fan satisfaction is a predictor of intention to attend future games. TABLE 2 summarizes the PLS-SEM results with regard to overall fan satisfaction and fan attendance.

INSERT TABLE 2 ABOUT HERE

In a final step, following authors such as Hair et al. (Hair et al., 2011; Hair, Ringle, et al., 2013; Hair, Sarstedt, Ringle, et al., 2012), we empirically tested the formative mode of measurement. We therefore applied the confirmatory tetrad analysis (CTA-PLS; Gudergan et al., 2008), which allows for testing the null hypothesis of reflective measurement models against the alternative formative measurement model mode. If at least one of the non-redundant model-implied vanishing tetrads of a measurement model with at least four indicators is significantly different from zero, we reject the null hypothesis (i.e., reflective measurement model) and accept the alternative measurement model (i.e., formative measurement model). All antecedent dimensions with four and more indicators meet

the requirement of this analysis by having at least one non-redundant model-implied vanishing tetrad that differs significantly from zero. This result gives additional empirical justification for the a-priori assumed formative measurement model mode for the fan satisfaction antecedent factors.

DISCUSSION

This paper describes the exploratory development of the FANSAT index aimed at measuring and explaining overall soccer fan satisfaction. A comprehensive synthesis of the literature and an initial empirical study (Study 1) contribute to establishing a preliminary factor structure. The PLS-SEM analysis, which draws on data from a second large-scale empirical survey, yields additional insights into the relevant antecedent dimensions of overall fan satisfaction, as well as into behavioral outcomes such as intention to attend a game (Study 2).

IMPLICATIONS FOR RESEARCH AND PRACTICE

This study contributes to the leisure literature by examining the antecedents of satisfaction with the sports event experience in two important ways. Conceptually, this study extends existing research in this area (e.g., Laverie & Arnett, 2000; Madrigal, 1995; Matsuoka et al., 2003; Wakefield et al., 1996; Wakefield & Sloan, 1995a; Yoshida & James, 2010) by providing a broad multi-attribute conceptualization of satisfaction with sport events in general and of soccer fan satisfaction in particular. This enables researches and practitioners to develop a more nuanced understanding of the influence that potentially relevant dimensions have on overall fan satisfaction. Methodologically, and unlike prior studies in the field (e.g., Greenwell et al., 2002; Hill & Green, 2000; Yoshida & James, 2010), this study explicitly considers the epistemic nature between the overall fan satisfaction construct and its antecedent dimensions. This is of fundamental importance

for measuring and managing complex phenomena with multi-item measures (Diamantopoulos et al., 2008; Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003).

Specifically, we find that, primarily, satisfaction with the club stadium affects fan satisfaction. This result underlines the sportscape's role in fan satisfaction and behavior, which has been subject to considerable research over the past few years (Chang, 2000; Greenwell et al., 2002; Höck et al., 2010). Likewise, the fans' satisfaction with the team—specifically the players' identification with the club and the quality of the team composition—plays a vital role with regard to overall fan satisfaction. The club management and the fan-based support, which prior research has not explicitly considered, are also of significant importance.

While the team and club characteristics, as well as the game itself are core elements of fan experiences (e.g., Mullin, Hardy, & Sutton, 2007; Van Leeuwen et al., 2002; Yoshida & James, 2010), venue-specific factors and fan-based support belong to the peripheral elements. These results further differentiate Harris and Ogbonna's (2008, p. 396) findings, which suggest that "soccer fans derive a key aspect of their experience and satisfaction from the team itself [i.e., core aspect] rather than from external sources [i.e., peripheral aspects]." The present study shows that this notion holds for many of the peripheral leisure elements studied here (e.g., merchandise, office, accessibility by car and public transportation), with the exception of fan-based support and especially the sportscape, which adds considerably to the leisure experience of soccer fans.

For example, the German soccer club Bayern Munich increased its average game attendance in terms of the stadium capacity utilization from about 84% to 100%, although there has been little change in the team success through the years (ESPNFC, 2013). In the 2005/06 season, the club moved from the old Olympic Stadium to the new Allianz Arena. Many soccer fans refrained from visiting the old Olympic Stadium because it does not have a full roof, is therefore very cold in winter, and its entertainment facilities lack impact due to the distance between the spectators and the

pitch. The new Allianz Arena comes is very close to the spectators' conception of an ideal soccer stadium.

Other authors have also stressed the importance of such peripheral (non-game) aspects (e.g., Tomlinson, Buttle, & Moores, 1995; Wakefield & Blodgett, 1994). They have found that venue-specific peripheral aspects influence satisfaction. By focusing on the core *and* peripheral leisure elements that have a significant impact, this study proposes a model that achieves a suitable model fit comparable, if not better, than those reported in previous studies in this domain (Greenwell, Fink, & Pastore, 2006; Matsuoka et al., 2003).

Interestingly, some satisfaction drivers which seem to be conceptually very important—security aspects, entrance fees, or the accessibility of stadium—do not impact the overall fan satisfaction significantly. This seems counterintuitive but does not necessarily imply that these satisfaction drivers are unimportant in general. Rather, this finding is in line with dual-factor motivation theories that classify individual needs broadly into two categories: basic, lower-order, or hygiene needs and growth, higher-order, or motivator needs (Herzberg, 1974; Wolf, 1970). Improving the performance of hygiene fulfillment beyond the minimum expected threshold does not have an incremental impact on overall satisfaction. For example, as long as spectators feel safe while attending the game, increasing the number of cameras or police officers will not change this feeling and, thus, not improve their satisfaction).

However, improving motivator needs, like the atmosphere and team performance, does affect overall fan satisfaction as long as basic needs are fulfilled. Since the soccer club in this study fulfills their basic needs, the motivator needs have a non-significant impact on overall fan satisfaction.

Replicating this study by using data from other soccer clubs or other countries where some of these basic needs might not be fulfilled—for example, compared to Germany, soccer fans in the UK regularly complain about tickets being too expensive (Connor, 2013) and Italian soccer is plagued

by violence inside and outside stadiums, which drives ordinary soccer fans away (Molinaro & Doyle, 2013)—could yield different results. Hence, in line with the logic that underpins formative measurement approaches, we do not recommend that managers necessarily neglect the drivers that our study identified as having no significant impact on overall satisfaction, unless replications in different contexts verify our findings consistently. This implies, sports event managers should measure all seven dimensions and focus on those that have a significant impact on overall satisfaction in their specific context.

In summary, the FANSAT measurement index provides soccer event operators with the information needed to more effectively measure and manage overall fan satisfaction, a key area of concern to affect profitability and the long-term success of an increasingly competitive multi-million dollar business. The proposed FANSAT measurement index, with the associated development approach, may be a basis on which to develop similar models that could apply to other sports-based leisure experiences (e.g., baseball, cricket, ice hockey, football, and ruby). Such models could fine tune the measurement and improvement of fans satisfaction in those contexts.

LIMITATIONS AND FUTURE RESEARCH

Although this study reveals the antecedent dimensions of overall fan satisfaction and underlines the importance of the sportscape, team, and club management, 50% of overall fan satisfaction remains unexplained. This is evidence of the potential relevance of situational factors, or other factors that this study might have overlooked. Future research could therefore expand the FANSAT measurement index by including further aspects of fan satisfaction such as enjoyment or basking in reflected glory.

An analysis of how groups of heterogeneous fans perceive the various antecedent dimensions of overall fan satisfaction differently offers an additional opportunity for further research. Harris and

Ogbonna (2008) categorize fans into seven categories (armchair supporters, social fans, old-timers, leisure switchers, anti-fans, club-connected supporters, and die-hard fanatics) and Pons et al. (2006) identify four clusters (social fan, super fan, experiential fan, and fan by default), each with different relational ties with their team and different orientation towards sporting events. Specifically, a comparison of club-connected supporters and die-hard fanatics, whose similarities Harris and Ogbonna (2008) have highlighted, could be promising to evaluate whether strong relationships translate into similar effects concerning the role of antecedent dimensions in explaining overall fan satisfaction.

When using the FANSAT index to predict, for example, fan attendance, future research could also consider unobserved heterogeneity, which observable traits cannot accounted for (Sarstedt, Henseler, & Ringle, 2011). Past research has shown that considering unobserved heterogeneity is of utmost importance when estimating complex path models. This is especially true in the context of satisfaction research (Rigdon, Ringle, Sarstedt, & Gudergan, 2011) as significantly different effects in latent groups of respondents become confounded when the model is estimated at the aggregate data level (e.g., Rigdon, Ringle, & Sarstedt, 2010; Sarstedt, 2008). PLS-SEM offers the necessary complementary techniques to consider heterogeneity, for example, by means of the finite mixture PLS (Ringle, Sarstedt, & Mooi, 2010; Sarstedt, Becker, Ringle, & Schwaiger, 2011; Sarstedt & Ringle, 2010), PLS prediction-oriented segmentation (Becker, Rai, Ringle, & Völckner, 2013), or PLS genetic algorithm segmentation approaches (Ringle, Sarstedt, & Schlittgen, 2010, 2013; Ringle, Sarstedt, Schlittgen, & Taylor, 2013).

We used single-item scales for our ‘global fan satisfaction judgment’ and ‘a fan’s intention to attend future events’ constructs. Authors such as Wanous et al. (1997), Drolet and Morrison (2001), and Bergkvist and Rossiter (2007) argue and find single-measure items in general agreement with multiple-measure items. However, other authors, such as Bollen (1989), Sarstedt and Wilczynski

(2009), and Yang, Watkins, and Marsick (2004), raise questions regarding the use of single-item scales. In this research context, future studies could explore this dilemma by drawing on the criteria that Diamantopoulos et al. (2012) suggested for deciding between multiple- and single-item scales. Such studies may endeavor to develop a complementary multiple-item scale to measure fan satisfaction summatively.

Furthermore, our results only apply to German soccer fans and their satisfaction with event experiences. Future research should include different countries since cultural differences may matter, as prior research has suggested. For example, Yoshida and James (2010) find that satisfaction with peripheral aspects is more important for Japanese spectators than for US spectators.

Finally, future research could focus on the potential non-linear impact of satisfaction drivers and examine which dimension could be classified into basic, lower-order, or hygiene factors and growth, higher-order or motivator factors (Herzberg, 1974; Wolf, 1970). This would enable managers to define the minimum expected performance threshold for hygiene factors. By not improving these factors beyond this minimum threshold, managers can use the extra resources to drive motivator factors that have a higher impact on relevant outcomes like overall fan satisfaction and a fan's likelihood of attending a game.

In conclusion, this study extends research on the relevance and relative influence of the antecedent dimensions of overall fan satisfaction. Our exploratory results provide a basis on which researchers and practitioners can draw to deepen their understanding of how overall fan satisfaction in particular and sports event satisfaction in general are formed. Given the operationalization of our FANSAT measurement index for soccer fans, adapting this model to other sports events in particular and to other leisure events like concerts seems promising to develop a more general leisure event satisfaction index.

APPENDIX

INSERT TABLE A1 ABOUT HERE

INSERT TABLE A2 ABOUT HERE

INSERT TABLE A3 ABOUT HERE

REFERENCES

Abosag, I., Roper, S., & Hind, D. (2012). Examining the relationship between brand emotion and brand extension among supporters of professional football clubs. *European Journal of Marketing, 46*(9), 1233-1251.

Anderson, E. W., Fornell, C. G., & Mazvancheryl, S. K. (2004). Customer Satisfaction and Shareholder Value. *Journal of Marketing, 68*(4), 172-185.

Anderson, E. W., & Mittal, V. (2000). Strengthening the Satisfaction-Profit Chain. *Journal of Service Research, 3*(2), 107-120

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research, 14*(3), 396-402.

Armstrong, K. L. (2008). Consumers of Color and the "Culture" of Sport Attendance: Exploratory Insights. *Sport Marketing Quarterly, 17*(4), 218-231.

AutomotiveNews. (2012). GM targets world with Man U deal. *Automotive News, http://www.autonews.com/apps/pbcs.dll/article?AID=/20120604/RETAIL03/306049957/1430/gm-targets-world-with-man-u-deal#axzz2RU4wDNfm*.

Baade, R. A., & Tiehen, L. J. (1990). An Analysis of Major League Baseball Attendance, 1969 - 1987. *Journal of Sport and Social Issues, 14*(1), 14-32.

Becker, J.-M., Rai, A., Ringle, C. M., & Völckner, F. (2013). Discovering Unobserved Heterogeneity in Structural Equation Models to Avert Validity Threats. *MIS Quarterly*, http://www.misq.org/skin/frontend/default/misq/pdf/Abstracts/BeckerRaiAbstract.pdf.

Bergkvist, L., & Rossiter, J. R. (2007). The Predictive Validity of Multiple-Item Versus Single-Item Measures of the Same Constructs. *Journal of Marketing Research, 44*(2), 175-184.

Bitner, M. J. (1992). Servicescapes: The Impact of Physical Surroundings on Customers and Employees *Journal of Marketing, 56*(2), 57-71.

Blatter, P., Fritschi, P., & Oberhoizer, M. (2000). Kick-starting soccer. *McKinsey Quarterly, 2000*(4), 6-9.

Blatter, P., Fritschi, P., & Oberholzer, M. (2000). Kick-starting soccer. *McKinsey Quarterly, 2000*(4), 6-9.

Bollen, K. A. (1989). *Structural Equations with Latent Variables*. New York: Wiley.

Bolton, R. N., & Drew, J. H. (1991). A Multistage Model of Customers' Assessments of Service Quality and Value. *Journal of Consumer Research, 17*(4), 375-384.

Branvold, S. E., Pan, D. W., & Gabert, T. E. (1997). Effects of Winning Percentage and Market Size on Attendance in Minor League Baseball. *Sport Marketing Quarterly, 6*(4), 35-42.

Buhler, A., Heffernan, T., & Hewson, P. (2007). The Soccer Club-Sponsor Relationship: Identifying the Critical Variables for Success *International Journal of Sports Marketing & Sponsorship, 8*(4), 291-309.

Chang, K. (2000). The Impact of Perceived Physical Environments on Customers' Satisfaction and Return Intentions. *Journal of Professional Services Marketing, 21*(2), 75-85.

Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295-358). Mahwah: Erlbaum.

Connor, M. (2013). Are ordinary fans being priced out of football? *Alt-Youth, http://alt-youth.com/2013/03/15/are-ordinary-fans-being-priced-out-of-football/*.

Crosby, L. A., & Stephens, N. (1987). Effects of Relationship Marketing on Satisfaction, Retention, and Prices in the Life Insurance Industry. *Journal of Marketing Research, 24*(4), 404-411.

d'Astous, A., & Boujbel, L. (2009). Positioning Countries on Personality Dimensions: Scale Development and Implications for Country Marketing. *Journal of Business Research, 60*(3), 231-239.

Desbores, M. (2007). Introduction: New Directions for Marketing Football. In M. Desbores (Ed.), *Marketing & Football An International Perspective* (pp. 1-15). Oxford: Butterworth-Heineman.

DeSchriver, T. D. (1999). Factors Affecting Spectator Attendance at NCAA Division II Dootball Contests. *International Sports Journal, 3*(2), 55-65.

Diamantopoulos, A., Riefler, P., & Roth, K. P. (2008). Advancing Formative Measurement Models. *Journal of Business Research, 61*(12), 1203-1218.

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Kaiser, S., & Wilczynski, P. (2012). Guidelines for Choosing Between Multi-item and Single-item Scales for Construct Measurement: A Predictive Validity Perspective. *Journal of the Academy of Marketing Science, 40*(3), 434-449.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative vs. Reflective Indicators in Measure Development: Does the Choice of Indicators Matter? *British Journal of Management, 13*(4), 263-282.

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development *Journal of Marketing Research, 38*(2), 269-277.

Drolet, A. L., & Morrison, D. G. (2001). Do We Really Need Multiple-Item Measures in Service Research? *Journal of Service Research, 3*(3), 196-204. doi: 10.1177/109467050133001

ESPNFC. (2013). German Bundesliga Stats: Team Attendance - 2012-13. *ESPNFC, http://espnfc.com/stats/attendance/_/league/ger.1/year/2000/german-bundesliga?cc=5739#*.

Gao, T. T., Sirgy, M. J., & Johar, J. S. (2010). Developing a Measure to Capture Marketing Faculty's Perceptions of Unethical Behavior. *Journal of Business Research, 63*(4), 366-371.

Greenstein, T. N., & Marcum, J. P. (1981). Factors Affecting Attendance at Major League Baseball: I. Team Performance. *Review of Sport and Leisure, 6*(2), 21-33.

Greenwell, T. C., Fink, J. S., & Pastore, D. L. (2002). Assessing the Influence of the Physical Sports Facility on Customer Satisfaction within the Context of the Service Experience. *Sport Management Review, 5*(2), 129-148.

Greenwell, T. C., Fink, J. S., & Pastore, D. L. (2006). Assessing the Influence of the Physical Sports Facility on Customer Satisfaction within the Context of the Service Experience. *Sport Management Review, 5*(2), 129-148.

Grove, S. J., Pickett, G. M., Jones, S. A., & Dorsch, M. J. (2012). Spectator Rage as the Dark Side of Engaging Sport Fans. *Journal of Service Research, 15*(1), 3-20. doi: 10.1177/1094670511428166

Gudergan, S. P., & Ellis, S. R. (2007). The Link between Perceived Service Value and Customer Satisfaction. *Journal of Customer Behaviour, 6*(3), 249-267.

Gudergan, S. P., Ringle, C. M., Wende, S., & Will, A. (2008). Confirmatory Tetrad Analysis in PLS Path Modeling. *Journal of Business Research, 61*(12), 1238-1249.

Gustafsson, A., & Johnson, M. D. (2004). Determining Attribute Importance in a Service Satisfaction Model. *Journal of Service Research, 7*(2), 124-141.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks: Sage.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-151.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning, 46*(1-2), 1-12.

Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). Applications of Partial Least Squares Path Modeling in Management Journals: A Review of Past Practices and Recommendations for Future Applications. *Long Range Planning, 45*(5-6), 320-340.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research. *Journal of the Academy of Marketing Science, 40*(3), 414-433.

Hansen, H., & Gauthier, R. (1989). Factors Affecting Attendance at Professional Sport Events. *Journal of Sport Management*(3), 15-32.

Harris, L. C., & Ogbonna, E. (2008). The Dynamics Underlying Service Firm—Customer Relationships: Insights From a Study of English Premier League Soccer Fans *Journal of Service Research, 10*(4), 382-399.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2012). Using Partial Least Squares Path Modeling in International Advertising Research: Basic Concepts and Recent Issues. In S. Okazaki (Ed.), *Handbook of Research in International Advertising* (pp. 252-276). Cheltenham: Edward Elgar Publishing.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. In R. R. Sinkovics & P. N. Ghauri (Eds.), *Advances in International Marketing* (Vol. 20, pp. 277-320). Bingley: Emerald

Henseler, J., & Sarstedt, M. (2013). Goodness-of-Fit Indices for Partial Least Squares Path Modeling. *Computational Statistics, 28*, 565-580.

Herzberg, F. (1974). *Work and the nature of man*. London: Crosby Lockwood Staples.

Hill, B., & Green, B. C. (2000). Repeat Attendance as a Function of Involvement, Loyalty, and the Sportscape Across Three Football Contexts *Sport Management Review, 3*(2), 145-162.

Höck, C., Ringle, C. M., & Sarstedt, M. (2010). Management of Multi-Purpose Stadiums: Importance and Performance Measurement of Service Interfaces. *International Journal of Services Technology and Management, 14*(2/3), 188-207.

Homburg, C., & Rudolph, B. (2001). Customer Satisfaction in Industrial Markets: Dimensional and Multiple Role Issues. *Journal of Business Research, 52*(1), 15-33.

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research, 30*(2), 199-218.

Johnson, M. D., Anderson, E. W., & Fornell, C. (1995). Rational and adaptive performance expectations in a customer satisfaction framework. *Journal of Consumer Research*, 695-707.

Johnson, M. D., & Fornell, C. (1991). A framework for comparing customer satisfaction across individuals and product categories. *Journal of Economic Psychology, 12*(2), 267-286.

Jöreskog, K. G. (1978). Structural Analysis of Covariance and Correlation Matrices. *Psychometrika, 43*(4), 443-477.

Kellar, G. M., & Preis, M. W. (2003). Modeling Increased Repurchase Intentions in High-Tech B2B Markets Using an Information Theoretic Approach. *Academy of Marketing Studies Journal, 7*(2), 55-73.

Kelly, J. R. (1987). *Freedom to Be: A New Sociology of Leisure*. New York: Macmillan.

Kennett, P. A., Sneath, J. Z., & Henson, S. (2001). Fan Satisfaction and Segmentation: A Case Study of Minor League Hockey Spectators. *Journal of Targeting, Measurement and Analysis for Marketing, 10*(2), 132-142.

Ko, Y. J., & Pastore, D. L. (2004). Current Issues and Conceptualizations of Service Quality in the Recreation Sport Industry. *Sport Marketing Quarterly, 13*(2), 158-166.

Kwon, H. H., Trail, G. T., & Anderson, D. S. (2005). Are multiple points of attachment necessary to predict cognitive, affective, conative, or behavioral loyalty? *Sport Management Review, 8*(3), 255-270.

LaTour, S. A., & Peat, N. C. (1979). Conceptual and Methodological Issues in Consumer Satisfaction Research. In W. D. Perreault (Ed.), *Advances in Consumer Research* (Vol. 6, pp. 431-437). Ann Arbor, MI: Association for Consumer Research.

Laverie, D. A., & Arnett, D. B. (2000). Factors Affecting Fan Attendance: The Influence of Identity Salience and Satisfaction. *Journal of Leisure Research, 32*(2), 225-246.

Lee, L., Petter, S., Fayard, D., & Robinson, S. (2011). On the Use of Partial Least Squares Path Modeling in Accounting Research. *International Journal of Accounting Information Systems, 12*(4), 305-328.

Lee, Y., & Datillo, J. (1994). The Complex and Dynamic Nature of Leisure Experience. *Journal of Leisure Research, 24*(3), 195-211.

Lietz, P. (2010). Questionnaire Design: Lessons from Cognitive and Communication Research. *International Journal of Market Research, 52*(2), 249-272.

MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The Problem of Measurement Model Misspecification in Behavioral and Organizational Research and Some Recommended Solutions. *Journal of Applied Psychology, 90*(4), 710-730.

Madrigal, R. (1995). Cognitive and Affective Determinants of Fan Satisfaction with Sporting Event Attendance. *Journal of Leisure Research, 27*(3), 205-227.

Madrigal, R. (2006). Measuring the Multidimensional Nature of Sporting Event Performance Consumption. *Journal of Leisure Research, 38*(3), 267-292.

Marcum, J. P., & Greenstein, T. N. (1985). Factors Affecting Attendance of Major League Baseball: II. A Within-Season Analysis. *Sociology of Sport Journal, 2*(4), 314-322.

Martínez Caro, L., & Martínez García, J. A. (2007). Cognitive–Affective Model of Consumer Satisfaction: An Exploratory Study within the Framework of a Sporting Event. *Journal of Business Research, 60*(2), 108-114.

Mason, D. S. (1999). What is the Sports Product and Who Buys It? The Marketing of Professional Sports Leagues. *European Journal of Marketing, 33*(3/4), 402-418.

Matsuoka, H., Chelladurai, P., & Harada, M. (2003). Direct and Interaction Effects of Team Identification and Satisfaction on Intention to Attend Games. *Sport Marketing Quarterly, 12*(4), 244-253.

Molinaro, J., & Doyle, J. (2013). Serie A Strangled by Violence and Corruption. *SPORTSNET, http://www.sportsnet.ca/magazine/serie-a-italy-corrution-racism-violence/*

Mooi, E. A., & Sarstedt, M. (2011). *A Concise Guide to Market Research: The Process, Data, and Methods Using IBM SPSS Statistics*. Berlin et al.: Springer.

Mullin, B. J., Hardy, S., & Sutton, W. A. (2007). *Sport marketing* (3rd ed.). Champaign, IL: Human Kinetics.

Murray, D., & Howat, G. (2002). The Relationships among Service Quality, Value, Satisfaction, and Future Intentions of Customers at an Australian Sports and Leisure Centre. *Sport Management Review, 5*(1), 25-43.

Nagel, S. (2008). Goals of sports clubs. *European journal for sport and society, 5*(2), 121-141.

Oliver, R. L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer*. New York et al.: The McGraw-Hill Companies.

Pan, D. W., Gabert, T. E., McGaugh, E. C., & Branvold, S. E. (1997). Factors and Differential Demographic Effects on Purchases of Season Tickets for Intercollegiate Basketball Games. *Journal of Sport Behavior, 20*(4), 447-464.

Peng, D. X., & Lai, F. (2012). Using Partial Least Squares in Operations Management Research: A Practical Guideline and Summary of Past Research. *Journal of Operations Management, 30*(6), 467–480.

Pons, F., Mourali, M., & Nyeck, S. (2006). Consumer Orientation Toward Sporting Events: Scale Development and Validation. *Journal of Service Research, 8*(3), 276-287

Preis, M. W., & Kellar, G. M. (2003). An Information Theoretic Approach to Modeling Customer Satisfaction for Low-Tech Industrial Offerings. *Journal of Academy of Business and Economics, 1*(2), 209-217.

Raithel, S., Sarstedt, M., Scharf, S. M., & Schwaiger, M. (2012). On the Value Relevance of Customer Satisfaction. Multiple Drivers and Multiple Markets. *Journal of the Academy of Marketing Science, 40*(5), 509-525.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An Empirical Comparison of the Efficacy of Covariance-Based and Variance-Based SEM. *International Journal of Research in Marketing, 26*(4), 332-344.

Rigdon, E. E., Ringle, C. M., & Sarstedt, M. (2010). Structural Modeling of Heterogeneous Data with Partial Least Squares. In N. K. Malhotra (Ed.), *Review of Marketing Research* (Vol. 7, pp. 255-296). Armonk: Sharpe.

Rigdon, E. E., Ringle, C. M., Sarstedt, M., & Gudergan, S. P. (2011). Assessing Heterogeneity in Customer Satisfaction Studies: Across Industry Similarities and Within Industry Differences. *Advances in International Marketing, 22*, 169-194.

Ringle, C. M., Sarstedt, M., & Mooi, E. A. (2010). Response-Based Segmentation Using Finite Mixture Partial Least Squares: Theoretical Foundations and an Application to American Customer Satisfaction Index Data. *Annals of Information Systems, 8*, 19-49.

Ringle, C. M., Sarstedt, M., & Schlittgen, R. (2010). Finite Mixture and Genetic Algorithm Segmentation in Partial Least Squares Path Modeling: Identification of Multiple Segments in a Complex Path Model. In A. Fink, B. Lausen, W. Seidel & A. Ultsch (Eds.), *Advances in Data Analysis, Data Handling and Business Intelligence* (pp. 167-176). Berlin-Heidelberg: Springer.

Ringle, C. M., Sarstedt, M., & Schlittgen, R. (2013). Genetic Algorithm Segmentation in Partial Least Squares Structural Equation Modeling. *OR Spectrum, DOI: 10.1007/s00291-013-0320-0*.

Ringle, C. M., Sarstedt, M., Schlittgen, R., & Taylor, C. R. (2013). PLS Path Modeling and Evolutionary Segmentation. *Journal of Business Research*, forthcoming.

Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). A Critical Look at the Use of PLS-SEM in MIS Quarterly. *MIS Quarterly, 36*(1), iii-xiv.

Ringle, C. M., Sarstedt, M., & Zimmermann, L. (2011). Customer Satisfaction with Commercial Airlines: The Role of Perceived Safety and Purpose of Travel. *Journal of Marketing Theory and Practice, 19*(4), 459-472.

Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0: www.smartpls.de.

Sarstedt, M. (2008). A Review of Recent Approaches for Capturing Heterogeneity in Partial Least Squares Path Modelling. *Journal of Modelling in Management, 3*(2), 140-161.

Sarstedt, M., Becker, J.-M., Ringle, C. M., & Schwaiger, M. (2011). Uncovering and Treating Unobserved Heterogeneity with FIMIX-PLS: Which Model Selection Criterion Provides an Appropriate Number of Segments? *Schmalenbach Business Review, 63*(1), 34-62.

Sarstedt, M., Henseler, J., & Ringle, C. M. (2011). Multi-Group Analysis in Partial Least Squares (PLS) Path Modeling: Alternative Methods and Empirical Results. In M. Sarstedt, M. Schwaiger & C. R. Taylor (Eds.), *Advances in International Marketing, Volume 22* (Vol. 22, pp. 195-218): Emerald Group Publishing Limited.

Sarstedt, M., & Ringle, C. M. (2010). Treating Unobserved Heterogeneity in PLS Path Modelling: A Comparison of FIMIX-PLS with Different Data Analysis Strategies. *Journal of Applied Statistics, 37*(8), 1299-1318.

Sarstedt, M., & Schloderer, M. P. (2010). Developing a Measurement Approach for Reputation of Non-Profit Organizations. *International Journal of Nonprofit & Voluntary Sector Marketing, 15*(3), 276-299.

Sarstedt, M., Schwaiger, M., & Ringle, C. M. (2009). Do We Fully Understand the Critical Success Factors of Customer Satisfaction with Industrial Goods? - Extending Festge and Schwaiger's Model to Account for Unobserved Heterogeneity. *Journal of Business Market Management, 3*(3), 185-206.

Sarstedt, M., & Wilczynski, P. (2009). More for Less? A Comparison of Single-Item and Multi-Item Measures. *Die Betriebswirtschaft, 69*(2), 211-227.

Sarstedt, M., Wilczynski, P., & Melewar, T. C. (2013). Measuring Reputation in Global Markets - A Comparison of Reputation Measures' Convergent and Criterion Validities *Journal of World Business, http://dx.doi.org/10.1016/j.jwb.2012.07.017*.

Schofield, J. A. (1983). Performance and Attendance at Professional Team Sports. *Journal of Sport Behavior, 6*(4), 196-206.

Shank, M. D. (2009). *Sports marketing : a strategic perspective* (4th ed.). Upper Saddle River, N.J.: Pearson Prentice Hall.

Shonk, D. J., & Chelladurai, P. (2008). Service Quality, Satisfaction, and Intent to Return in Event Sport Tourism. *Journal of Sport Management, 22*(5), 587-602.

Sutton, W. A., McDonald, M. A., & Milne, G. R. (1997). Creating and Fostering Fan Identification in Professional Sports. *Sport Marketing Quarterly, 8*(1), 15-22.

Taylor, T., & Toohey, K. (2006). Impacts of terrorism-related safety and security measures at a major sport event. *Event Management, 9*(4), 199-209.

Theodorakis, N. D., Kambitsis, C., & Laios, A. (1991). Relationship Between Measures of Service Quality and Satisfaction of Spectators in Professional Sports. *Managing Service Quality, 11*(6), 431-438.

Theodorakis, N. D., Koustelios, A., Robinson, L., & Barlas, A. (2009). Moderating Role of Team Identification on the Relationship Between Service Quality and Repurchase Intentions Among Spectators of Professional Sports. *Managing Service Quality, 19*(4), 456-473.

Tinsleya, H. E. A., & Tinsleya, D. J. (1986). A Theory of the Attributes, Benefits, and Causes of Leisure Experience. *Leisure Sciences, 8*(1), 1-45.

Tomlinson, M., Buttle, F., & Moores, B. (1995). The fan as customer: Customer service in sports marketing. *Journal of Hospitality and Leisure Marketing,, 3*(1), 19–36.

Trail, G. T., Anderson, D. F., & Fink, J. S. (2005). Consumer Satisfaction and Identity Theory: A Model of Sport Spectator Conative Loyalty. *Sport Marketing Quarterly, 14*(2), 98-112.

Uhrich, S., & Benkenstein, M. (2010). Sport stadium atmosphere: formative and reflective indicators for operationalizing the construct. *Journal of Sport Management, 24*(2), 211-237.

Van Leeuwen, L., Quick, S., & Daniel, K. (2002). The Sport Spectator Satisfaction Model: A Conceptual Framework for Understanding the Satisfaction of Spectators. *Sport Management Review, 5*(2), 99-128.

Wakefield, K. L., & Blodgett, J. G. (1994). The Importance of Servicescapes in Leisure Service Settings. *Journal of Services Marketing, 8*(3), 66.

Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customer's behavioral intentions in leisure service settings. *Journal of Services Marketing, 10*(6), 45.

Wakefield, K. L., Blodgett, J. G., & Sloan, H. J. (1996). Measurement and Management of the Sportscape. *Journal of Sport Management, 10*(1), 15-31.

Wakefield, K. L., & Sloan, H. J. (1995a). The Effects of Team Loyalty and Selected Stadium Factors on Spectator Attendance. *Journal of Sport Management, 9*(?????), 153-172.

Wakefield, K. L., & Sloan, H. J. (1995b). The Effects of Team Loyalty and Selected Stadium Factors on Spectator Attendance. *Journal of Sport Management, 9*(2), 153-172.

Wall, G. V., & Myers, K. (1989). Factors Influencing Attendance: Toronto Blue Jays Game. *Sport Place International: An International Magazine of Sports, 31*(1/2), 29-33.

Wanous, J. P., Reichers, A., & Hudy, M. J. (1997). Overall Job Satisfaction: How Good are Single-Item Measures? *Journal of Applied Psychology, 82*(2), 247-252.

Wold, H. (1982). Soft Modeling: The Basic Design and Some Extensions. In K. G. Jöreskog & H. Wold (Eds.), *Systems Under Indirect Observations: Part II* (pp. 1-54). Amsterdam: North-Holland.

Wolf, M. G. (1970). Need Gratification Theory - a Theoretical Reformulation of Job Satisfaction/Dissatisfaction and Job Motivation. *Journal of Applied Psychology, 54*(1), 87-&.

Woodruff, R. B., Cadotte, E. R., & Jenkins, R. L. (1983). Modelling Consumer Satisfaction Processes Using Experience Based Norms. *Journal of Marketing Research, 20*(3), 296-304.

Yang, B., Watkins, K. E., & Marsick, V. J. (2004). The Construct of the Learning Organization: Dimensions, Measurement, and Validation. *Human Resource Development Quarterly, 15*(1), 31-55.

Yoshida, M., & James, J. D. (2010). Customer Satisfaction With Game and Service Experiences: Antecedents and Consequences. *Journal of Sport Management, 24*(3), 338-361.

Yusof, A., & Lee, H. S. (2008). Spectator Perceptions of Physical Facility and Team Quality: A Study of a Malaysian Super League Soccer Match. *Research Journal of International Studies*(8), 132-140.

Zhang, J. J., Pease, D. G., Smith, D. W., Lee, J. T., Lam, E. T. C., & Jambor, E. A. (1997). Factors Affecting the Decision Making of Spectators to Attend Minor League Hockey Games. *International Sports Journal, 1*(1), 39-53.

Zhang, J. J., Smith, D. W., Pease, D. G., & Lam, E. T. C. (1998). Dimensions of Spectator Satisfaction Toward Support Programs of Professional Hockey Games. *International Sports Journal, 2*(2), 1-17.

TABLE 1: Antecedent Service Quality Dimensions of Fan Satisfaction

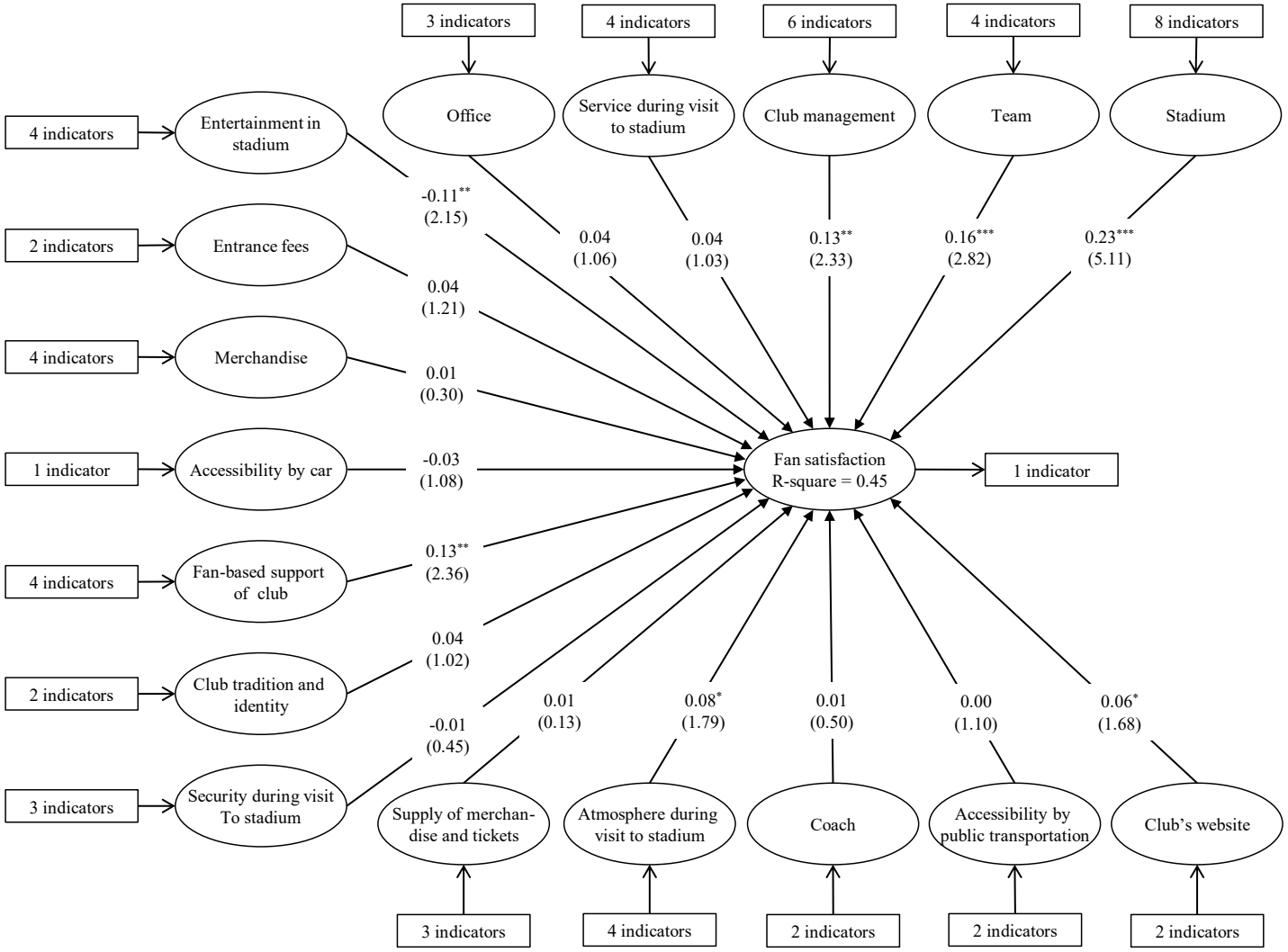
Antecedent	Illustrative aspects	Illustrative studies
Team characteristics	• Number of star players • Prospective team success • Team history • Team performance • Team's coach • Team's league standing • Won-lost record	For example, Baade and Tiehen (1990); Branvold, Pan, and Gabert (1997); DeSchriver (1999); Greenstein and Marcum (1981); Hansen and Gauthier (1989); Kwon et al. (2005); Pan, Gabert, McGaugh, and Branvold (1997); Schofield (1983); Trail, Fink, and Anderson (2005); Yoshida and James (2010); Zhang, Pease, Smith, Lee, Lam, and Jambor (1997)
Competitor characteristics	• Opponent's points behind first place • Opponent's won-lost percentage • Quality of opponents • Rivalry ranking	For example, Hansen and Gauthier (1989); Madrigal (1995); Marcum and Greenstein (1985); Wall and Myers (1989); Yoshida and James (2010); Zhang, Pease, Smith, Lee, Lam, and Jambor (1997)
Sportscape characteristics	• Accessibility • Audio experience • Availability of parking spaces • Cleanliness of facilities • Number of restrooms • Quality of scoreboards • Seating comfort	For example, Chang (2000); Hill and Green (2000); Greenwell, Fink, and Pastore (2002); Höck, Ringle, and Sarstedt (2010); Shonk and Chelladurai (2008); Trail, Anderson, and Fink (2005); Uhrich and Benkenstein (2010); Wakefield and Blodgett (1994); Wakefileld, Blodgett, and Sloan (1996); Yoshida and James (2010); Yusof and Lee (2008)
Stadium security	• Security inside and outside the stadium • Perceived crowding • Facility space • Presence and behavior of security personnel	For example, Höck et al. (2010); Hill and Green (2000); Wakefield and Sloan (1995b); Wakefield et al. (1996); Yoshida and James (2010)
Peripheral services	• Pre-event activities • Selection and quality of food and beverage services • Selection, quality, and cost of souvenirs • Behavior of service personnel	For example, Greenwell, Fink, and Pastore (2002); Hill and Green (2000); Höck, Ringle, and Sarstedt (2010); Kenneth, Sneath, and Henson (2001); Zhang, Smith, Pease, and Lam (1998)
Fan-based activities	• Social events for fans • Special events for families • Exclusive events for club members • Organization of away journeys	For example, (Armstrong, 2008); (Blatter, Fritschi, & Oberhoizer, 2000); (Shank, 2009)
Club characteristics	• Reputation • Quality of club management and board members • Club heritage and tradition • Regional bonds	For example, Kwon et al. (2005); Nagel (2008); Abosag et al. (2012)

TABLE 2: Structural Model Results

Fan satisfaction driver constructs	Criterion variable: Overall satisfaction	Criterion variable: Attendance
Stadium	0.23***	0.18***
	(5.11)	(3.74)
Team	0.16***	0.09**
	(2.82)	(1.97)
Club management	0.13**	0.16***
	(2.33)	(2.81)
Service during visit to stadium	0.04	0.02
	(1.03)	(0.61)
Office	0.04	0.05
	(1.06)	(1.18)
Entertainment in the stadium	-0.11**	-0.10**
	(2.15)	(2.17)
Entrance fees	0.04	0.06
	(1.21)	(1.36)
Merchandise	0.01	-0.02
	(0.30)	(0.67)
Accessibility by car	-0.03	-0.04
	(1.08)	(1.25)
Fan-based support of club	0.13**	0.17***
	(2.36)	(3.26)
Club tradition and identity	0.04	0.02
	(1.02)	(0.59)
Security during visit to stadium	-0.01	-0.00
	(0.45)	(0.02)
Supply of merchandise and tickets	0.01	-0.01
	(0.13)	(0.41)
Atmosphere during the visit to stadium	0.08*	0.12**
	(1.79)	(2.33)
Coach	0.01	0.02
	(0.50)	(0.74)
Accessibility by public transportation	0.03	0.05
	(1.10)	(1.41)
Club's website	0.06*	0.04
	(1.68)	(1.30)
R^2 value	0.45	0.36
Q^2 value	0.31	0.25

*** $p \leq 0.01$ ** $p \leq 0.05$ * $p \leq 0.10$

Figure 1: FANSAT Index Model



*** $p \leq 0.01$ ** $p \leq 0.05$ * $p \leq 0.10$

TABLE A1: Factor Analysis Results

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	33.958	31.443	31.443	33.958	31.443	31.443	11.543	10.688	10.688
2	8.308	7.692	39.135	8.308	7.692	39.135	9.292	8.604	19.292
3	5.156	4.774	43.909	5.156	4.774	43.909	7.171	6.640	25.932
4	3.940	3.648	47.557	3.940	3.648	47.557	6.591	6.103	32.035
5	3.139	2.906	50.463	3.139	2.906	50.463	6.278	5.813	37.848
6	2.864	2.652	53.115	2.864	2.652	53.115	4.688	4.341	42.189
7	2.625	2.430	55.545	2.625	2.430	55.545	3.384	3.133	45.322
8	2.117	1.960	57.506	2.117	1.960	57.506	3.327	3.081	48.403
9	2.021	1.871	59.377	2.021	1.871	59.377	3.160	2.926	51.329
10	1.891	1.751	61.128	1.891	1.751	61.128	2.894	2.680	54.009
11	1.828	1.693	62.821	1.828	1.693	62.821	2.860	2.648	56.657
12	1.526	1.413	64.233	1.526	1.413	64.233	2.737	2.534	59.191
13	1.495	1.384	65.618	1.495	1.384	65.618	2.671	2.473	61.664
14	1.458	1.350	66.967	1.458	1.350	66.967	2.638	2.443	64.107
15	1.375	1.273	68.241	1.375	1.273	68.241	2.091	1.936	66.043
16	1.337	1.238	69.479	1.337	1.238	69.479	1.816	1.682	67.725
17	1.212	1.122	70.601	1.212	1.122	70.601	1.782	1.650	69.375
18	1.172	1.085	71.686	1.172	1.085	71.686	1.776	1.645	71.020
19	1.099	1.018	72.704	1.099	1.018	72.704	1.612	1.493	72.512
20	1.058	0.979	73.683	1.058	0.979	73.683	1.265	1.171	73.683
21	0.994	0.921	74.604						
22	0.983	0.910	75.514						
23	0.951	0.881	76.395						
24	0.927	0.858	77.253						
25	0.861	0.797	78.050						
26	0.824	0.763	78.814						
27	0.818	0.758	79.571						
28	0.804	0.744	80.316						
29	0.758	0.702	81.017						
30	0.720	0.667	81.684						
31	0.703	0.651	82.334						
32	0.683	0.633	82.967						
33	0.658	0.609	83.576						
34	0.609	0.564	84.141						
35	0.579	0.536	84.677						
36	0.572	0.530	85.206						
37	0.553	0.512	85.718						
38	0.538	0.498	86.216						
39	0.523	0.484	86.700						
40	0.515	0.477	87.177						
41	0.493	0.457	87.634						
42	0.467	0.433	88.067						
43	0.463	0.429	88.496						
44	0.448	0.415	88.911						
45	0.429	0.397	89.308						
46	0.410	0.380	89.688						
47	0.407	0.377	90.065						
48	0.394	0.365	90.429						
49	0.386	0.357	90.786						
50	0.376	0.348	91.134						
51	0.365	0.338	91.472						
52	0.352	0.326	91.798						
53	0.344	0.319	92.117						
54	0.333	0.308	92.425						
55	0.328	0.304	92.729						
56	0.314	0.291	93.020						
57	0.304	0.281	93.301						
58	0.301	0.278	93.580						

TABLE A2 (1): Factor Loadings

For better readability, this table displays only factor loadings with a value larger than 0.3; factor loadings larger than 0.5 appear in bold font.

Satisfaction with …	Factor																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Condition of the stadium	**0.82**																			
Interior design of the stadium	**0.76**																			
Outer appearance of the stadium	**0.75**																			
Appearance of the stadium	**0.73**																			
Signposting outside the stadium	**0.73**																			
Signposting inside the stadium	**0.73**																			
Roofing inside the stadium	**0.72**																			
Comfort of the seats	**0.65**																			
Video score boards in the stadium	**0.64**							0.30												
Condition of the restrooms	**0.62**																			
Tidiness within the stadium	**0.61**																			
Size of the stadium	**0.60**																	0.32		
View onto the playing field	**0.59**																			
Number of restrooms	**0.53**																			
Representation of the sponsors in the stadium	0.49					0.39														
Location of the stadium	0.47														0.36					
Name of the stadium	0.45																	0.34		
Quality of the soccer played		**0.83**																		
Commitment of the players		**0.82**																		
Current success regarding matches		**0.80**																		
Tactical organization of the team		**0.76**																		
Identification of the players with the club		**0.75**																		
Quality of the team composition		**0.71**	0.45																	
Presence of a player with whom fans can identify		**0.71**																		
Public appearances of the players		**0.69**																		
Club's player transfer policy		**0.66**	0.48																	
Number of stars in the team		**0.65**	0.42																	
Interaction of players with fans		**0.62**	**0.52**																	
Long-term sportive success		**0.60**	0.47																	
Marketing of the club		0.35	**0.79**																	
Reputation of the club		0.40	**0.75**																	
Financial situation of the club		0.31	**0.75**																	
Public relations by the club		0.39	**0.74**																	
Choice of sponsors			**0.68**																	
Club's management		0.50	**0.64**																	
Social involvement of the club			**0.56**								0.37									
Prospective sport success			**0.54**					0.41												
Involvement of former players in the club			0.50								0.36									
Waiting time at the sale stalls for beverages				**0.79**																
Waiting time at the sale stalls for food				**0.77**																
Prices of beverages at the sale stalls				**0.76**																
Prices of food at the sale stalls				**0.74**																
Quality of the food at the sale stalls				**0.65**																
Variety of food at the sale stalls	0.32			**0.61**																
Variety of beverages at the sale stalls				**0.60**																
Behavior of vendors at the sale stalls	0.33			**0.60**																
Quality of the beverages at the sale stalls				**0.58**												0.31				

TABLE A2 (2): Factor Loadings

For better readability, this table displays only factor loadings with a value larger than 0.3; factor loadings larger than 0.5 appear in bold font.

Satisfaction with …	Factor																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Behavior of cashiers at the check-out counters					**0.77**															
Employees in the office					**0.77**															
Appearance of the office					**0.72**															
Handling of individual requests					**0.71**															
Opening times of the office					**0.69**															
Complaints handling					**0.64**															
Location of the office					**0.61**															
Opening times of the fan shops	0.36				**0.50**									0.32						
Accessibility of the fan shops					0.45			0.37						0.38						
Behavior of the sales persons in the fan shops					0.43															
Volume of the loudspeakers in the stadium						**0.75**														
Choice of music in the stadium						**0.73**														
Entertainment program in the stadium						**0.68**														
Stadium speaker						**0.58**														
Newsmagazine of the stadium						0.48	0.31													
Police presence	0.34					0.47							0.37							
Price of annual season ticket							**0.78**													
Entry fees							**0.76**													
Offers of reduced tickets							**0.68**													
Club membership fees		0.30					0.45													
Design of the home jersey								**0.75**												
Design of the away jersey								**0.65**												
Assortment of merchandise			0.30					**0.61**												
Quality of merchandise								**0.58**												
Prices of merchandise						0.30		0.43												
Convenience of travelling to the stadium by car									**0.80**											
Swiftness of departing by car									**0.79**											
Number of parking lots	0.34								**0.55**											
Signposting to the stadium on the roads	0.44								**0.55**											
Club's fan care										**0.63**										
Organization of away journeys by the club										**0.59**										
Contact of players with fans		0.35								**0.58**										
Special offers for families							0.33			0.48										
Opportunity to visit training sessions	0.31									0.40							0.39			
Atmosphere in the fan scene										0.40					0.33					

TABLE A2 (3): Factor Loadings

For better readability, this table displays only factor loadings with a value larger than 0.3; factor loadings larger than 0.5 appear in bold font.

Satisfaction with …	Factor																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Maintenance of the club tradition			0.33								**0.68**									
Closeness between club and fans			0.33								**0.67**									
Regional bond of the club			0.32								**0.63**									
Extent of admission security	0.31											**0.64**								
Behavior of the security personnel	0.32											**0.57**								
Waiting time outside the stadium	0.36			0.30								**0.57**								
Waiting time at the sale stalls for tickets												0.48								
Behavior of the sales persons in the ticket booths	0.34				0.30							0.40								
Youth work of the club												0.35								
Security outside the stadium	0.30												**0.68**							
Security inside the stadium	0.36												**0.66**							
Avoidance of crowding	0.34												**0.57**							
Mail-order of tickets														**0.71**						
Pre-sale of tickets														**0.66**						
Mail-order of fan merchandises														**0.52**						
Online-shop					0.36									0.48						
Atmosphere during the match															**0.63**					
General atmosphere in the stadium	0.47														**0.62**					
Identification of the coach with the club		0.45														**0.66**				
Public appearance of the coach		0.46														**0.65**				
Closeness to the playing field																	**0.70**			
Permission of fan paraphernalia						0.39											0.41			
Convenience of public transportation to the stadium	0.38																	**0.64**		
Swiftness of departure by public transportation									0.37									**0.61**		
Topicality of the club's website			0.33																**0.68**	
Content of the club's website			0.33																**0.61**	

TABLE A3 (1): Results for the Formative Measurement Models

Factor	Items		Weight	t-value	VIF
Satisfaction with the stadium (Factor 1)	F1.1	Condition of the stadium	0.08	0.14	2.46
	F1.2	Interior design of the stadium	0.08	1.21	1.91
	F1.3	Outer appearance of the stadium	0.03	0.47	1.83
	F1.4	Signposting outside the stadium	-0.16	2.03	1.75
	F1.5	Signposting inside the stadium	0.29	3.54	1.75
	F1.6	Roofing inside the stadium	0.01	0.15	2.15
	F1.7	Comfort of the seats	0.15	1.81	2.05
	F1.8	Video score boards in the stadium	0.28	3.24	1.74
	F1.9	Condition of the restrooms	0.15	1.71	2.07
	F1.10	Tidiness within the stadium	0.04	0.72	1.97
	F1.11	Size of the stadium	0.01	0.28	1.58
	F1.12	View onto the playing field	0.22	2.32	2.23
	F1.13	Number of restrooms	0.04	0.66	1.67
	F1.14	Representation of the sponsors in the stadium	0.30	3.51	1.50
	F1.15	Location of the stadium	-0.05	0.73	2.42
	F1.16	Name of the stadium	0.32	4.49	1.28
Satisfaction with the team (Factor 2)	F2.1	Commitment of the players	-0.02	0.32	2.70
	F2.2	Current success regarding matches	0.11	1.41	1.88
	F2.3	Identification of the players with the club	0.31	2.67	2.73
	F2.4	Quality of the team composition	0.27	2.52	3.14
	F2.5	Presence of a player with whom fans can identify	0.28	2.84	2.46
	F2.6	Public appearances of the players	0.19	1.68	2.82
	F2.7	Number of stars in the team	-0.07	1.03	2.00
	F2.8	Interaction of players with fans	0.14	1.52	2.47
Satisfaction with the club management (Factor 3)	F3.1	Marketing of the club	-0.01	0.21	2.74
	F3.2	Reputation of the club	0.40	4.34	2.62
	F3.3	Financial situation of the club	0.02	0.36	1.75
	F3.4	Public relations by the club	0.24	2.54	2.96
	F3.5	Choice of sponsors	0.02	0.43	1.63
	F3.6	Social involvement of the club	0.05	0.81	2.11
	F3.7	Prospective sport success	0.17	1.83	2.71
	F3.8	Involvement of former players in the club	0.18	2.18	1.93
	F3.9	Transfer policies of the club	0.13	1.81	1.79
	F3.10	Past sport success	0.17	1.85	2.77
	F3.11	Youth work in the club	-0.10	1.45	1.60
Satisfaction with the service during the visit to the stadium (Factor 4)	F4.1	Waiting time at the sale stalls	0.04	0.61	1.90
	F4.2	Prices of beverages at the sale stalls	0.21	1.61	2.68
	F4.3	Prices of food at the sale stalls	-0.11	1.00	3.18
	F4.4	Quality of the food at the sale stalls	0.22	1.82	2.70
	F4.5	Variety of food at the sale stalls	0.07	0.83	2.52
	F4.6	Variety of beverages at the sale stalls	-0.04	0.43	2.77
	F4.7	Behavior of vendors at the sale stalls	0.09	0.95	2.84
	F4.8	Quality of the beverages at the sale stalls	0.29	2.31	2.61
	F4.9	Behavior of cashiers at the check-out counters	0.33	2.26	2.37
	F4.10	Waiting time outside the stadium	0.17	1.85	1.32
Satisfaction with the office (Factor 5)	F5.1	Employees in the office	0.53	4.00	2.98
	F5.2	Appearance of the office	0.25	1.97	3.04
	F5.3	Handling of individual requests	0.18	1.55	2.78
	F5.4	Opening times of the office	0.20	1.87	2.32
	F5.5	Location of the office	0.02	0.19	2.91

TABLE A3 (2): Analysis Results for the Formative Measurement Models

Factor	Items		Weight	t-value	VIF
Satisfaction with the accompanying entertainment in the stadium (Factor 6)	F6.1	Volume of the loudspeakers in the stadium	-0.02	0.30	1.59
	F6.2	Choice of music in the stadium	0.15	1.30	2.12
	F6.3	Entertainment program in the stadium	0.39	2.63	2.22
	F6.4	Stadium speaker	0.37	2.94	1.84
	F6.5	Newsmagazine of the stadium	0.33	2.86	1.60
Satisfaction with entrance fees (Factor 7)	F7.1	Price of annual season ticket	0.15	1.38	3.25
	F7.2	Entry fees	0.46	2.92	3.32
	F7.3	Offers of reduced tickets	0.51	4.08	2.02
Satisfaction with merchandise (Factor 8)	F8.1	Design of the home jersey	0.16	1.44	2.91
	F8.2	Design of the away jersey	0.06	0.69	2.91
	F8.3	Assortment of merchandise	0.38	3.48	2.57
	F8.4	Quality of merchandise	0.21	1.89	2.47
	F8.5	Prices of merchandise	0.30	3.67	1.63
	F8.6	Choice of teamwear sponsor	0.22	2.80	1.37
Satisfaction with the accessibility of the stadium by car (Factor 9)	F9.1	Convenience of travelling to the stadium by car	0.02	0.18	2.10
	F9.2	Swiftness of departing by car	0.18	1.27	2.02
	F9.3	Number of parking lots	0.09	0.81	1.99
	F9.4	Signposting to the stadium on the roads	0.84	6.85	1.65
Satisfaction with fan-based support of club (Factor 10)	F10.1	Organization of away journeys by the club	0.32	3.06	2.49
	F10.2	Special offers for families	0.19	2.06	2.91
	F10.3	Opportunity to visit training sessions	0.35	4.16	1.58
	F10.4	Club membership fees	0.13	1.56	2.07
	F10.5	Special offers for fan clubs	0.03	0.42	3.23
	F10.6	Events for fans	0.31	3.07	3.46
Satisfaction with the club tradition and identity (Factor 11)	F11.1	Maintenance of the club tradition	0.02	0.21	2.29
	F11.2	Closeness between club and fans	0.69	6.73	2.23
	F11.3	Regional bond of the club	0.40	3.13	1.93
Satisfaction with security during visit to the stadium (Factor 12)	F12.1	Security outside the stadium	0.36	2.96	1.83
	F12.2	Security inside the stadium	0.18	1.55	2.28
	F12.3	Avoidance of crowding	0.33	2.98	1.77
	F12.4	Police presence	0.08	0.94	2.06
	F12.5	Extent of admission security	-0.06	0.70	2.24
	F12.6	Behavior of the security personnel	0.37	2.36	2.63
Satisfaction with supply of merchandise and tickets (Factor 13)	F13.1	Pre-sale of tickets	0.42	3.38	2.41
	F13.2	Online-shop	0.35	3.59	1.74
	F13.3	Opening times of the fan shops	0.08	0.94	2.40
	F13.4	Accessibility of the fan shops	0.15	1.49	2.45
	F13.5	Behavior of the sales persons in the fan shops	0.23	1.87	2.66
Satisfaction with the atmosphere during the visit to the stadium (Factor 14)	F14.1	Atmosphere during the match	0.44	3.01	3.05
	F14.2	General atmosphere in the stadium	0.27	1.97	3.28
	F14.3	Closeness to the playing field	0.30	3.78	1.23
	F14.4	Permission of fan paraphernalia	0.26	2.63	1.48
Satisfaction with the coach (Factor 15)	F15.1	Identification of the coach with the club	0.57	3.19	3.46
	F15.2	Public appearance of the coach	0.22	1.44	3.01
	F15.3	Activities of the coach	0.29	1.84	2.87
Satisfaction with the accessibility by public transportation (Factor 16)	F16.1	Convenience of public transportation to the stadium	0.70	4.55	1.38
	F16.2	Swiftness of departure by public transportation	0.44	2.54	1.38
Satisfaction with the club's website (Factor 17)	F17.1	Topicality of the club's website	0.29	1.79	3.40
	F17.2	Content of the club's website	0.75	4.65	3.40