Stockholm School of Economics
Department of Marketing and Strategy (DMS)
Bachelor's thesis

THE DEMAND FOR FOOTBALL ATTENDANCE IN SWEDEN

Abstract:

This thesis uses ordinary least square analysis to estimate a model that explains the factors affecting fans in their choice of attending football matches in Sweden. The purpose of the thesis was to empirically study the subject of match attendance in Sweden. Our ambition was to determine what factors have the greatest explanatory values and discuss how club management may act in regards of marketing efforts. Data from 1324 fixtures during the seasons 2001-08 of the Swedish football league Allsvenskan was employed. Several explanatory factors were found to have a significant impact on attendance demand, with estimates suggesting that matches between teams from the same city to be the most influential one. The study finishes with proposals of marketing endeavours to Swedish football clubs given the results from the model.

Keywords: *Football, attendance, demand, marketing implications*

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1. Introduction

The interest for football has in recent decades seen an exponential growth globally and is today regarded as the world's most popular sport. An estimated 260 million people, or 4 percent of the world's population, are involved in the sport (FIFA, 2006). The growth has been high in Sweden as well and in 2006 it had become the leading sport of the country with more than 700 000 active practitioners (RF, 2007).

Football as an interest does not only manifest itself through the actual practise of the sport, but also as a form of entertainment through live football. Professional football today seems to capture the attention of entire nations and club football has become a massive industry that attracts millions of spectators on a yearly basis only in Europe. According to the *Deloitte Annual Review of Football Finance 2009*, the total European football market was valued at £11.6 billion in 2007/08. Furthermore, attendances for the top 92 English clubs alone exceeded 30 million in 2008/09 (Deloitte, 2009). Football is nowadays a form of entertainment just as natural as going to the theatre or visiting the cinema.

The Swedish top football league Allsvenskan, ranked 23 in Europe (UEFA, 2010), attracted almost 15 million spectators during 2001-08 and the annual figures were consistent during the same period (SvFF, 2010a). Yet, the league is far from prominent in Europe. As of today, the objective is to reach top 15 in UEFA:s ranking which would grant the league an additional spot in the UEFA Europa League. The financial status of the league does unfortunately not provide a solid base for the objective, it is rather a major weakness. The Swedish Football Association (SvFF) even claim that a vast increase in revenues for the clubs is needed if a top 15 place is ever to be seen (SvFF, 2010b).

Allsvenskan has, in spite of this, had a yearly turnover of over 1 billion Swedish kronor since 2007 and has seen an annual revenue growth of almost 10 percent for the past decade(SvFF, 2010b). However, compared to the financially strongest football tier, the English Premier League, 1 billion Swedish kronor is pocket change as its turnover is nearly £1.9 billion (Deloitte, 2009).

Today almost a fourth of the yearly revenue in Allsvenskan can be attributed to the sales of tickets (SvFF, 2010b). On the other hand, quite large fluctuations in attendance for the participating teams can be seen during the course of a season. It seems as if the demand for live football is affected by various factors and that the individual clubs fail to recognize and capitalise on these. Astonishing, as the clubs in Allsvenskan have an average turnover of more than 75 million Swedish kronor and employs up to 100 people. It is, furthermore, a necessity if the league desires a better ranking in Europe.

1.1 Problem area

As previously stated, the total attendance of Allsvenskan has been consistent for the past eight years. This implies that even though the interest for football as a sport is growing, Swedish clubs are unable to attract more customers to their games.

In an attempt to boost the number of fans attending fixtures SvFF added two additional teams to the league in 2008. The effect on total attendance was, however, close to none. Barely 1800 more spectators came to the arenas, representing an increase of only 0.9 ‰ (SvFF, 2010a). This might seem insignificant at first glance but considering the fact that the extra teams lead to four additional rounds and 58 more fixtures the numbers get worrying. Investigating the average attendance of the fixtures we find that 2008 was the worst of the decade, with a negative deviation of almost 17 percent from the average. This means that 2000 less fans on average were attending each game 2008 compared to previous seasons. Moreover, this year's edition of Allsvenskan has seen a dramatic drop in attendance and a widespread debate about the demand for live football has been sparked along with worries about the revenue losses that it will cause for the individual clubs. As a consequence, the interest organization *Svensk Elitfotboll* has called for an emergency meeting with the clubs of Allsvenskan to discuss the matter, scheduled in the beginning of June 2010 (SVT, 2010).

This debate has up to now not had any scientific connection and most arguments are based on unproven hypotheses and assumptions.

What is then the reason for this deteriorating interest for live football? Firstly, knowledge about the behaviour of consumers in Allsvenskan today is limited at best. The clubs seem unaware of the consumers preferences and thus fail to develop and customize marketing efforts in order to attract more fans to each game.

Secondly, no scientific base that explains the behaviour of the fans is available for the market of Swedish football. This leads to a natural uncertainty as to how marketing offers should be designed. Something that supports this assumption is the fact that only eight percent of the total costs in clubs of Allsvenskan are allocated to commercial and advertising endeavours (SvFF, 2010b).

If nothing is done the negative trend may continue, implicating revenue losses that the clubs cannot afford in times of general economic instability. Marketing practitioners in general depend on the mechanisms of cause and effect. The concept of causality form the basis for any planning and implementing of promotion activities that serves to produce interest and preferences for one's product (Bagozzi, 1980). An understanding of the causes for fluctuations in demand is thus pivotal if clubs intend to prevent a continuous decline in demand. Studies on demand for match attendance in Sweden might in this sense be useful for the management of clubs so that fruitful marketing efforts can be planned and implemented.

The inevitable question that arises is simply what factors drive the demand for live football. Studies in the field present a number of different explanatory variables to fluctuations in attendance. No recommendations for marketing implications are however offered based on such studies, instead the purposes are primarily of econometric concern. Therefore, we argue that a study about the demand for football in Sweden is necessary to make decision-makers and individual clubs aware of the factors affecting it.

1.2 Research question and purpose

In light of the above, our thesis seeks to answer the following question: *what factors drive the demand for attendance in Swedish football*?

The purpose of our thesis is to empirically study the subject of match attendance in Sweden. Our ambition is to determine what factors have the greatest explanatory values and discuss how club management may act in regards of marketing efforts.

In this manner new insights on the behaviour of fans may be offered and a quantitative base for marketers in the football industry provided. We hope that the study will assist the clubs in their pursuit of greater revenues which in turn might guide the entire league towards a more favourable UEFA ranking.

1.3 Delimitation

The thesis concerns the drivers of demand for football and proposals on how the clubs can use this knowledge in a marketing sense. With respect to the scope of the thesis and our purpose, we have chosen to investigate the overall sports marketing research with the intention of connecting it to the quantitative research on the demand for football. No consideration of marketing literature for entertainment nor events have been regarded due to its lack of connection to our purpose. Nor have we accounted for the issue of hooliganism as it was too difficult to determine a measure for this.

We have further chosen the Swedish top tier of football, Allsvenskan, as the case of our study. It is the most relevant league in Sweden to study for our purpose due to its, compared to lower divisions, inarguable appeal to Swedish football fans. We have delimited the study to the period 2001-08. A greater time span might provide better insights but we trust that this period is sufficient to make clear as to what factors drive the demand for football in Sweden.

As we decided to study the general drivers of demand for attendance in Sweden, we chose not to consider the behaviour, needs or preferences of any particular clubs fan base. This would certainly be interesting but would not serve our purpose. The study will, instead, be based on a quantitative modelling of the demand for football in Sweden. It is an unique approach that serves to link the statistic research of football to marketing.

1.4 Disposition

The thesis will have the following outline: First a summarizing report on the current research in the field will be given. Next, the model and method used to answer the research question is presented, followed by the results and an analysis of the findings. The paper finishes with a discussion of what marketing implications that can be provided given the results. A glossary list can be found in the Appendix, if any notions are unclear.

2. Literature review

This section of the paper will be divided in two parts; the first being the current field of research in *drivers of attendance demand* and the second *sports marketing*.

2.1 Drivers of attendance demand

Several studies have been conducted with the desire of determining the drivers of the demand for attendance at sport events. The studies go as far back as to the early 1970s when Demmert (1973) introduced an econometric model for attendance of US Major League Baseball and Noll (1974) examined different factors that affected the attendance level of four different US Major League sports. As for football and the investigation of the determinants for attendance, a paper was presented by Hart *et al*. (1975) and the study was based on the English Football League. This very first statistical examination of attendance for football found distance between certain arenas and the 'calibre' of opposing teams to have an impact on demand (Andreff and Szymanski, 2006).

This was the commencement of what has proven to be a popular field of research. Numerous articles and studies have been published covering various team and individual sports since then. For the studies conducted in recent years, a separation between factors that affect short- and long-run demand has been made. Short-run demand studies is more appropriate for the purpose of this thesis and will accordingly be premiered in this part of the literature review. At this point it is important to understand that such studies involves the testing of numerous different factor's impact on attendance. A summary of explanatory factors used in this field of research will thus be presented next.

2.1.1 Explanatory factors

All studies concerning the demand of sports has its base in the classic demand model, where demand of a good is determined by the price and supply of it (Andreff and Szymanski, 2006). Regarding demand of sport events such as a game of football it is usually assumed to be a function of the ticket price. However, a common finding in research is that the demand of sport events are price inelastic - a change in ticket price has accordingly little or no effect on demand[1]. As a result, certain sport specific variables have been presented in the field of research in order to more accurately determine the drivers of demand. At this stage differences amongst the papers can be found; different researchers have been using different explanatory variables. A few commonly used variables does fortunately appear in recent studies. One of these is a factor called *uncertainty of outcome* which is a short-term measure of how evenly matched the teams that will play are (Andreff and Szymanski, 2006). The general research result is that this factor has a significant explanatory value, meaning that teams that are equal will attract a greater audience (Dawson and Downward, 2005). Another frequently used factor to explain short-termed increases in demand is the performance of the home team previous to the game. Prior research, e.g. Hart *et al.* (1975) and Buraimo *et al.* (2009), shows that great performance in recent games will attract a larger crowd to the arenas. The size of the markets is furthermore a factor consistently found to have a major impact on attendance demand. Holding other factors constant, a larger market will effectively increase the demand (Andreff and Sziminsky, 2006).

In addition to these, a number of fairly common variables have been used in the field of research. Baranzini *et al.* (2008) found that the number of hours of sun previous to a game have a significant impact on attendance in Swiss football. Sandy *et al.* (2004) further found that the distance between the cities of the teams as well as the number of goals made before a game affect attendance in Spanish football.

[1] Support for inelastic ticket pricing has been put forward by Fort and Quirk, 1996; Burdekin and Idson, 1991; Welki and Zlatoper, 1994; Borland, 1987; Borland and Lye, 1992; Hynds and Smith, 1994; Dobson and Goddard, 1995 and Bird, 1982 to name a few.

2.1.2 Methods

The most prevalent econometric model used in order to construct a demand function for attendance is an ordinary least squares (OLS) analysis. This method is considered to have the best numerical requirements to estimate attendance given certain assumptions (Andreff and Szymanski, 2006).

Other methods have, however, sporadically been used. Kuypers (1996) as well as Welki and Zlatoper (1994) and Price and Sen (2003) all employed Tobit models which adjust for capacity restrains as it measures the effective demand. This was considered necessary as the classic OLS-model assumes that the observed attendance equals effective demand. The assumption becomes arduous for sport events that attract enough spectators to fill the stadiums completely. On such occasions the effective demand ought to exceed the attendance. In reality, however, this issue of capacity restraints is not of any prevalent concern in the field of research. The occurrence of full stadiums is a rare phenomena and in the research of Kuypers (1996) only a tenth of the matches analyzed were sell-out fixtures. Forrest and Simmons (2002) even claim that the Tobit model is inappropriate when dealing with sport events as the chance of a few matches being sold-out will make fans purchase season tickets and thereby be guaranteed a seat.

In conclusion, even though models based on OLS analyses have flaws regarding capacity constraints, it is an established method used when constructing demand functions for attendance. In addition to this, alternative models have been subject to serious criticism and its suitability in sport contexts questioned.

2.2 Sports Marketing

There is a vast range of literature on how to market and manage in the football industry. Sports marketing is a large research area in which all parts of the game are covered. However, we believe that marketing research on *attendance and fans* as well as the area of *marketing strategies for sport products* are the most relevant areas for this particular study. These areas of research will therefore be reviewed in this section.

2.2.1 Attendance and fans

The marketing research on attendance mainly focuses on the role of the spectators in sports. According to Dale *et al.* (2005), attendance at games is not only a simple measure of the appeal for a team's sporting attributes, it is a significant source of revenue to the team through gate receipts such as concession sales, parking and corporate sponsors of the event. He therefore argues that home game attendance is a valuable measure of the success of a team's management (Dale *et al.*, 2005). Further research on spectators in sports business suggests that, in the industry of football "fans interest" is essential for the demand of the sport (Borland and MacDonald, 2003). Fans are considered the *customers* and thus represent the demand-side of the market for any professional sporting competition, in which the clubs become *brands* (Jevtushenko *et al.*, 2008). Their fascination for the game is displayed in a number of different ways, examples being the purchasing of merchandise, the collection of club memorabilia or simply following the team in media. Fans are also the ones that buys the tickets and fill the arenas at match day and thus become a part of the actual product itself. In this way, fans present at the match - the spectators - become a vital ingredient in the show that is broadcasted and sold to other consumers (Hamil and Chadwick, 2010). They sing, chant and boo and in this way they are truly active in their consumption of the product. Moreover, the fans that attend the fixtures are to be considered as the loyal consumers (Buraimo and Simmons, 2007).

Further research on the spectators of football games include the Jevtuschenko, Landberg and Söderlund (2008) study on the 2006 season of Allsvenskan. They found that negative and positive incidents have an impact on football supporter's overall evaluation of their favourite clubs. This implies that clubs are able to influence the consumers', the fans', perceptions of the product, the match. On the other hand they also concluded that the effect of such attributes is "subordinate to the aggregated performance perceptions", implying that the results at the pitch are still imperative in their evaluations.

The demand of attendance is further a vital part for the broadcasters of sporting events. The basis for sales of issues such as advertising space, time to targeted

advertisers and/or pay-per-view rights to both corporations and individuals is the projected demand for attendance (Hamil and Chadwick, 2010). It has also been concluded that increased ticket sales regularly translates into more favourable television contracts, leading to revenue increases (Borland and Macdonald, 2003). Lastly, Hausman and Leonard (1997) found in their study of NBA that supposed superstars influence not only attendance but also features such as paraphernalia. They also claim that superstars are important to both the team itself and the league as such.

2.2.2 Marketing strategies for sport products

In the general field of *sports marketing,* a prevailing application of the classic marketing mix is the four domains that constitute the sport marketing environment. One of these is the *product-focused* domain in which theories of how individual clubs and decision makers can apply the marketing mix are featured. (Fullerton, 2010). A brief summary of what research has found in the area will now be presented.

The product of live football is evidently not very flexible. Marketers of spectator sports do however work with modifications that serve to attract more fans and persuade existing ones to attend the games more frequently. An actual change in the product itself is an option but considered both dramatic and risky. This includes alterations in the rules and regulations to make the game more competitive and entertaining. Such changes must, however, be cautiously exercised as modifications that are judged insignificant and/or unfounded does not pose improvements but risks of disaffecting the most loyal fans (Fullerton, 2010). A common finding in the sports marketing literature with regards to the product offering, is that the sport product consists of a *core product* and an *extension product* (Callecod and Stotlar, 1990). The core product is described as being the actual game that is played, including performance and player participation for instance, and is associated with a natural unpredictability. The extension product on the other hand includes matters such as food and beverages, comfortable seats, modern and clean facilities and courteous employees. Research suggests that because of the natural lack of control of the

core product, sports managers are left with the extension product to influence the satisfaction of the spectators (Theodorakis *et al.*, 2001).

Literature and research in the field further supply a number of valuable promotion tools that clubs can use with the purpose of boosting ticket sales and thereby increase the attendance. Sam Fullerton (2010) presents a number of marketing efforts that focus on initiatives designed in order to attract a greater audience. He makes a distinction between two promotional efforts: themes and giveaways. The first of the two is promotions directed to the target market, such as businessman's day, and the second different types of club specific gifts. The Dale *et al.* (2005) study completes the list with suggestions of a more active relationship to the public with the intention of raising the profile of the club and attract more spectators.

Fullerton (2010) describes pricing as a delicate matter for marketing managers within spectator sports. The main problem is that situational influences can have a remarkable effect on the demand for tickets to a certain fixture which disables marketers to rely on one sole strategy. One approach is the so called *variable pricing.* It involves fluctuating prices depending on the opponent, where the anticipated level of demand for the fixture constitutes the foundation (Fullerton, 2010). Palmer and McMahon-Beattie (2008) notes however that it is essential that the consumers are aware of the bases of the price variations to avoid creating distrust among certain groups of consumers.

A study on satisfaction of spectators in professional sports by Theodorakis *et al.* (2001) suggest that the tangible dimension of the offered service, such as “the stadium being visually appealing”, have a substantial impact on satisfaction for spectators. They further declare that by manipulating service-performance cues, such as aspects within this tangible dimension, sport managers can positively influence the future behaviours of the spectators at the arenas, examples being loyalty and positive word-of-mouth. Evidently, the place (the arena) where the service (the match) of the clubs is offered seem to be of great importance to the overall satisfaction of the spectators, offering a way to influence attendance in the future. When further recognizing the issue of the previously mentioned

extension product, the aspect of the arena is broadened into being a part of the only dimension that is controllable for sports managers.

With regards to the distribution aspect of sports, Fullerton (2010) suggests that the actual scheduling of a fixture is an aspect that needs to be considered. A change in date and/or time have proven to raise the attention and by such means also increase the demand. So was the case with Sydney Turf Club which moved its regular races from Wednesday to Sunday, resulting in significantly greater ticket sales.

2.3 Summary and theoretical context

When reviewing the existing research on the demand for football it can be concluded that it puts great emphasis on which variables that explain the attendance demand. A large number of factors have been introduced as drivers and the results have been dispersed when applied to different markets. Typically an OLS- or Tobit model is used to conceptualize a demand function.

In the literature of sports marketing the subject of attendance is understood to be vital. Attendance is not only an important source of income but also considered to represent the product itself as the audience is a vital part of it. On a general level, Fullerton's view on sports marketing constitutes a useful framework for marketing managers within the sports industry. This framework is essentially an application of the classic marketing mix in a way that is tailored for the industry.

Within the research area on demand for football, there are generally no connection to the field of sports marketing and how to make use of the findings in the context of the sporting industry. Likewise, the area of sports marketing is missing a connection to the regional dynamics of the football industry where modelling of attendance demand is an essential part.

We believe that the research on demand for football can be utilized to complement the theoretical concepts of sports marketing, in order to provide a relevant and market oriented framework for Swedish football clubs to use in their marketing efforts. As of today, no studies on attendance demand have been

made for Swedish football. This study will therefore contribute to the field of research by investigating the drivers for attendance demand, in order to put these into the sports marketing context of Swedish football clubs.

3. Research method

3.1 Model

In line with prior research in this area[2], we have chosen to apply a linear multiple regression analysis (OLS) in the pursuit to determine the drivers of attendance demand for Swedish football. The model will have the following structure:

$$\text{MATCH ATTENDANCE}_T = \beta_0 + \beta_1\text{PERFOMANCE} + \beta_2\text{TEMPERATURE} + \beta_3\text{UNCERTAINTY} + \beta_4\text{TIME FRACTION} + \beta_5\text{WEEKEND} + \beta_6\text{TENURE} + \beta_7\text{TRADITION} + \beta_8\text{DISTANCE} + \beta_9\text{MARKET SIZE} + \beta_{10}\text{DERBY} + \beta_{11}\text{PURCHASING POWER} + \beta_{12}\text{CHAMPION AWAY} + \beta_{13}\,\text{CHAMPION HOME} + \beta_{14}\text{NATIONALS} + \beta_{15}\,\text{ARTIFICIAL TURF} + \varepsilon$$

With this model we expect to estimate each variables weight and thereby examine which factors that have the greatest explanatory values for short-run demand of attendance in Sweden. The findings will then be used as a basis for the marketing implications that this research might have. Definitions and explanations of the variables in the model will be presented in the following sections. We hypothesize that the number of spectators at a given game will be affected by a number of factors; the size of the home teams market; the performance of the home team; the weather at match day; the competitive balance of the match; home teams' experience; rivalry between confronting teams; purchasing power of the home team's market; travel cost; time of the fixture; if its scheduled in the weekend; the presence of a superstar; arena features; the opportunity to beat the champion; being the champion and if the game is a derby.

Table 1 displays a summary of each variable's definition.

[2] OLS-models have been used in the studies of e.g. Allan (2004) and Forrest *et al.* (2005). As stated above it is the most common technique in the modelling of attendance demand (Andreff and Szymanski, 2006).

Table 1. Summarized variable definitions.

Variable name	Definition
Match attendance	Reported attendance at match day for each fixture 2001-08 as listed by SvFF (2010a).
Performance	The accumulated score attained by the home team in the three games prior to the fixture.
Temperature	Reported temperature prior to kick-off at the location, or in its immediate vicinity, where the fixtures were played.
Uncertainty	The absolute value of home advantage *plus* the home team's points per game prior to the fixture *minus* the away team's points per game prior to the fixture.
Time fraction	The time of the fixtures as a fraction of a 24 hour day.
Weekend	Dummy variable set equal to 1 if a fixture is played on a Saturday or Sunday.
Tenure[a]	Total number of seasons played in Allsvenskan prior to each individual season for the home teams during the period.
Tradition[a]	The sum of home and away teams' tenure for each fixture.
Distance[a]	Distance in kilometres between the confronting teams home grounds in each fixture.
Market size[a]	Population of the municipality that the home teams spring from.
Derby	Dummy variable equalling 1 for fixtures between local or regional rivals.
Purchasing power[a]	Annual average income in thousands of kronor per capita in working age at the home teams municipality.
Champion away	Dummy variable set equal to 1 if the reigning champion is the away team for the fixture.
Champion home	Dummy variable set equal to 1 if the home team is the previous season's champion.
Nationals[a]	The number of players in the home team that also played for the national team.
Artificial turf	Dummy variable equalling 1 if the arena where the fixture is played has artificial turf.

[a] Static variables, ergo do not vary over the course of a season.

3.1.1 Dependent variable

Match attendance. The attendance will naturally be used as the dependent variable. No adjustments have been made for season tickets. The reason for this is that no such records could be attained for every team that have participated in Allsvenskan during the period. Initially we tested an adjusted match attendance for the teams that we found data for; this proved to be an intricate matter as a number of games would show negative attendance.
This is due to the fact that fans that possess season tickets still opt to not attend certain fixtures. Moreover, previous studies have not made such adjustments to the attendance figure and accordingly neither have we.

3.1.2 Independent variables

To conduct the study we have chosen to examine 15 independent variables' impact on the short-term demand for attendance. The definition for these will be presented along with a short explanation as to why they are included and their predicted outcome.

Performance. There is a general consensus in today's literature[3] that the performance of the home team have a significant impact on the attendance of the game. Using an approach new to the literature[4] we measure the success of the home team's performance as the aggregate amount of points obtained in the three games previous to the fixture. This variable will range from zero points, at three consecutive losses, to nine, at three consecutive wins. It constitutes a measure of fans' general loyalty as a cycle of bad results will discourage those who are only willing to follow the team during successful times. It will evidently show if the fans actually stick with their team through thick and thin. Our assumption is that this variable will have a positive effect on the attendance demand.

Temperature. Weather seems to influence the number of spectators at a game of football. Precipitation or temperature have commonly been used as measures of weather in prior research. Welki and Zlatoper (1994, 1999) used both

[3] Studies from as early as 1975 (Hart *et al.*) to 2009 (Buraimo *et al.*) have found this variable significant in their research of attendance demand in football.
[4] Developed by us, the authors.

temperature and rain fall at match day as variables when examining attendance. They found that precipitation alone and in combination with low temperature had a negative impact on attendance. Due to data unavailability we have chosen only to consider *temperature* as a measure of the weather. It is essentially an assessment of how sensitive the average fan in Sweden is to low temperatures. Are the fans prepared to withstand some cold for the opportunity of watching their favourite team?

The temperature was measured prior to kick-off in accordance to common practise which is also the most logical choice. Temperature at actual kick-off is irrelevant since the tickets have already been bought and the effect of it has already been done. Our ambition was to get as close to the actual purchase as possible so we selected the time that was closest to *one* hour before kick-off. The time range for the variable varies from 0.5 to 4 hours before kick-off. Moreover, for a number of games the temperature was derived from other locations than where the game was to be played. This divergence and the time range is caused by data unavailability. As far as outcome goes, we expect it to have a positive effect.

Uncertainty. The most commonly occurring variable in present literature is outcome uncertainty. Knowles et al. (1992), for instance, examined the attendance of Major Leauge Baseball and found that the uncertainty of outcome had a significant impact on the number of fans present at a game. The calculations and results of this variable have, however, been scattered. Peel and Thomas (1988,1992), Czarnitzki and Stadtmann (2002), Forrest and Simmons (2002) as well as Kuypers (1996) all developed outcome uncertainty calculation from betting odds. Whereas Baimbridge *et al*. (1996), Garcia and Rodriguez (2002) and Hart *et al*. (1975) used league standings as the base for their calculations. We however, have chosen to apply a calculation of outcome uncertainty developed by Forrest, Simmons and Buraimo (2005). The calculation considers both the prevailing consensus of the home team having an advantage from playing at their own stadium as well as the difference in current strengths for the two playing teams. When introduced, this calculation was new to the field of research and provided a view on outcome uncertainty that is closer

to betting odds than e.g. league standings, since the factor of home advantage is considered. The actual formula for the variable is expressed as follows;

Uncertainty = the absolute value of [home advantage] + [home team's points per game prior to the fixture] – [away team's points per game prior to the fixture]. Where [home advantage] is measured as the difference between points per game won by *all* home teams and *all* away teams in the previous season[5] (Forrest *et al.*, 2005).

This is, simply put, a measure of the fans' preferences for a fixture with competitive balance. Logically, it seems more attractive to attend a game where the teams are evenly matched and the outcome of the game cannot be told until the final whistle is blown. Allsvenskan is furthermore known to be truly unpredictable. Virtually any team can end up winning it and it is far from uncommon for a team in the bottom of the table to beat the leaders. The question is if this is something that the fans appreciate. Since research in the field present dispersed results for it, we presume that it can go either way.

Time fraction. The point of time for a fixture has also been subject for discussions, both in Swedish media and amongst fans. Is the attendance of a fixture affected by the actual time it takes place? To investigate this the variable *time fraction* has been added. This is a measure that represents the fractional proportion of a 24 hour day. 18:00 will, for instance, be denoted as 0.75. It is generally known that time is a scarce product and that companies today compete over the spare time of its consumers. The later a game takes place the greater the attendance is likely to be as fans are expected to have duties during the day. Consequently, the impact ought to be positive.

Weekend. This is a dummy variable that intend to further capture the aspect of time scarcity. It has the value of 1 for each Saturday and Sunday during the period and 0 otherwise. At weekends more time ought to be available for services of entertainment such as a game of football and thus a positive impact is predicted.

[5] As an indicator of the overall Swedish home advantage, the mean value for the eight seasons in this study is 0.38 points per game.

Tenure. Lejarraga and Villa (2008) used the number of seasons played in Spain's top tier LIGA BBV up until each season investigated as a measure of experience, when testing for its impact on demotion chances. We believe that the number of seasons played in Allsvenskan ought to affect the fan base of each club. Thus, the variable should have a positive impact on attendance. We have accordingly applied Lejarraga and Villa's measure to the home teams in our model.

Tradition. An extension of the tenure variable is *tradition*. This is the sum of the home and away teams' tenure. The variable was added since a fixture of two teams with a renowned history will presumably be more interesting to attend for fans. The variable is additionally an assessment of rivalry between clubs due to the fact that such issues often have a history behind it.

Distance. The *distance* between clubs home grounds should logically affect the number of away team fans choosing to travel to the game. It can be viewed as a proxy for travelling costs of the away teams support. Higher travelling costs should discourage fans of travelling to the fixture and therefore impact the attendance negatively. Forrest, Simmons and Szymanski (2004) as well as Buraimo *et al*. (2006) have previously used the measure and found that it has a significant impact on attendance. For this reason *distance* is inserted into our model.

Market size. The variable is measured as the population of the municipality each team descends from. Buraimo and Simmons (2006) found that market size has a significant impact on gate attendance in English football. Their calculation however, differs from ours as they measured the population within a ten miles radius from the teams home grounds. This represented the potential market for each football club. Such data was not available to us but we believe that our alternative is just as accurate, if not more, when defining the potential market. Therefore, we expect a similar result as the potential market size according to theory ought to affect sales.

Derby. A categorical variable included to capture fixtures between teams from the same city. It takes the value of 1 if the game is a derby and 0 if not. Employed

in several studies[6] the results are unanimous: games involving teams of the same city will effectively boost gate attendance. We do not assume otherwise.

Purchasing power. As mentioned above there is a consensus in the current field of research that the demand for attendance is price inelastic (Andreff and Szymanski, 2006). In spite of this consent, we are not convinced that the same is true for the market of Swedish football. The common place of research is the United Kingdom which has a strongly rooted football tradition and a quality of the game that should not even be compared to that of Swedish football. *Purchasing power* has thus been added as a proxy of price sensitivity of football fans in Sweden. The effect of this variable is uncertain, it can simply be both negative and positive.

Champion away. Another issue that should affect the level of attendance is the previous seasons' champions. A game versus the reigning champions and the possibility of beating them seems like something that could catch the interest of fans. Forrest et al. (2005) considered this fact when they studied the demand of football in the televised market and found significant support for the hypothesis. The dummy variable *champion away* is therefore introduced. It will generate the value of 1 if the reigning champion is the visiting team of the fixtures and 0 if not. We assume this variable to have a positive impact on the demand for attendance.

Champion home. As an extension of the *champion away* variable, we also introduce *champion home* to investigate whether an effect of winning the title the previous year can be observed on home attendance the following season. Our hypothesis is that this variable will have a positive effect on demand as well.

Nationals. As explained earlier, the presence of a so called superstar is something that has proven to attract more people to spectator games (Hausman and Leonard, 1997). Since Allsvenskan only on rare occasions, if ever, have seen such a superstar we introduce an alternative variable with the purpose of investigating if it has any impact: *nationals*. Instead of "superstars" we measure the number of players that represented each club in the national team annually

[6] Used by Forrest *et al.* (2005), Buraimo and Simmons (2006, 2007), Buraimo *et al.* (2006, 2009) with equal results.

for the period. This is also a proxy for what has been used to measure the quality of the team, namely relative wage bill (Forrest et al. 2006). The number of players that represent the national team for a given season ought to reflect the quality of the team as only the best in the country get the opportunity. *Nationals* may therefore also prove to have a positive effect.

Artificial turf. This final variable is a dummy that takes the value of 1 if the arena of the club has artificial turf and 0 otherwise. Artificial turf is a new phenomenon in Swedish football with the first arena introducing it in 2003. It has been debated whether or not it affects the quality of play and its suitability. We add the measure with the intention of examining the alleged importance of the features of the arenas. As far as impact, it can go either way. This variable is certainly very dependent on the clubs that have used artificial turf, which ranges from one club in 2003 and eventually five in 2008.

3.2 Data

The context for our analysis is the top tier of Swedish football leagues Allsvenskan for the eight seasons of 2001-08, a period more extensive than conventional studies in the area[7].

Allsvenskan comprised 14 teams until 2008 when it was expanded to 16. Each team played 13 home games during 2001-07 and 15 in 2008, totalling 1514 matches for the period. These games will be the case of our study. However, due to the nature of the variable *performance* the three opening rounds of each season will be eliminated. We assume that each season is independent from one another since the pre-season of Allsvenskan extends over a period of five months and numerous friendly games are played during it. Adding to this, a few missing values were encountered for the *temperature* variable and the fixture between AIK and Örgryte IS 2004 was played before empty stands due to riots and violence in the previous round and thus these games are excluded from our data, leading to a grand total of 1324 observations.

[7] Examples include Welki and Zlatoper (1999): 2 seasons; Price and Sen (2003): 1 season; Allan (2004): 6 seasons; Buraimo and Simmons (2007): 4 seasons; Buraimo *et al.* (2009): 1 season.

Data on attendance at each fixture was provided by SvFF (2010a). This is the reported attendance by the clubs. Data used in the calculations of *performance* and *uncertainty* have also been attained from SvFF (2010a). This involves the scores of each game during the course of the period. SvFF (2010a) has also provided the base for the calculations of *time fraction*, *weekend, tenure, history, derby, champion* and *nationals.*

Temperature. Data has been gathered from the Swedish Meteorological and Hydrological Institute (SMHI). SMHI (2010) provides the observed temperature from 52 synoptic stations from 1961 to 2008 at its homepage. Unfortunately, several cities of Allsvenskan clubs were not represented by these stations. The issue was solved by using data from neighbouring cities' stations. As for the actual data utilized another issue arose. Temperature was only reported for certain points of time during the day, namely 06:00, 12:00 and 18:00. As stated above, we intended to get as close to one hour prior to kick-off as possible. Consequently, the time between temperature measurement and kick-off fluctuates for our sample.

Distance. Defined as the distance between home grounds, data was assessed by using the route description service of the leading search company in the Nordic media market, Eniro AB.

Market size. Data on population 2001-08 was gathered from Statistics Sweden(SCB) (2010) for each of the clubs' municipality.

Purchasing power. Constructed with data on the annual average yearly income in thousands of kronor for people in working age (20-64) at each municipality and provided by SCB (2010).

Artificial turf. Data for the calculation of the variable have been collected from each club's official website.

3.2.1 Accuracy and dependability of the data

Evidently the data collected and used in this thesis is secondary and external, meaning that the risk of inaccuracy needs to be considered. In our case the sources for our data must be deemed reliable. SMHI and SCB are both

government authorities and SvFF has a close relationship to public authorities. Eniro is a company of almost 5 000 employees and had a turnover in excess of 6.3 billion Swedish kronor in 2008 (Eniro, 2008). It further uses advanced technology in its business. The methodology applied by these organizations when collecting data is sophisticated and certainly not biased. With this in mind the data we have gathered and utilized ought to be considered dependable and the sources trustworthy.

3.2.2. The case of outliers

Lastly we need to address the concern of the variety for the *match attendance* variable which ranges from 1 011 in the match between Trelleborgs FF and AIK 2004 to 42 386 in the derby between IFK Göteborg and Örgryte IS in 2002. This means that a number outliers are present in our sample. Consequently, we examined if these had an over-proportional effect on the resulting regression curve by excluding observations that were greater than three standard deviations. The results were marginally different, with a slightly lower adjusted R^2 but with the same factors significant. Therefore we chose to include these outliers in our study.

4. Results

The model presented in this paper is one of many variables. However, when conducting a regression analysis not all have a significant impact on the attendance. Out of the initial 15 variables, ten are significant at a 5% level or lower. With six insignificant variables, the overall strength of the regression is impaired. We therefore conducted a backward elimination resulting in two separate regressions, the initial one and one based upon significant variables only. These will from here on be referred to as Model A and Model B respectively. The results from both is summarized in table 2 and 3 below.

In this section, we will present and analyze our findings for each variable in the initial version of the model. This presentation will be followed by a summary of the overall strength of the second and final attendance model.

Table 2. OLS Analysis estimates, Model A.

Dependent variable: Match attendance

Independent variable	Predicted sign	Unstandardized beta coefficient	Standard error	Standardized beta coefficient
Derby	+	10710.074 **	486.498	.461
Tradition	+	42.274 **	5.102	.213
Tenure	+	56.027 **	7.483	.206
Performance	+	419.465 **	54.747	.151
Market size	+	.003 **	.001	.141
Champion away	+	1702.039 **	436.450	.071
Artificial turf	+/-	993.652 *	368.032	.057
Time fraction	+	4439.018 *	2183.982	.049
Temperature	+	44.075 *	19.630	.043
Champion home	+	903.964 *	464.134	.038
Distance	-	.846	.589	.029
Nationals	+	68.686	87.807	.017
Purchasing power	+	1.467	6.769	.006
Weekend	+	14.332	296.629	.001
Uncertainty	+	-52.995	255.685	-.004
Adjusted R^2	.575			
Multicollinearity	72.267			

Notes: * Denotes significance at a 5 % level, ** Denotes significant at a 0.1 % level. The model's significance level is .000

Table 3. OLS Analysis estimates, Model B.

Dependent variable: Match attendance

Independent variable	Predicted sign	Unstandardized beta coefficient	Standard error	Standardized beta coefficient
Derby	+	10665.438 **	428.949	.459
Tradition	+	42.248 **	4.965	.213
Tenure	+	57.905 **	7.058	.213
Market size	+	.003 **	.000	.151
Performance	+	417.386 **	51.922	.150
Champion away	+	1680.863 **	436.411	.070
Artificial turf	+/-	1099.506 **	332.359	.063
Temperature	+	50.654 *	18.796	.049
Champion home	+	951.952 *	442.425	.040
Adjusted R^2	.573			
Multicollinearity	12.685			

Notes: * Denotes significance at a 5 % level, ** Denotes significant at a 0.1 % level. The model's significance level is .000

4.1 Statistical analysis

This section is divided into one for the variables that was found significant in our OLS-analysis, and one for the insignificant ones. Furthermore, beta values referred to in the analysis are *non-standardized*. Though, for internal comparison reasons we also discuss standardized beta coefficients. It should further be noted that from an implicational point of view, the non-standardized beta values are the most relevant ones to consider. Moreover, when illustrating the effect of different values in the variables, all other factors are assumed as held constant.

4.1.1 Significant independent variables

The order of the presentation will be descending based on the explanatory value of each variable.

Derby. Derbies are a global phenomenon in all spectator sports in the sense that these games commonly attract considerable interest from fans. This is also the case in Allsvenskan. The derby variable is by far the one with greatest impact on attendance demand in Model B. Perhaps, the explanation lays in the fact that most Swedish derbies are played in large cities, such as Stockholm and Gothenburg. As previously explained, this is a dummy variable that takes the value 1 when the game is a derby. The beta value therefore implies that when a derby is played, around 10 665 more spectators will attend the game than for a regular fixture in our sample. Given that the mean attendance in our model is 9 164, a derby should attract around 19 829 spectators on average, which is quite close to the derby attendance mean of 20 936. The result corresponds to prior research in the field; Buraimo *et al.* (2009), to name one, found that derby matches generated a 13.9% increase in demand in their sample.

Tenure. As predicted tenure has significant and positive effect on attendance. The standardized beta value for this variable is .208 and the range from 0 to 79. Considering this, the beta coefficient of 54.5 implies that the most experienced club would have more than 4 300 spectators present when the least experienced have none. Originally used for testing its impact on demotion chances in Lejarraga and Villa's (2008) study, this measure is evidently effective also when testing for attendance. As touched upon earlier, the underlying driver might be the size of the fan bases for the individual clubs. A club with much experience

from playing in the top tier should have a substantially larger fan base than one with little experience.

Tradition. This variable primarily captures traditional rivalries between clubs, without any geographical restriction. There are several teams in Allsvenskan that have over 50 years of experience in the top tier and this has created a number of "classic" encounters in the league, which normally attracts large crowds. However, this variable is a lot more dynamic than to only capture these classic fixtures. A low value indicates an encounter between two low-experienced teams and around the mean value of 86.58 are fixtures between low-experience clubs and high-experience ones. The dynamic construct of this variable creates a significant result in our model, with a standardized beta value of .210, making it the third most explanatory factor. The beta coefficient of circa 42 suggests that a classic encounter between two highly experienced teams (with a combined experience of for instance 140 seasons) will attract a substantial extra interest than a fixture between two low-experience teams (10 seasons combined), namely 5 400 spectators more.

Market size. Findings of Wilson and Sim (1995), among others, suggest that size of the home team's market size has a significant and positive effect on attendance. This result is confirmed by our model where the market size variable has the forth most effect on the attendance demand. At first glance, the beta coefficient looks rather modest with a value of .003. However, the market size variable ranges from a minimum of 38 005 (Enköping in 2003) to a maximum of 810 120 (Stockholm in 2008) and in that context the difference in attendance between these two municipalities would be 2316, all other variables held constant. Still, there are some shortcomings to this variable since in reality, the entire population cannot be considered equally likely to attend an Allsvenskan game. A better measure of the potential market would need to broken down in factors such as gender, age and purchasing power to name a few (Wilson and Sim, 2005).

Performance. As found in earlier studies, performance has a significant and positive impact on attendance. The beta value of 421.3 in Model B should be

interpreted as the marginal effect on attendance of one point gained in the last three fixtures. For instance, three consecutive wins may increase gate attendance with almost 3 800 spectators, compared to three consecutive losses. This is a noteworthy increase as the average attendance is 9 164. The standardized coefficient denotes *performance* as the fourth most influential variable among the nine significant ones. A proportion of each clubs' supporters are according to these results only attending the teams' matches in times of prosperity. A run of misfortune will consequently lead to a drop in attendance. This implies that the actual loyalty among fans could be questioned. Furthermore, the fact that a drop in attendance can be expected if results are poor suggests that marketers at the clubs must take action during such times. Otherwise a revenue loss is inevitable.

Champion away. Hosting a game against the winners of the previous season will attract increased interest among fans. Its standardized coefficient of 0.07 makes it the sixth most explanatory factor in Model B. Having the chance to see the home team beat the reigning champions seems to be an opportunity that the audience appreciate. However, a title defender might entice a greater proportion of its supporters to travel to away games and thereby poses an alternative explanation to the significance of this variable in the model. The results suggests that an increase in attendance of 1 680 spectators is expected if the reigning champion is visiting.

Artificial turf. Although found to be significant its explanatory factor is one of the lowest in Model B. The moderate beta coefficient of 1 099.5 indicates a significant impact on the dynamics of attendance. Nevertheless, what is unknown regarding this variable is what the underlying driver actually is. In all cases when artificial turf has been introduced in Allsvenskan it has been done in connection with either the renovation of the arena or the construction of a new one. It is therefore plausible that modernizations are the true drivers of demand in this variable.

Temperature. The temperature variable is related to the spectators explicit experience of visiting a fixture in Allsvenskan. Welki and Zlatoper (1999) found that the variable had a weak, but significant impact on attendance in the

American football league NFL, and our results indicate a similar effect. The variable is significant in Model B but the explanatory effect is negligible. Examining the standardized coefficient, we find this variable to be the second weakest in the model. The beta coefficient is positive and indicates that the marginal effect of a one centigrade increase is circa 44 spectators. Assuming that the temperature effect is linear, a 10 degrees difference prior to kick-off translates into difference of 442 spectators. Naturally, since the games are played outdoors and last for nearly two hours, most consumers might be discouraged to spend this time outside at low temperatures. This issue is further reinforced by the fact that most fans sit still during a fixture, making the experience even frostier.

Champion home. Our hypothesis that home teams will experience a greater home attendance after winning the title proved to be accurate according to the model results. A title is a true testimony of team quality and the probability of experiencing further victories in the following season is evidently perceived as high. According to the beta coefficient for Model B, being champions will attract an increase in attendance of 952 at every home fixture. The variable is the least contributing factor in the model but one has to remember that as a dummy variable, it is only triggered in 15 games per season. The question of causality should be raised for this variable since we do not know if it is more likely for clubs with large fan bases to win the title, or if it really is the possession of the title that drives attendance.

Time fraction. As previously stated, there is an ongoing debate in Swedish media and among different fan constellations in Sweden about the impact of time scheduling on gate attendance. A new phenomena in Allsvenskan is to schedule derby fixtures and other “high-risk games” to early afternoons for security reasons. A hypothesised consequence of this scheduling is declining gate attendances and according to our results, this is indeed the case. In our sample, the scheduled times for the fixtures range from 12:30 to 20:30. Under the assumption of a linear effect, the difference in attendance for these outliers are almost 1 473 in our model. The individual contribution in relation to the other factors is however modest but nonetheless significant. It was in some sense a

proxy of the time scarcity of fans. Attending a match implies that at least two hours must be devoted. Understandably, fans have other duties during the day that need to be taken care of. Moreover, most fans will enjoy a beer or two in connection to a fixture, something that has been put forward by Dale *et al.* (2005). If the game is scheduled at noon the taste for a beer will not be as eminent as in the evening. Although having a significant result in both models, the variable was excluded in Model B due to its severe contribution to multicollinearity.

4.1.2 Insignificant independent variables

Uncertainty. As the variable has been employed in several studies in the field, and because the formula for its calculation was created by renowned researchers in the area, the variable was expected to be significant. This was not the case. Whether it is an effect of using an OLS analysis or the dynamics of Swedish spectators we cannot explain. Other researcher have however encountered equal results. Both Kuypers (1996) and Baimbridge *et al*. (1996) found this variable to be insignificant in their studies of English Premier League football. The Czarnitzki and Stadtmann (2002) study of the German Bundesliga is another. In terms of fan preferences it can be noted that a fixture where an even battle is to be expected does not appeal much. Perhaps, fans are unwilling to risk to see their team lose and instead choose to attend games where a win is anticipated.

Weekend. This variable was not significant in Model A, and was thus excluded in Model B. Welki and Zlatoper (1999) found a positive attendance effect for NFL-games played on other days than Sundays. However, their study was made on American football that by national tradition is played on Sundays, allowing non-Sunday games to be perceived as special. A similar tradition does not exist in Allsvenskan, where games have been played on any given weekday during the past ten years. The absence of such a tradition may provide an explanation to why the *weekend* variable is not significant.

Distance. This variable is not significant in our models. Used in the field of research as a proxy for travel costs for away team supporters, it has earlier been proven to have a weak effect on attendance in e.g. the English second tier

(Buraimo *et al*., 2009). In our Swedish context however, geographical traits are quite unique. The variable varies from 0 (IFK Göteborg and GAIS share the same stadium) through 970.2 kilometres (Trelleborg to Sundsvall) which is nearly twice the maximum in the English second tier. Adding to this, the average number of fans travelling to the teams away games must certainly be considered greater for clubs in England. A matter that may have an effect in the model, contributing to its insignificance.

Purchasing power. We introduced this variable as a proxy for price, in order to investigate whether the literature consensus about football being price inelastic holds true for regional differences in income. However, the variable is not significant in our model. Hence, we cannot with certainty say that income is a driver for attendance demand in Allsvenskan. As it was a proxy for price, the results could be interpreted as if this subject is not a matter of great importance for the fans. They may in this way to be considered as price insensitive which provides opportunities for the clubs to raise the price without an expected loss in consumers.

Nationals. Even though Hausman and Leonard (1997) found that the presence of superstars positively affects attendance, our proxy variable for this fails to show a significant result in the model. Given that our measure is a viable proxy for the superstar factor, this dimension of the game does not prove to impact the attendance in Allsvenskan. The overall low quality of the Swedish top tier, and thereby the absence of stars in the clubs provides an explanation to this. Using this variable as a proxy for the wage bill in an effort to measure team quality may sound feasible but from our model no result can be derived with regards to this.

4.2 Overall strength of the model

The overall strength of association for the model is measured by the coefficient of multiple determination (adjusted R^2 value). This measure is .573 for Model B, implying that 57.3 per cent of the variation of the dependent variable (attendance) is explained by the variation of our independent variables. This must be considered as satisfactory and thus the model should be interpreted as

having an adequate explanatory effect. Furthermore, the model is significant at a 0.1 % level.

With regards to intercorrelations between the variables, the multicollinearity, this does not pose a risk in Model B. According to the prevailing rule of thumb, the measure of 12.568 should be considered low and consequently it should not be hard to assess where the actual effects originates.

5. Discussion

This section of the thesis will be divided into three parts; a summary of our results and our contribution to the field of research followed by a set of marketing implications derived from our results, and lastly a part on self-critique.

5.1 Summary of results

Using a multiple regression model, our study have mapped a number of drivers for attendance demand in the Swedish football league Allsvenskan. Our results show that factors involving; *if the game is a derby, the experience in the top tier, rivalry between teams, the size of the market, performance previous to fixture, the condition of the arena, the temperature prior to kick-off* and *the involvement of the previous season's champion* all have a significantly positive impact on attendance.

In contrast the variables: *uncertainty of outcome, whether the game is played on a weekend or not, the distance between the home grounds, purchasing power* and *the presence of national team players* are not to be considered as factors that influence attendance for football in Sweden.

Several of these results are consistent with prior research in the field but at a number of counts our study fails to agree with similar studies. As this issue has been discussed throughout the thesis we decided to briefly illustrate the points of similarity and difference of our results in regard to prior research in Table 4, seen below. The possible causes of dissimilarities have already been presented so this table will not include such a section.

Table 4. Summary of points of similarities and differences in regards to prior research.

Variable	Sign.	Impact	Studies with similar results	Sign.	Impact	Studies with disagreeing results	Sign.	Impact
Artificial turf[a]	Yes	+	None	...	...	None	...	...
Champion away	Yes	+	Forrest *et al.* (2005)	Yes	+	None	...	...
Champion home[a]	Yes	+	None	...	...	None	...	...
Derby	Yes	+	Forrest *et al.* (2005)	Yes	+	None	...	...
			Buraimo and Simmons (2007)	Yes	+			
			Buraimo *et al.* (2006, 2009)	Yes	+			
Distance	No	+	None	...	...	Stephen Allan (2004)	Yes	-
						Hart *et al.* (1975)	Yes	-
						Sandy *et al.* (2004)	Yes	-
Market size	Yes	+	Buraimo *et al.* (2006)	Yes	+	None	...	...
			Wilson and Sim (1995)	Yes	+			
Performance	Yes	+	Hart *et al.* (1975)	Yes	+	None	...	...
			Welki and Zlatoper (1999)					
			Buraimo *et al.* (2006)					
Purchasing power	No	...	Forrest *et al.*, (2002)[b]	No	+/-	Andreff and Scymanski (2006)	Yes	-
						Forrest *et al.*, (2002)[b]	Yes	+/-
Nationals[a]	No	...	None	...	...	Husman and Leonard (1997)[c]	...	+
Temperature	Yes	+	Welki and Zlatoper (1999)	Yes	+	None	...	...
Time fraction[a]	Yes	+	None	...	...	None	...	...
Tenure	Yes	+	Lejarraga and Villa (2008)[d]	Yes	...	None	...	...
Tradition[a]	Yes	+	None	...	...	None	...	...
Uncertainty	No	...	Baimbridge *et al.* (1996)	No	...	Garcia and Roudríguez (2002)	Yes	+
			Kuypers (1996)	No	...	Peel and Thomas (1992)	Yes	-
Weekend	No	...	None	...	...	Welki and Zlatoper (1999)	Yes	+

[a] Variable has not been employed in earlier research.

[b] Studying individual clubs respectively, Forrest *et al.* (2002) found different results.

[c] Did not utilize a statistical analysis and thus no stastics can be presented.

[d] The study was not made on demand attendance and the impact will therefore be irrelevant in this context.

5.2 Contribution to present field of research

The results of this thesis may be considered as contributing to the field of research in a number of different ways. Firstly, the results on the uncertainty variable is indeed a noteworthy finding as it is considered "one of the most important tenets in the analysis of attendance demand" (Andreff and Szymanski, 2006). Even though a definition of this variable created by some of the currently most appreciated researchers in the field was used, it failed to show any significant relation to the attendance demand. Other areas of disagreement involves the proxy for travel cost, distance. Found to have a significantly negative impact on attendance by both Hart *et al.* (1975) and Sandy *et al* (2004). our study shows no significant influence from this proxy. For the insignificant variables of our study that have been applied in earlier research and generated different results the findings might be considered significant. The reason being that the common place of research in this field is countries with a strongly rooted football tradition, examples being England and Germany, where clubs' financial strength is not even comparable to that of Swedish teams. Studies like ours, made on a relatively unimportant football market with an overall low quality of the game, are certainly rare and may therefore be considered as an important addition to present literature. Markets of different sizes and structures are evidently demonstrating dissimilarities in regards of drivers for attendance. For the same reasons, leagues similar to Allsvenskan, with an explicitly pronounced ambition to climb in UEFA ranking, could certainly find many areas of value in this study. In a regional context our research is the first study ever to be made on demand for live football in Sweden. Hereby, the research conducted and the results found might provide the foundation for future studies on the subject.

We have also been keen on finding new applications of variables used in a different context, as well as constructing measures for new ones. A case in point is the *tradition* variable that we created as an extension of Larroja and Villas (2008) tenure variable. Originally used for investigating risk of demotion, it proved to have a significant and positive impact on demand attendance in our study. By this, it could be argued, that a new variable has been introduced to the

field of research. Similarly, the variable *artificial turf* , also to be perceived as a proxy for stadium condition and features, is added to the literature. Examining the importance of scheduling fixtures by applying a time fractional variable is a further supplement to the field of research. Albeit causing severe multicollinearity in our case, a similar application could show a different result in future research. Lastly, the original procedure to assess the effect of superstars in the league, through the creation of the *nationals* variable, is unique.

5.3 Marketing implications

The results from our model identify influential factors for attendance in Allsvenskan. These findings could become valuable for Swedish clubs if they are incorporated into strategic marketing plans in an effective fashion. This part of our study will consequently be devoted to the marketing implications that the research results have. It should be noted that the discussion in this section is subject to some assumptions and a certain degree of speculation.

5.3.1 The value of derbies

Undoubtedly, derby games are success products in Swedish football. For this reason it is essential that clubs capitalize on this matter in order to increase revenues. The considerable boost in attendance of these events make them golden opportunities to create satisfied and loyal customers. According to the research of Theodorakis *et al.* (2001) the attributes of the extension product can be manipulated in order to increase satisfaction for the consumers. What marketing managers in the Swedish football industry thus needs to acknowledge is that even thought the sale of tickets could be perceived as the core business, it is actually the service of providing a pleasant experience that is. It is through this dimension that clubs can motivate a repurchasing of the service to the spectators, or in other words, influence them to attend football games more frequently. Clubs possess a lot of tools for doing so and among those is the nature of the arena. The artificial turf variable in our model could be perceived as a proxy for stadium standard, as the current clubs employing this technique actually introduced it in the process of renovating the stadiums. Evidently, the place where the sport product is provided is an important factor for spectators. Keeping the arena modern, clean and intact could thus be a way of increasing

satisfaction for the customers. In his study on the profitability in professional sports, Nourayi (2006) argues that the measurement of attendance actually is an adequate proxy for customer satisfaction. This in turn implies that the variables that were found to have a significant impact on attendance in our model, actually are distinctive drivers of satisfaction. These variables must be respected as such by marketing managers in the Swedish football industry and the product that is delivered to the spectators should subsequently be designed with this in mind.

The significant impact of derby games on attendance do however also have implications for the promotional aspects in sports marketing. As it is a driver of satisfaction, it should be recognized that the thrill of attending a game characterized by rivalry and prestige makes the football consumer satisfied. Consequently, these are dimensions that should be implemented in the marketing communication when promoting other games. As an example, games between Stockholm based clubs are generally perceived as derbies, with the exception of those involving IF Brommapojkarna (BP). The absence of top tier experience for this club, makes fans of other Stockholm sides consider games against BP as just another league game. If that were to change, the Stockholm clubs would see a critically important increase in attendance as six more games per season would be considered derbies. The responsibility of communicating these games as derbies falls on the individual clubs and considering the mutual rewards that these clubs would experience in such a case, a proposal of a shared marketing effort should be considered reasonable. Furthermore, the Stockholm example is not the only one in Allsvenskan. Clubs from both the southern and northern parts of Sweden are hosts to games with regionally based teams that are not considered derbies. According to the model, a Swedish derby attracts an extra 10 600 spectators, which in turn would lead to a marginal revenue increase of more than 1.3 million kronor[8]. This rather simple change in marketing communication could seemingly provide a great payoff for future games. In addition, the creation of a hype around these new derbies can further increase fan interest, something that Borland and MacDonald (2003) suggests as vital for the demand of the sport.

[8] Based on the revenues from ticket sales and total attendance for the 2008 season we were able to estimate the average ticket price in 2008 to 127.5 Swedish kronor.

5.3.2 Raising the price

Both factors related to the reigning champion playing have a proven effect according to our results, especially when the champion is the visiting team. Arguably, it seems as if the spectators perceive these games as something out of the ordinary – an extra dimension to the sports product that is provided. As the price proxy variable *purchasing power* was found insignificant in our model, one can assume that price is of little concern to the consumers of football. Consequently, an increase in the ticket price for these games would constitute an easy marketing effort that would have a significant payoff. According to Fullerton, *variable pricing* is an approach that is commercially viable in the sports industry and given that the clubs communicate the extra value to the spectators associated with fixtures against the title holder, the possible creation of distrust that Palmer and McMahon-Beattie (2008) notes would be avoided. The same approach would be viable for fixtures characterized by historical rivalry or when low-experienced teams face high-experienced sides, occurrences that are represented by the highly explanatory *tradition* variable in our model.

5.3.3 Sparking rivalry

To illustrate the importance of *tradition* for the clubs we calculated an approximate effect on revenue it poses. Holding everything else constant a fixture involving two highly-experienced teams would generate 5400 more spectators than one between two inexperienced ones. In terms of revenue this means a difference of 688 500 Swedish kronor. To put this into perspective consider the case of the average club in Allsvenskan 2008. With a turnover of 67.9 million a match with adherent rivalry would yield a one percent higher turnover just from that fixture. For the inexperienced teams the effect is far more important as their turnover is considerably lower. The issue of rivalry is seemingly a more relevant issue for smaller clubs as these are the ones with a limited experience of top tier football. However, it is of equal importance for more experienced teams in their fixtures against inexperienced ones, as the difference in interest is significant for them as well. For this reason clubs must try to spark rivalry at the prospect of a fixture with no history. The means by which this could be done includes public relations and advertisement. It might

seem frivolous but nonetheless of great importance. As Dale *et al.* (2005) concludes, an active relationship between the club and the public is a way of raising its public profile and could thus be used to inflate the profile of a fixture. A suggestion is for the club directors, players and managers to openly discredit the opposing team a few days prior to the fixture. An extension of this is for the clubs to engage in a form of compliance where they agree to actively ignite rivalry amongst the clubs in media previous to the fixture. This is an effective way of creating something out of nothing as it is cheap, if not completely free. It must however be credible, otherwise it will just be perceived as ridiculous.

5.3.4 Opportunities in small markets

The market size is an important variable for attendance in our model. However, to claim that it is a driver for satisfaction would not be realistic, neither is it a factor that marketing managers at Swedish football clubs can control. But in the context of clubs that descend from smaller cities, the importance of this variable could become relevant in the creation of marketing plans. For these teams, the statistical strength of market size in our model is rather a negative factor. With a smaller market, the attendance is expected to be low and in addition it is not very common that derbies are played in smaller towns. For these clubs, loyal customers become even more important for both economic and football specific reasons. Marketing actions should therefore focus on loyalty creating matters, such as seasonal tickets sales or fan appreciation days. Smaller markets can however also be used as an advantage, since a football team easier can become an important part of the community than in a large city. By contributing to the community in matters of i.e. physical education at middle schools, the payback could be a substantial support from local businesses. In addition, the presence of a sports team playing top tier football in a small market, could provide a comfortable and dazzling break from the ordinary for the local population. The efforts for smaller clubs to fill the stands at home games could become quite rewarding since this increase the chance for TV broadcasters to pick up the games as headliners, as highlighted by Borland and Macdonald (2003). This will generate revenues that could have substantial impacts on the profitability of smaller clubs.

5.3.5 Capitalizing on weather

With regards to the results concerning the temperature variable in the model, it can be concluded that nice and warm weather affects the attendance demand positively. The case of good weather could therefore become a sales argument to spectators that should be put forward in the marketing communication of the individual clubs. Knowledge about the importance of this factor could provide an advantage in attracting new spectators to the fixtures. Extra efforts could be put on entertainment in half time since spending an afternoon at a sunny stadium where live entertainment is offered might sound appealing to these non category users. Additionally, youth days could be implemented in an effort to attract families to the games. On the other hand, in colder temperatures clubs could try to attract spectators through offering "warm-ups" at local restaurants and bars, offer blankets at the games and push for purchasing of club merchandise such as hats, scarves and gloves.

5.3.6 Shifting the focus

The significance of performance is a matter of concern in a marketing sense. It is part of the core product that is regarded as completely uncontrollable for marketers (Theodorakis *et al.,* 2001). They must instead try to guide the attention away from this issue at times of poor performance. On the other hand, media must also be considered as quite uncontrollable since the reporters decide how to angle a story or an interview. In addition to working with public relations, what can be done is doing something unconventional and erratic. After a miserable start of the season of 2010 AIK decided to seriously lower their ticket prices against newly promoted Åtvidaberg. The effect of it seems to be[9] great as much of the attention in media has been covering this action despite pitiable performance on the pitch. It has successfully moved the focus away from the pitch and the effect on attendance is expected to be substantial. Of course, one could argue that the sudden increase in demand was due to the price cut. Irrespective of this possibility, it is a great way of regaining fans that has been loyal before but as a consequence of deteriorating performance have given up hope. Moreover, marketers can in addition to this limit the effect of performance

[9] The actual game takes place May 17 2010 - after the thesis has been handed in.

by promoting season tickets prior to the start of the season. The importance of season tickets is of course nothing new but should still be pointed out. Through season tickets, clubs become less dependent on the sales at actual game day. The disloyalty amongst fans will hereby be parried.

5.3.7 Tifo involvement

A widely appreciated aspect of football is so called tifos, by which the supporters at the arena display, often spectacular, choreographies involving everything from simply holding up scarves and throwing confetti to majestic mosaic projections. It is an excellent example of Hamil and Chadwick's (2010) argument that spectators become a part of the product, and TV producers continuously choose broadcast images of tifos and comment upon them. Tifos pose a great opportunity to extend the product of football and an appreciated feature for everyone watching and participating in it. Remarkably, tifos in Sweden are almost exclusively financed and organized by certain supporter groups of the clubs. For more advanced ones the preparations take several weeks and are truly expensive. Funds are commonly generated through donations at other fixtures and the fans preparing them are not monetary compensated. However, successfully executed ones become popular topics of discussions and invaluable memories. In this fashion tifos are also to be considered as positive incidents (Jevutchenko *et al.*, 2008). The evaluation of the game should thus be positively affected meaning that the potential for repurchasing amongst fans present increase. Sadly, since tifos must be financed and organized by the supporters it is not a reoccurring phenomena during a season. Truly remarkable ones are only seen at local derbies and at games with a history of rivalry – in other words at fixtures that already attract a great audience. Therefore, we suggest that clubs of Allsvenskan become more involved in this aspect of the product. Ways of doing so implicate financial support, which is the major concern as the current approach is far from efficient. If tifos were to become a frequent incident it would add another dimension to the product. Thereby focus will at least partly be moved away from uncontrollable aspects such as the performance and tradition and thus not be as important. Certainly, a cost benefit analysis must be

conducted with base in the estimated effect but since it provides a simple mean of improving the product, tifos must be considered as a valuable tool.

5.3.8 Summarized marketing implications

Evidently the opportunities for clubs to spark a significant increase in interest for attending football games are great. They do, however, differ among clubs as their prerequisites are dependent on a few seemingly uncontrollable factors. We have presented a number of concrete suggestions for implications based on the findings of our modelling for attendance demand in Sweden. These proposals include:

- Emphasis on the business outside the field, namely service and stadium features.
- A cunning use of media and public relations in order to raise the profile and create rivalry of an uninteresting fixture.
- Initiate variable pricing to increase revenues.
- Loyalty creating matters such as becoming a part of the community in smaller markets.
- Attract non-category users by developing the product to include entertainment features for instance.
- Shift focus in times of poor performance.
- Make use of the phenomena of tifos by financially support such endeavours.

These proposals should be viewed as *potential* success factors that might raise the interest of football in Sweden. It is a valuable base for marketing efforts but must cautiously be evaluated before implementation.

5.4 Conclusion

The purpose of our thesis was to empirically investigate the subject of match attendance in Sweden. By answering the question *what factors drive the demand for attendance in Swedish football*? we sought to achieve this ambition.

The modelling and analysis in this thesis have at least partly answered this question. Through the model utilized we found a number of explanatory factors

that drive the demand for football in Sweden. In addition to this the statistical analysis provided comments upon the reason for each variable's result and the effect of it in terms of changes in attendance. This facilitated the possibility of ranking each factor based on their explanatory value.

By determining what factors had the greatest explanatory value we could provide recommendations on marketing efforts. Via the implementation of such proposals clubs may positively affect attendance and thus increase revenues, given that they are successfully executed. We hope that this study, by its insights, can assist the clubs of Allsvenskan in their pursuit of a more favourable UEFA ranking.

5.5 Weaknesses of the thesis

In order to fully understand the dynamics of the Swedish football industry, it might have been wise to conduct in-depth interviews with managers at the Swedish Football Association and at clubs of Allsvenskan, in addition to our quantitative study. This could have proven to be useful both in the process of selecting variables for the model and as a qualitative base for the marketing implications. Additionally, a complementary survey study covering the drivers of satisfaction and preferences of football consumers in Sweden should have been conducted to more effectively determine relevant variables.

Regarding our actual model, we consider that data on ticket prices and the introduction of such a variable might add an extra dimension to the analysis. By doing so the model might have been able to determine whether or not the theory of price inelasticity in football is the case in the Swedish market too. Furthermore, variables regarding TV-broadcasted league games and possibly European cup matches is an interesting angle that our research, unfortunately, did not cover. Moreover, as the increasing issue of hooliganism was disregarded due to the difficulty of measuring it an interesting dimension was lost. The same is true for choosing not to study the marketing of subjects such as entertainment and events due to its lack of connection to our purpose. Lastly, even though not conventional in the research field, incorporating a Tobit analysis as a secondary model would have been useful for comparing issues.

5.6 Suggestions on further research

As a final notion, we encourage further research to develop our model of drivers for attendance demand in Sweden and complement the study with a qualitative and survey examination. This will surely provide even greater insights of what causes fans to attend a match of football in Sweden.

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7. Appendix

7.1 Glossary

Fan: A person with interest in a specific club. Also referred to as the *customers* of football in the thesis.

Spectator: A person present at a fixture. Also referred to as *consumers* of the product of football in the thesis. Does not necessarily has to be a *fan* per se even though this is commonly the case.

Fixture: Synonymous with match and game. No differences between these three notions

Attendance: By this we refer to *match attendance.* Which is the number of spectators present at the match.

Club: Referred to as *team* in parts of the thesis. Perhaps, a negligent choice of alternative to club but still meaning the same thing in this thesis. In other words *Club=Team* in our study.

Service: At some sections in the thesis football is referred to as a service instead of a product. Seemingly a bit confusing, it was necessary since Theodorakis *et al.* (2001), among others, referred to football as a service instead of a product. It further includes certain features of the extension of the product.

7.2 Tables

Table 5. Descriptive statistics for match attendance.

Season	Mean	Standard deviation	Minimum	Maximum
All	9164	6305	1011	42386
2001	8506	5898	1571	34593
2002	10101	5874	3376	42386
2003	10057	7103	2457	40382
2004	9646	6666	1011	40186
2005	8484	5340	1746	33622
2006	9289	6172	1087	34174
2007	10109	6773	2134	41471
2008	7635	4937	1427	34173

Table 6. Descriptive statistics for variables employed.

Variable	Mean	Standard Deviation	Minimum	Maximum
Artificial turf	0.15	0.35	0.00	1.00
Attendance	9164	6305	1011	42386
Champion away	0.07	0.255	0.00	1.00
Champion home	0.07	0.255	0.00	1.00
Derby	0.08	0.264	0.00	1.00
Distance	352.70	214.90	0.00	970.20
Market size[a]	316.25	279.81	38.01	810.12
Performance	3.95	2.23	0.00	9.00
Purchasing power	223.09	24.44	173.8	281.50
Nationals	1.40	1.52	0.00	9.00
Temperature	14.39	5.95	-3.00	30.90
Tenure	43.26	22.65	0.00	79.00
Time fraction	0.75	0.07	0.33	0.521
Tradition	86.58	31.11	4.00	154.00
Uncertainty	0.60	0.47	0.00	2.76
Weekend	0.39	0.49	0.00	1.00

[a] Population denoted in thousands of inhabitants.