



Fan Base Economic-recreational Value of Azadi Stadium

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ABSTRACT

Purpose: This research aimed to estimate the economic-recreational value of Azadi Stadium from the spectators' perspective using a contingent valuation approach (CVM).

Methodology: This research was descriptive and applied in nature. The statistical population includes fans who have attended matches at Azadi Stadium at least once in 2022. A sample of 418 individuals was selected from this population using simple random sampling, and the necessary information was collected through the willingness-to-pay questionnaire developed by [Wicker and Colleagues \(2016\)](#). Data analysis was conducted using the logit method, utilizing the Stata and Shazam software.

Findings: The findings reveal that the average willingness of fans to pay to attend games at Azadi Stadium is 91,000 Tomans per game, and the estimated economic and recreational value for one season is approximately 1,350 billion Rials. Furthermore, factors such as income, watching matches on television, satisfaction with stadium facilities, and enjoyment of the games significantly and positively impact the willingness to pay to attend stadium matches. On the other hand, variables like age, education level, proposed price, and marital status negatively influence this willingness to pay.

Originality: Limited research has been conducted on the economics of recreational sports facilities, explicitly focusing on contingent valuation methodology. Estimating the economic value is crucial for decision-making regarding investment, improvement, and operation of stadiums.

Keywords

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1. Introduction

The modern global sports sector has experienced substantial economic, social, and political changes. In recent centuries, sports have become one of the most significant aspects in the growth and development of countries and one of the highest-income industries (Zamani et al., 2013). Sports have grown dramatically in numerous nations and now play an essential role as an economic sector in various areas such as sports services, product production and consumption, and economic growth. Sports have evolved to the point that they are regarded as business and commerce in many nations (Askarian et al., 2005). Football has continually drawn millions of supporters and spectators as one of the most popular and appreciated sports globally (Castellanos et al., 2011). The widespread interest and enthusiasm for football matches have led to a demand for sports venues that can accommodate large crowds and provide suitable conditions for hosting such events. As symbols of power and sports attraction, football stadiums play a crucial role in the football industry's development and fans' overall recreational experience (Lee, 2022). These stadiums are characterized by their high capacity, modern facilities, amenities, and incorporation of advanced technologies (Yang & Cole, 2022). As a result, estimating the economic and recreational value of football stadiums becomes essential. The economic value primarily encompasses these stadiums' financial and economic impacts, including revenue generated from ticket sales, revenue from football-related businesses, job opportunities created, and the attraction of tourists attending matches (Nicolliello & Zampatti, 2016). In this industry and football, stadiums have become a significant source of income for clubs, especially in recent years, because they can provide valuable recreational opportunities for their audience. In each game, spectators pay to watch it up close, generating enormous revenue for stadiums and their favorite clubs. Being present in sports venues and places that create intangible public goods such as recreation, honor, satisfaction, happiness, and pride is much more important than other benefits (Humphreys et al., 2018), among which recreational value is the most essential and practical value that is mentioned for sports facilities. It includes many other intangible benefits, and people are willing to spend money to take advantage of its functions and facilities (Orlowski & Wicker, 2019).

Based on the fact that football is the most global sport in the world and its importance is such that it can even be considered a social indicator (Royuela & Gásquez, 2019), it has become a reason for its fans to spend a lot of time and money watching and enjoying it (Galan et al., 2021). In this regard, Tehran's Azadi Stadium, with a capacity of one hundred thousand spectators and hosting national team competitions as well as the two favored teams Persepolis and Esteghlal, plays a significant role in providing entertainment for its football-loving community.

In quantitative economics, reducing and determining willingness to pay for the monetary value of public goods and intangible goods produced by sports facilities such as football stadiums can play an essential role in the integrated management of human and physical sports facilities (Robert, 2017). To this end, contingent valuation is widely used to assess public adjustments by creating willingness-to-pay values. This approach is a hypothetical method that determines individual preferences and how much they are

willing to pay for their favorite recreational activities. They include watching competitions, player and team successes, and enjoying public and intangible benefits at the desired stadium (Funahashi et al., 2020). de Boer and Koning (2022) demonstrated in their study on professional cyclists' willingness to pay (WTP) that the desire to pay spectators was higher than that of residents in areas where the event was held. In addition, pre-and post-event studies showed that WTP increased significantly after the event, and variables such as income, proposed price, interest, and enjoyment greatly impacted the willingness to pay spectators (de Boer & Koning, 2022). Robert (2017), in his article, used the contingent valuation method to examine and evaluate the value of a sports stadium in Poland. The findings showed that the intangible goods produced in the stadium have a high value, and respondents are more willing to pay for them, but the immense costs do not compensate for the public benefits. That is, the weight and annual profit from intangible and public goods compared to stadium costs are low. Their findings showed that willingness to pay is positively and significantly related to income level (Robert, 2017).

In his research on estimating the value of athlete success, Wicker et al. (2012) demonstrated that as athlete success increases, the willingness to pay among fans also increases. Additionally, Wicker et al. (2012) found that age, education, income, proposed price, and years of participation in WTP significantly impacted willingness to pay across 21 sports (Wicker et al., 2012). Using the contingent valuation method, Whitehead and Wicker (2019) measured the value of public goods produced in two American sports stadiums. According to the research findings, neither stadium had financial justification for delivering public goods, meaning that the value of public goods was estimated to be less than the cost of financing and constructing the stadiums. However, despite this, the audience was highly willing to pay (Whitehead & Wicker, 2019).

Income level and presence in the stadium significantly impact the willingness to pay for sports events. Based on a study estimating the economic value of the Sepahan football club for Isfahan City, Bidram et al. (2018) found that the average annual willingness to pay citizens for the attendance of the Sepahan football team in the Premier League is 16,480,000 rials (Iranian currency). For buying tickets to watch the games at the stadium, it is 4,433,000 rials. Moreover, the study showed that age, education, income level, and presence in the stadium significantly influence willingness to pay (Bidram et al., 2018). Sarlab et al. (2021) conducted a study to estimate the willingness to pay and the economic value of sports facilities in Tabriz City. The study showed that the average willingness to pay for sports facilities in Baghshomal, Manzarieh, and Mirdamad areas is 4,744,910 rials, 5,234,043 rials, and 4,215,000 Rials, respectively, over one year. Furthermore, the total economic value of team and individual sports in the three areas of Tabriz is 103,402,848 rials and 111,417,684 rials, respectively (Sarlab et al., 2021). Khodaverdizadeh and Kavosi (2011) estimated the annual ecotourism value of Soholan Cave to be 847,000,000 rials. The study also showed that variables such as education, the attractiveness of the cave, proposed price, and income significantly affect people's willingness to pay. Additionally, the results indicated that over 88% of visitors are willing to pay a fee to use the cave (Khodaverdizadeh & Kavosi, 2011). Hoseini et al. (2022) showed in the study titled "Estimating the Economic Value of Persepolis Football Club " that 77.3% of the

fans are willing to participate in funding for Persepolis at competitive levels, and ready to pay for Persepolis fans to attend and win the Premier League the values were 70% and 72.3% respectively. The Iranian Hazfi Cup and the AFC Champions League values were 71.9% and 78.1%, respectively. 89.9 percent of Persepolis football clubs intended to buy match tickets and attend the stadiums, 83.8 percent wanted to watch their favorite team matches on TV, and 43.5 percent purchased the club's products/kits (Hoseini et al., 2022).

In this research, since recreation is a non-consumable commodity, the contingent valuation method (CVM) is considered one of the best ways to determine its value. This method is considered a standard and flexible tool for measuring non-consumable and non-marketable values. The term "contingent" in CVM is used because this method creates a hypothetical market and estimates the payment amount respondents would make under specific hypothetical scenarios (Dehez, 2023). Valuing stadiums is of great importance for urban planning and development. Scientific research can help cities identify the need for revitalization and improvement of stadiums, determine their optimal use, and devise appropriate plans to increase profitability and ease of use of these facilities. Managers and policymakers require accurate economic and recreational value assessments to make better decisions regarding stadium investments, operations, development, or renovation. Credible and well-documented research can aid them in making decisions that benefit society and cities. According to the research background, no studies have been conducted on estimating the economic value of recreational sports facilities in Iran, and given the widespread attendance at events held at the Azadi Stadium in Tehran for national teams, Persepolis, and Esteghlal football clubs, the limited domestic research in this field, and the particular situation of this stadium in terms of creating recreation in terms of the number of spectators in the country, the researcher is trying to answer the following questions.

- 1- What is the economic and recreational value of Azadi football stadium?
- 2- What variables affect the willingness of Azadi stadium users to pay?

2. Methodology

This research was analytical and descriptive in terms of purpose and applied in terms of goal. The statistical population includes fans who attend matches at Azadi Stadium in Tehran. The sample size was measured using the Michel and Carson table and was 430, of which 418 questionnaires were returned with complete answers. Sampling was random, and questionnaires were distributed manually and online. The distribution of some questionnaires in 2022 was conducted in person among spectators, while the rest of the questionnaires were made available online to the fans of the teams playing at Azadi Stadium due to the spread of COVID-19 and the absence of spectators in the stadium. The measurement tool was a standard questionnaire consisting of 29 questions. The first part of the questionnaire included demographic, social, and economic questions. The second and third parts had inquiries related to attendance at the stadium and satisfaction with it, and the fourth part was associated with a hypothetical scenario where respondents were asked to express their willingness to pay to attend a specific game at the stadium. The opinions of experts and specialists were used to validate the questionnaire.

Initially, 80 questionnaires were distributed as a pre-test among respondents, and a Cronbach's alpha coefficient of 0.80 was obtained using SPSS software. Also, the average willingness to pay of the respondents in the pre-test stage was obtained by asking an open-ended question without offering any specific price. This was used in designing the main questionnaire scenario. Several methods perform the contingent valuation method, one of the most important of which is the double-bounded (DB) or one-dimensional approach. The DB method was first introduced by Boyle and Bishop in 1979. In this method, respondents select only one proposal from a predetermined number. When facing a hypothetical market situation, respondents only answer "yes" or "no" to the proposed price.

In a hypothetical scenario, the conditional valuation method determines individuals' willingness to pay. This method assumes that individuals have a utility function denoted by equation (1).

$$(1) \quad U = U(Y, S)$$

In this equation, the utility function is indirect and depends on the individual's income and a vector of other economic and socio-economic factors. To establish a model for measuring willingness to pay, it is assumed that each individual is willing to pay an amount of their income to attend a stadium as the proposed amount. This payment creates desirability for them. The desirability generated by following the stadium is more significant than not following, which is represented by the following equation (Hanemann, 1984).

$$(2) \quad U(I, Y - A; S) + U(0, Y; S) + \varepsilon$$

Where the variables are random variables with an average of zero, distributed randomly and independently, the difference in utility created by attending the stadium is given by equation (3).

$$(3) \quad \Delta U = U(I, Y - A; S) - U(0, Y; S) + (\varepsilon_1 + \varepsilon_0)$$

The dual-format questionnaire structure for examining individuals' willingness to pay involves a dependent variable with a binary choice, requiring a qualitative choice model. Logistic and probit models are commonly used for qualitative choice methods. Therefore, the logistic model pattern was used in this study due to its computational simplicity and widespread use in foreign studies to investigate the impact of different explanatory variables on individuals' willingness to pay. According to the logistic model, the probability (P) of an individual accepting one of the proposals is expressed as follows (Hanemann, 1984).

$$(4) \quad P_i = F(\Delta U) = \frac{1}{1 + \exp(-\Delta U)}$$

The cumulative distribution function is a standard logistic function, and some socio-economic variables, such as income, proposed amount, marital status, etc., are included

in this research. The parameters of the logistic model are estimated using the maximum likelihood estimation, the most common technique for estimating the logistic model. Then, the expected value of willingness to pay is calculated numerically within the range of negative infinity to positive infinity using the following equation (Molaei, 2013).

$$(5) \quad (\Delta U) dA = \int_{-\infty}^{+\infty} \left(\frac{1}{1 + \exp[-(\alpha^* + \beta A)]} \right) dA \quad . \alpha^* = (\alpha + \gamma Y + \theta S) \int_{-\infty}^{+\infty} F_{\eta}$$

Where E(WTP) is the expected value of willingness to pay, and the width is an adjusted origin that includes the socio-economic term added to the primary width term. In the present study, the dependent variable was the acceptance or rejection of the proposed amount for attending the stadium. This variable was obtained in response to whether an individual accepts or rejects the proposed amount for stadium attendance. Therefore, the dependent variable here is categorical, with values of one and zero. In such cases, regression models with categorical variables are generally suitable for investigating regressions with binary dependent variables. Models like linear probability models, logistic regression, probit, and Tobit models are utilized. In this research, logistic regression has been used to examine the influence of various explanatory variables on the likelihood of individuals' willingness to pay. The logistic regression model utilizes the logistic distribution and predicts probability values between zero and one.

The current study has employed this method. Considering the mean and standard deviation, using the Boyle method, the proposed price obtained based on the pre-test consists of 6 proposed prices (55,000, 65,000, 70,000, 75,000, 90,000, and 120,000 Iranian rials). These proposed prices represent the suggested price for each instance of attending Azadi Stadium. The data analysis was conducted using Stata and Shazam software, employing the rank-ordered logit and probit methods. The scenario and relevant questions in the current study were presented as follows: Azadi Stadium in Tehran allows you leisure and leisure time. Given the current condition of the stadium and the sports teams of your interest that hold their games in this venue, and considering their increasing costs, as well as the fact that you are a user of this stadium and attend it for recreation, would you be willing to pay an amount of X Iranian rials for the entry fee of Azadi Stadium in Tehran to enjoy and watch the games of your desired sports club"?

3. Results

According to Table 1, the average age of the individuals is 31 years, the average household size is four people, and the average proposed entrance fee is 880,000 rials. Moreover, the oldest and youngest individuals are 56 and 17, respectively. The maximum and minimum number of family members are 8 and 2, respectively. Finally, the maximum and minimum proposed entrance fees are 1,200,000 and 550,000 rials, respectively.

Table 1. Descriptive statistics of variables.

| Variables | Mean | Maximum | Minimum | Standard deviation |
|----------------------------------|--------|---------|---------|--------------------|
| Age of respondents (years) | 31 | 56 | 17 | 8.36 |
| Size of each household (persons) | 4 | 8 | 2 | 1.1 |
| Proposed entrance fee (Rials) | 800000 | 1200000 | 550000 | 211440 |

Based on the data, 19% of the respondents had a diploma or less education, 42% had a bachelor's degree, and 12% had a master's or doctoral degree. Regarding occupation, 119 individuals (29%) were government employees, and 299 individuals (71%) were self-employed. Therefore, it can be observed that individuals with self-employment had the highest frequency in the sample under study. 38% of the respondents were married, and 62% were single. The income level of individuals was designed in 64 groups, including 4-0, 9-5, 14-10, and more than 15 million Tomans. The results showed that the income group of 9-5 million Tomans, with 125 samples and 30%, had the highest frequency among different income groups. Based on Table 2, different proposed amounts for watching a football match at Azadi Stadium were obtained using a pre-test. Then, using the Cooper method and considering 415 samples, the frequency corresponding to each proposed amount (550000, 650000, 700000, 750000, 900000, and 1200000) was obtained.

Table 2. Status of respondents regarding proposed prices.

| Proposed price (Rials) | Frequency (Percentage) | Yes | No |
|------------------------|------------------------|-----|----|
| 550000 | 67 | 56 | 11 |
| 650000 | 67 | 45 | 22 |
| 700000 | 71 | 42 | 29 |
| 750000 | 71 | 38 | 33 |
| 900000 | 71 | 32 | 39 |
| 1200000 | 71 | 25 | 46 |
| Total | 418 | | |

*The numbers inside the parentheses show the frequency percentage among 70 samples.

3.1. Assumptions of the regression model

One of the critical aspects of using the regression model is the normality of variables, especially the dependent variable. Therefore, the results of the Jarque-Bera test indicated the normality of the dependent variable (willingness to pay) at a significant level of 0.05.

Table 3. Jarque-Bera test.

| Variable | Willingness to pay |
|------------------|--------------------|
| Jarque-Bera test | 0.173 |
| P-Value | 0.81 |

Another requirement assumption in regression analysis is that there should not be a linear relationship among variables. A linear relationship indicates that one independent

variable is a linear function of other independent variables. The linearity between the explanatory variables of interest was examined to estimate the logistic regression model. To this end, the analysis of variance test was employed. According to Table 4, considering that for each specified level within each row of the Table, no pair of variables had a correlation coefficient greater than 0.5, it can be claimed that there is no collinearity among the investigated explanatory variables. Therefore, the results of the logistic model can be analyzed.

Table 4. presents the results of the linearity test for the logistic regression model.

| Variables | Proposed price | Income | Age | Education level | TV watching | Satisfaction with sports facilities | Enjoyment of watching football matches | Marital status |
|-----------|----------------|--------|------|-----------------|-------------|-------------------------------------|--|----------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.57 |
| 4 | 0.03 | 0.82 | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | 0.11 |
| 5 | 0.00 | 0.05 | 0.02 | 0.37 | 0.05 | 0.03 | 0.25 | 0.16 |
| 6 | 0.14 | 0.05 | 0.02 | 0.34 | 0.02 | 0.01 | 0.41 | 0.00 |
| 7 | 0.17 | 0.00 | 0.46 | 0.23 | 0.09 | 0.00 | 0.03 | 0.01 |
| 8 | 0.32 | 0.01 | 0.01 | 0.01 | 0.66 | 0.02 | 0.16 | 0.00 |
| 9 | 0.33 | 0.03 | 0.48 | 0.01 | 0.16 | 0.01 | 0.14 | 0.14 |

This study used a logistic regression model to investigate the factors affecting the likelihood of accepting the proposed amount for watching a football match at Azadi Stadium. The results of the logistic model are presented in Table 5. The likelihood ratio (LR) test examined the estimated regression's significance. The value of the likelihood ratio (LR) statistic at 8 degrees of freedom is 361.79, which indicates that the entire estimated model is statistically significant at the 1% level. The coefficient of determination (R-squared) is 63%, a desirable figure for the logistic model calculated based on the number of dependent variable observations. In other words, explanatory variables explain 63% of the variation in the dependent variable. The results showed that income, television watching, satisfaction with stadium facilities, and enjoyment of watching a football match at Azadi Stadium have a positive and significant effect. In contrast, age, education level, proposed price, and marital status negatively and significantly impact the likelihood of people's willingness to pay to watch football matches at Azadi Stadium.

Table 5. Results of the Logit Model.

| Variables | p> z | Z | Coefficients |
|-------------------------------------|-------|-------|--------------|
| Proposed price | 0.000 | -5.21 | ***-0.00005 |
| Income | 0.000 | 5.47 | ***0.78 |
| Education level | 0.058 | -1.90 | *-0.36 |
| Age | 0.000 | -5.61 | ***-0.16 |
| TV watching | 0.000 | 4.03 | ***1.09 |
| Satisfaction with sports facilities | 0.000 | 4.61 | ***2.5 |

| Variables | p> z | Z | Coefficients |
|--|-------|---------------------------------|-----------------------------|
| Enjoyment of watching football matches | 0.000 | 8.02 | ***1.5 |
| Marital status | 0.004 | 2.89 | ***-1.16 |
| Distance from origin | 0.72 | -.35 | Ns-0.55 |
| pseudo R²=0.63 | | (LR) = 361.79 PValue = 0.000 | Number of observations =418 |

***, ** and * have significant meanings at levels of 1%, 5%, and 10%.

Since the coefficients of the variables in the logistic model are not easily interpretable quantitatively, the final effects of the variables are estimated. The final effects of the variables are shown in Table 6. The final effect of the proposed price shows a significant negative impact of one percent on the probability of an individual's willingness to pay. In other words, the final effect of the proposed price indicates that with a one-unit increase in the average proposed price, the probability of an individual's willingness to watch football matches at Azadi Stadium decreases by 0.001 percent. The final effect of individuals' income at the one percent level significantly positively impacts the probability of an individual's willingness to pay. That is, the final effect of the income variable indicates that with a one-unit increase in the average income of individuals, their willingness to pay for watching football matches at Azadi Stadium increases by 2.0 units or 20 percent. The final effect of the education level variable is -0.08, meaning that with a one-unit increase in the average education level, the probability of an individual's willingness to pay decreases by 8 percent. The final effect of the age variable shows that with a decrease of one unit in individuals' age, the probability of their willingness to pay to watch football matches at Azadi stadium increases by 0.04 units (4%). This means the desire to produce young people to watch football matches at Azadi Stadium is high. The final effect of the variable of the number of watching football matches on television shows that with an increase of one unit in the number of watching football matches on television, the probability of an individual's willingness to pay for watching football matches at Azadi stadium increases by 0.25 units (25%). The final effect of the satisfaction variable with the quantitative and qualitative facilities of Azadi Stadium is 0.42 units. In other words, the willingness to pay off individuals who are satisfied with Azadi Stadium's quantitative and qualitative facilities is 42% more than those who are unhappy. The final effect of the variable of enjoyment of watching football matches is 0.34 units. This means that with an increase of one unit in the pleasure of watching football matches, the probability of an individual's willingness to pay for watching football matches increases by 0.34 units (34%). The final effect of the marital status variable is -0.27 units. In other words, the probability of willingness to pay of married individuals is 27% less than that of single individuals.

Table 6. Results of the final effect of the logistic model.

| Variables | p> z | Z | Coefficients |
|-----------------|-------|-------|--------------|
| Proposed price | 0.000 | -5.25 | ***-0.00001 |
| Income | 0.000 | 5.44 | *** 0.2 |
| Education level | 0.055 | -1.92 | *-0.08 |
| Age | 0.000 | -5.5 | ***-0.04 |

| Variables | p> z | Z | Coefficients |
|--|-------|------|--------------|
| TV watching | 0.000 | 4.02 | ***0.25 |
| Satisfaction with sports facilities | 0.000 | 7.02 | ***0.42 |
| Enjoyment of watching football matches | 0.000 | 7.38 | ***0.34 |
| Marital status | 0.003 | 2.96 | ***-0.27 |

After estimating the logit model, the average willingness to pay is calculated. According to Table 7, the average willingness to pay is calculated to be 910000 Rials. In other words, individuals are willing to pay an average of 910000 Rials each time they watch a football match at Azadi Stadium. This amount is also significant at the 1% level.

Table 7. Calculation of Average Willingness to Pay.

| Value | Willingness to Pay | Upper Bound | Lower Bound | ASL |
|-------|--------------------|-------------|-------------|-------|
| Mean | 910000 | 1010000 | 840000 | 0.000 |

3.2. Estimating the recreational value of watching a football match at Azadi Stadium:

Given the amount individuals are willing to pay to watch a football match at Azadi Stadium, the recreational value of watching a football match at Azadi Stadium is calculated as follows. The average number of competitions held for the Iranian national team and the Persepolis and Esteghlal clubs during a season or year is estimated to be 40 games. The formula you provided accurately calculates the recreational value of a football game at Azadi Stadium. Let me break down the calculations you mentioned:

1. ****Economic and Recreational Value of a Single Game:****

Average Willingness to Pay per Person * Average Number of Spectators per Game =
Economic and Recreational Value of One Game
300,000 Rials * 91,000 = 27 billion Rials

2. ****Annual economic and Recreational Value of Watching Games:****

Economic and Recreational Value of One Game * Number of Games in a Season (50 games) = Annual Economic and Recreational Value
27 billion Rials * 50 = 1,350 billion Rials (1.35 trillion Rials)

The calculations seem consistent and accurate, showing the estimated recreational value of watching football games at Azadi Stadium. Therefore, the recreational value of managing a single football match at Azadi Stadium is calculated to be 27 billion Rials. The annual recreational value of watching a football match at Azadi Stadium is estimated at 1,350 billion Rials.

4. Discussion and conclusion

We used the contingent valuation method and logistic regression model. The average willingness to pay of football fans attending Azadi Stadium in Tehran was calculated, and based on that, the annual recreational value of this stadium was estimated. Since the overall benefits created by Azadi Stadium for fans are non-consumptive and not priced in the market, non-market valuation methods can be used to value them. Therefore, the contingent valuation method was used in this study. In response to the central questions of this research, the economic-recreational value of Azadi Stadium from the perspective of spectators was estimated at 1080 billion rials, considering the average presence of 30,000 spectators for each match at Azadi Stadium and the average of 40 games held there per year.

Based on the ticket price for the Iranian Premier League games at the time of data collection for this study (first half of 2022), which was 650000 Rials, the difference between spectators' willingness to pay or preferences and the federation's approved ticket price for the same number of spectators during a season or a year equates to approximately 390 billion Rials, which can be used for stadium development and improvement. Both willingness to pay and contentment with the stadium would rise in this circumstance.

In response to the second question of this research, income, education level, age, marital status, proposed price, watching competitions on television, satisfaction with stadium facilities, and enjoyment of watching the match have significantly impacted the willingness to pay. The suggested price was found to have a significant adverse effect at the one percent level. This means that as the proposed price for watching football matches at Azadi Stadium increases from 550000 to 1200000 Rials, the likelihood of people's willingness to pay decreases. These findings are consistent with the results of the studies by (de Boer & Koning, 2022; Sarlab et al., 2021; Whitehead & Wicker, 2019; Wicker et al., 2012). They also showed in their research that increasing the proposed price reduces the willingness to pay the audience. Increasing the suggested price of stadium tickets can decrease spectators' desire to purchase tickets. This phenomenon can be due to the rise in costs, resulting in a limited number of individuals who have the financial capacity to attend the games. It may also cause a shift in spectators' recreational preferences. Some individuals might choose alternative, less expensive entertainment options instead of following the matches. Escaping ticket prices might further reduce the general public's presence at the stadium.

Consequently, this could negatively impact the overall viewing experience and the allure of the games for spectators. Similarly, the decline in attendees and the resultant decrease in ticket revenue can have various financial implications for sports, clubs, and stadiums. This could encompass diminished financial resources for teams and stadiums, decreased local business income, and reduced employment within the sports industry.

The price increase could diminish the opportunities for spectators to engage in the viewing experience. Financial constraints could lead spectators to abstain from attending various games. Additionally, elevated ticket prices could reduce demand and popularity for teams and stadiums, ultimately negatively affecting their financial performance and recognition. In summary, increased proposed ticket prices for stadiums

could lead to negative impacts and challenges for stadiums, spectators, teams, and the sports economy. To maintain a balance between economic considerations and the viewing experience, precise decision-making and careful price regulation are essential to avoid unwarranted increases.

The significant positive effect of income at the one percent level indicates that people with higher incomes have a more remarkable ability to pay than those with lower incomes. In other words, as people's income level increases, their likelihood of being willing to pay to watch football matches at Azadi Stadium also increases. The studies by (Bidram et al., 2018; de Boer & Koning, 2022; Khodaverdizadeh & Kavosi, 2011; Robert, 2017; Sarlab et al., 2021; Whitehead & Wicker, 2019; Wicker et al., 2012) also found that having a high income and suitable job can increase the willingness to pay.

The negative and significant effect of the education level variable indicates that the lower the education level of the spectators, the higher the likelihood of their willingness to pay to watch football matches at Azadi Stadium. Increasing education levels usually leads to changes in individuals' habits and lifestyles. People with higher education may be inclined towards less consumption-oriented cultures in sports and leisure activities. For instance, they might be less inclined to participate in high-cost environments like football stadiums. Highly educated spectators might be more interested in diverse experiences across various fields. These individuals could prefer allocating their time to activities such as travel, arts, science, and culture rather than spending on the expenses associated with stadium attendance.

Moreover, increased education levels might diminish the significance of sports and football in individuals' lives. Individuals with higher education might have a greater interest in activities and matters with social and cultural dimensions, leading to a reduced willingness to allocate time and resources to attending football matches. Highly educated individuals might also prefer new technologies and methods. In today's world, television broadcasts and online platforms offer more convenient ways to watch sports matches than physically attending stadiums, which could decrease individuals' willingness to pay for stadium attendance. In general, the negative impact of higher education levels on spectators' willingness to pay at football stadiums is rooted in diverse social, cultural, and recreational realities. To address this issue, advertising, and experiential strategies can be introduced to enhance the appeal of attending sports matches in stadiums, thus maintaining the motivation for highly educated individuals to participate in these events.

The negative and significant effect of the age variable indicates that younger people with lower ages are more willing to pay higher amounts to watch football matches at Azadi Stadium. Young spectators usually come to the stadium for a more thrilling experience and greater motivation. Increasing age might decrease these motivations and a reduced willingness to pay for event attendance. Rapidly changing technologies and media have increased the attractiveness of alternative ways to access information and sports experiences. Growing older could lead to a decreased inclination for physical attendance at stadiums and influence the willingness to pay. With age, spectators are more concerned about comforts and amenities. This increased demand for convenience might lead to higher costs and reduce willingness to pay. As age increases, other recreational opportunities like traveling, concert tours, and other events become

appealing. This could result in a reduced inclination to pay for attending sports events. Over time, physical problems and limitations also increase. This could decrease some individuals' ability to participate in sports events and impact their willingness to pay. Watching sports events in stadiums offers social interaction opportunities with fellow fans. With age, spectators might have a reduced inclination to establish social connections, which could decrease the willingness to pay. Ultimately, it can be said that the increasing age of spectators could negatively impact the willingness to pay at sports stadiums. Solutions such as improving user experience, offering services and facilities tailored to the needs of different spectators, and employing attractive advertising could effectively address these challenges.

The variable of the number of football matches watched at Azadi Stadium on TV has a positive and significant effect on the probability of an individual's willingness to pay. According to the results obtained from the studies of (Bidram et al., 2018; Hoseini et al., 2022), watching the desired club matches on TV can increase the audience's willingness to pay. Furthermore, watching matches on television can enhance the excitement associated with the game and encourage spectators to experience this thrill in the stadium environment. After experiencing the excitement on television, spectators might be inclined to witness it live in the actual venue. Being at the stadium and participating in matches offers a unique live experience distinct from television experiences. Spectators can closely observe game details, feel the collective energy, and experience the thrill of sports competitions. The presence of spectators in the stadium can provide teams with greater motivation and energy. Direct support and crowd company in the stadium can positively impact team performance and boost teams' self-confidence.

Being at the stadium allows spectators to become familiar with the diverse culture and community at the event location. This experience strengthens social connections and showcases a varied and dynamic world. As a result, the experience of watching matches on television can encourage the willingness to pay and attend stadiums. These two experiences complement each other, and the television experience can act as a gateway to the in-person stadium experience, positively influencing the inclination to pay and attend.

The positive and significant effect of satisfaction with the quantity and quality of current facilities inside Azadi Stadium shows that the probability of willingness to pay for individuals who are satisfied with the stadium's existing facilities is higher. Therefore, the higher the satisfaction of individuals with the quantity and quality of current facilities inside Azadi Stadium, the higher their likelihood of willingness to pay to watch football matches at Azadi Stadium. The variable of enjoyment of watching football matches at Azadi Stadium has a positive and significant effect on the probability of an individual's willingness to pay to watch football matches at Azadi Stadium. In other words, the higher the enjoyment of watching football matches at Azadi Stadium, the higher the probability of individuals' willingness to pay. The facilities of a stadium encompass various aspects, including seating arrangements, amenities, audiovisual equipment, and more. Satisfaction with these facilities can enhance the experience of watching a match, encouraging spectators to have an enjoyable time at the stadium. Football stadiums serve as places where diverse societal and cultural differences intersect. Providing suitable facilities and creating welfare spaces can foster social

interactions and positive connections among spectators. These social interactions may prompt spectators to attend stadiums more frequently. The experience of being present at a football stadium is much more immersive than watching on television or online. Direct interaction with players, the game's excitement, and the crowd's energy make the stadium football experience unique, motivating spectators to pay for their attendance. Modern stadium facilities can make the experience of watching matches more appealing and distinctive. Advanced technologies such as high-quality filming, proper audiovisual equipment, and suitable lighting can transform the live viewing experience into a multisensory one beyond television watching.

Moreover, stadium amenities, including exhibitions, recreational areas, shops, and restaurants, can reinforce team identity and fan loyalty. Spectators can enjoy purchasing various team-related products and items. Consequently, satisfaction with football stadium facilities can increase spectators' willingness to pay to attend these environments. Establishing an exceptional and consistent experience for spectators through improving stadium facilities and services can foster a closer connection and sustained engagement with live football matches.

The negative and significant effect of the marital status variable indicates that married people are less willing to pay to watch football matches at Azadi Stadium than single individuals. Hosting important football events brings potential excitement, joy, and recreation for the people of society, making the stadiums full of spectators and gaining a good reception among the people for these matches. They spend their leisure time enjoying the games and being entertained, which can positively affect the country's economy and tourism. Due to family commitments and parental responsibilities, married individuals might have less time for recreational activities. Attending football stadiums requires time and promises that family obligations could negatively impact.

Additionally, due to the increased financial requirements for family needs and livelihood, the married status might limit the willingness to spend on tickets and services related to stadium attendance. Family responsibilities such as childcare and providing for their needs can restrict married individuals from attending personal leisure activities and sports events. Family tensions and conflicts could lead to a decreased inclination of married individuals to attend football stadiums. Married spectators might experience family-related issues that could increase their preference for escaping these problems through public recreation. Sports stadiums are sometimes recognized as places for leisure and social gatherings. Married individuals might not feel the stadium environment aligns with their needs and desires. Shifts in personal priorities could accompany the marital status. Married individuals typically have fewer inclinations for recreational activities due to their focus on family and familial duties. In general, being married might decrease the willingness to pay for attendance at football stadiums. To address this challenge, stadiums and sports teams could enhance facilities and services that cater to the needs of married attendees and encourage them to participate in sports environments.

Based on the high entertainment value of Tehran's Azadi Stadium and its potential to attract spectators for various competitions and events, planners, officials, and relevant institutions should pay more attention to increasing the number of spectators, as it is one of the most important recreational and popular places for society. Improving the stadium's

internal facilities and increasing audience satisfaction can increase the number of spectators statistically and increase their willingness to pay. Enhancing the stadium's surrounding environment, such as the roads leading to the stadium, parking lots, and transportation, can also significantly increase the willingness to pay and the number of spectators who come to the stadium for leisure time.

Overall, football is popular among various social classes in our country. Azadi Stadium hosts two famous and historical club teams, Persepolis and Esteghlal, and national team games. It is always in the spotlight of domestic and foreign media. Given the current conditions in the country, sanctions, and budget constraints, methods such as the willingness of these clubs' fans to pay, as mentioned in this research, can be used to develop the stadium.

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ارزش اقتصادی-تفریحی استادیوم آزادی از دیدگاه تماشاگران

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چکیده

هدف: هدف اصلی این پژوهش برآورد ارزش اقتصادی-تفریحی استادیوم آزادی تهران از نظر تماشاگران با رویکرد ارزش گذاری مشروط (CVM) است.

روش: این پژوهش از نوع توصیفی و کاربردی بوده است. جامعه آماری شامل هوادارانی بود که در سال ۲۰۲۲ در استادیوم آزادی تهران برای تماشای مسابقات حداقل یکبار حضور یافته‌اند که ۴۱۸ نفر از آنها به عنوان نمونه آماری و به روش تصادفی ساده انتخاب و اطلاعات مورد نیاز با استفاده از پرسشنامه تمایل به پرداخت ویکر و همکاران (۲۰۱۶) جمع‌آوری گردیده است. تحلیل داده‌ها نیز با روش لججیت و با استفاده از نرم‌افزار Stata و Shazam صورت گرفت.

یافته‌ها: یافته‌ها نشان می‌دهد که میانگین تمایل به پرداخت هوادارن برای حضور در استادیوم آزادی برای هر مسابقه ۹۱ هزار تومان است و ارزش اقتصادی-تفریحی یک فصل آنها مبلغی حدود ۱۳۵ میلیارد تومان برآورد شد. نتایج نشان داد متغیرهای درآمد، تماشای تلویزیون، رضایت از امکانات ورزشگاه، احساس لذت از تماشای مسابقه فوتبال اثر مثبت و متغیرهای سن، سطح تحصیلات، قیمت پیشنهادی و وضعیت تاهل اثر منفی و بر احتمال تمایل به پرداخت افراد برای تماشای مسابقات فوتبال در ورزشگاه آزادی را دارند.

اصالت و ابتکار مقاله: پیش از این، کمتر پژوهشی در زمینه اقتصاد اماکن ورزشی با رویکرد تفریحی مبتنی بر روش ارزش گذاری مشروط انجام شده است. بدیهی است تخمین ارزش اقتصادی برای تصمیم‌گیری درباره سرمایه‌گذاری، بهبود و بهره‌برداری استادیوم لازم است.

کلیدواژه

استادیوم ورزشی
ارزش تفریحی
ارزش گذاری مشروط
تمایل به پرداخت
قیمت پیشنهادی

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