

# Structural Equation Modeling of Sustainable Financial Management in Sport for All

1. Behrooz. Sadoughi : Department of Physical Education, Ta.C., Islamic Azad University, Tabriz, Iran.
2. Mohammadrahim. Najafzadeh : Department of Physical Education, Ta.C., Islamic Azad University, Tabriz, Iran.
3. Farrokhlega. Najafzadeh : Department of Physical Education, Ta.C., Islamic Azad University, Tabriz, Iran.

\*corresponding author's email: najafzadeh@iaut.ac.ir

## ABSTRACT

The present study was conducted with the aim of structural equation modeling of sustainable financial management in sport for all. This applied research was conducted using a quantitative method based on structural equation modeling in the quantitative section. The statistical population included all employees, deputies, and managers of the Sport for All Federation and the Sport for All boards in the provincial capitals of the country. The required statistical sample size was determined as 138 participants using G\*Power software, and the statistical sampling method was stratified random sampling. The data collection instrument was a questionnaire derived from the findings of the qualitative phase. In the data analysis stage, the data collected through the questionnaire were entered into SPSS version 23 and SmartPLS version 3.1.1 and analyzed using descriptive statistics and structural equation modeling. The significance level in all stages of data analysis was set at 0.05. The results showed that the research model had an appropriate fit, and that causal factors had a significant relationship with the central phenomenon ( $p = 0.001$ ;  $t = 15.590$ ), while the central phenomenon also had a significant relationship with strategies ( $p = 0.001$ ;  $t = 4.060$ ). In addition, contextual factors ( $p = 0.001$ ;  $t = 3.303$ ) and intervening factors ( $p = 0.001$ ;  $t = 3.233$ ) had significant relationships with strategies, and finally, strategies had a significant relationship with outcomes ( $p = 0.001$ ;  $t = 18.520$ ). Overall, the findings of this study indicate that achieving sustainable financial management in sport for all requires simultaneous attention to reforming financing structures, strengthening financial governance, developing revenue-source diversification, and using technology and transparency in management. Accordingly, it is recommended that policymakers and managers in the field of sport for all provide the necessary conditions for the effective implementation of the strategies proposed in this model by designing diverse financing mechanisms and strengthening the participation of the private sector and social institutions.

**Keywords:** sustainable financial management, sport for all, structural equation modeling, financial management

## Introduction

Sport for all has increasingly become a strategic domain within contemporary sport management because it links public health, social inclusion, community development, civic participation, and sustainable development objectives. Unlike elite sport, which is often organized around performance maximization, commercial visibility, and medal-oriented success, sport for all emphasizes broad-based access, lifelong physical activity, social cohesion, and equitable participation across demographic groups. From a management perspective, this field requires sustainable organizational, financial, institutional, and cultural arrangements because the benefits of mass participation sport are realized only when programs remain continuous, affordable, inclusive, and responsive to social needs.



Article history:  
Received 30 March 2026  
Revised 04 July 2026  
Accepted 08 July 2026  
Initial Publish 24 September 2026  
Published online 01 March 2027

### How to cite this article:

Sadoughi, B., Najafzadeh, M., & Najafzadeh, F. (2027). Structural Equation Modeling of Sustainable Financial Management in Sport for All. *Journal of Management and Business Solutions*, 5(3), 1-17. <https://doi.org/10.61838/jmbs.384>



© 2027 the authors. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

Accordingly, the sustainable management of sport for all is not merely a technical issue of budgeting or revenue allocation; rather, it is a multidimensional governance challenge that involves financing structures, policy design, institutional coordination, stakeholder participation, organizational capacity, social legitimacy, and long-term strategic planning (1-3).

The growing emphasis on sustainability in sport management reflects broader transformations in the relationship between sport, society, and development. Sport organizations are increasingly expected to contribute not only to recreation and competition, but also to sustainable development goals, social inclusion, environmental responsibility, and economic resilience. This expectation has shifted the logic of sport management from short-term program implementation toward integrated and sustainable systems of planning, financing, monitoring, and accountability. In this regard, sport for all can be understood as a strategic platform through which governments, federations, municipalities, private actors, and civil society institutions can promote healthier lifestyles, social interaction, and public welfare. However, these outcomes depend heavily on the existence of stable financial mechanisms and managerial capacities capable of supporting long-term programs rather than temporary initiatives (4-6).

Financial sustainability is one of the most critical prerequisites for the effective development of sport for all. Because sport for all often serves public and social functions, it cannot be managed solely according to commercial profitability. At the same time, excessive dependence on public budgets may expose sport organizations to political changes, fiscal constraints, administrative instability, and discontinuity in program implementation. Therefore, sustainable financial management in sport for all requires a balanced model that combines public support, private-sector participation, sponsorship, community-based financing, income diversification, and transparent financial governance. Such a model must enable organizations to secure resources, allocate them efficiently, monitor financial performance, and align financial decisions with social and developmental objectives (7-9).

In the literature on sport management, financial sustainability has been discussed from several complementary perspectives. One perspective focuses on the capacity of sport organizations to generate and manage resources in ways that protect their long-term operational continuity. From this viewpoint, financial sustainability is related to income diversification, cost control, accountability, and the prevention of financial vulnerability. Another perspective highlights the role of governance, arguing that sustainable financial outcomes depend on institutional transparency, stakeholder trust, ethical management, and decision-making structures that reduce opportunistic behavior. A further perspective emphasizes strategic adaptation, suggesting that sport organizations need innovative financial models, entrepreneurship, and partnerships in order to respond to changing social, economic, and technological environments (5, 8, 10).

The public nature of sport for all makes the issue of financing especially complex. In many contexts, sport for all relies on governmental funding, federation budgets, local authorities, and public infrastructure. While public financing is essential for ensuring equitable access, especially for low-income groups and marginalized populations, it can become insufficient if it is not combined with sustainable revenue-generation strategies. Public financial support for sport must therefore be managed through transparent, efficient, and evidence-based mechanisms, particularly when sport policies aim to expand participation and improve social welfare. Research on public financial models in sport has shown that sustainable support requires alignment between policy goals, budgetary instruments, accountability mechanisms, and measurable developmental outcomes (2, 9, 11).

In the Iranian context, the financial management of sport for all faces specific structural and strategic challenges. The expansion of sport for all requires stable resources, diversified income streams, and effective coordination among federations, provincial boards, public institutions, municipalities, and social organizations. Previous studies have emphasized that the development of sport for all in Iran depends on strategic alliances, socio-cultural interaction, sponsorship mechanisms, sustainable revenue scenarios, and institutional support. These studies suggest that financial sustainability cannot be achieved through fragmented actions; instead, it requires a systemic approach that identifies causal factors, contextual conditions, intervening factors, strategic responses, and expected outcomes. Therefore, developing an empirical model of sustainable financial management can provide a clearer understanding of how different managerial and environmental elements interact within the sport for all system (1, 3, 11, 12).

A key issue in sustainable financial management is revenue diversification. When sport organizations depend on a limited number of financial sources, they become vulnerable to economic fluctuations, governmental budget reductions, policy changes, and sponsor withdrawal. Diversification can include membership fees, local partnerships, sponsorship, social entrepreneurship, event-based revenues, corporate social responsibility programs, public-private cooperation, and digital service models. However, diversification must be designed carefully so that it does not undermine the inclusive and public-service mission of sport for all. In this respect, sustainable financial management requires a balance between income generation and social accessibility. Financial strategies must therefore be evaluated not only by their revenue potential, but also by their compatibility with equity, participation, and long-term social impact (8, 11, 12).

The role of sponsorship and private-sector participation is also central to financial sustainability in sport for all. Sponsorship can provide important financial resources, increase program visibility, and create networks between sport organizations and economic actors. Nevertheless, sponsorship in sport for all differs from sponsorship in elite sport because the value proposition is often based less on media exposure and more on social responsibility, community engagement, health promotion, and public legitimacy. Therefore, sport for all organizations need appropriate governance mechanisms to attract, manage, and sustain sponsorship relationships. Such mechanisms include transparent agreements, alignment of sponsor objectives with public-interest goals, accountability in resource use, and the development of mutual trust among federations, sponsors, and communities (8, 10, 12).

Beyond financial inputs, sustainable sport management requires organizational knowledge, competencies, and professional skills. Sport organizations need managers who understand financial planning, budgeting, marketing, stakeholder engagement, policy analysis, digital transformation, and sustainability evaluation. The increasing complexity of sport systems has made traditional administrative approaches insufficient. Managers of sport for all must be able to design long-term strategies, mobilize resources, communicate with diverse stakeholders, and evaluate both financial and social outcomes. In this sense, sustainable financial management is strongly related to human capital and managerial competence. The lack of financial knowledge, weak planning capacity, and insufficient managerial skills can reduce the effectiveness of even well-funded sport programs (6, 7, 13).

Educational and knowledge-based approaches are therefore important for strengthening sustainable sport management. The integration of sustainable development principles into sport management education can help prepare future managers to understand the relationships among finance, governance, ethics, social impact, and environmental responsibility. In addition, entrepreneurship and innovation in sport education can support new methods for designing programs, mobilizing resources, and creating sustainable organizational models. For sport

for all, this is particularly relevant because innovative thinking can help organizations move beyond traditional dependence on public budgets and develop more adaptive, participatory, and community-oriented financial mechanisms (5, 6, 13).

Institutional theory provides another useful lens for understanding sustainable financial management in sport for all. Sport federations and public sport organizations operate within institutional environments shaped by laws, policies, norms, funding rules, cultural expectations, and stakeholder pressures. Their financial decisions are therefore influenced not only by internal managerial preferences, but also by broader institutional arrangements. For example, governmental priorities, accountability regulations, social expectations, and federation-level policies can facilitate or constrain financial innovation. Sport-for-all policies in federations must therefore be analyzed in relation to institutional legitimacy, organizational adaptation, and the capacity of sport bodies to translate public policy goals into operational strategies (2, 3, 9).

Social inclusion is another fundamental dimension of sport for all that directly affects financial management. Since the mission of sport for all is to broaden access and reduce participation barriers, financial strategies must be designed in a way that supports inclusion rather than exclusion. This is especially important for groups that may face economic, physical, cultural, or social barriers to participation, such as people with disabilities, older adults, women, youth, and low-income populations. If financial models rely excessively on user fees or commercial mechanisms, they may weaken the social mission of sport for all. Thus, sustainable financial management requires sensitivity to inclusive policy design, targeted subsidies, accessible infrastructure, and equitable resource allocation (1, 14, 15).

The psychological and developmental benefits of sport participation further strengthen the need for sustainable financial systems in sport for all. Participation in sport, physical activity, and physical education can contribute to motivation, engagement, positive experience, and psychosocial development, particularly among youth. However, these benefits require consistent access to well-managed programs and supportive environments. Financial instability can interrupt service delivery, reduce program quality, weaken human resources, and limit outreach to target populations. Therefore, sustainable financing should be viewed as an enabling condition for the broader social and developmental value of sport for all, not merely as an administrative concern (4, 14, 15).

Environmental sustainability and sport ecology have also become increasingly important in sport management. Although sport for all is often discussed in relation to participation and public health, sport organizations are now expected to address environmental responsibility, sustainable event management, and ecological accountability. This trend affects financial management because sustainable practices may require new investments, technological tools, monitoring systems, and long-term planning. At the same time, environmentally responsible practices can improve organizational legitimacy, attract socially responsible partners, and align sport organizations with wider sustainability agendas. Therefore, the financial sustainability of sport for all should be understood alongside environmental and social sustainability rather than in isolation (16-18).

Sport events and sport tourism provide additional insights into the relationship between finance, sustainability, and strategic management. Sustainable sport event management requires balancing economic benefits with environmental and social responsibilities, while sustainability-balanced scorecard approaches emphasize the need to measure performance across multiple dimensions rather than relying only on financial indicators. These perspectives are relevant to sport for all because mass participation programs and community sport events require integrated evaluation frameworks. Financial management should therefore include indicators related to revenue,

cost efficiency, participation growth, stakeholder satisfaction, social inclusion, environmental responsibility, and institutional learning (7, 16, 18).

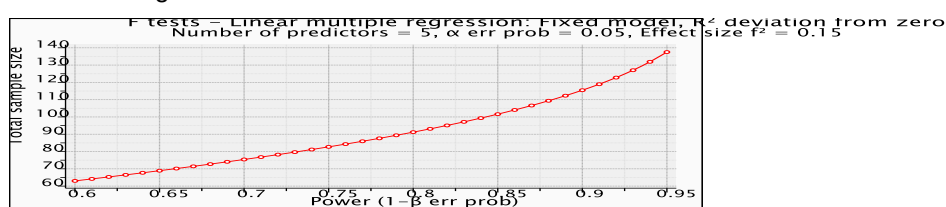
At the same time, critical perspectives remind scholars and managers that the connection between sport and sustainable development is not automatically positive. Sport may be used by powerful economic sectors or institutional actors to legitimize activities that do not necessarily contribute to genuine sustainability. Therefore, sustainable financial management should be based on transparency, accountability, and critical assessment of partnerships and funding sources. For sport for all, this means that revenue generation should not be separated from ethical and developmental considerations. Financial strategies must be evaluated according to whether they support public participation, social trust, institutional integrity, and long-term community benefit (8, 10, 19).

Despite the growing body of research on sport sustainability, sport economics, governance, sponsorship, and sport-for-all development, there remains a need for integrated empirical models that explain how different categories of factors interact in shaping sustainable financial management. Many existing studies address particular dimensions, such as sport policy, financial sustainability, sponsorship, environmental sustainability, social inclusion, or managerial competencies. However, sustainable financial management in sport for all requires a holistic model that simultaneously considers causal conditions, contextual factors, intervening variables, central managerial phenomena, strategic responses, and consequences. Structural equation modeling provides an appropriate analytical approach for examining these relationships because it enables researchers to assess both measurement validity and structural relationships among latent constructs within a theoretically informed model (2, 3, 6, 9).

Accordingly, the present study aimed to model the structural equations of sustainable financial management in sport for all by examining the relationships among causal factors, contextual factors, intervening factors, the central phenomenon, strategies, and outcomes.

## Methods and Materials

Considering its objective, the present study is applied research that was conducted using a quantitative method and structural equation modeling. The statistical population included all employees, deputies, and managers of the Sport for All Federation and the Sport for All boards in the provincial capitals of the country. The required statistical sample size was determined using *GPower software*, and the statistical sampling method was stratified random sampling. In fact, using *GPower software*, with an error level of 0.05, statistical power of 0.95, a medium effect size of 0.15 in one group, and five paths, the statistical sample size was determined as 138 participants, the results of which are shown in Figure 1.



**Figure 1. Statistical sample size based on G\*Power software**

The information-gathering method in this study was descriptive-survey. Since the present research was extracted from a doctoral dissertation conducted using a qualitative–quantitative design, a questionnaire was used as the research instrument. This questionnaire was designed based on the data obtained from the qualitative phase of the study. The questionnaire consisted of 89 items, 25 components, and 6 dimensions. The dimensions of this questionnaire included causal factors, contextual factors, intervening factors, the central phenomenon, strategies, and outcomes. The face and content validity of the questionnaire were confirmed by 10 experts and university professors in sport management and financial management. In addition, convergent validity, the Fornell–Larcker criterion, and factor loadings were examined in SmartPLS to assess the construct validity of the research instrument. The reliability of the study was also assessed after collecting data from approximately 30 questionnaires, using composite reliability and Cronbach's alpha tests in SmartPLS.

The data collected through the questionnaire were entered into SPSS version 23 and SmartPLS version 3.1.1 and analyzed. In this study, descriptive statistics were used to describe, collect, and classify the information obtained from the sample. Subsequently, structural equation modeling in SmartPLS was used to analyze the data and assess the fit of the research model. It should be noted that the significance level in all stages of data analysis was set at 0.05.

## Findings and Results

At the beginning of the findings section, the demographic information of the research participants, including gender, age, educational level, work experience, and organizational position, is described. The results are presented in Table 1.

**Table 1. Frequency Distribution of the Demographic Characteristics of Participants in the Quantitative Section**

| Variable                | Category           | Frequency | Percentage |
|-------------------------|--------------------|-----------|------------|
| Gender                  | Male               | 96        | 69.6       |
| Gender                  | Female             | 42        | 30.4       |
| Age                     | Under 30 years     | 18        | 13.0       |
| Age                     | 30–39 years        | 41        | 29.7       |
| Age                     | 40–49 years        | 46        | 33.3       |
| Age                     | 50 years and older | 33        | 23.9       |
| Educational level       | Bachelor's degree  | 32        | 23.2       |
| Educational level       | Master's degree    | 71        | 51.4       |
| Educational level       | Doctoral degree    | 35        | 25.4       |
| Work experience         | Less than 10 years | 26        | 18.8       |
| Work experience         | 10–19 years        | 49        | 35.5       |
| Work experience         | 20–29 years        | 43        | 31.2       |
| Work experience         | 30 years and more  | 20        | 14.5       |
| Organizational position | Employee           | 58        | 42.0       |
| Organizational position | Deputy             | 34        | 24.6       |
| Organizational position | Manager            | 46        | 33.3       |
| Total                   | —                  | 138       | 100        |

The results of Table 1 show that, out of the total 138 employees, deputies, and managers of the Sport for All Federation and the Sport for All boards in the provincial capitals who participated in the quantitative section of the study, 96 participants (69.6%) were men and 42 participants (30.4%) were women. In terms of age, the highest frequency belonged to the age group of 40–49 years, with 46 participants (33.3%), followed by the age group of

30–39 years, with 41 participants (29.7%). In terms of educational level, the highest number of respondents held a master's degree, with 71 participants (51.4%), followed by those holding a doctoral degree, with 35 participants (25.4%). An examination of work experience also showed that the highest frequency belonged to individuals with 10–19 years of experience, with 49 participants (35.5%), followed by those with 20–29 years of experience, with 43 participants (31.2%). In terms of organizational position, the highest participation was related to employees, with 58 participants (42%), followed by managers, with 46 participants (33.3%), and deputies, with 34 participants (24.6%). Overall, the demographic composition of the research sample indicates that a considerable proportion of respondents had high educational qualifications and substantial work experience in the field of sport for all management and activities, which can strengthen the credibility of the research findings.

In the following section, the results related to model fit and the relationships among the research variables are presented. In this study, structural equation modeling using the partial least squares approach was employed. This algorithm consists of three main stages: measurement model fit, structural model fit, and overall model fit.

According to the PLS analysis algorithm, two criteria, namely reliability and validity, are used to assess the fit of measurement models. Reliability assessment is conducted through three methods: factor loadings, Cronbach's alpha, and composite reliability. Regarding the examination of the factor loadings of the indicators, the results in Figure 2 showed that the factor loadings of all items related to all variables had acceptable validity, because the factor loading values of all items were greater than 0.40.

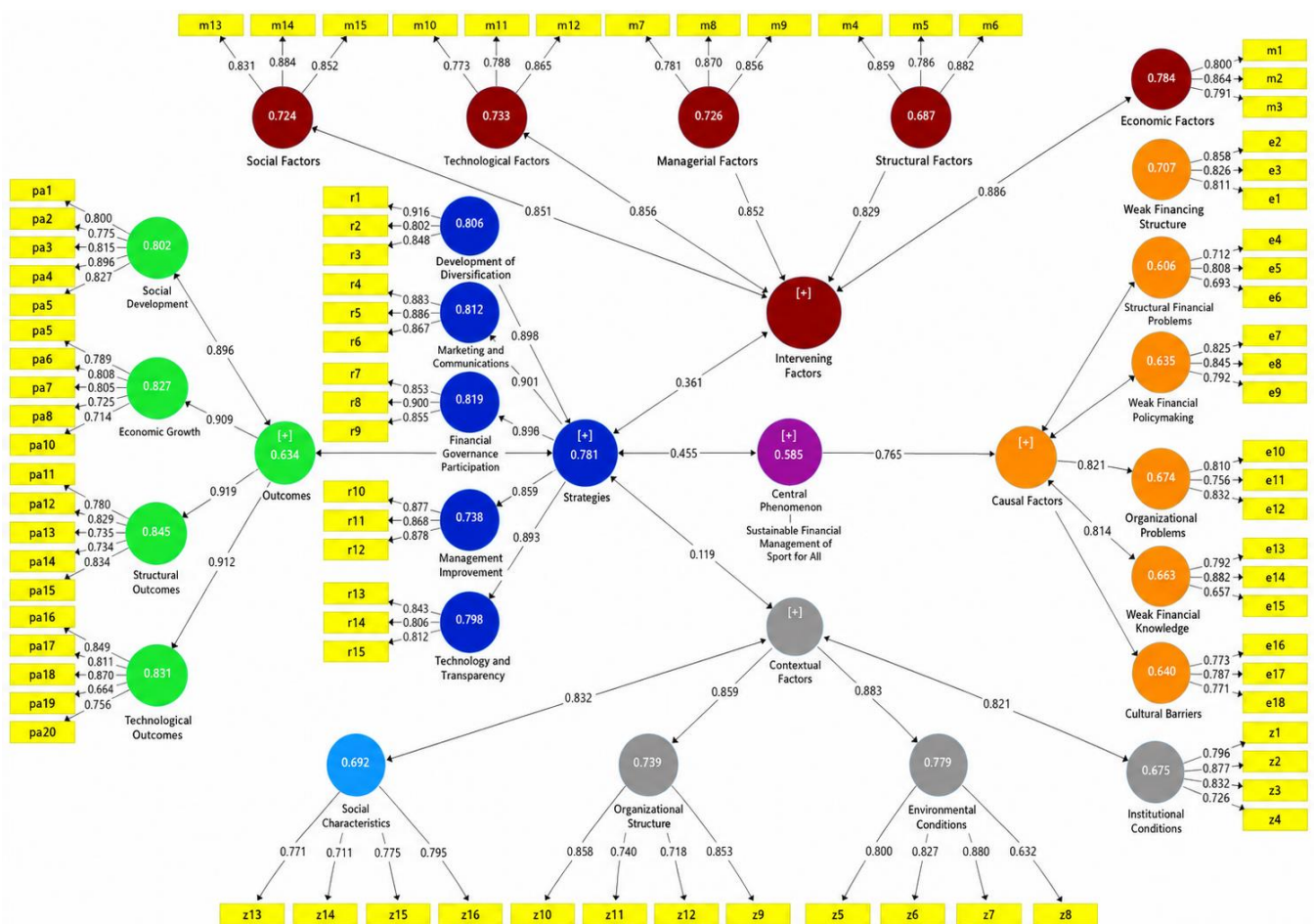


Figure 2. Factor loading values of the items

Next, Cronbach's alpha and composite reliability (CR) were used to assess model reliability. Cronbach's alpha is a criterion for measuring reliability and is considered an appropriate index for evaluating internal stability, or internal consistency. Composite reliability is a more modern criterion than Cronbach's alpha in PLS analysis, and its advantage over Cronbach's alpha is that construct reliability is calculated not in absolute terms, but with regard to the correlations among the constructs. Based on Table 2, all Cronbach's alpha and composite reliability values for the research variables are appropriate and acceptable. Therefore, the adequate reliability status of the measurement model can be confirmed.

**Table 2. Assessment of Model Reliability Using Cronbach's Alpha and Composite Reliability**

| Latent Variables    | Cronbach's Alpha | Composite Reliability |
|---------------------|------------------|-----------------------|
| Causal factors      | 0.868            | 0.827                 |
| Contextual factors  | 0.905            | 0.876                 |
| Intervening factors | 0.812            | 0.778                 |
| Central phenomenon  | 0.834            | 0.798                 |
| Strategies          | 0.866            | 0.827                 |
| Outcomes            | 0.919            | 0.897                 |

The second criterion for examining the fit of measurement models is convergent validity, which assesses the degree of correlation between each construct and its own items or indicators. Table 3 reports the values related to convergent validity, namely average variance extracted (AVE). Based on the AVE values, the latent variables under study have acceptable convergent validity. In other words, there is a high correlation between each construct and its own indicators. Consequently, the measurement models have a moderate fit, and the appropriateness of the measurement model fit is confirmed.

**Table 3. AVE Coefficients of Latent Variables**

| Latent Variables    | AVE   |
|---------------------|-------|
| Causal factors      | 0.840 |
| Contextual factors  | 0.594 |
| Intervening factors | 0.715 |
| Central phenomenon  | 0.603 |
| Strategies          | 0.657 |
| Outcomes            | 0.564 |

Discriminant validity, which is measured using the Fornell–Larcker matrix, is another criterion for assessing the validity of the research instrument and the fit of the model. The results are reported in Table 4. As shown in this table, the square root of AVE for all first-order variables is greater than the correlations among them. This indicates the discriminant validity of the research instrument and the appropriate fit of the research model.

**Table 4. Discriminant Validity: Fornell–Larcker Matrix**

| Variables           | Causal Factors | Contextual Factors | Intervening Factors | Central Phenomenon | Strategies | Outcomes |
|---------------------|----------------|--------------------|---------------------|--------------------|------------|----------|
| Causal factors      | 0.917          | —                  | —                   | —                  | —          | —        |
| Contextual factors  | 0.627          | 0.771              | —                   | —                  | —          | —        |
| Intervening factors | 0.661          | 0.712              | 0.846               | —                  | —          | —        |
| Central phenomenon  | 0.385          | 0.361              | 0.559               | 0.777              | —          | —        |
| Strategies          | 0.456          | 0.523              | 0.644               | 0.561              | 0.811      | —        |
| Outcomes            | 0.675          | 0.443              | 0.495               | 0.412              | 0.663      | 0.751    |

To assess the fit of the structural model using the PLS method in this study, the R-square coefficients, or  $R^2$ , the  $Q^2$  criterion, and the variance inflation factor (VIF) were used.  $R^2$  is a criterion used to connect the measurement and structural components of structural equation modeling and indicates the effect that an exogenous variable has on an endogenous, or criterion, variable. Stone–Geisser’s  $Q^2$  is a criterion that determines the predictive power of the model. According to Table 5,  $R^2$  values were calculated for the endogenous constructs of the study. Higher  $R^2$  values for the endogenous constructs of the model indicate better model fit. Based on Table 5, the strong fit of the structural model is confirmed. According to Table 5, by examining the  $Q^2$  values related to the endogenous constructs of the model ( $Q^2 > 0$ ), it can be stated that the predictive relevance of the structural model of the study is confirmed.

**Table 5.  $R^2$  Coefficients of Endogenous Variables**

| Endogenous Variables | $R^2$ | $Q^2$ |
|----------------------|-------|-------|
| Central phenomenon   | 0.585 | 0.286 |
| Strategies           | 0.781 | 0.328 |
| Outcomes             | 0.634 | 0.293 |

Next, Table 6 reports the results of the variance inflation factor (VIF). Based on the results of the study, all VIF values were lower than 5. Therefore, the instrument used in this study is not affected by problematic variance inflation, and the research model also has an appropriate fit.

**Table 6. Variance Inflation Factor**

| Latent Variables    | VIF   |
|---------------------|-------|
| Causal factors      | 1.633 |
| Contextual factors  | 2.254 |
| Intervening factors | 1.514 |
| Central phenomenon  | 1.087 |
| Strategies          | 1.367 |
| Outcomes            | 1.459 |

After examining the fit of the measurement and structural components of the model, the overall model fit was assessed using the GOF criterion. GOF is a goodness-of-fit index that serves as an index for the overall validity of the PLS model. This criterion is calculated using the following formula.

Given that three values have been introduced for GOF—weak (0.01), moderate (0.25), and strong (0.36)—the obtained GOF value of 0.634 indicates a strong overall fit of the research model.

The data analysis algorithm in the PLS method shows that, after examining the fit of the measurement models, the structural model, and the overall model, the research hypotheses can be examined and tested, and the research findings can be obtained. Model fit based on  $t$  coefficients is such that these coefficients must be greater than 1.96 in order for their significance to be confirmed at the 95% confidence level. In this section, the path coefficient values and  $t$  coefficients of the paths related to the model hypotheses are presented in Figure 3. The results of the path values of the research model are also presented in Table 7.



Figure 3. Path coefficients and t-value statistics

**Table 7. Results of Structural Equation Modeling Analysis and Examination of Model Paths**

| Path                                            | Path Coefficient | t Statistic | Significance | Result    |
|-------------------------------------------------|------------------|-------------|--------------|-----------|
| Causal factors → Central phenomenon             | 0.765            | 15.590      | 0.001        | Confirmed |
| Causal factors → Weak financing structure       | 0.841            | 34.747      | 0.001        | Confirmed |
| Causal factors → Structural financial problems  | 0.778            | 19.211      | 0.001        | Confirmed |
| Causal factors → Weak financial policymaking    | 0.797            | 21.753      | 0.001        | Confirmed |
| Causal factors → Organizational problems        | 0.821            | 25.601      | 0.001        | Confirmed |
| Causal factors → Weak financial knowledge       | 0.814            | 23.144      | 0.001        | Confirmed |
| Causal factors → Cultural barriers              | 0.800            | 19.351      | 0.001        | Confirmed |
| Central phenomenon → Strategies                 | 0.455            | 4.060       | 0.001        | Confirmed |
| Intervening factors → Strategies                | 0.361            | 3.233       | 0.010        | Confirmed |
| Intervening factors → Economic factors          | 0.886            | 38.326      | 0.001        | Confirmed |
| Intervening factors → Structural factors        | 0.829            | 25.963      | 0.001        | Confirmed |
| Intervening factors → Managerial factors        | 0.852            | 27.042      | 0.001        | Confirmed |
| Intervening factors → Technological factors     | 0.856            | 30.198      | 0.001        | Confirmed |
| Intervening factors → Social factors            | 0.851            | 29.347      | 0.001        | Confirmed |
| Contextual factors → Strategies                 | 0.119            | 3.303       | 0.001        | Confirmed |
| Contextual factors → Institutional conditions   | 0.821            | 21.388      | 0.001        | Confirmed |
| Contextual factors → Environmental conditions   | 0.833            | 44.669      | 0.001        | Confirmed |
| Contextual factors → Organizational structure   | 0.859            | 36.028      | 0.001        | Confirmed |
| Contextual factors → Social characteristics     | 0.832            | 23.357      | 0.001        | Confirmed |
| Strategies → Outcomes                           | 0.796            | 18.520      | 0.001        | Confirmed |
| Strategies → Development of diversity           | 0.898            | 47.035      | 0.001        | Confirmed |
| Strategies → Marketing and communications       | 0.901            | 44.731      | 0.001        | Confirmed |
| Strategies → Financial governance participation | 0.905            | 50.890      | 0.001        | Confirmed |
| Strategies → Management improvement             | 0.859            | 29.047      | 0.001        | Confirmed |
| Strategies → Technology and transparency        | 0.893            | 44.684      | 0.001        | Confirmed |
| Outcomes → Social development                   | 0.896            | 48.545      | 0.001        | Confirmed |
| Outcomes → Economic growth                      | 0.909            | 57.057      | 0.001        | Confirmed |
| Outcomes → Structural outcomes                  | 0.919            | 35.047      | 0.001        | Confirmed |
| Outcomes → Technological outcomes               | 0.912            | 54.675      | 0.001        | Confirmed |

At the 95% confidence level, based on the results of Table 7, considering that the t statistic for all paths is greater than 1.96 and their significance values are lower than 0.05, it can be stated that the research model is appropriate and that all paths are confirmed. In addition, based on the results of this table, it can be stated that causal factors have a significant relationship with the central phenomenon ( $p = 0.001$ ;  $t = 15.590$ ), and the central phenomenon also has a significant relationship with strategies ( $p = 0.001$ ;  $t = 4.060$ ). Furthermore, contextual factors ( $p = 0.001$ ;  $t = 3.303$ ) and intervening factors ( $p = 0.001$ ;  $t = 3.233$ ) also have significant relationships with strategies. Finally, strategies have a significant relationship with outcomes ( $p = 0.001$ ;  $t = 18.520$ ).

## Discussion and Conclusion

The present study was conducted to model the structural equations of sustainable financial management in sport for all. The results showed that the proposed model had acceptable measurement, structural, and overall fit. The values of Cronbach's alpha and composite reliability confirmed the internal consistency and reliability of the constructs, and the AVE coefficients and Fornell–Larcker matrix supported the convergent and discriminant validity of the measurement model. Moreover, the  $R^2$  values indicated that the model explained a substantial proportion of variance in the central phenomenon, strategies, and outcomes, and the positive  $Q^2$  values confirmed the predictive relevance of the model. The GOF value of 0.634 also demonstrated a strong overall model fit. These findings indicate that sustainable financial management in sport for all is a multidimensional phenomenon that cannot be

explained through a single financial or administrative variable. Rather, it is shaped by the interaction of causal, contextual, intervening, strategic, and outcome-related factors. This finding is consistent with the broader sport management literature, which emphasizes that sustainability in sport organizations requires integrated governance, financial planning, stakeholder participation, institutional coordination, and long-term strategic orientation (6, 7, 9, 10).

One of the main findings of the study was the significant relationship between causal factors and the central phenomenon of sustainable financial management in sport for all ( $\beta = 0.765$ ,  $t = 15.590$ ,  $p = 0.001$ ). This strong path coefficient shows that weaknesses in financing structure, structural financial problems, weak financial policymaking, organizational problems, weak financial knowledge, and cultural barriers play a decisive role in shaping the core problem of sustainable financial management. In other words, the financial sustainability of sport for all is not only affected by the amount of available funding, but also by the quality of financial structures, managerial knowledge, policy coherence, and organizational readiness. This result aligns with studies emphasizing that sport organizations are financially sustainable when they can manage resources transparently, diversify income sources, reduce dependency on unstable funding streams, and develop accountable financial systems (7, 8, 10). It also supports evidence from Iranian sport-for-all research showing that sustainable development in this field requires structural reform, strategic financing, cultural adaptation, and coordinated institutional action (1, 11, 12).

The significant effect of causal factors also reflects the importance of financial policymaking and organizational competence. Weakness in financial policymaking can create fragmented decisions, short-term budgeting, limited accountability, and unclear priorities in sport-for-all programs. Similarly, organizational problems may reduce the ability of sport bodies to attract sponsors, collaborate with private-sector actors, and implement transparent revenue-generation mechanisms. The role of weak financial knowledge is particularly important because sustainable financial management requires managers who understand budgeting, investment, cost control, sponsorship negotiation, financial reporting, and strategic planning. This interpretation is consistent with research showing that sustainable growth in sport management depends on knowledge, competencies, and specialized managerial skills (6). It also corresponds with studies on sport management education, which suggest that sustainability-oriented curricula can improve the capacity of future sport managers to integrate financial, social, and strategic dimensions in decision-making (5, 13).

Another important result was the significant relationship between the central phenomenon and strategies ( $\beta = 0.455$ ,  $t = 4.060$ ,  $p = 0.001$ ). This finding indicates that once the central issue of sustainable financial management is properly recognized, it can guide the development of practical strategies such as revenue diversification, marketing and communications, financial governance participation, management improvement, and technology-based transparency. The moderate strength of this path suggests that the central phenomenon functions as a strategic turning point: it translates diagnosed financial and organizational problems into actionable managerial responses. This result is consistent with strategic sport management literature emphasizing that sport organizations must move from passive financial dependence toward proactive strategic models based on partnerships, innovation, governance, and market-oriented communication (3, 4). In this regard, sustainable financial management requires not only identifying existing problems but also converting those problems into structured strategies that can improve organizational resilience.

The strong factor loadings of the strategic components show that development of diversification, marketing and communications, financial governance participation, management improvement, and technology and transparency

are core strategic mechanisms for improving sustainable financial management in sport for all. Revenue diversification is especially important because overreliance on governmental budgets can expose sport-for-all organizations to fiscal instability and policy fluctuations. This result supports previous research on sustainable revenue-generation scenarios in sport for all, which emphasized the need for multiple financial sources and innovative revenue mechanisms (11). The importance of marketing and communications also aligns with the idea that sport organizations must strengthen their public visibility, stakeholder relations, and social value proposition in order to attract financial support and legitimacy (8, 12). Furthermore, the role of financial governance participation supports the view that transparent, participatory, and accountable governance systems are necessary for strengthening trust among public bodies, sponsors, communities, and sport organizations (2, 10).

The study also found that intervening factors had a significant relationship with strategies ( $\beta = 0.361$ ,  $t = 3.233$ ,  $p = 0.010$ ). This result means that economic, structural, managerial, technological, and social conditions influence the selection and implementation of financial strategies. Although the path coefficient was lower than the effect of causal factors on the central phenomenon, it was still meaningful and statistically significant. This suggests that even when sport-for-all organizations design appropriate financial strategies, the success of those strategies depends on broader environmental and organizational conditions. Economic instability, structural rigidity, managerial limitations, technological readiness, and social acceptance can either facilitate or weaken the implementation of sustainable financial management strategies. This interpretation aligns with public financial model research showing that sport support systems depend on the interaction between governmental policy, financial mechanisms, institutional structure, and implementation capacity (9). It is also consistent with studies emphasizing that sport sustainability must be understood as a system-level phenomenon rather than a purely organizational process (16, 17).

The significant role of technological factors among intervening conditions is particularly relevant in the current sport management environment. Technology can strengthen financial transparency, improve data-based decision-making, facilitate digital payment systems, support online registration and membership models, and increase accountability in resource allocation. At the same time, technological weakness can limit monitoring, reporting, communication, and strategic evaluation. This finding is aligned with sustainability-balanced scorecard approaches, which emphasize the importance of multidimensional performance monitoring and evidence-based management in sport and sport tourism organizations (18). It also supports research on sport ecology and sustainable sport event management, where technology and measurement systems are identified as necessary tools for integrating economic, social, and environmental indicators (16). Therefore, technology should not be treated as a peripheral administrative tool; rather, it is a strategic infrastructure for sustainable financial governance.

Contextual factors also had a significant relationship with strategies ( $\beta = 0.119$ ,  $t = 3.303$ ,  $p = 0.001$ ). Although the path coefficient was smaller than other structural paths, the relationship was statistically significant, indicating that institutional conditions, environmental conditions, organizational structure, and social characteristics shape the strategic choices available to sport-for-all organizations. This finding is theoretically important because it shows that strategies are not formulated in a vacuum. They are influenced by the institutional environment, regulatory frameworks, organizational hierarchies, social expectations, cultural norms, and resource conditions. This result is consistent with institutional theory perspectives in sport-for-all policy, which argue that sport federations operate under institutional pressures and must adapt their structures and practices to maintain legitimacy and effectiveness

(2). It also aligns with Iranian studies showing that the development of sport for all depends on socio-cultural interaction, institutional alignment, and strategic alliances (1, 3).

The relatively smaller coefficient of contextual factors may indicate that contextual conditions indirectly influence sustainable financial management by creating the background within which strategies are designed and implemented, rather than acting as direct operational mechanisms. For example, institutional support may create legitimacy for financial reforms, environmental conditions may shape access to resources, organizational structure may determine decision-making flexibility, and social characteristics may influence public participation and community support. These interpretations are consistent with the view that sport for all has a strong social mission and must respond to the needs of different population groups. Social inclusion, accessibility, and participation equity are central to this mission, especially for individuals and groups facing economic, physical, cultural, or social barriers (14). Moreover, because sport participation can contribute to positive youth experiences, motivation, and psychosocial development, contextual support becomes essential for sustaining inclusive and meaningful sport opportunities (15).

The final major structural finding was the strong and significant relationship between strategies and outcomes ( $\beta = 0.796$ ,  $t = 18.520$ ,  $p = 0.001$ ). This result shows that the implementation of sustainable financial management strategies can lead to important social, economic, structural, and technological outcomes. Among all main paths, this relationship was one of the strongest, indicating that strategic action is the primary mechanism through which sustainable financial management produces measurable consequences. This finding supports the argument that financial management is not an end in itself; rather, it is a managerial pathway for achieving broader developmental outcomes in sport for all. Effective strategies can improve social development by expanding participation, strengthen economic growth by mobilizing resources and partnerships, improve structural outcomes by enhancing governance and organizational capacity, and promote technological outcomes by encouraging transparency and digital transformation. This is consistent with studies linking sport, economics, and sustainable development goals, which emphasize that sport can contribute to development when managed through strategic and sustainable frameworks (4, 5).

The strong connection between strategies and outcomes also highlights the practical value of financial governance, marketing, and diversification in sport-for-all organizations. When financial governance is participatory and transparent, stakeholders are more likely to trust sport organizations and support their programs. When marketing and communications are strengthened, sport-for-all organizations can better communicate their social value to sponsors, communities, and public institutions. When revenue sources are diversified, organizations become more resilient to economic and political uncertainty. These mechanisms are consistent with research on corporate social responsibility in sport organizations, which shows that socially responsible partnerships can contribute to financial sustainability when they are aligned with organizational mission and stakeholder expectations (8). However, the findings should also be interpreted critically. Financial strategies must not compromise the public and inclusive mission of sport for all. As critical scholarship on sport and sustainability warns, sport-related partnerships and economic strategies should be assessed according to their real contribution to social welfare, ethical governance, and sustainable development rather than only their financial benefits (19).

Overall, the findings of this study show that sustainable financial management in sport for all requires a systemic and integrated approach. Causal factors define the central financial-management problem, the central phenomenon guides strategic responses, contextual and intervening factors shape the feasibility of those responses, and

strategies ultimately produce social, economic, structural, and technological outcomes. This model is consistent with the contemporary understanding of sport organizations as complex systems embedded in economic, institutional, cultural, technological, and social environments. The findings support previous research emphasizing that sport-for-all development depends on strategic alliances, institutional support, sustainable financing, managerial competence, and stakeholder-oriented governance (1-3, 9). Therefore, the proposed model can provide a useful framework for policymakers and managers seeking to transform fragmented financial practices into a coherent system of sustainable financial management in sport for all.

The present study had several limitations. First, the quantitative data were collected from employees, deputies, and managers of the Sport for All Federation and provincial sport-for-all boards; therefore, the findings reflect the perceptions of formal organizational actors and may not fully represent the views of community participants, private-sector sponsors, municipalities, or civil society organizations. Second, the study used a cross-sectional design, which limits the ability to infer causal change over time. Third, although structural equation modeling is appropriate for testing complex relationships among latent variables, the results depend on the quality of self-reported questionnaire data. Fourth, the model was tested in the specific administrative and cultural context of sport for all in Iran, which may limit the generalizability of the findings to other countries or sport systems with different governance and financing structures.

Future research should test the proposed model in broader samples that include multiple stakeholder groups, such as local sport participants, sponsors, municipal authorities, nongovernmental organizations, community sport clubs, and policymakers. Longitudinal research is also recommended to examine how sustainable financial management strategies influence outcomes over time and whether improvements in governance, income diversification, and technological transparency lead to measurable long-term changes. Comparative studies across provinces, sport organizations, and countries can also help identify which components of the model are context-specific and which are generalizable. Future studies may also combine quantitative modeling with qualitative case studies to provide deeper explanations of how financial strategies are designed, negotiated, implemented, and evaluated in real organizational settings.

From a practical perspective, managers and policymakers in sport for all should use the findings of this study to design integrated financial-management systems rather than isolated funding initiatives. Priority should be given to reforming financing structures, developing transparent financial governance, strengthening managerial financial knowledge, diversifying revenue sources, and creating practical mechanisms for private-sector and community participation. Sport-for-all organizations should also invest in technology-based reporting and monitoring systems to improve transparency and accountability. In addition, marketing and communication strategies should be developed to present sport for all as a socially valuable field capable of contributing to health, inclusion, community development, and economic vitality. These actions can help transform sustainable financial management from a theoretical objective into an operational framework for long-term development.

## Acknowledgments

We would like to express our appreciation and gratitude to all those who helped us carrying out this study.

## Authors' Contributions

All authors equally contributed to this study.

## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

## Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

## Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

## References

1. Akhgar A, Khodamoradpour M, Yektayar M, Soltanpanah H. Presenting a Paradigmatic Model of Sustainable Development in Sport for All Based on a Socio-Cultural Interactive Approach. *Strategic Studies on Youth and Sports*. 2023;22(59):287-308.
2. De Bock T, Scheerder J, Theeboom M, De Clerck T, Constandt B, Willem A. Sport-for-All Policies in Sport Federations: An Institutional Theory Perspective. *European Sport Management Quarterly*. 2023;23(5):1328-50. doi: 10.1080/16184742.2021.2009897.
3. Asheghi B, Hematinejad M, Ramezaninejad R, Malek Akhlagh E. Presenting a Model for the Development of Sport for All with a Strategic Alliance Approach Aligned with the General Policies of the Sixth Development Plan. *Strategic and Macro Policies*. 2025;13(49):257-86.
4. Zbiljic G, Isakovic M. Synergizing Sports and Economics for Sustainable Development Goals: A Strategic Alliance. *Journal of Social Sciences*. 2025;17(1):127-47. doi: 10.46793/GlasnikDN17.1.127Z.
5. Al-Hasnawi AAA, Kadhim MAA, Aldewan LH, Ghazi M, Kzar MH, Ahmed MAH. The Impact of Entrepreneurship on Developing Innovative Methodologies in Sports Education Sciences within the Framework of Sustainable Development. *Sustainability and Sports Science Journal*. 2026;4(1):32-41. doi: 10.55860/GVFQ8059.
6. Guidotti F, Demarie S, Ciaccioni S, Capranica L. Knowledge, Competencies, and Skills for a Sustainable Sport Management Growth: A Systematic Review. *Sustainability*. 2023;15(9):7061. doi: 10.3390/su15097061.
7. Gumusdag H. Sport Economics and Financial Management. *Economic Research*. 2024;8(4):155-66. doi: 10.21325/jotags.2024.1541.
8. Chen TC. Role of Corporate Social Responsibility in the Financial Sustainability of Sports Organizations. *Journal of Sport and Social Issues*. 2025;49(2-3):196-225. doi: 10.1177/01937235251316639.
9. Varmus M, Kubina M, Miciak M, Sarlak M, Greguska I. Sustainable Management of the Public Financial Model for Sports Support in Slovakia. *Sustainability*. 2023;15(14):11310. doi: 10.3390/su151411310.
10. Guevara JC, Martin E, Arcas MJ. Financial Sustainability and Earnings Management in the Spanish Sports Federations: A Multi-Theoretical Approach. *Sustainability*. 2021;13(4):2099. doi: 10.3390/su13042099.
11. Rabibi M, Nazari R, Jalili Kamjou SP. Foresight in Sport for All: Sustainable Revenue-Generation Scenarios. *Applied Research in Sport Management*. 2021;10(3):51-63.

12. Rahbari S, Khodayari A, Honari H, Amirtash AM. Formulating Effective Strategies and Consequences for Sponsorship of Sport for All in Iran. *Strategic Studies on Youth and Sports*. 2021;20(51):113-34.
13. Licen S, Jedlicka SR. Sustainable Development Principles in US Sport Management Graduate Programs. *Sport, Education and Society*. 2022;27(1):99-112. doi: 10.1080/13573322.2020.1816541.
14. Pecnikar Oblak V, Campos MJ, Lemos S, Rocha M, Ljubotina P, Poteko K, et al. Narrowing the Definition of Social Inclusion in Sport for People with Disabilities through a Scoping Review. *Healthcare*. 2023;11(16):2292. doi: 10.3390/healthcare11162292.
15. Jackman PC, Dargue EJ, Johnston JP, Hawkins RM. Flow in Youth Sport, Physical Activity, and Physical Education: A Systematic Review. *Psychology of Sport and Exercise*. 2021;53:101852. doi: 10.1016/j.psychsport.2020.101852.
16. Trendafilova S, Ziakas V. Advancing Sustainable Sport Event Management and Sport Ecology: The Missing Links. *Journal of Policy Research in Tourism, Leisure and Events*. 2025;1-16. doi: 10.1080/19407963.2025.2459732.
17. Hugaerts I, Scheerder J, Zeimers G, Corthouts J, Van de Sype C, Konecke T. Are Sport Organisations Environmentally Sustainable?: A Website Analysis of Sport Federations in Belgium. *European Sport Management Quarterly*. 2023;23(1):38-58. doi: 10.1080/16184742.2022.2093391.
18. Heebkhoksung K, Rattanawong W, Vongmanee V. A New Paradigm of a Sustainability-Balanced Scorecard Model for Sport Tourism. *Sustainability*. 2023;15(13):10586. doi: 10.3390/su151310586.
19. Millington R, Giles AR, van Luijk N, Hayhurst LM. Sport for Sustainability? The Extractives Industry, Sport, and Sustainable Development. *Journal of Sport and Social Issues*. 2022;46(3):293-317. doi: 10.1177/0193723521991413.